



Scale: 5" / 100'
Measured Depth Log

Well Name 05123406230000_ML_GREENLEAF 4N-2HZ

Location SESW SEC 2- 2N- 65W

State COLORADO

County WELD

Country USA

Rig Number ENSIGN 145

API Number 05123406230000

AFE # 2101853

Region DJ BASIN

Field WATTENBERG

Spud Date 1/27/2015

Drilling Completed 2/1/2014

Surface Coordinates LAT: 40.161713

LONG: -104.634507

453' FSL

1656' FWL

Bottom Hole Coordinates PROJECTED:

460' FFNLL

930' FFWLL

Ground Elevation 4,855'

K.B. Elevation 4,867'

Logged Interval 6,764 To 12,764

Total Depth 12,764'

Formation NIOBRARA "C" CHALK

Type of Drilling Fluid LSND

Operator

Company ANADARKO PETROLEUM INC

Address ANADARKO PETROLEUM CORPORATION
1099 18TH ST. #1800
DENVER, CO 80202

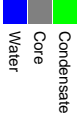
Geologist

Name JOHN SABROSKE, JORDAN MCCULLUGH

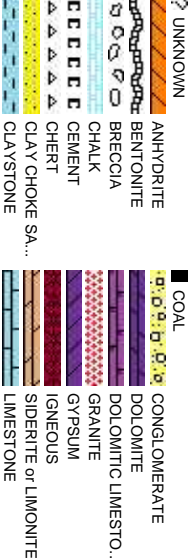
Company COLUMBINE LOGGING, INC.

Address COLUMBINE LOGGING INC
602 S. LIPAN ST.
DENVER, CO 80223

Zone Color Code



Rock Type



Accessories

| | | | |
|----------------|------------------|--------------------------|----------------------------|
| Fossils | GASTROPOD | ARGILLITE GRAIN | HEAVY MINERAL |
| INOCERAMUS | B BENTONITE | K KAOLIN | Stringer |
| ALGAE | O OOLITE | BIT BITUMENOUS SUBSTANCE | ANH ANHYDRITE STRINGER |
| AMPHIPORA | O OSTRACOD | BRE BRECCIA FRAGMENTS | BEN BENTONITE STRINGER |
| BELEMNITE | P PELECYPOD | C CALCAREOUS | COAL COAL STRINGER |
| BIOCLASTIC | P PELLET | C CARBONACEOUS FLAKES | DOLOLOMITE STRINGER |
| BRACHIOPOD | P PISOLITE | CHT CHERT | GYP GYPSUM STRINGER |
| BRYOZOA | P PLANT REMAINS | COAL - THIN BEDS | LIM LIMESTONE STRINGER |
| CEPHALOPOD | P PLANT SPORES | D DOLOMITIC | MARL MARLSTONE (CALO) STRG |
| CORAL | S SCAPHOPOD | F FELDSPAR | MARL MARLSTONE (DOL) STRG |
| CRINOID | S STROMATOPOROID | F FERRUGINOUS PELLET | SAND SANDSTONE STRINGER |
| E ECHINOID | Minerals | S SIDERITE | SHA SHALE STRINGER |
| F FISH | A ANHYDRITIC | F FERRUGINOUS | SIL SILTSTONE STRINGER |
| F FORAMINIFERA | A ARGILLACEOUS | G GLAUCONITE | |
| F FOSSIL | | G GYPSIFEROUS | |
| | | T TUFFACEOUS | |

Other Symbols

| | | | |
|--------------------|------------------------|-------------------------|----------------|
| Oil Show | P PINPOINT | WIRELINE TESTED - LE... | E EARTHY |
| V VUGGY | FAULT | WIRELINE TESTED - RT | FX FINELYXLN |
| Engineering | FORMATION TOP | DRILL STEM TEST | GS GRAINSTONE |
| D DEAD | GAS SHOW | MN DEPTH | L LITHOGRAPHIC |
| E EVEN | OIL SHOW | MN DEPTH | MX MICROXLN |
| Q QUESTIONABLE | BIT | Rounding | MS MUDSTONE |
| SPOTTED STAIN... | A CONNECTION (UP) | A ANGULAR | PS PACKSTONE |
| Porosity | T CONNECTION (DOWN) | R SUBANG | WS WACKESTO... |
| E EARTHY | CONNECTION GAS (LEF... | NORMAL FAULT | |
| F FENESTRAL | TRIP GAS | OVERTURNED STRATA | |
| F FRACTURE | TRIP GAS (LEFT) | REVERSE FAULT | Sorting |
| INTEROCRSTALL... | DOWN TIME GAS | CASING | M MODERATE |
| INTEROOLITIC | DOWN TIME GAS (LEFT) | SIDEWALL CORE (LEFT) | P POOR |
| M MOLDIC | CORE - LOST | SIDEWALL CORE (RIGH... | W WELL |
| O ORGANIC | CORE - RECOVERED | SLIDE | |
| | | SURVEY | CX CRYPTOXLN |

oding



| | |
|-------------------|------------------|
| MARLSTONE | SHALY SANDSTO... |
| METAMORPHIC | SHALY SILTSTONE |
| NO SAMPLE | SILTY SHALE |
| SALT | SILTSTONE |
| SANDSTONE | TUFF |
| SALT PEPPER SA... | WELDED TUFF |
| SHALE | |
| SHALE COLORED | |
| SHALE GRAY | |

Slide/Rotate

ROP
ROF
GAMMA

ROP & GAS DATA PROVIDED BY PASON, GAMMA & SURVEY DATA PROVIDED BY HALLBURTON

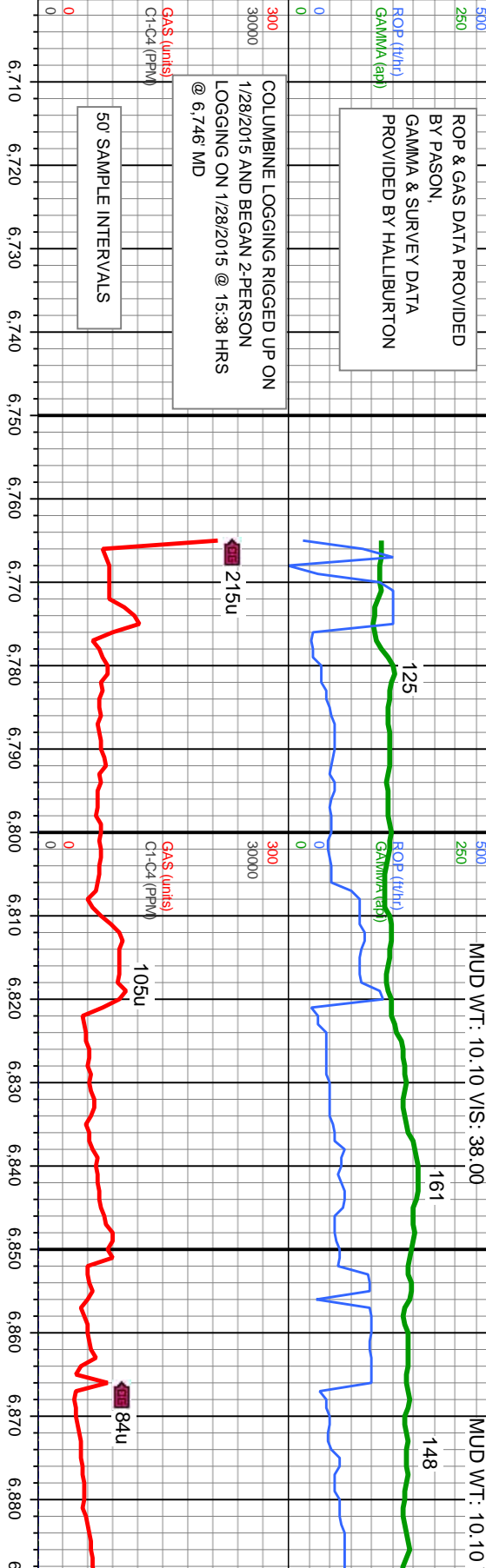
Total Gas & Chromatograph

GAS
C1
C2
C3
C4

COLUMBINE LOGGING RIGGED UP ON 1/28/2015 AND BEGAN 2-PERSON LOGGING ON 1/28/2015 @ 15:38 HRS @ 6,746' MD

50' SAMPLE INTERVALS

Depth Labels



Well Bore
TVD

MD: 6,722'
TVD: 6,406.4'
Inclination: 0.4 °
Azimuth: 31.54 °
VS: -1,516.52'

ACETONE WAS USED AS THE CUTTING AGENT WITH THE DIMPLE FILLED TO THE RIM. THE RATINGS ARE BASED ON 7 DESCRIPTORS: NONE, SLIGHT TRACE, TRACE, FAIR, MODERATE, GOOD, AND EXCELLENT. THE DESCRIPTOR USED IS BASED ON THE LOGGERS OBSERVATIONS AND BEST JUDGMENT OF BRILLIANCE, COLOR AND LONGEVITY OF THE CUT.

Bit Data
Bit #: 1
Type: SD519
Size: 8.75
Jets: 7x15
S/N: J17215

PIERRE SHALE

MD: 6,812'
TVD: 6,496.26'
Inclination: 5.27 °
Azimuth: 350.8 °
VS: -1,496.49'

TVD (ft)

100% SLTY SH: med-dk gy, frm-sl frm, pty to sb pty, occ sb blk, v f gr, silty tex, sb rnd-ang, non calc, v slow strng, dul bl/wh cut, v thin dul bl/wh ring

100% SLTY SH: med-dk gy, frm-sl frm, pty to sb pty, occ sb blk, v f gr, silty tex, sb rnd-ang, non calc, v slow strng, dul bl/wh cut, v thin dul bl/wh ring

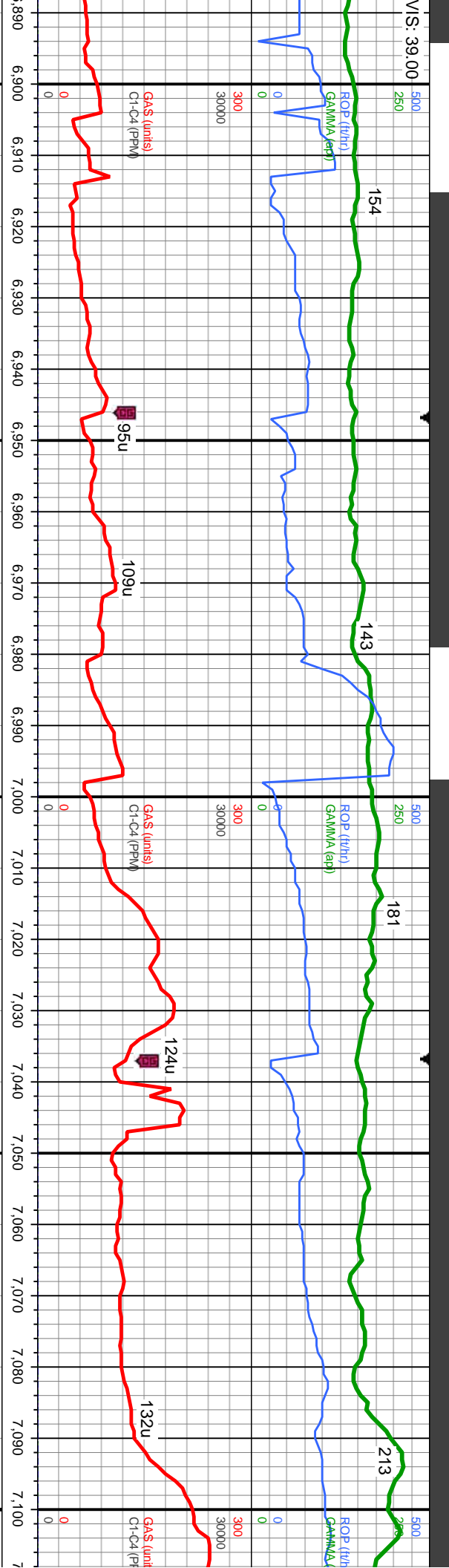
100% SLTY SH: med-dk gy, frm-sl frm, sb pty, occ sb blk, v f gr, silty tex, sb rnd-ang, non calc, v slow strng, dul bl/wh cut, v thin dul bl/wh ring

Oil Show

E
G
M
F
T
S

Images





MD: 6,902'
TVD: 6,585.05'
Inclination: 13.06 °
Azimuth: 357.77 °
VS: -1,482.22'

100% SLTY SH: dk gy, frm-sl frm, pily to fss, occ sb blkly, v f gr, silty tex, sb rnd-sb ang, non calc, v slow stmg, dul bl/wh cut, v thin dul zbl/whi ring

MD: 6,992'
TVD: 6,671.06'
Inclination: 20.9 °
Azimuth: 1.56 °
VS: -1,455.97'

100% SLTY SH: lt-med gy, frm-sl frm, pily-sb blkly, v f-f gr, silty tex, sb rnd-sb ang, non calc, v slow stmg, dul bl/wh cut, thin dul bl/whi ring

TVD (ft)

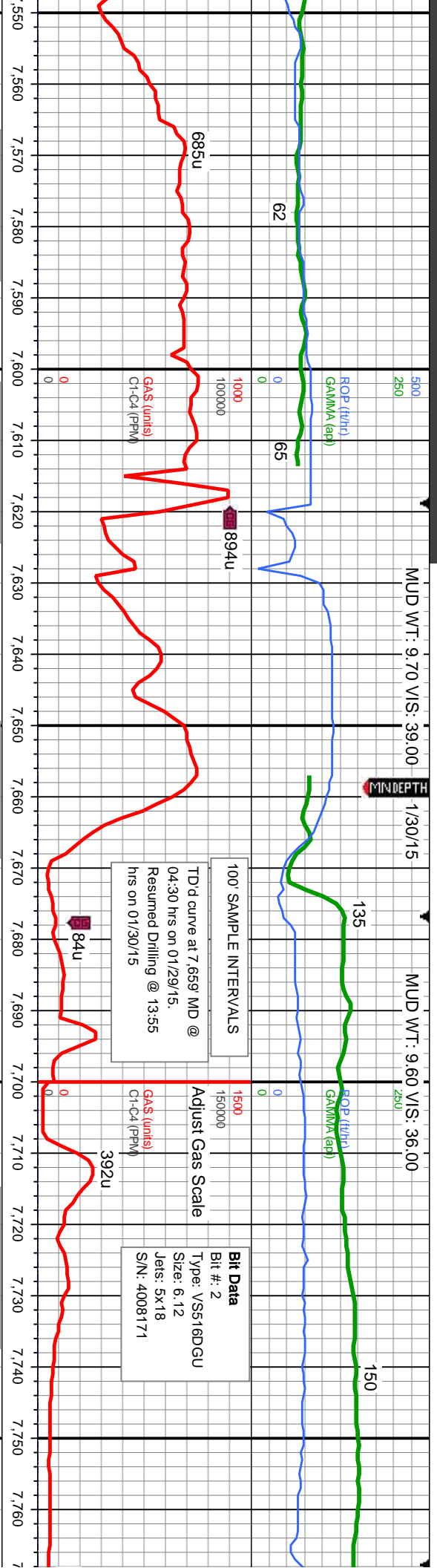
100% SLTY SH: lt-med gy, frm-sl frm, pily-sb pily, occ blkly, v f-f gr, silty tex, sb rnd-sb ang, non calc, tr bent; v slow stmg, dul bl/wh cut, zthin dul bl/whi ring

MD: 7,082'
TVD: 6,751.21'
Inclination: 32.8 °
Azimuth: 2.81 °
VS: -1,415.43'

100% SLTY SH: lt-med gy, frm-sl frm, pily-sb pily, occ blkly, v f-f gr, silty tex, sb rnd-sb ang, non calc, tr bent; v slow stmg, dul bl/wh cut, thin dul bl/whi ring

TVD Scale Ch





MD: 7,577'
TVD: 7,017.7'
Inclination: 82.9 °
Azimuth: 0.88 °
VS: -1,013.87'

MD: 7,613'
TVD: 7,020.34'
Inclination: 88.67 °
Azimuth: 0.14 °
VS: -977.98'

PTB

MD: 7,659'
TVD: 7,020.88'
Inclination: 90 °
Azimuth: 0.14 °
VS: -931.99'

Faulted into Niobrara "B" Marl

MD: 7,726'
TVD: 7,021.35'
Inclination: 90.31 °
Azimuth: 0.53 °
VS: -880.7'

95% CHK: lt gry, sft-brit, sb blk-y-sb pily, sb
rnd- ang, microxin, stly-mot tex, v calc. 5%
MRLST: med-dk gry, frm-brit, sb blk-y, occ pily,
sb ang-sb rnd, vfg, v calc, fast stmg, bri
bl/wh cut, thick bl/wh ring

85% CHK: lt gry, sft-brit, sb blk-y-sb pily, sb
rnd- ang, microxin, stly-mot tex, v calc. 15%
MRLST: med-dk gry, frm-brit, sb blk-y, occ pily,
sb ang-sb rnd, vfg, v calc, fast stmg, bri
7/bl/wh cut, thick bl/wh ring

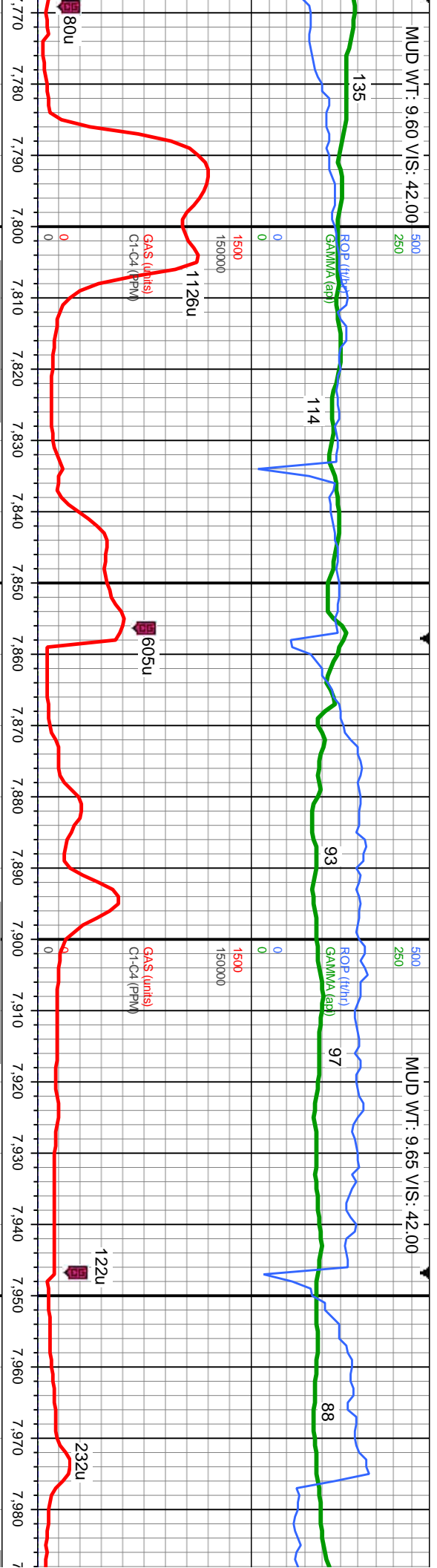
85% CHK: lt gry, sft-brit, sb blk-y-sb pily, sb rnd-
ang, microxin, stly-mot tex, v calc. 15% MRLST:
med-dk gry, frm-brit, sb blk-y, occ pily, sb ang-sb
rnd, vfg, v calc, fast stmg, bri bl/wh cut, thick
bl/wh ring

90% MRLST: med-dk gry/blk, frm-brit, sb blk-y, occ pily, sb
v calc, 10% CHK: lt gry, sft-brit, sb blk-y-sb pily, sb rnd- ang
stly-mot tex, v calc, mod stmg, bri bl/wh cut, mod thick bl/wh



MUD WT: 9.60 VIS: 42.00

MUD WT: 9.65 VIS: 42.00



MD: 7,816'
TVD: 7,020.55'
Inclination: 90.71 °
Azimuth: 0.54 °
VS: -790.72'

MD: 7,906'
TVD: 7,019.02'
Inclination: 91.23 °
Azimuth: 0.31 °
VS: -700.74'

TVD (ft)

TVD (ft)

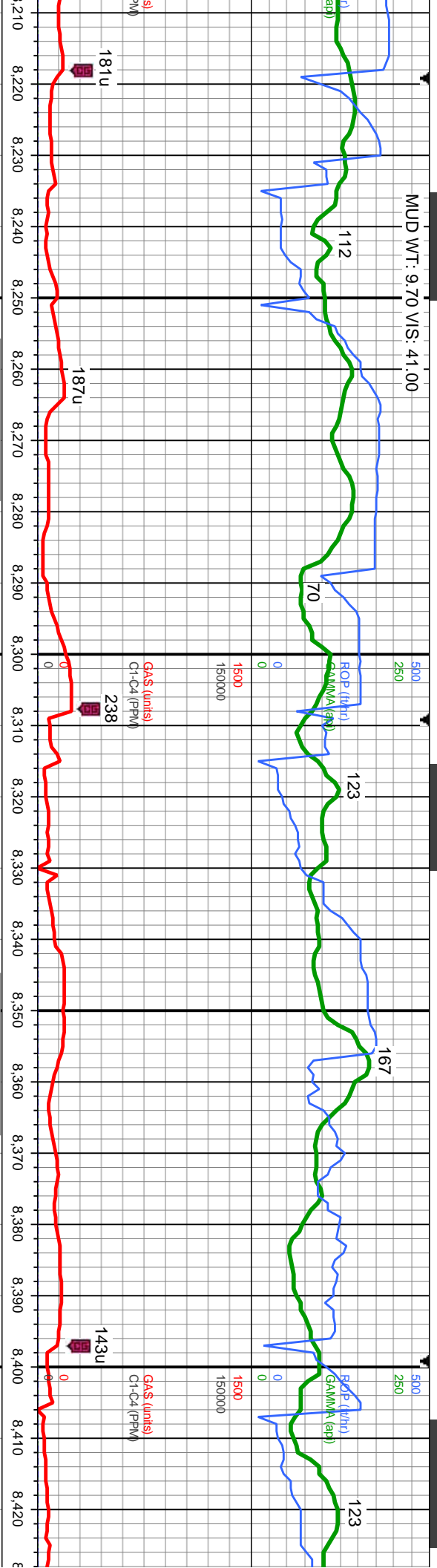
ang-sb rnd, vfg, g, microxn, w/wh ring

95% MRLST: med-dk gry/blk, frm-brit, sb blk, occ ply, sb ang-sb rnd, vfg, v calc, 5% CHK: lt gry, sft-brit, sb blk-sb ply, sb rnd- ang, microxn, slty-mot tex, v calc, mod stmg, bri bl/wh cut, mod thick bl/whi ring

95% MRLST: med-dk gry/blk, frm-brit, sb blk, occ ply, sb ang-sb rnd, vfg, v calc, 5% CHK: med gry, sft-brit, sb blk-sb ply, sb rnd- ang, microxn, slty-mot tex, v calc, tr pyr, mod stmg, bri bl/wh cut, mod thick bl/whi ring



MUD WT: 9.70 VIS: 41.00



MD: 8,267'
TVD: 7,008.29'
Inclination: 91.88 °
Azimuth: 1.93 °
VS: -339.97'

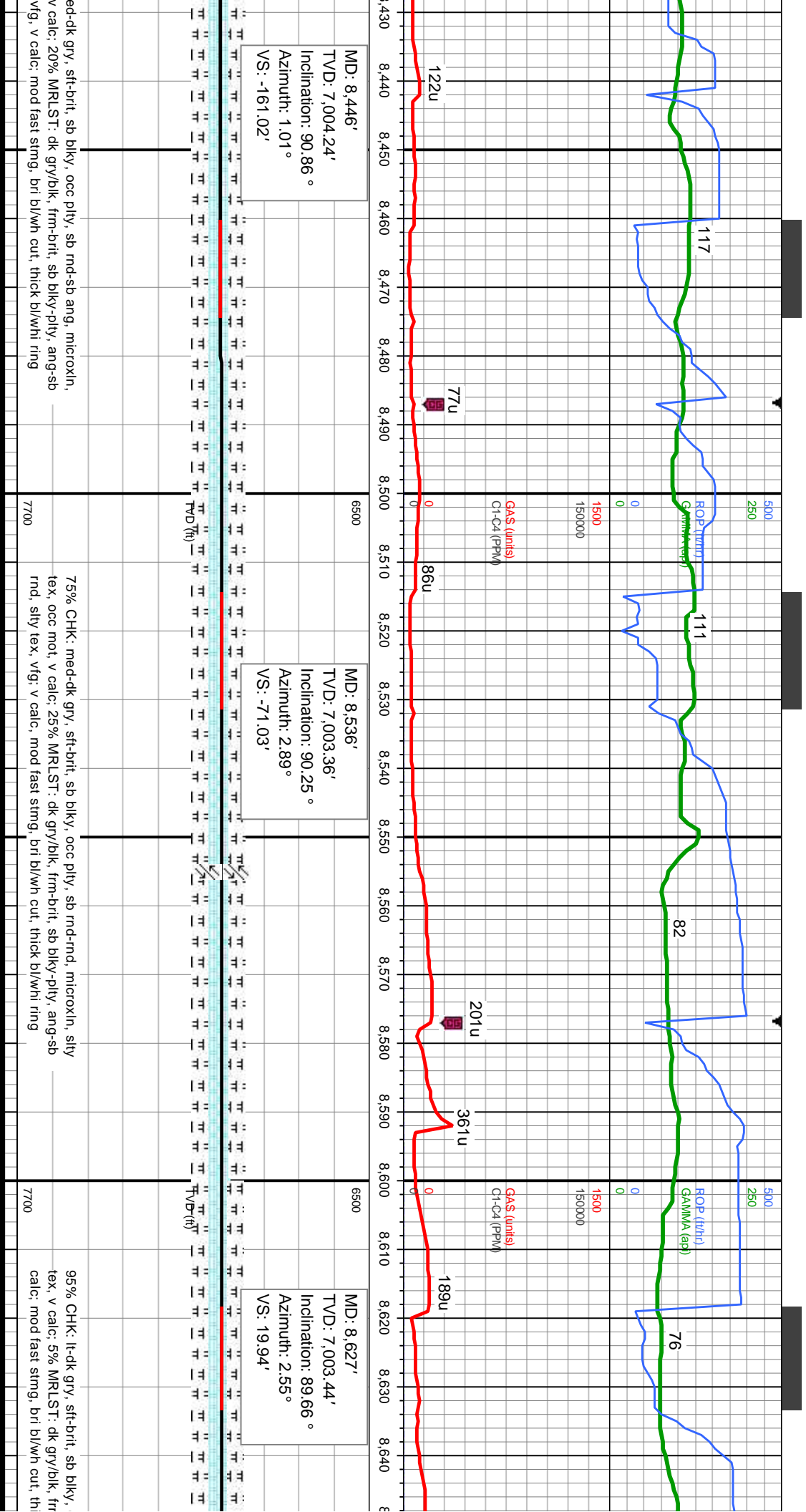
MD: 8,356'
TVD: 7,005.88'
Inclination: 91.23 °
Azimuth: 1.09 °
VS: -251'

% MRLST: med-dk gry/blk, frm-brit, sb blk, occ ply, sb ang-sb rnd, silty tex vfg, v calc:
% CHK: v lt-med gry, sft-brit, sb blk, sb ply, sb rnd- ang, microxin, wxy-mot tex, v calc:
mod stmg, bri bl/wh cut, mod thick bl/wh ring

80% CHK: med-dk gry, sft-brit, sb blk, sb ply, sb rnd- ang, microxin, silty-mot
tex, v calc: 20% MRLST: dk gry, frm-brit, sb blk, ply, ang-sb rnd, vfg, v calc:
mod fast stmg, bri bl/wh cut, thick bl/wh ring

80% CHK: m
silty-mot tex,
rnd, silty tex,



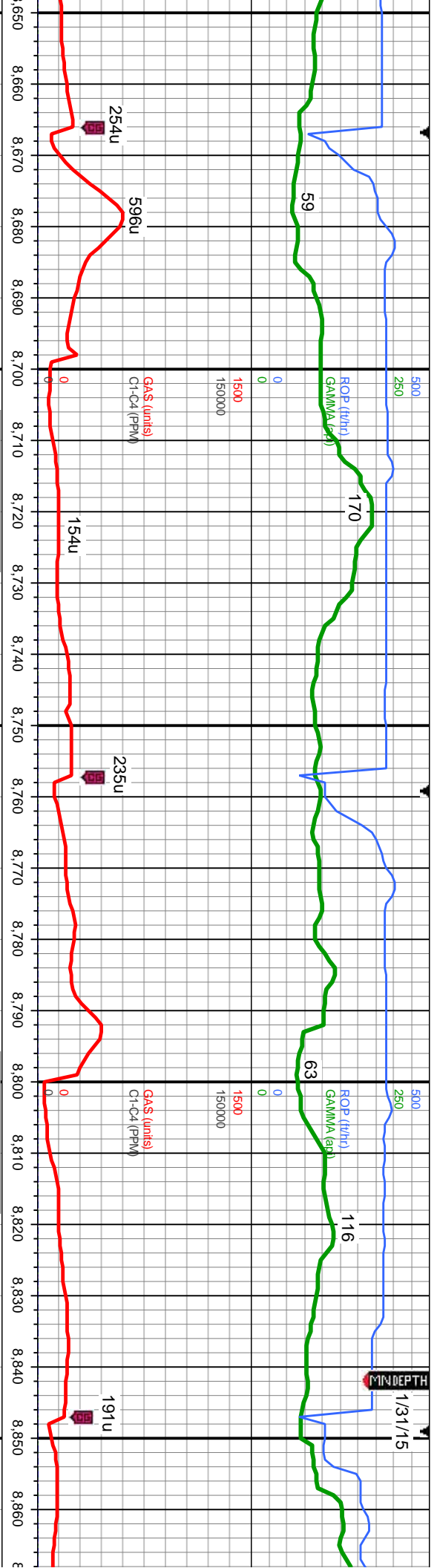


med-dk gry, sft-brit, sb blk, occ pty, sb rnd-sb ang, microxln, v calc; 20% MRLST: dk gry/blk, frm-brit, sb blk-pty, ang-sb vlg; v calc; mod fast stmg, bri bl/wt cut, thick bl/wt ring

75% CHK: med-dk gry, sft-brit, sb blk, occ pty, sb rnd-rnd, microxln, sily tex, occ mot, v calc; 25% MRLST: dk gry/blk, frm-brit, sb blk-pty, ang-sb rnd, sily tex, vlg; v calc; mod fast stmg, bri bl/wt cut, thick bl/wt ring

95% CHK: lt-dk gry, sft-brit, sb blk, tex, v calc; 5% MRLST: dk gry/blk, frm calc; mod fast stmg, bri bl/wt cut, th





MD: 8,717'
TVD: 7,004.5'
Inclination: 88.98 °
Azimuth: 1.83°
VS: 109.92'

MD: 8,807'
TVD: 7,006.05'
Inclination: 89.05 °
Azimuth: 1.62°
VS: 199.91'

occ pily, sb rnd-rnd, microxln, silty-mot
m-brt, sb blk, sb ang, silty tex, vfg, v
ck bl/whi ring

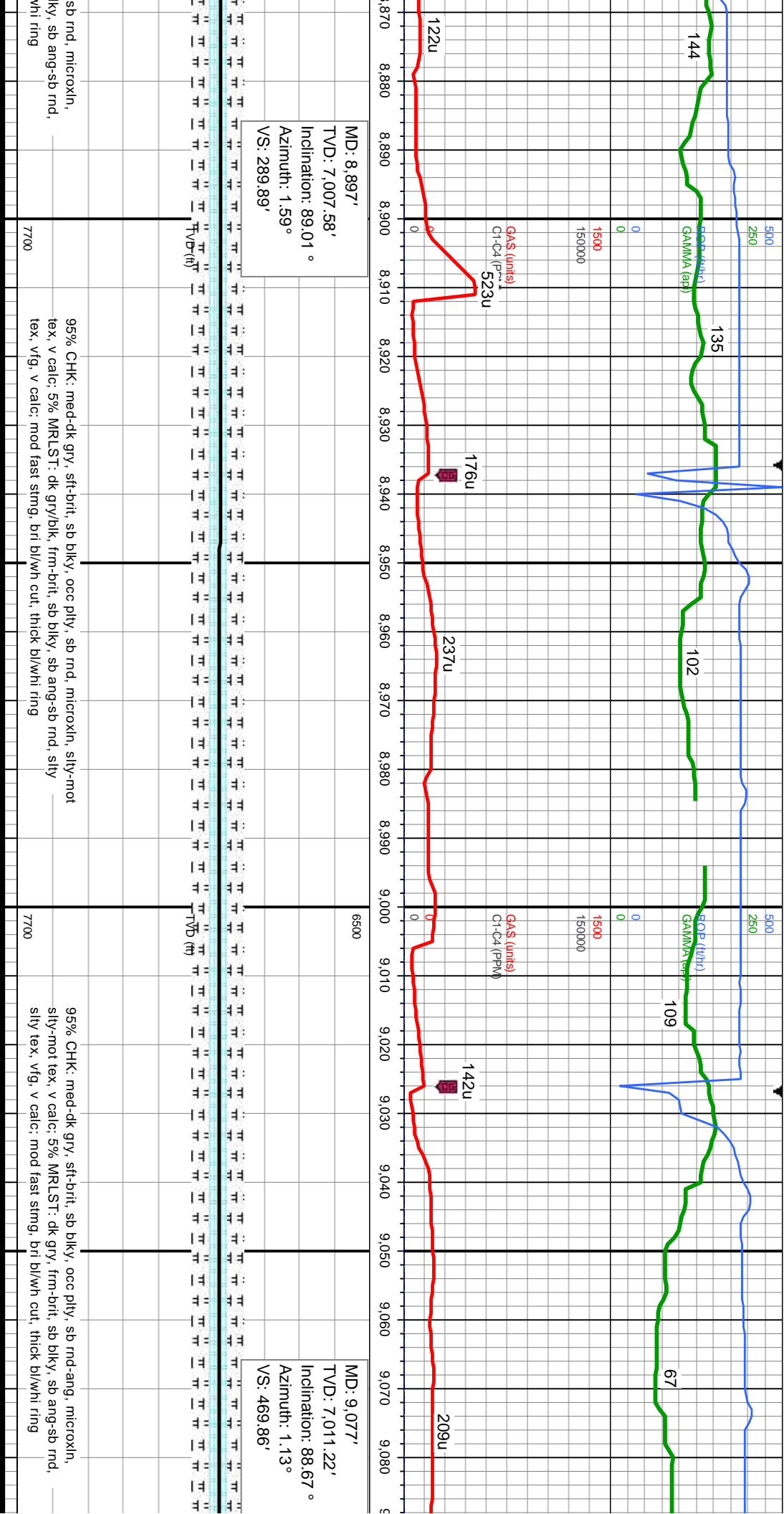
95% CHK: lt-dk gry, sft-brt, sb blk, occ pily, sb rnd-rnd, microxln,
silty-mot tex, v calc; 5% MRLST: dk gry/blk, frm-brt, sb blk, sb ang,
silty tex, vfg, v calc; mod fast sting, brt bl/wh cut, thick bl/whi ring

7700

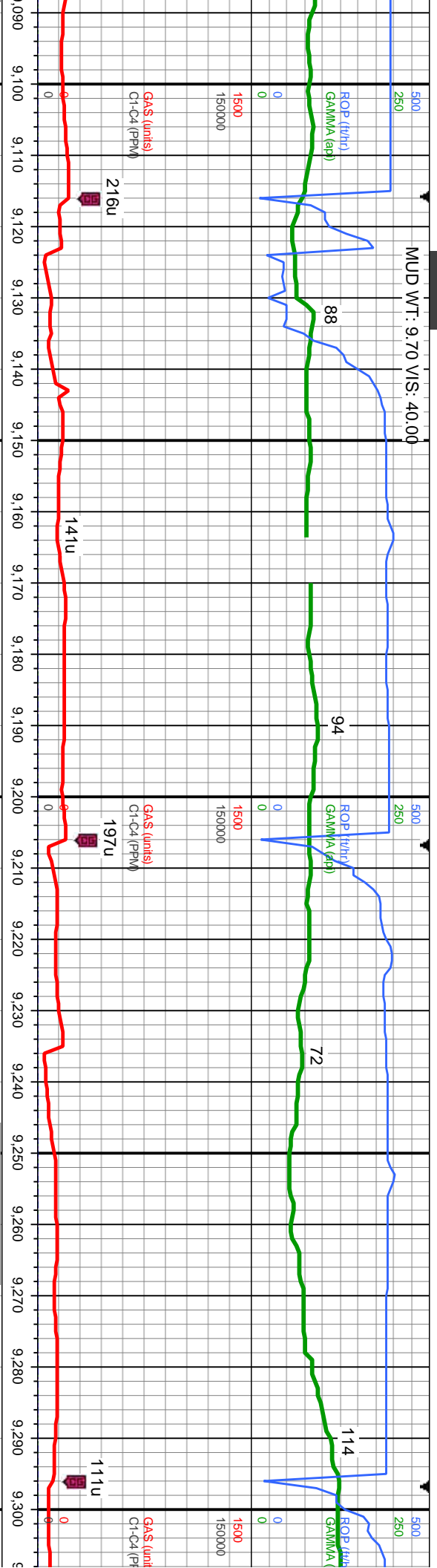
85% CHK: lt-dk gry, occ v lt gry, sft-brt, sb blk, occ pily,
silty-mot tex, v calc; 15% MRLST: dk gry/blk, frm-brt, sb b
silty tex, vfg, v calc; mod fast sting, brt bl/wh cut, thick bl/whi ring

7700





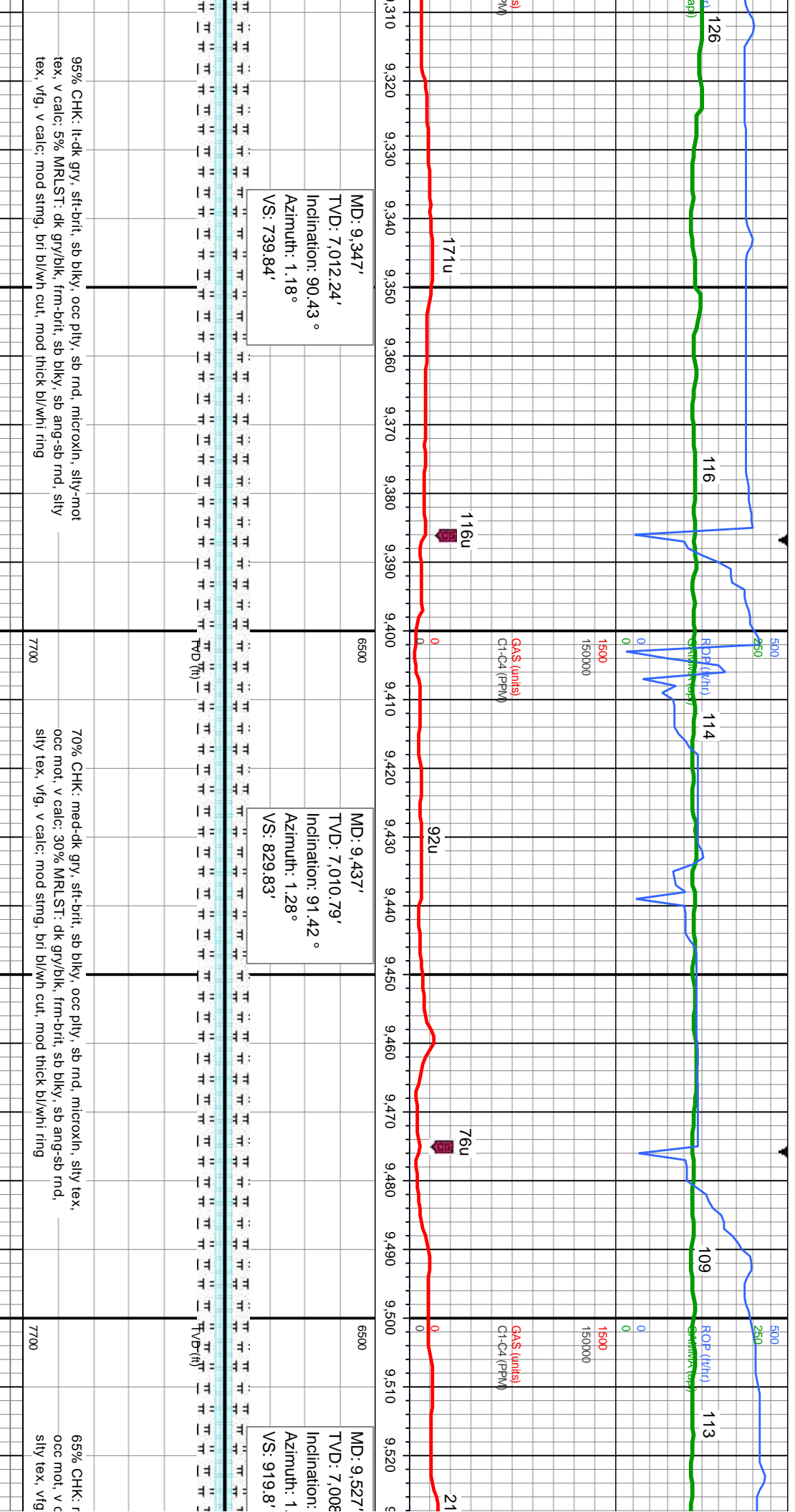
MUD WT: 9.70 VIS: 40.00

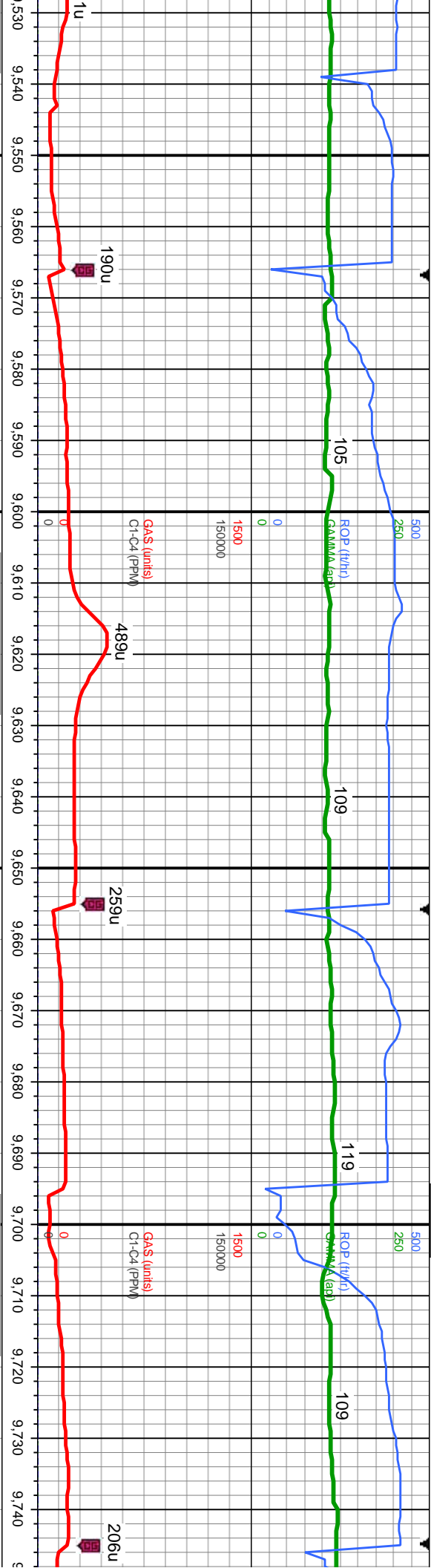


MD: 9,257'
TVD: 7,012.82'
Inclination: 90.31 °
Azimuth: 1.08 °
VS: 649.84'

| | | |
|---|----------|------|
| 6500 | TVD (ft) | 7700 |
| 100% CHK: lt-dk gry, sft-brit, sb blk, occ ply, sb rnd, microxln, silty-mot tex, v calc, tr mlst; mod fast strng, bri bl/wh cut, thick bl/wh ring | | |
| 6500 | TVD (ft) | 7700 |
| 100% CHK: lt-dk gry, sft-brit, sb blk, occ ply, sb rnd, microxln, silty-mot tex, v calc, tr mlst; mod fast strng, bri bl/wh cut, thick bl/wh ring | | |
| 6500 | TVD (ft) | 7700 |







MD: 9,781'
TVD: 7,006.79'
Inclination: 91.14 °
Azimuth: 5°
VS: 1,009.78'

med-dk gry, sft-brit, sb blk, occ ply, sb rnd, microxn, sily tex, calc, 35% MRLST: dk gry/bk, frm-brit, sb blk, sb ang-sb rnd, v calc, mod stmg, bri bl/wh cut, mod thick bl/wh ring

7700

MD: 9,617'
TVD: 7,006.79'
Inclination: 91.39 °
Azimuth: 2°
VS: 1,009.78'

60% MRLST: dk gry/bk, frm-brit, sb blk, sb ang-sb rnd, sily tex, vfg, v calc, 40% CHK: med-dk gry, sft-brit, sb blk, occ ply, sb rnd, microxn, sily tex, occ mot, v calc, mod stmg, bri bl/wh cut, mod thick bl/wh ring

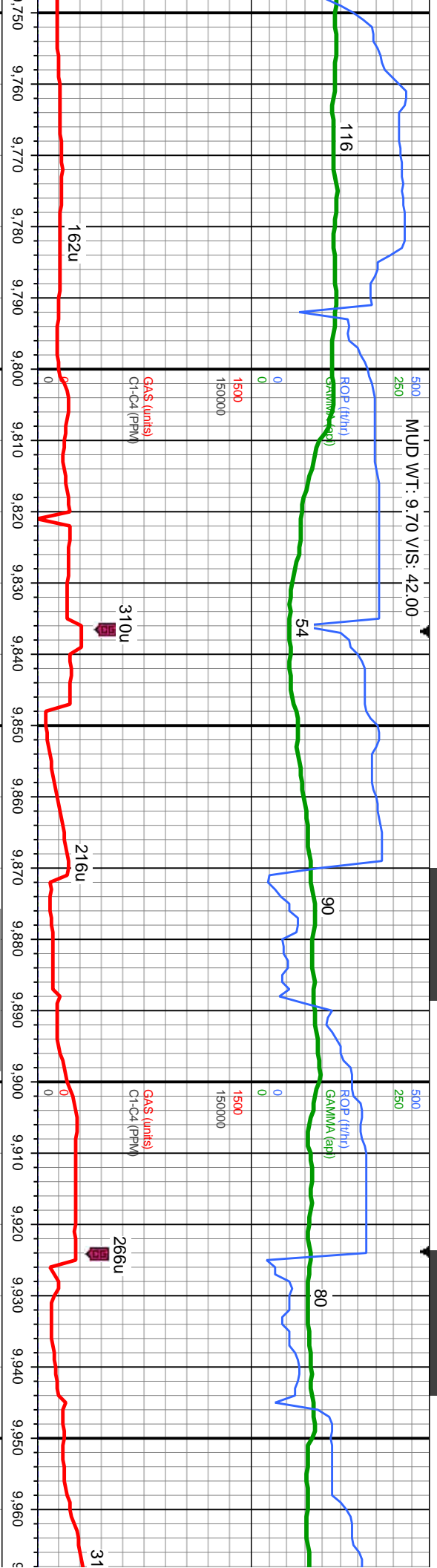
7700

MD: 9,707'
TVD: 7,004.63'
Inclination: 91.36 °
Azimuth: 2.71°
VS: 1,099.74'

55% CHK: med-dk gry, sft-brit, sb blk, occ mot, v calc, 45% MRLST: dk gry, sily tex, vfg, v calc, mod fast stmg, b

7700

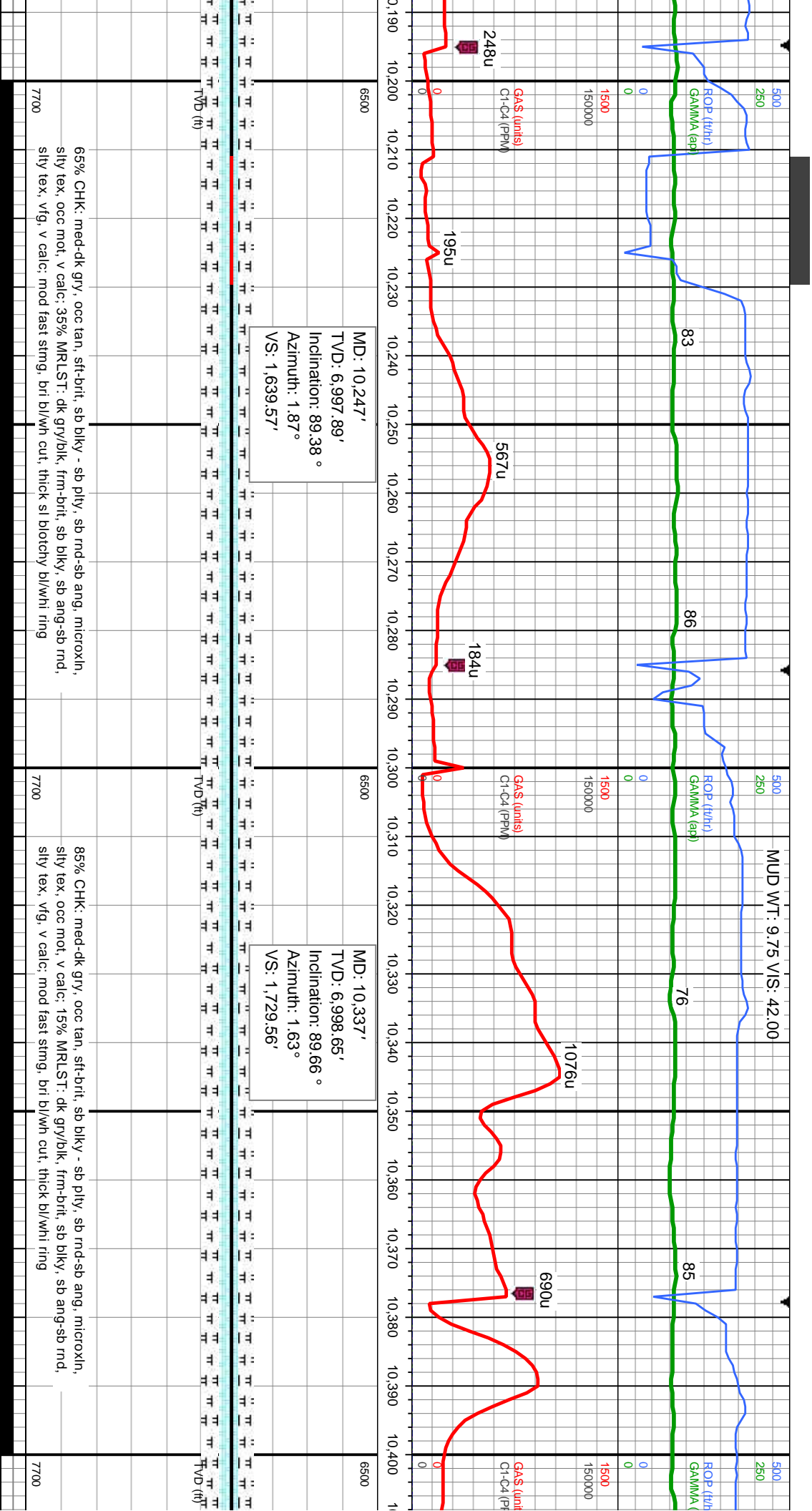


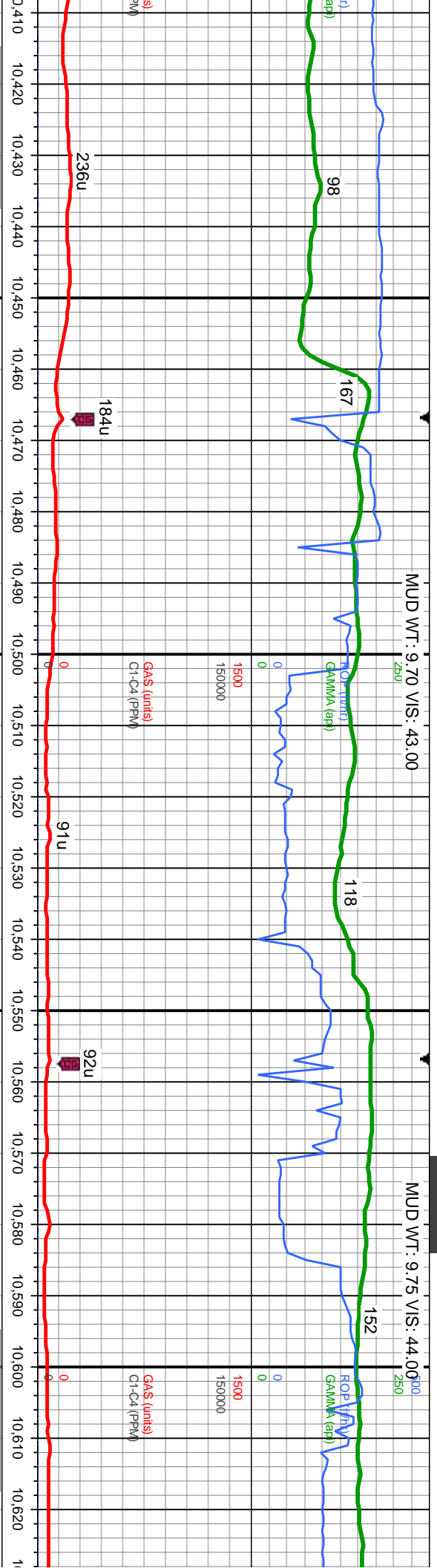


MD: 9,887'
TVD: 6,999.54'
Inclination: 91.88 °
Azimuth: 2.95 °
VS: 1,279.6'

| | | | |
|---|----------|---|----------|
| | 6500 | | 6500 |
| | TVD (ft) | | TVD (ft) |
| vy, occ pily, sb rnd, microxin, slty tex, blk, frm-brit, sb blk, sb ang-sb rnd, r bl/wh cut, thick bl/wh ring | 7700 | 80% CHK: med-dk gry, sft-brit, sb blk, occ pily, sb rnd, microxin, slty tex, occ mot, v calc; 20% MRLST: dk gry/blk, frm-brit, sb blk, sb ang-sb rnd, slty tex, vfg, v calc, occ foss frags; mod fast stmg, bri bl/wh cut, thick bl/wh ring | 7700 |
| | | 60% CHK: med-dk gry, sft-brit, sb blk, occ pily, sb rnd, microxin, slty tex, mot, v calc; 40% MRLST: dk gry/blk, frm-brit, sb blk, sb ang-sb rnd, slty tex, vfg, v calc; mod stmg, bri bl/wh cut, mod thick sl uneven bl | |

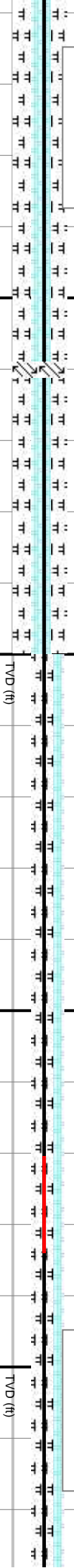






MD: 10,426'
TVD: 6,998.84'
Inclination: 90.09 °
Azimuth: 1.4°
VS: 1,818.56'

Faulted into Niobrara "B" Marl

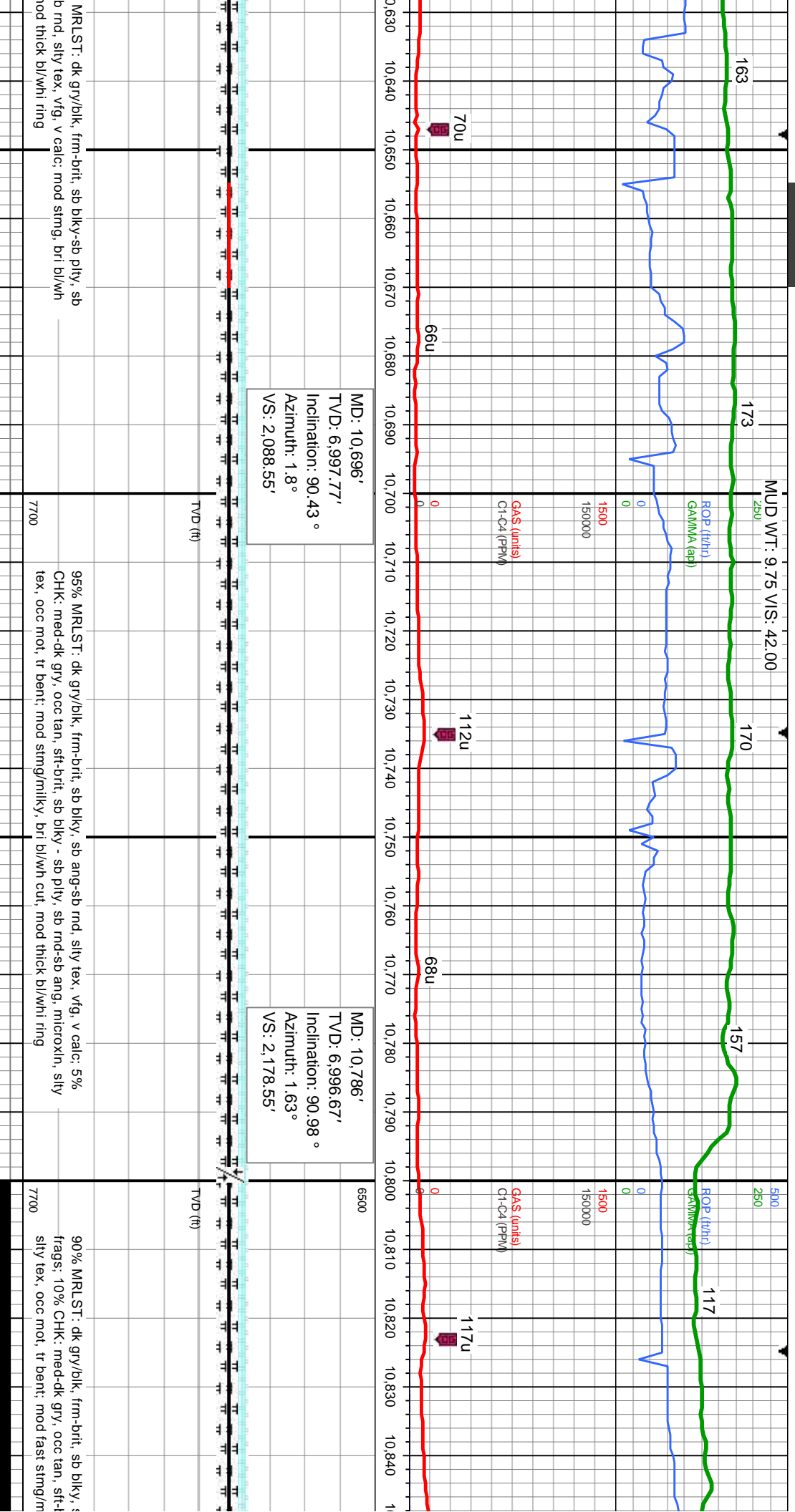


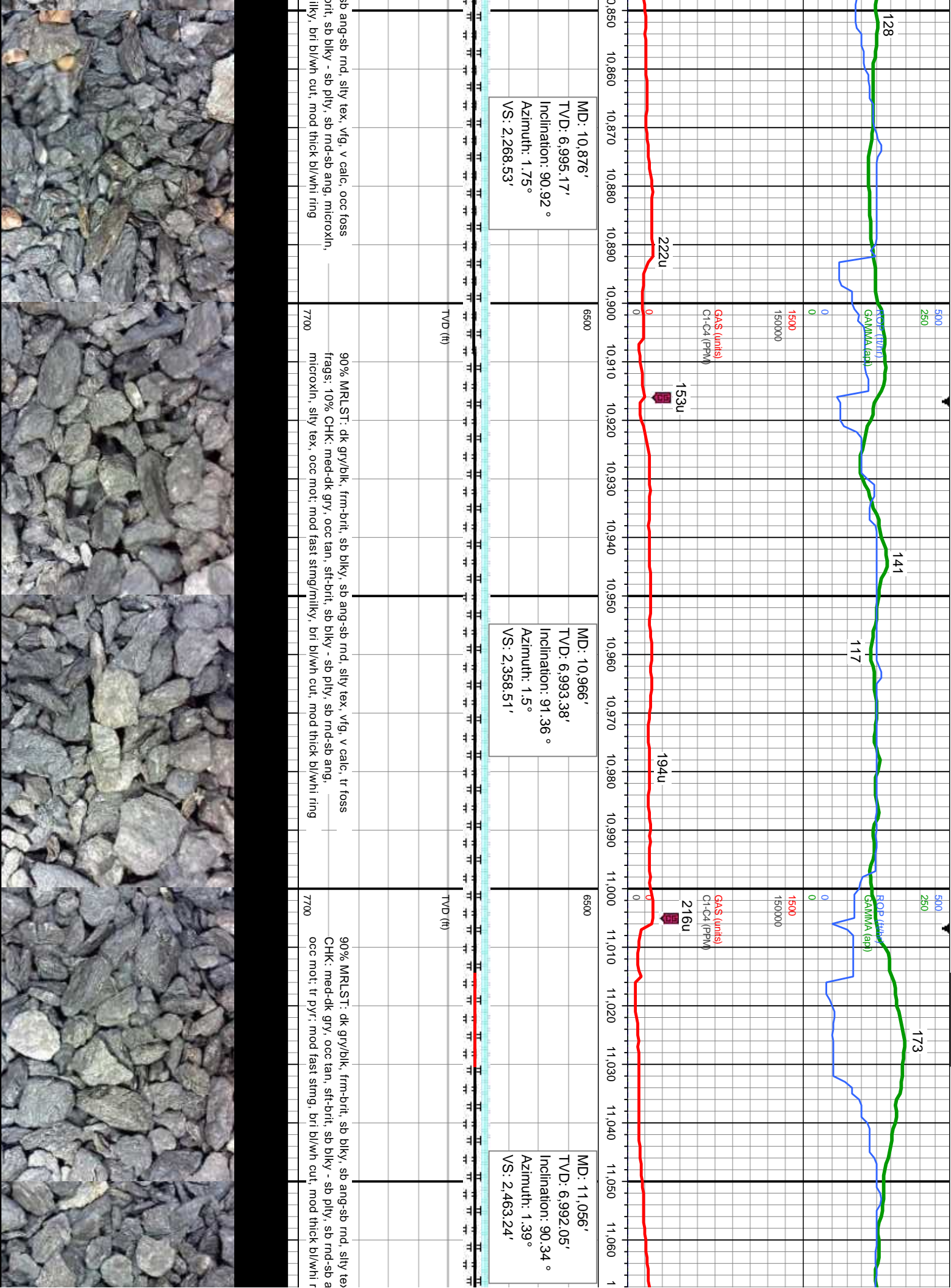
60% CHK: med-dk gry, occ tan, sft-brit, sb blkly - sb ply, sb rnd-sb ang, microxln, silty tex, occ mot, v calc; 40% MRLST: dk gry/blk, frm-brit, sb blkly, sb ang-sb rnd, silty tex, vfg, v calc; mod sting/milky, bri bl/wh cut, mod thick bl/wh ring

80% MRLST: dk gry/blk, frm-brit, sb blkly, sb ang-sb rnd, silty tex, vfg, v calc; 20% CHK: med-dk gry, occ tan, sft-brit, sb blkly - sb ply, sb rnd-sb ang, microxln, silty tex, occ mot, v calc; mod sting/milky, bri bl/wh cut, mod thick bl/wh ring

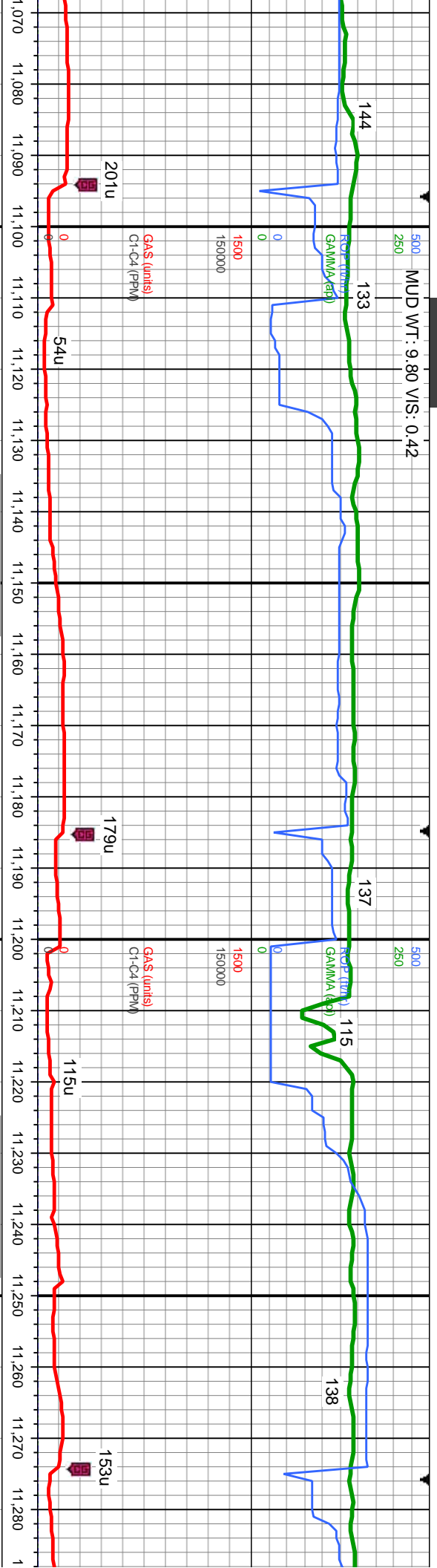
100% ang-s cut, n







MUD WT: 9.80 V/S: 0.42



MD: 11,146'
TVD: 6,991.58'
Inclination: 90.25°
Azimuth: 359.49°
VS: 2,553.23'

MD: 11,236'
TVD: 6,991.58'
Inclination: 89.75°
Azimuth: 1.3°
VS: 2,643.22'

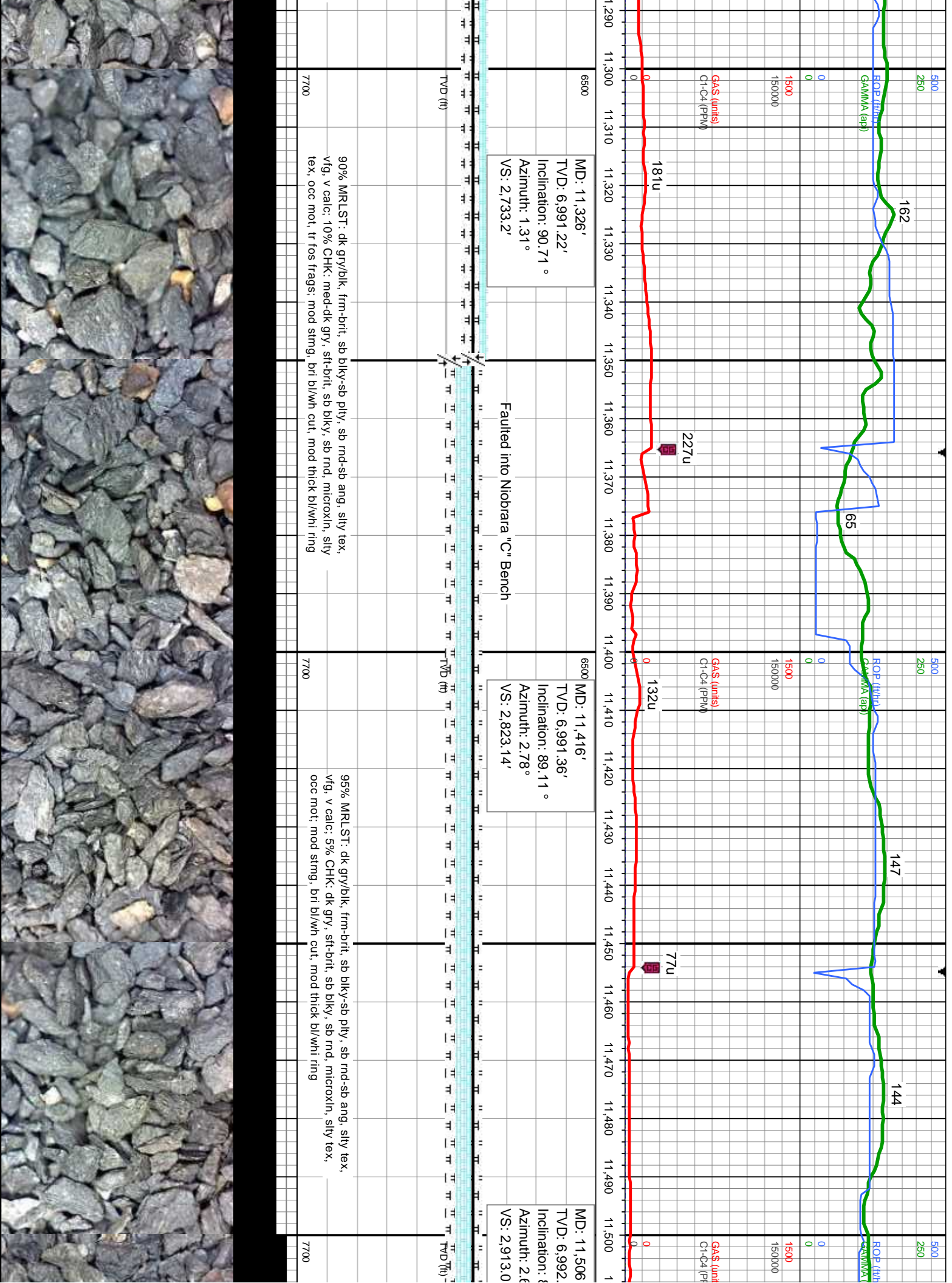
TVD (ft)

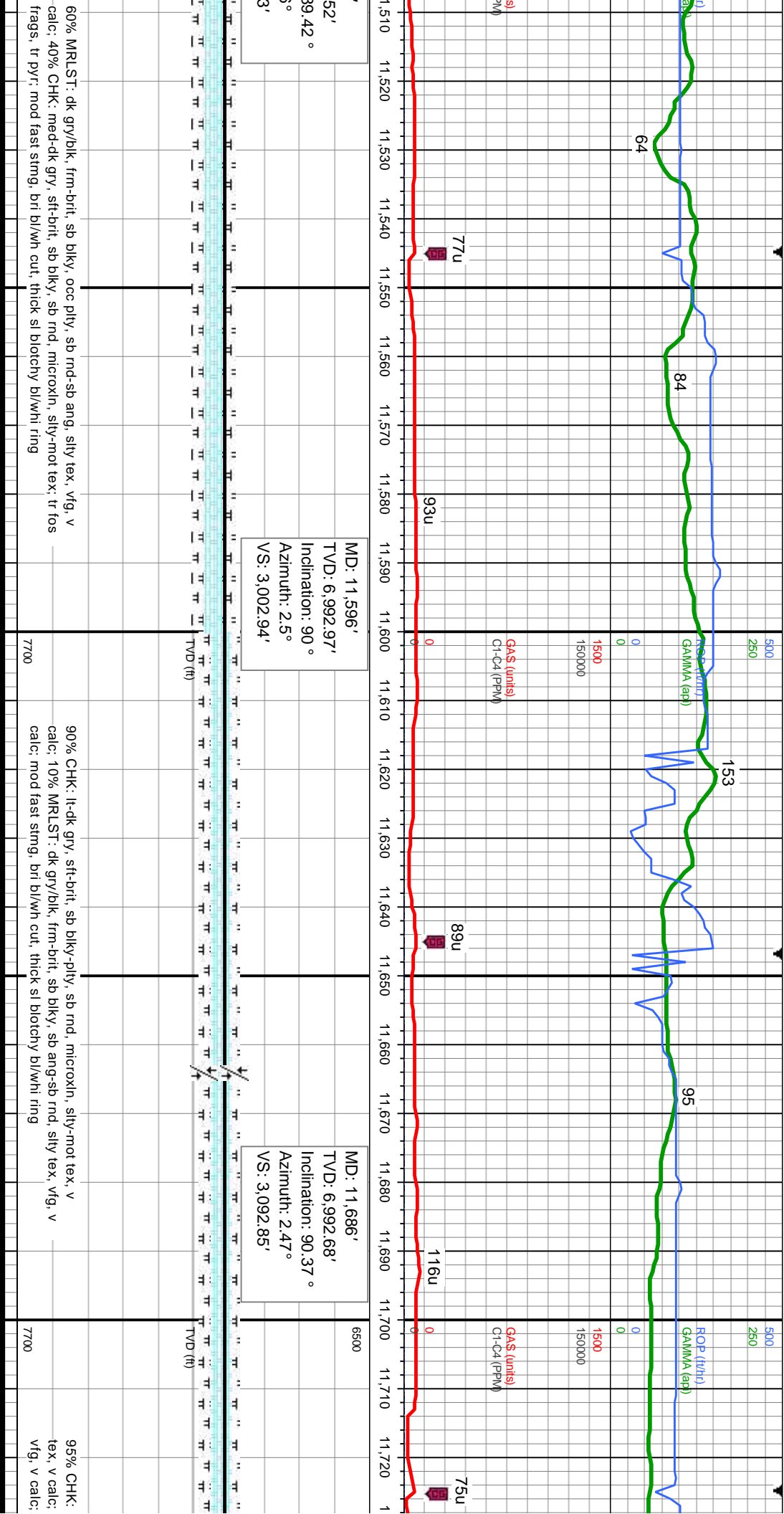
TVD (ft)

95% MR.LST: dk gry/blk, frm-brit, sb blk, sb ang-sb md, silty tex, vfg, v calc;
5% CHK: dk gry, sft-brit, sb blk - sb pily, sb md-sb ang, microxin, silty tex, occ
mot; tr pyr, tr fos frags, tr bent; mod stmg, bri bl/wh cut, mod thick bl/wh ring

95% MR.LST: dk gry/blk, frm-brit, sb blk, sb md, silty tex, vfg, v calc;
5% CHK: med-dk gry, sft-brit, sb blk, sb md-sb ang, microxin, silty tex,
occ mot, tr fos frags; mod stmg, bri bl/wh cut, mod thick bl/wh ring







60% MRLST: dk gry/blk, frm-brit, sb blk, occ pty, sb rnd-sb ang, silty tex, vfg, v
calc; 40% CHK: med-dk gry, sft-brit, sb blk, sb rnd, microxn, silty-mot tex; tr fos
frags, tr pyr; mod fast sting, bri bl/wh cut, thick sl blotchy bl/whi ring

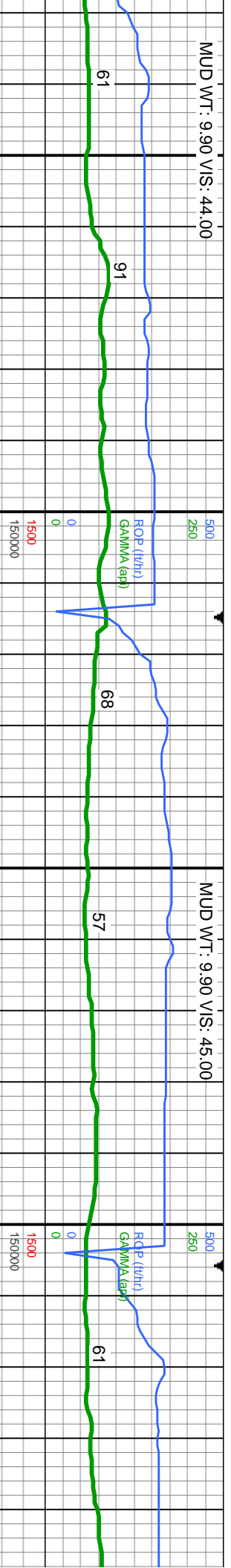
90% CHK: lt-dk gry, sft-brit, sb blk-pty, sb rnd, microxn, silty-mot tex, v
calc; 10% MRLST: dk gry/blk, frm-brit, sb blk, sb ang-sb rnd, silty tex, vfg, v
calc; mod fast sting, bri bl/wh cut, thick sl blotchy bl/whi ring

95% CHK:
tex, v calc;
vfg, v calc;



MUD WT: 9.90 VIS: 44.00

MUD WT: 9.90 VIS: 45.00



ROP (ft/hr)
GAMMA (api)

ROP (ft/hr)
GAMMA (api)

100u

78u

67u

83u

MD: 11,776'
TVD: 6,992.39'
Inclination: 90 °
Azimuth: 1.67 °
VS: 3,182.79'

MD: 11,866'
TVD: 6,992.28'
Inclination: 90.15 °
Azimuth: 1.18 °
VS: 3,272.76'

TVD (ft)

TVD (ft)

lt-dk gry/lan, sft-brit, sb blk-y-plty, sb rnd, microxln, silty-mot
55% MRLST: dk gry/blk, frm-brit, sb blk-y, sb ang, silty tex,
mod fast stmg, bri bl/wh cut, thick bl/wh ring

100% CHK: lt-med gry/lan, sft-brit, sb blk-y-plty, sb rnd-sb ang,
microxln, silty-mot tex, v calc; mod fast stmg, bri bl/wh cut, thick
bl/wh ring

95% CHK: lt-dk gry/lan, sft-brit,
tex, v calc; 5% MRLST: dk gry/wh
vfg, v calc; mod fast stmg, bri bl



2/1/15

250

MINDEPTH

84

ROP (ft/hr)
GAMMA (api)

0
1500
150000

GAS (units)
C1-C4 (PPM)

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D: 11,956'
D: 6,992.38'
Inclination: 89.72 °
Azimuth: 0.79 °
VS: 3,362.75'

MD: 12,046'
TVD: 6,992.5'
Inclination: 90.12 °
Azimuth: 0.3 °
VS: 3,452.75'

MD: 12,136'
TVD: 6,992.05'
Inclination: 90.46 °
Azimuth: 0.45 °
VS: 3,542.74'

sb blk-y-pltv, sb rnd, microxln, silty-mot
k, frm-brit, sb blk-y, sb ang, silty tex,
wh cut, thick sl blotchy bl/wh ring

100% CHK: lt-med gry, sft-brit, sb blk-y-pltv, sb rnd-sb ang,
microxln, silty-mot tex, v calc, tr mlst; mod fast stmg, bri bl/wh
cut, thick bl/wh ring

95% CHK: med-dk gry, sft-brit, sb blk-y-pltv, sb rnd, mic
tex, v calc; 5% MRLST: dk gry/blk, frm-brit, sb blk-y, sb
vfg, v calc; mod fast stmg, bri bl/wh cut, thick bl/wh rin

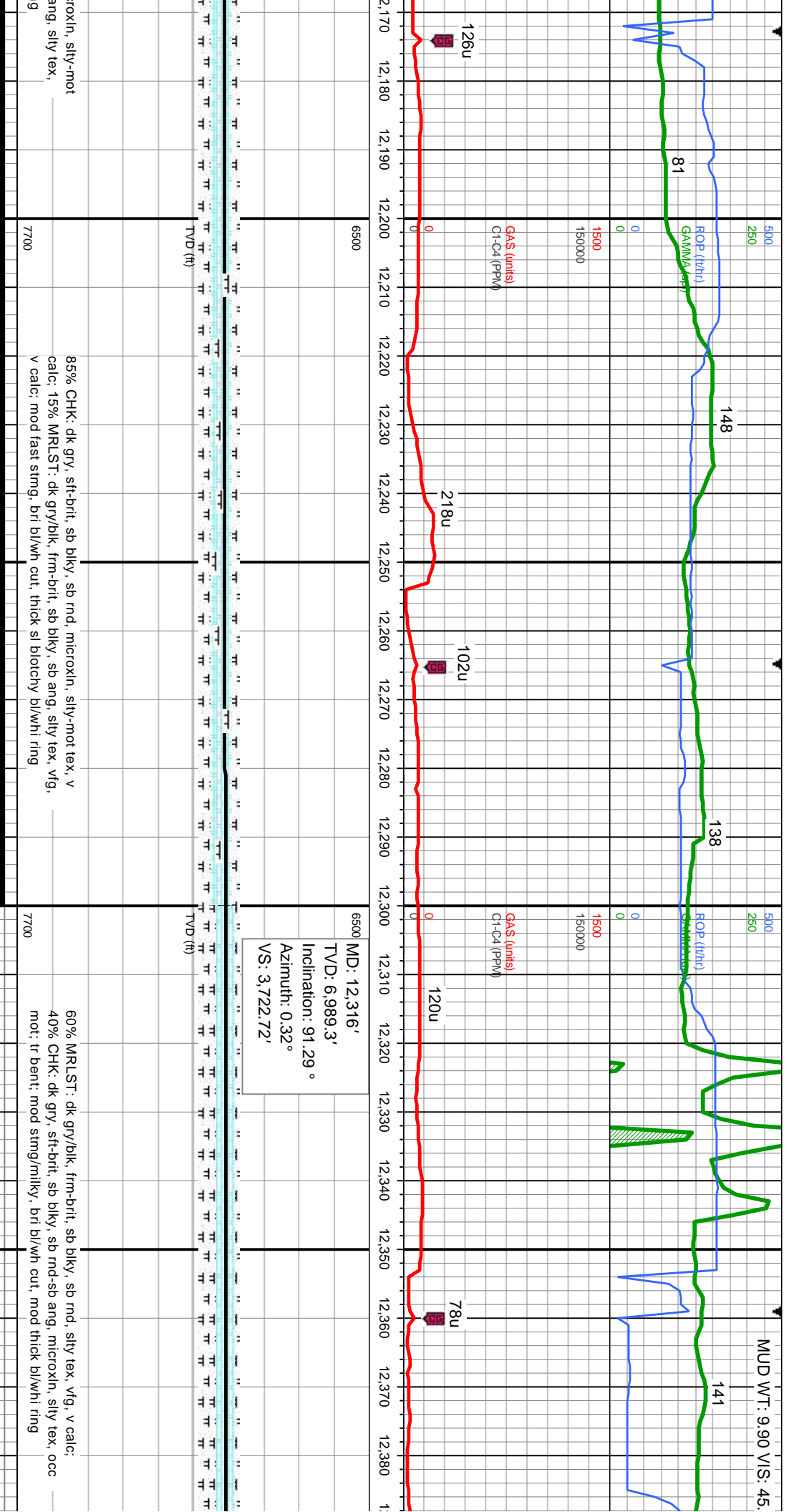
TVD (ft)

TVD (ft)

TVD (ft)



MUD WT: 9.90 VS: 45.

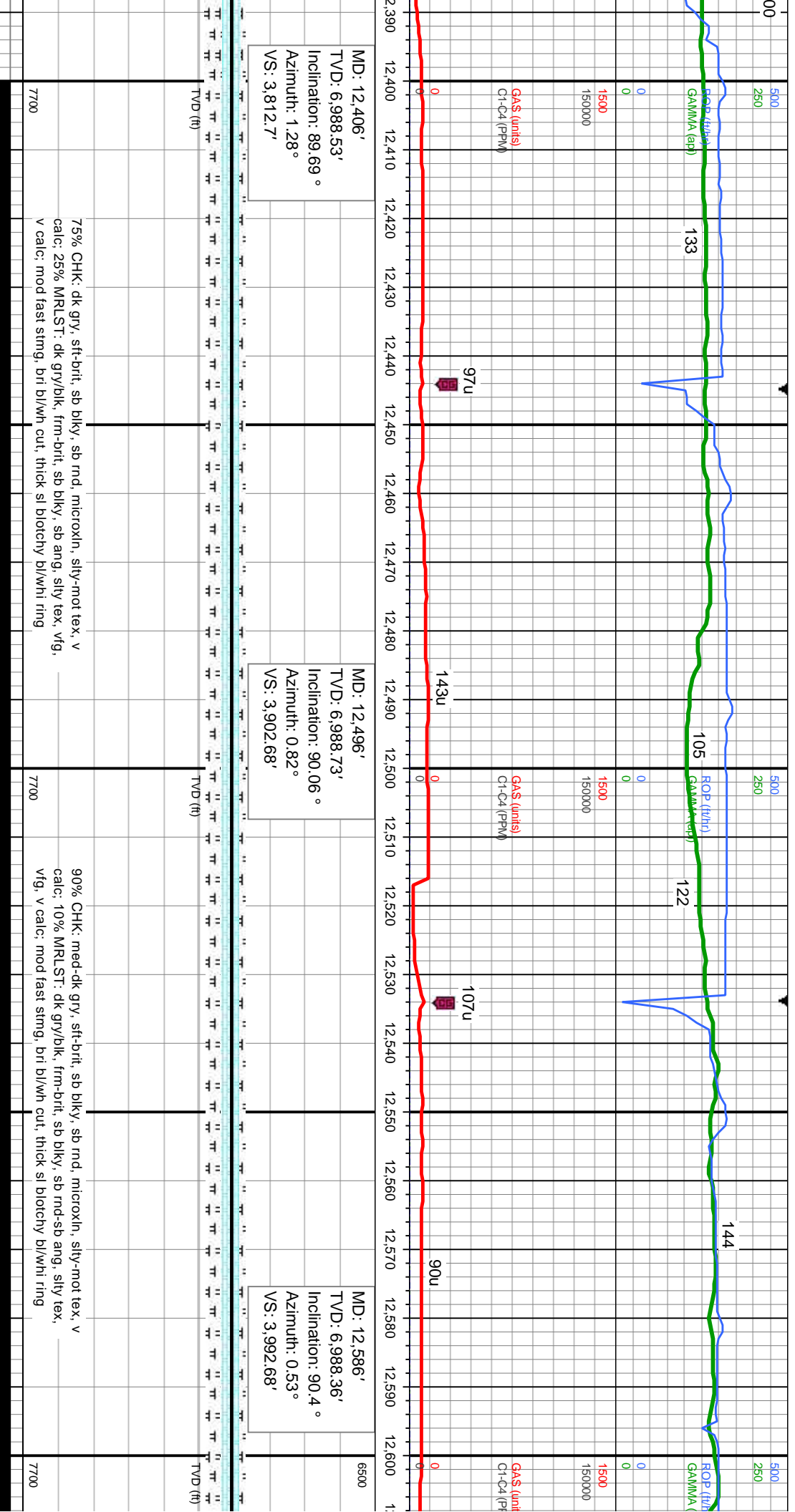


roxlin, silty-mot
ang, silty tex,
g

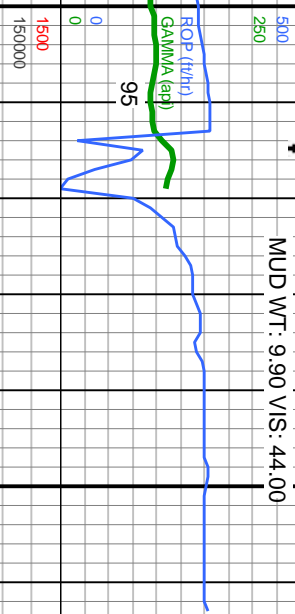
85% CHK: dk gry, sft-brit, sb blk, sb md, microxlin, silty-mot tex, v
calc: 15% MRLST: dk gry/blk, frm-brit, sb blk, sb ang, silty tex, vfg,
v calc: mod fast stng, bri bl/wh cut, thick sl blotchy bl/wh ring

60% MRLST: dk gry/blk, frm-brit, sb blk, sb md, silty tex, vfg, v calc:
40% CHK: dk gry, sft-brit, sb blk, sb md-sb ang, microxlin, silty tex, occ
mot; tr bent, mod stng/milky, bri bl/wh cut, mod thick bl/wh ring

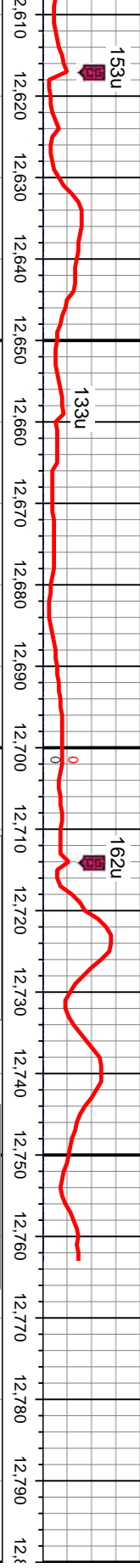




MUD WT: 9.90 VIS: 44.00



GAS (units)
Ct-C4 (PPM)



MD: 12,722'
TVD: 6,987.01'
Inclination: 90.74 °
Azimuth: 359.6°
VS: 4,114.24'

MD: 12,764'
TVD: 6,986.47'
Inclination: 90.74 °
Azimuth: 359.6°
VS: 4,156.21'

THANK YOU FOR CHOOSING
COLUMBINE LOGGING, INC.

TVD (ft)

85% CHK: med-dk gry, sft-brit, sb blk, sb rnd, microxl, silty-mot tex, v
calc, 15% MRLST: dk gry/bk, frm-brit, sb blk, sb rnd-sb ang, silty tex,
vfg, v calc, sl fss ip, mod fast stmg, bri bl/wh cut, thick bl/wh ring

90% CHK: med-dk gry, sft-brit, sb blk, sb rnd, microxl, silty-mot
tex, v calc, 10% MRLST: dk gry/bk, frm-brit, sb blk, sb rnd-sb
ang, silty tex, vfg, v calc, sl fss ip, mod fast stmg, bri bl/wh cut,
thick bl/wh ring

