



Scale: 5" / 100'
Measured Depth Log

Well Name Merritt 6-66-9-0560CH

Location NWNE SEC 9, T6N, R66W

State COLORADO

Country USA

API Number 05-123-37692-00

Region DJ BASIN

Spud Date 9/1/2013

Surface Coordinates 260' FNL x 2140' FEL

Bottom Hole Coordinates 500' FSL x 2280' FEL

County WELD

Rig Number NABORS M22

AFE # 18461D

Field WATTENBERG

Drilling Completed 9/9/2013

Ground Elevation 4822'
Logged Interval 4000' To 11707'

K.B. Elevation 4844'
Total Depth 11707'

Formation SHANNON - NIOBRARA C

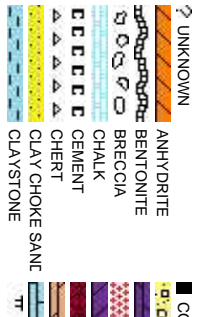
Type of Drilling Fluid LSND - WATER POLY MUD

Company Bill Barrett Corp

Name John Roesink

Company Bill Barrett Corp

Address 1099 18th Street
Denver, CO 80202



Operator

Geologist

Rock Types

| | | |
|----------------------|------------------|-----------------|
| CONGLOMERATE | METAMORPHIC | SHALY SILTSTONE |
| DOLOMITE | NO SAMPLE | SILTY SHALE |
| GRANITE | SALT | SILTSTONE |
| GYPSUM | SANDSTONE | TUFF |
| IGNEOUS | SALT-PEPPER SANT | WELDED TUFF |
| SIDERITE or LIMONITE | SHALE | |
| LIMESTONE | SHALE COLORED | |
| MARLSTONE | SHALE GRAY | |
| | SHALY SANDSTONE | |

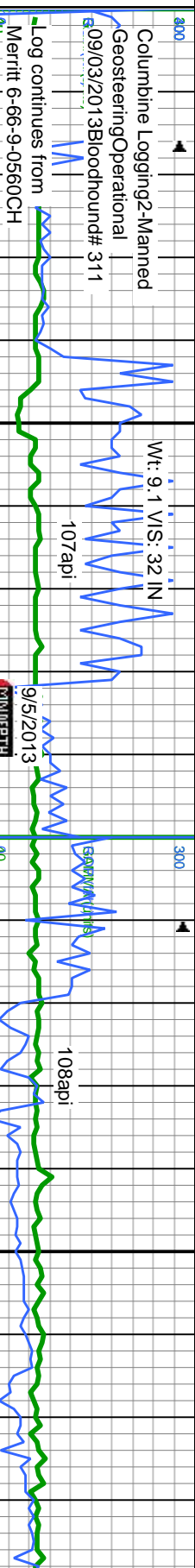
Accessories

| | | | | |
|----------------|-----------------|----------------------|-------------------|-----------------------|
| Fossils | F FOSSIL | ARGILLACEOUS | GLAUCONITE | TUFFACEOUS |
| GASTROPOD | ARGILLITE GRAIN | GYPSIFEROUS | | |
| ALGAE | OOLITE | B BENTONITE | HEAVY MINERAL | |
| AMPHIPORA | OSTRACOD | BITUMENOUS SUBSTANCE | INOCERAMUS | ANHYDRITE STRINGER |
| BELEMITE | PELECYPOD | BRECCIA FRAGMENTS | KAOLIN | BENTONITE STRINGER |
| BIOCLASTIC | PELLET | CALCAREOUS | MARLSTONE | COAL STRINGER |
| BRACHIOPOD | PISOLITE | CARBONACEOUS FLAKES | MINERAL CRYSTALS | DOLOMITE STRINGER |
| BRYOZOA | PLANT REMAINS | CHTDK | NODULES | GYPSUM STRINGER |
| CEPHALOPOD | PLANT SPORES | CHTLT | PHOSPHATE PELLET: | LIMESTONE STRINGER |
| CORAL | SCAPHOPOD | COAL - THIN BEDS | PYRITE | MARLSTONE (CALC) STRG |
| CRINOID | STROMATOPOROID | DOLOMITIC | SALT CAST | MARLSTONE (DOL) STRG |
| ECHINOID | | FELDSPAR | SANDY | SANDSTONE STRINGER |
| FISH | Minerals | FERRUGINOUS PELLET | SILICEOUS | SHALE STRINGER |
| FORAMINIFERA | ANHYDRITIC | FERRUGINOUS | SILTY | SILTSTONE STRINGER |

Other Symbols

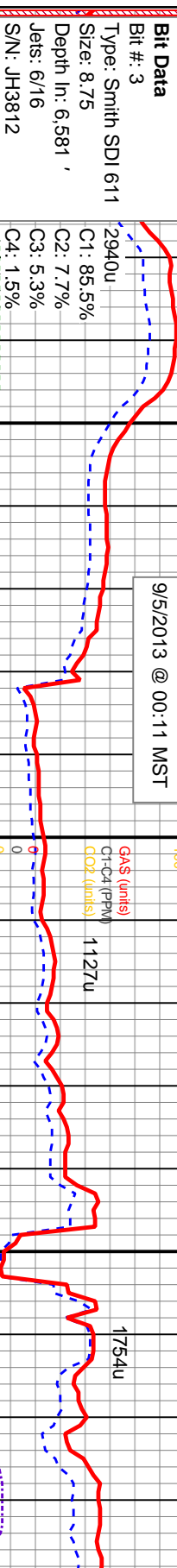
| | | | | |
|--------------------|----------------------|-----------------------|------------------------|----------------|
| Oil Show | MOLDIC | FAULT | WIRELINE TESTED - LEFT | E EARTHY |
| DEAD | ORGANIC | FORMATION TOP | WIRELINE TESTED - RT | FX FINELYXLN |
| PINPOINT | | GAS SHOW | | ES GRAINSTONE |
| EVEN | VUGGY | MINDEPTH MN DEPTH | | L LITHOGRAPHIC |
| QUESTIONABLE | | NORMAL FAULT | | MX MICROXLN |
| SPOTTED STAINING | Engineering | OIL SHOW | | MS MUDSTONE |
| BIT | OVERTURNED STRATA | REVERSE FAULT | | PS PACKSTONE |
| CONNECTION (LEFT) | SIDEWALL CORE (LEFT) | SIDEWALL CORE (RIGHT) | | WS WACKSTONE |
| CONNECTION (RIGHT) | | | | |
| FENESTRAL | CONNECTION GAS | | | |
| FRACTURE | CORE - LOST | SLIDE | | |
| INTERCRYSTALLINE | CORE - RECOVERED | SURVEY | | |
| INTEROOLITIC | DST INTERVAL | TRIP GAS | | |
| | | | Textures | Sorting |
| | | | BOUNDSTONE | M MODERATE |
| | | | CHALKY | P POOR |
| | | | CRYPTOXLN | W WELL |

ROP
ROF
GAMMA



Total Gas & Chromatograph

GAS
C1
C2
C3
C4
CO2



Depth Labels

% Lith



Well Bore
TVD

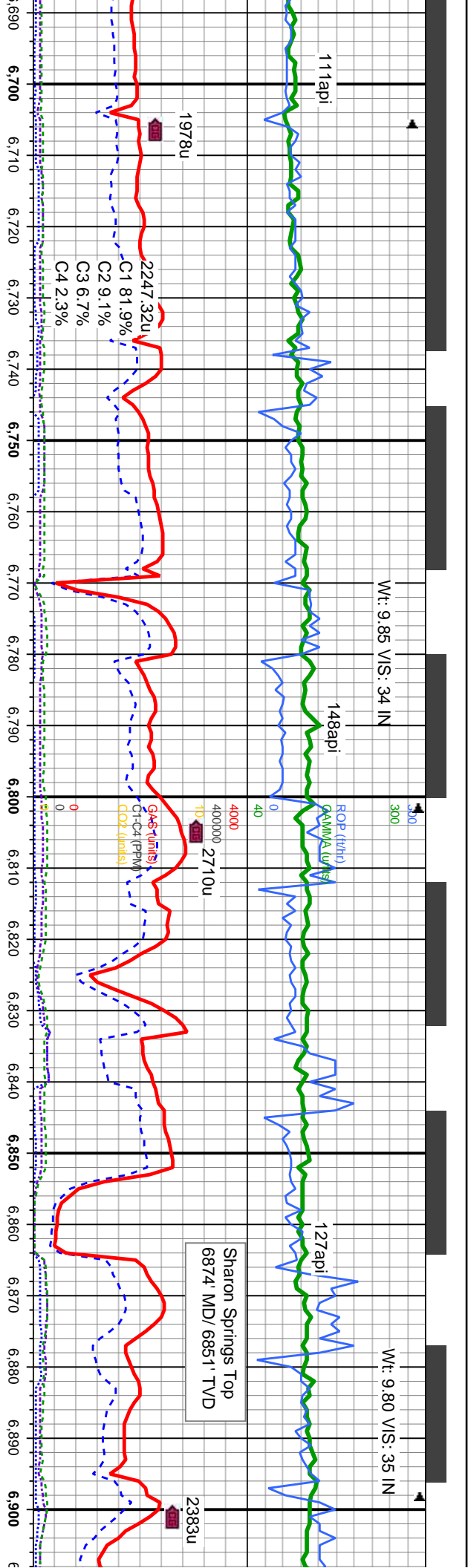
| | | | | |
|---|---|---|---|--|
| MD: 6,537 TVD: 6,529.49 Inclination: 0.3 ° Azimuth: 117.3 ° VS: 241.51' | MD: 6,565 TVD: 6,557.49 Inclination: 0.4 ° Azimuth: 95.1 ° VS: 241.47' | MD: 6,597 TVD: 6,589.49 Inclination: 0.5 ° Azimuth: 93.2 ° VS: 241.45' | MD: 6,628 TVD: 6,620.48 Inclination: 1.7 ° Azimuth: 101.7 ° VS: 241.35' | MD: 6,660 TVD: 6,652.41 Inclination: 5.7 ° Azimuth: 141.8 ° VS: 240' |
| TVD (ft) | TVD (ft) | TVD (ft) | TVD (ft) | TVD (ft) |
| SL.TYSH: m gy-m gy brn, mod fri-sl britt, sb blkly-sb pily, gt-rthy, silty, grdg - SH, SLST: It gy-dk gy, firm-hd, sb blkly - pily, gt-rthy, occ sd, non calc, qtz gr, occ cmt, arg, grdg to sh, SS: clr-lt gy, hd, m- f gr, sb ang-sb rd, mod-w srt, con, non calc, shy ip, SHYSS: lt gy- m gy, fri, f gr, sb rd- rd, mod - w srt, arg | SL.TYSH: m gy-m gy brn, mod fri-sl britt, sb blkly-sb pily, gt-rthy, silty, grdg - SH, SLST: It gy-dk gy, firm-hd, sb blkly - pily, gt-rthy, occ sd, non calc, qtz gr, occ cmt, arg, grdg to sh, SS: clr-lt gy, hd, m- f gr, sb ang-sb rd, mod-w srt, con, non calc, shy ip, SHYSS: lt gy- m gy, fri, f gr, sb rd- rd, mod - w srt, arg | SL.TYSH: m gy-m gy brn, mod fri-sl britt, sb blkly-sb pily, gt-rthy, silty, grdg - SH, SLST: It gy-dk gy, firm-hd, sb blkly - pily, gt-rthy, occ sd, non calc, qtz gr, occ cmt, arg, grdg to sh, SS: clr-lt gy, hd, m- f gr, sb ang-sb rd, mod-w srt, con, non calc, shy ip, SHYSS: lt gy- m gy, fri, f gr, sb rd- rd, mod - w srt, arg | SL.TYSH: m gy-m gy brn, mod fri-sl britt, sb blkly-sb pily, gt-rthy, silty, grdg - SH, SLST: It gy-dk gy, firm-hd, sb blkly - pily, gt-rthy, occ sd, non calc, qtz gr, occ cmt, arg, grdg to sh, SS: clr-lt gy, hd, m- f gr, sb ang-sb rd, mod-w srt, con, non calc, shy ip, SHYSS: lt gy- m gy, fri, f gr, sb rd- rd, mod - w srt, arg | SL.TYSH: m gy-m gy brn, mod fri-sl britt, sb blkly-sb pily, gt-rthy, silty, grdg - SH, SLST: It gy-dk gy, firm-hd, sb blkly - pily, gt-rthy, occ sd, non calc, qtz gr, occ cmt, arg, g |

Oil Show

TR
P
FR
G
E

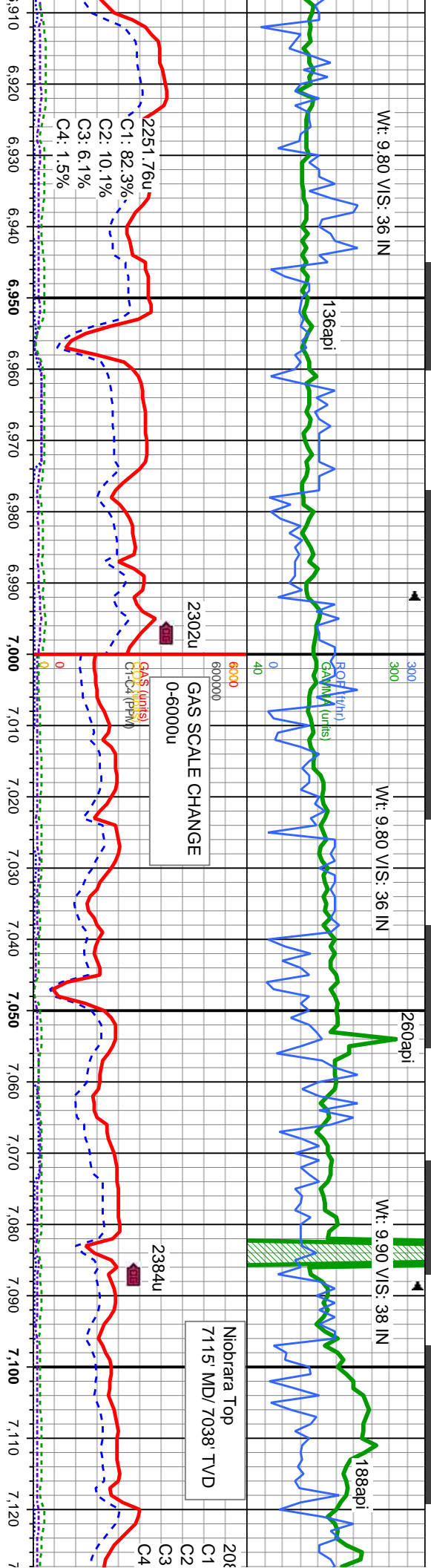
Images





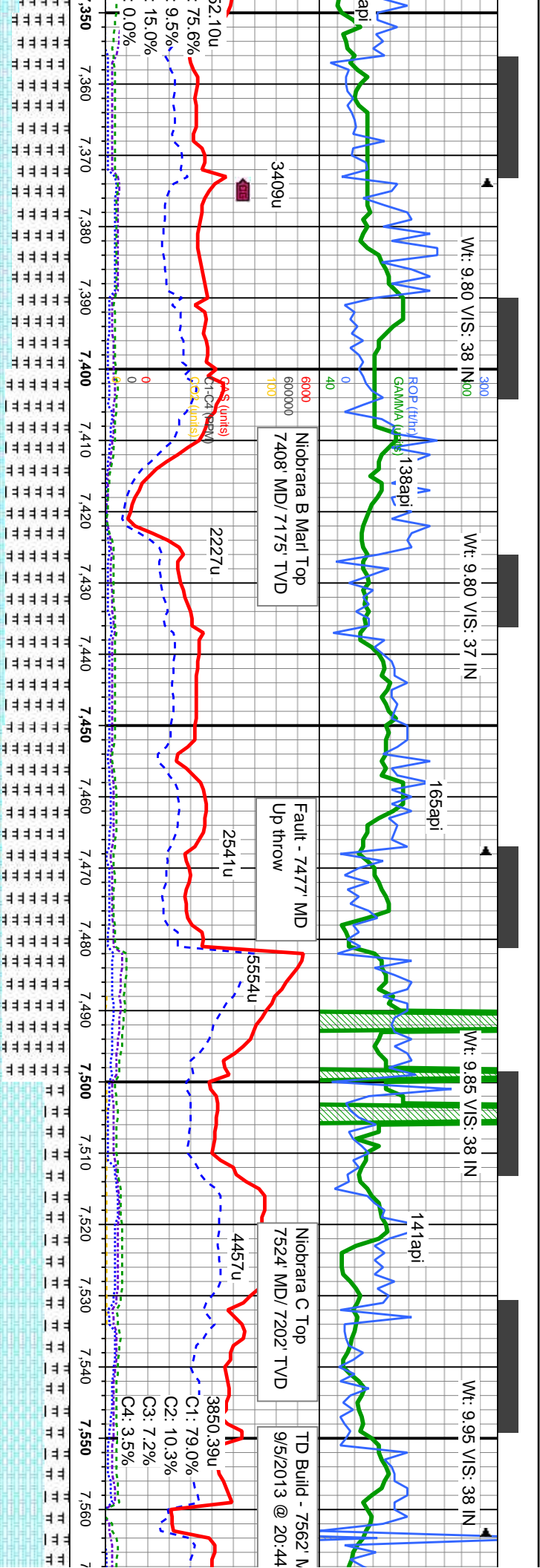
| | | | | | | | |
|-----------|---|-----------|---|-----------|---|-----------|---|
| 6,692' | MD: 6,723 TVD: 6,714.26 Inclination: 15.6 ° Azimuth: 156.8 ° VS: 229.89' | 6,755' | MD: 6,787 TVD: 6,774.72 Inclination: 22.2 ° Azimuth: 168.5 ° VS: 209.94' | 6,819' | MD: 6,851 TVD: 6,832.59 Inclination: 28.3 ° Azimuth: 177.8 ° VS: 182.91' | 6,884' | MD: 6,861.21 TVD: 6,848.3 Inclination: 31.4 ° Azimuth: 178.3 ° VS: 166.5' |
| 6,684.08' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - SH, SLST: lt gy-dk gy, firm-hd, sb biky - pty, gt-rthy, occ sd, non calc, qtz gr, occ cnt, arg, grdg to sh, SS: clt-lt gy, hnd, m- f gr, sb ang-sb rd, mod-w srt, con, non calc, shy ip, SHYSS: lt gy- m gy, fri, f gr, sb rd- rd, mod - w srt, arg | 6,744.79' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - sh, SLST: lt gy-dk gy, firm-hd, sb biky - pty, gt-rthy, occ sd, non calc, qtz gr, occ cnt, arg, grdg to sh | 6,804.02' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - sh | 6,832.59' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - sh |
| 6,692' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - SH, SLST: lt gy-dk gy, firm-hd, sb biky - pty, gt-rthy, occ sd, non calc, qtz gr, occ cnt, arg, grdg to sh, SS: clt-lt gy, hnd, m- f gr, sb ang-sb rd, mod-w srt, con, non calc, shy ip, SHYSS: lt gy- m gy, fri, f gr, sb rd- rd, mod - w srt, arg | 6,744.79' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - sh, SLST: lt gy-dk gy, firm-hd, sb biky - pty, gt-rthy, occ sd, non calc, qtz gr, occ cnt, arg, grdg to sh | 6,804.02' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - sh | 6,832.59' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - sh |
| 6,692' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - SH, SLST: lt gy-dk gy, firm-hd, sb biky - pty, gt-rthy, occ sd, non calc, qtz gr, occ cnt, arg, grdg to sh, SS: clt-lt gy, hnd, m- f gr, sb ang-sb rd, mod-w srt, con, non calc, shy ip, SHYSS: lt gy- m gy, fri, f gr, sb rd- rd, mod - w srt, arg | 6,744.79' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - sh, SLST: lt gy-dk gy, firm-hd, sb biky - pty, gt-rthy, occ sd, non calc, qtz gr, occ cnt, arg, grdg to sh | 6,804.02' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - sh | 6,832.59' | SLTYSH: m gy-m gy brn, mod fri-sl britt, sb biky-sb pty, gt-rthy, silty, grdg - sh |





| | | | | | | |
|---|--|--|--|--|--|---|
| MD: 6,915 TVD: 6,887.3 Inclination: 34 ° Azimuth: 176 ° VS: 149.78 ' | MD: 6,947 TVD: 6,913.54 Inclination: 35.8 ° Azimuth: 177.5 ° VS: 131.5 ' | MD: 6,978 TVD: 6,938.3 Inclination: 38.2 ° Azimuth: 175.2 ° VS: 112.89 ' | 65 MD: 7,010 TVD: 6,963.02 Inclination: 40.6 ° Azimuth: 175.8 ° VS: 92.64 ' | MD: 7,042 TVD: 6,987.02 Inclination: 42.2 ° Azimuth: 177.4 ° VS: 71.52 ' | MD: 7,074 TVD: 7,010.18 Inclination: 45.1 ° Azimuth: 178.2 ° VS: 49.45 ' | MD: 7,106 TVD: 7,032.1 Inclination: 48.4 ° Azimuth: 178.7 ° VS: 26.15 ' |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| TVD (ft) | | | | | | |
| SLTY SH: lt gy to d scat bent, dissim py CHK: lt-med gy, sr stri, sft-v sft, sppty- mky-stng cut, sl oc | | | | | | |
| SLTY SH: m gy-m gy brn, mod fri-sl brtt, sb blky-sb pty, gr-rthy, silty, grdg - sh | | | | | | |
| SLTY SH: m gy-m gy brn, mod fri-sl brtt, sb blky-sb pty, gr-rthy, silty, grdg - sh | | | | | | |
| SLTY SH: m gy-m gy brn, mod fri-sl brtt, sb blky-sb pty, gr-rthy, silty, grdg - sh | | | | | | |
| 7800 | | | | | | |



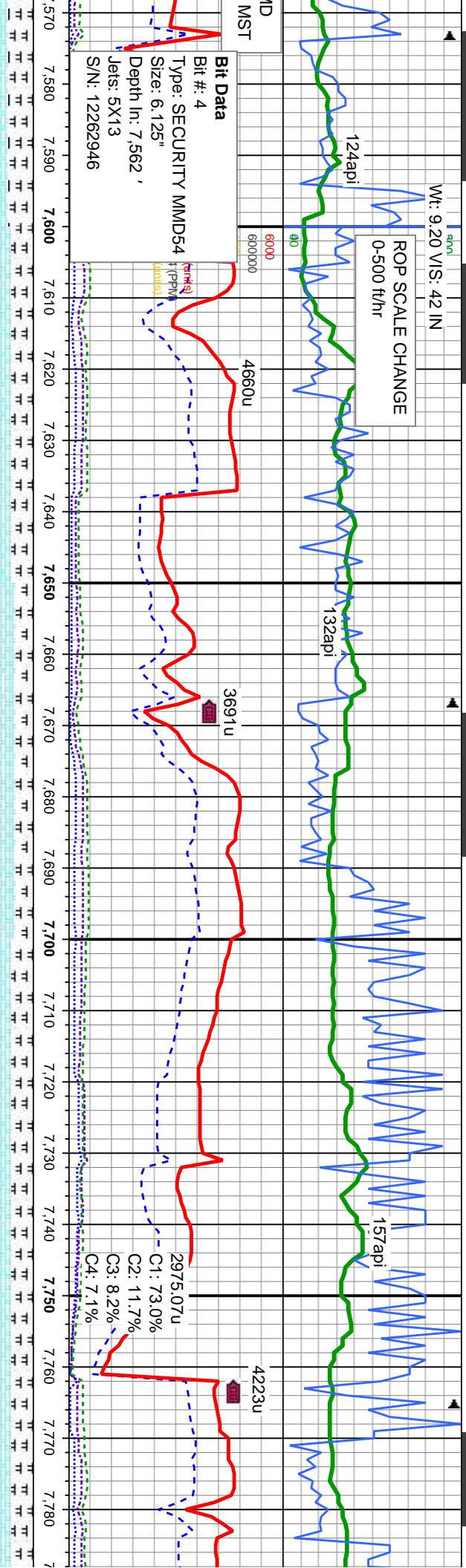


| | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| MD: 7,359 TVD: 7,158.94 Inclination: 68 ° Azimuth: 184.8 ° VS: -190.88 ' | | MD: 7,391 TVD: 7,170.07 Inclination: 71.3 ° Azimuth: 183.4 ° VS: -220.8 ' | | MD: 7,422 TVD: 7,179.39 Inclination: 73.7 ° Azimuth: 182.9 ° VS: -250.32 ' | | MD: 7,454 TVD: 7,187.84 Inclination: 75.7 ° Azimuth: 179 ° VS: -281.18 ' | | MD: 7,486 TVD: 7,194.98 Inclination: 78.5 ° Azimuth: 180.6 ° VS: -312.36 ' | | MD: 7,518 TVD: 7,200.62 Inclination: 81.2 ° Azimuth: 179.5 ° VS: -343.86 ' | | MD: 7,551 TVD: 7,205.07 Inclination: 83.3 ° Azimuth: 182.3 ° VS: -376.55 ' | |
| CHK: lt-med gy, sme brn, lam, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mrl, scat bent | | CHK: lt-med gy, sme brn, lam, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mrl, scat bent | | CHK: lt-med gy, sme brn, lam, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mrl, scat bent | | CHK: lt-med gy, sme brn, lam, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mrl, scat bent | | CHK: lt-med gy, sme brn, lam, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mrl, scat bent | | CHK: lt-med gy, sme brn, lam, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mrl, scat bent | | CHK: lt-med gy, sme brn, lam, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mrl, scat bent | |
| MARL: lt-dk gy, stri, sft-v sft, sbply-ply, fri-brt, sil, vf grn, rr vf dism pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | | MARL: lt-dk gy, stri, sft-v sft, sbply-ply, fri-brt, sil, vf grn, rr vf dism pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | | MARL: lt-dk gy, stri, sft-v sft, sbply-ply, fri-brt, sil, vf grn, rr vf dism pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | | MARL: lt-dk gy, stri, sft-v sft, sbply-ply, fri-brt, sil, vf grn, rr vf dism pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | | MARL: lt-dk gy, stri, sft-v sft, sbply-ply, fri-brt, sil, vf grn, rr vf dism pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | | MARL: lt-dk gy, stri, sft-v sft, sbply-ply, fri-brt, sil, vf grn, rr vf dism pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | | MARL: lt-dk gy, stri, sft-v sft, sbply-ply, fri-brt, sil, vf grn, rr vf dism pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | |



Wt: 9.20 VIS: 42 IN

ROP SCALE CHANGE
0-500 ft/hr



Bit #: 4
Type: SECURITY MMDS4
Size: 6.125"
Depth In: 7.562 '
Jets: 5X13
S/N: 12262946

2975.07u
C1: 73.0%
C2: 11.7%
C3: 8.2%
C4: 7.1%

sme brn, lam, mot, vsft-sft,
ic, crptxl, intbd w/ mrl, scat
stri, sft-v sft, sbply-pity, fri-
v dism pyr; v bri bl mod
cut, sl od, fnt yel bl flor res, v
ring

CHK: lt-med gy, sme brn, lam, mot, vsft-sft,
sbply-blky, v calc, crptxl, intbd w/ mrl,
MARL: lt-dk gy, stri, sft-v sft, sbply-pity, fri-
brit, sil, vf grn, rr vf dism pyr, tr inoc; v bri bl
mod fast mky-stmg cut, sl od, fnt yel bl flor
res, v fnt tan vis light ring

CHK: lt-med gy, sme brn, lam, mot, vsft-sft,
sbply-blky, v calc, crptxl, intbd w/ mrl,
MARL: lt-dk gy, stri, sft-v sft, sbply-pity, fri-
brit, sil, vf grn, rr vf dism pyr, tr inoc; v bri bl
mod fast mky-stmg cut, sl od, fnt yel bl flor
res, v fnt tan vis light ring

CHK: lt-med gy, sme brn, lam, mot, vsft-sft,
sbply-blky, v calc, crptxl, intbd w/ mrl,
MARL: lt-dk gy, stri, sft-v sft, sbply-pity, fri-
brit, sil, vf grn, rr vf dism pyr, tr inoc; v bri bl
mod fast mky-stmg cut, sl od, fnt yel bl flor
res, v fnt tan vis light ring

CHK: lt-med gy, sme brn, lam, mot,
sbply-blky, v calc, crptxl, intbd w/ r
MARL: lt-dk gy, stri, sft-v sft, sbply-
brit, sil, vf grn, rr vf dism pyr, tr inoc
mod fast mky-stmg cut, sl od, fnt ye
res, v fnt tan vis light ring

MD: 7.582
TVD: 7.208.15 '
Inclination: 85.3 °
Azimuth: 182.7 °
VS: -407.36 '

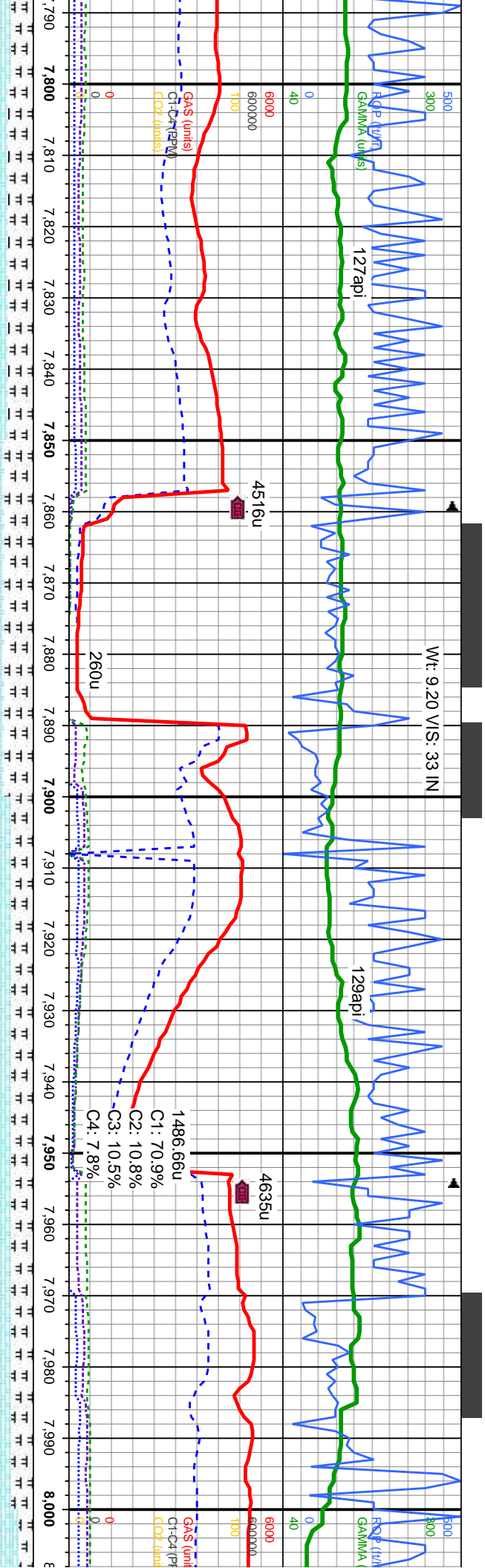
MD: 7.614
TVD: 7.210.21 '
Inclination: 87.3 °
Azimuth: 179.7 °
VS: -439.29 '
7800

MD: 7.646
TVD: 7.211.53 '
Inclination: 88 °
Azimuth: 179.5 °
VS: -471.26 '

MD: 7.678
TVD: 7.212.06 '
Inclination: 90.1 °
Azimuth: 179.9 °
VS: -503.25 '

MD: 7.710
TVD: 7.211.5 '
Inclination: 91.9 °
Azimuth: 181.7 °
VS: -535.24 '





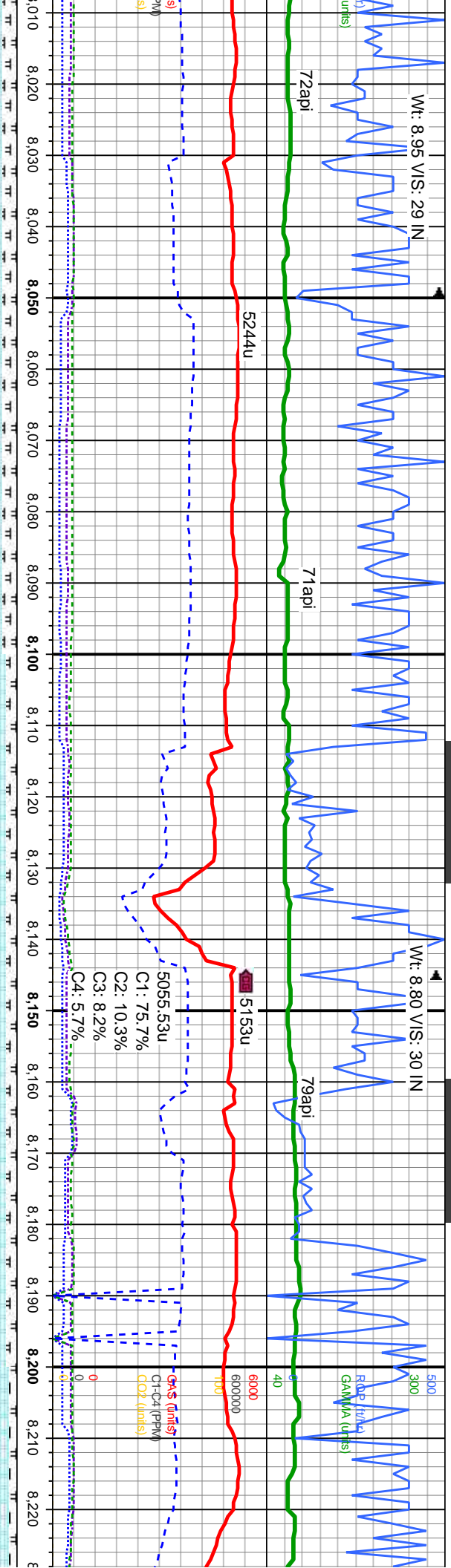
| | | | | |
|--|--|--|--|--|
| vsft-sft, slopy-dlky, v calc, crptxl, intbd w/ mrl, | CHK: lt-med gy, sme brn, lam, mot, vsft-sft, | CHK: lt-med gy, sme brn, sme dk gy, lam, mot, vsft-sft, sbply-dlky, v calc, crptxl, intbd | CHK: lt-med gy, sme brn, sme dk gy, lam, mot, vsft-sft, sbply-dlky, v calc, crptxl, intbd | CHK: lt-med gy, sme brn, sme dk gy, lam, mot, vsft-sft, sbply-dlky, v calc, crptxl, intbd |
| ply, fri- v bri bl bl flor | MARL: lt-dk gy, stri, sft-v sft, sbply-ply, fri- brit, sil, vf grn, rr vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | MARL: lt-dk gy, stri, sft-v sft, sbply-ply, fri- brit, sil, vf grn, rr vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | MARL: lt-dk gy, stri, sft-v sft, sbply-ply, fri- brit, sil, vf grn, rr vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | MARL: lt-dk gy, stri, sft-v sft, sbply-ply, fri- brit, sil, vf grn, rr vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring |

MD: 7,804
TVD: 7,207.89'
Inclination: 92.5 °
Azimuth: 181.1 °
VS: -629.14'
7800

MD: 7,899
TVD: 7,204.24'
Inclination: 91.9 °
Azimuth: 179.7 °
VS: -724.07'
7800

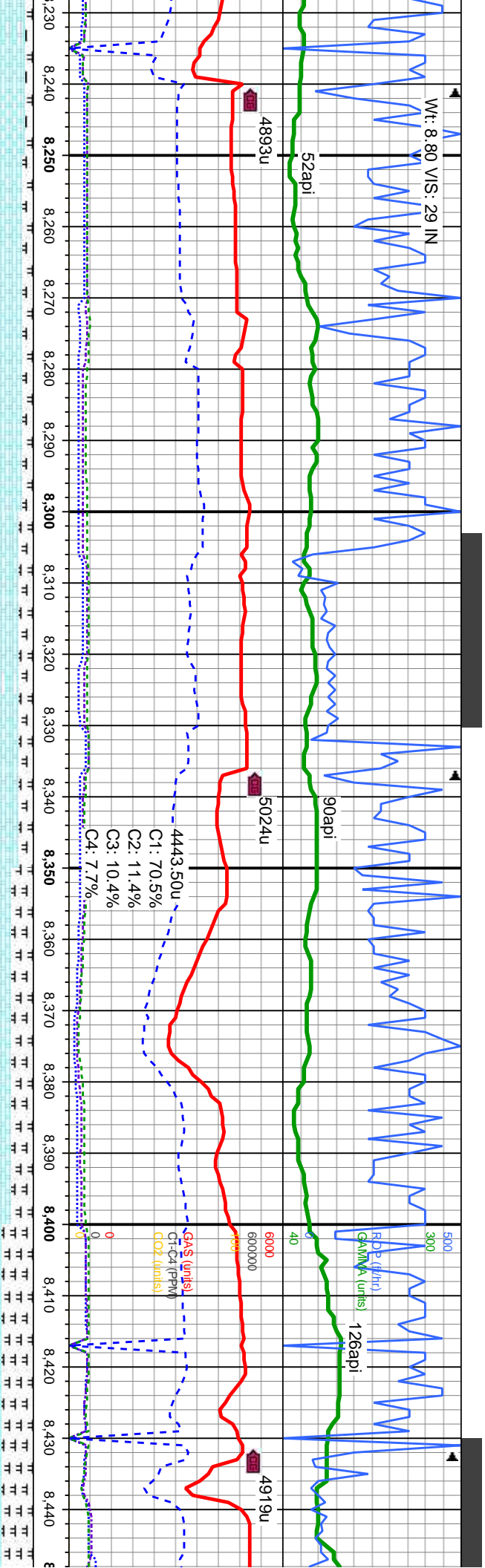
MD: 7,994
TVD: 7,202.5'
Inclination: 90.2 °
Azimuth: 175.7 °
VS: -818.95'
7800





| | | | |
|---|---|---|---|
| It-med gy, sme brn, sme dk gy, lam, sft-sft, sbply-bkly, v calc, crptxl, intbd | CHK: It-med gy, sme brn, sme dk gy, lam, mot, vsft-sft, sbply-bkly, v calc, crptxl, intbd w/ mrl, | CHK: It-med It gy, tr brn, mot, vsft-sft, sbply-bkly, v calc, crptxl, intbd w/ mrl, | CHK: It-med It gy, tr brn, mot, vsft-sft, sbply-bkly, v calc, crptxl, intbd w/ mrl, |
| It-dk gy, stri, sft-v sft, sbply-plty, fri-bit, sil, vf grn, r vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | MARL: It-dk gy, stri, sft-v sft, sbply-plty, fri-bit, sil, vf grn, r vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | MARL: It-dk gy, stri, sft-v sft, sbply-plty, fri-bit, sil, vf grn, r vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | MARL: It-dk gy, stri, sft-v sft, sbply-plty, fri-bit, sil, vf grn, r vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring |
| It-med gy, sme brn, sme dk gy, lam, sft-sft, sbply-bkly, v calc, crptxl, intbd | CHK: It-med It gy, tr brn, mot, vsft-sft, sbply-bkly, v calc, crptxl, intbd w/ mrl, | CHK: It-med It gy, tr brn, mot, vsft-sft, sbply-bkly, v calc, crptxl, intbd w/ mrl, | CHK: It-med It gy, tr brn, mot, vsft-sft, sbply-bkly, v calc, crptxl, intbd w/ mrl, |
| It-dk gy, stri, sft-v sft, sbply-plty, fri-bit, sil, vf grn, r vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | MARL: It-dk gy, stri, sft-v sft, sbply-plty, fri-bit, sil, vf grn, r vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | MARL: It-dk gy, stri, sft-v sft, sbply-plty, fri-bit, sil, vf grn, r vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | MARL: It-dk gy, stri, sft-v sft, sbply-plty, fri-bit, sil, vf grn, r vf dism pyr, tr inoc; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring |

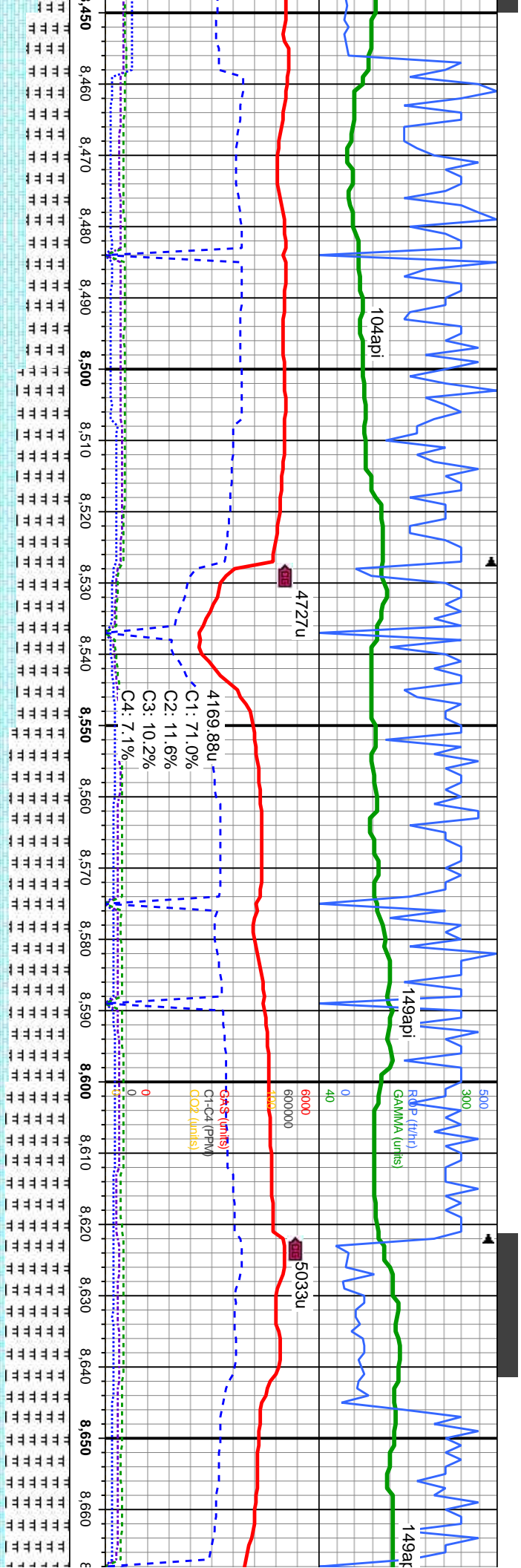
[illegible]



| mot, vsft-sft, inbtd w/ mrl, sft, sbspdy-pty, fri-pyr, tr inoc; v bri bl sl od, fnt yel bl flor | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspdy-blky, v calc, crptxl, inbtd w/ mrl, MARL: lt-dk gy, stri, sft-v sft, sbspdy-pty, fri-brt, sil, vf grn, rr vf dism pyr, tr inoc; v bri bl mod fast mky-stimg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspdy-blky, v calc, crptxl, inbtd w/ mrl, MARL: lt-dk gy, stri, sft-v sft, sbspdy-pty, fri-brt, sil, vf grn, rr vf dism pyr, tr inoc; v bri bl mod fast mky-stimg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspdy-blky, v calc, crptxl, inbtd w/ mrl, MARL: lt-dk gy, stri, sft-v sft, sbspdy-pty, fri-brt, sil, vf grn, rr vf dism pyr, tr inoc; v bri bl mod fast mky-stimg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspdy-blky, v calc, crptxl, inbtd w/ mrl, MARL: lt-dk gy, stri, sft-v sft, sbspdy-pty, fri-brt, sil, vf grn, rr vf dism pyr, tr inoc; v bri bl mod fast mky-stimg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring |
|---|--|--|--|--|
|---|--|--|--|--|

| | | |
|---|---|------|
| MD: 8.281 TVD: 7,204.67 Inclination: 89 ° Azimuth: 177.9 ° VS: -1, 105.09 | MD: 8.376 TVD: 7,207.49 Inclination: 87.6 ° Azimuth: 171.9 ° VS: -1, 199.62 | 7800 |
|---|---|------|





CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mrl, MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri-bit, sil, vf grn, rr vf diss pyr; v bri bl mod fast mky-stimg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring

CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mrl, MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri-bit, sil, vf grn, rr vf diss pyr; v bri bl mod fast mky-stimg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring

CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mrl, MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri-bit, sil, vf grn, rr vf diss pyr; v bri bl mod fast mky-stimg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring

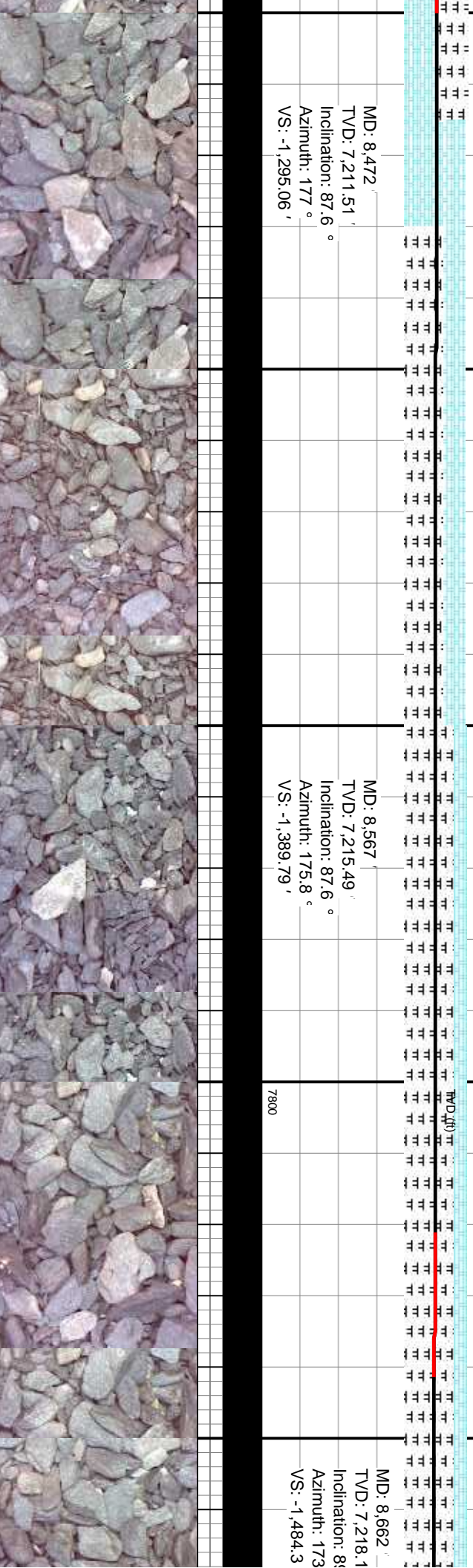
CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mrl, MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri-bit, sil, vf grn, tr bent w diss pyr; v bri bl mod fast mky-stimg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring

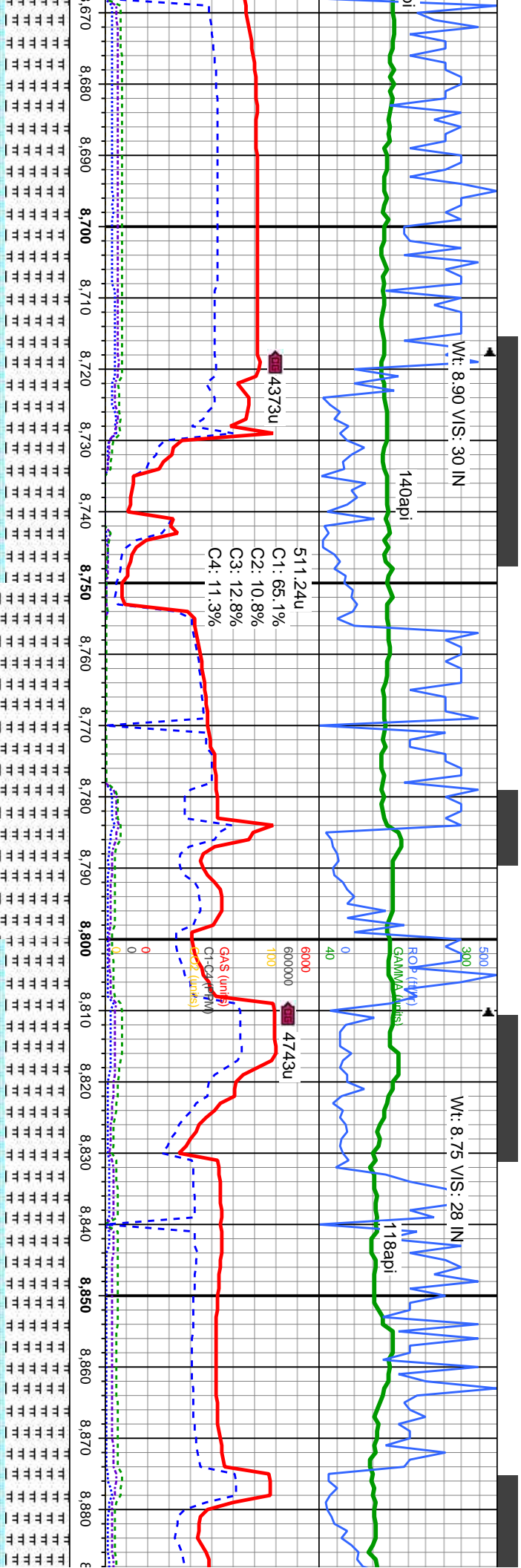
CHK: lt-med lt g sbply-blky, v ce MARL: lt-dk gy, bri, sil, vf grn, tr mod fast mky-sst res, v fnt tan vis

MD: 8,472'
TVD: 7,211.51'
Inclination: 87.6°
Azimuth: 177°
VS: -1,295.06'

MD: 8,567'
TVD: 7,215.49'
Inclination: 87.6°
Azimuth: 175.8°
VS: -1,389.79'

MD: 8,662'
TVD: 7,218.1'
Inclination: 88°
Azimuth: 173°
VS: -1,484.3'





Y, tr brn, mot, vsft-sft, cpxl, intbd w/ mrl, stri, sft-v sft, sbply-pty, fri-bent w dissim pyr; v bri bl mng cut, sl od, fnt yel bl flr light ring

CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, cpxl, intbd w/ mrl, MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri-brit, sil, vif gm, tr bent w dissim pyr; v bri bl mod fast mky-stng cut, sl od, fnt yel bl flr res, v fnt tan vis light ring

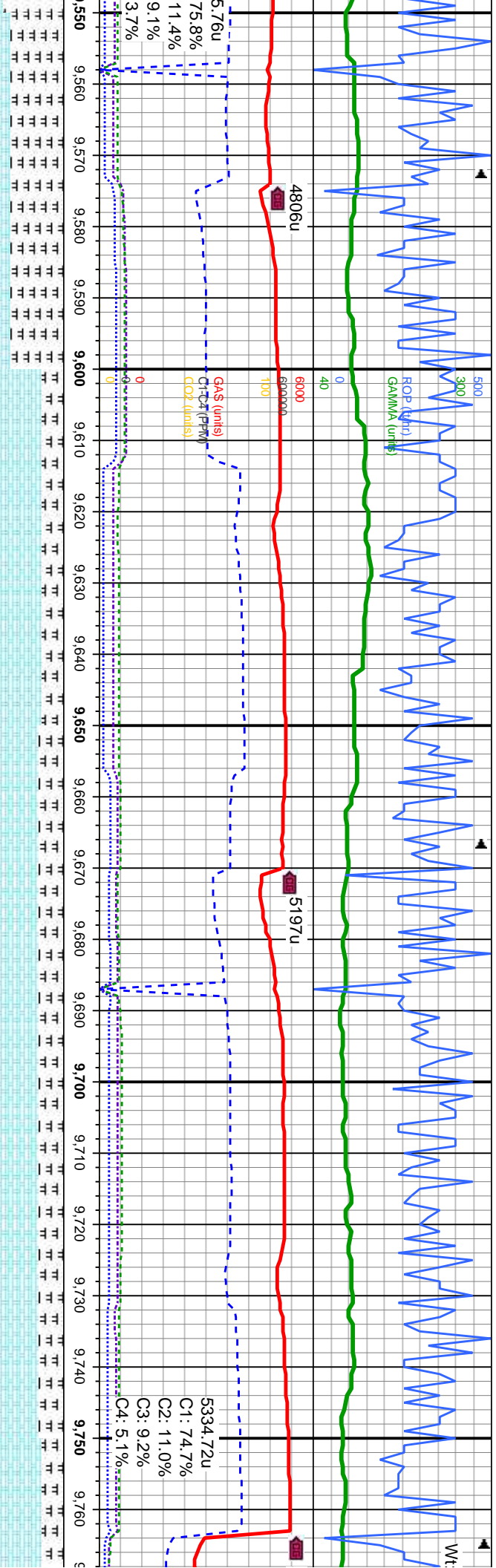
MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri-brit, sil, vif gm; tr CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, cpxl, intbd w/ mrl, tr bent w dissim pyr; v bri bl mod fast mky-stng cut, sl od, fnt yel bl flr res, v fnt tan vis light ring

MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri-brit, sil, vif gm; CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, cpxl, intbd w/ mrl, tr bent w dissim pyr; v bri bl mod fast mky-stng cut, sl od, fnt yel bl flr res, v fnt tan vis light ring

MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri-brit, sil, vif gm; CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, cpxl, intbd w/ mrl, tr bent w dissim pyr; v bri bl mod fast mky-stng cut, sl od, fnt yel bl flr res, v fnt tan vis light ring

| | |
|--------------------|--------------------|
| MD: 8,757 | MD: 8,852 |
| TVD: 7,217.73' | TVD: 7,213.83' |
| Inclination: 91.3° | Inclination: 93.4° |
| Azimuth: 178.8° | Azimuth: 181.1° |
| VS: -1,579.03' | VS: -1,673.93' |





CHK: lt-med lt gy, tr brn, mot. vsft-sft,
sbply-blky, v calc, crptxl, intbd w/ mrl; MARL:
lt-dk gy, stri, sft-v sft, sbply-pity, fri- brit, sil,
vf grn tr fos frag; v bri bl mod fast mky-stmg
cut, sl od, fnt yel bl flor res, v fnt tan vis light
ring

CHK: lt-med lt gy, tr brn, mot. vsft-sft,
sbply-blky, v calc, crptxl, intbd w/ mrl; MARL:
lt-dk gy, stri, sft-v sft, sbply-pity, fri- brit, sil,
vf grn tr fos frag, tr bent with dissim pyr; v bri
bl mod fast mky-stmg cut, sl od, fnt yel bl
flor res, v fnt tan vis light ring

CHK: lt-med lt gy, tr brn, mot. vsft-sft,
sbply-blky, v calc, crptxl, intbd w/ mrl; MARL:
lt-dk gy, stri, sft-v sft, sbply-pity, fri- brit, sil,
vf grn tr fos frag, tr bent with dissim pyr; v bri
bl mod fast mky-stmg cut, sl od, fnt yel bl
flor res, v fnt tan vis light ring

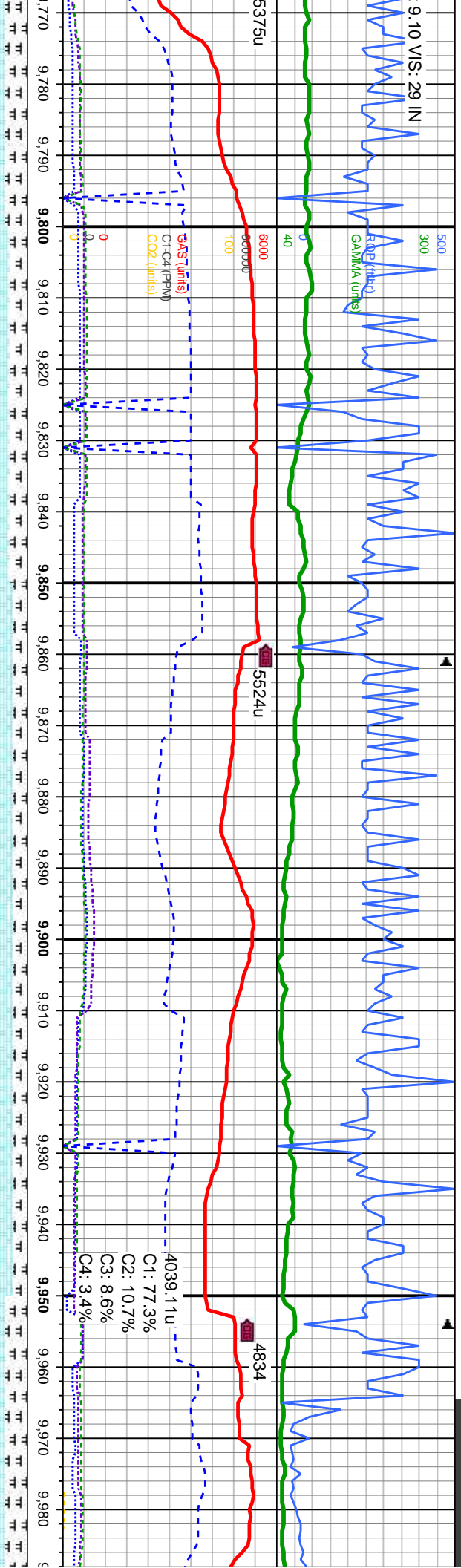
CHK: lt-med lt gy, tr brn, mot. vsft-sft,
sbply-blky, v calc, crptxl, intbd w/ mrl; MARL:
lt-dk gy, stri, sft-v sft, sbply-pity, fri- brit, sil,
vf grn tr fos frag, tr bent with dissim pyr; v bri
bl mod fast mky-stmg cut, sl od, fnt yel bl
flor res, v fnt tan vis light ring

CHK: lt-med lt g
sbply-blky, v ce
lt-dk gy, stri, sft-
vf grn tr fos frag
bl mod fast mky
flor res, v fnt tar

MD: 9,613 '
TVD: 7,203.33 '
Inclination: 91.2 °
Azimuth: 182.4 °
VS: -2,434.44 '
7800

MD: 9,710 '
TVD: 7,201.9 '
Inclination: 90.5 °
Azimuth: 180.5 °
VS: -2,531.39 '

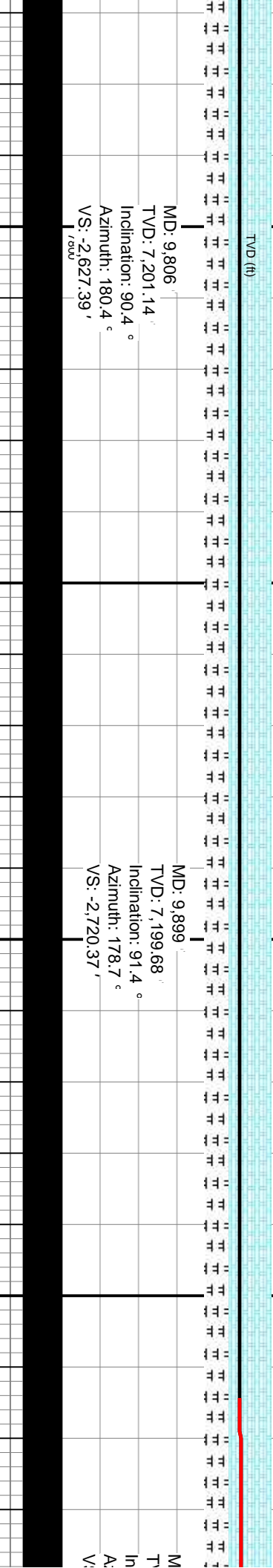


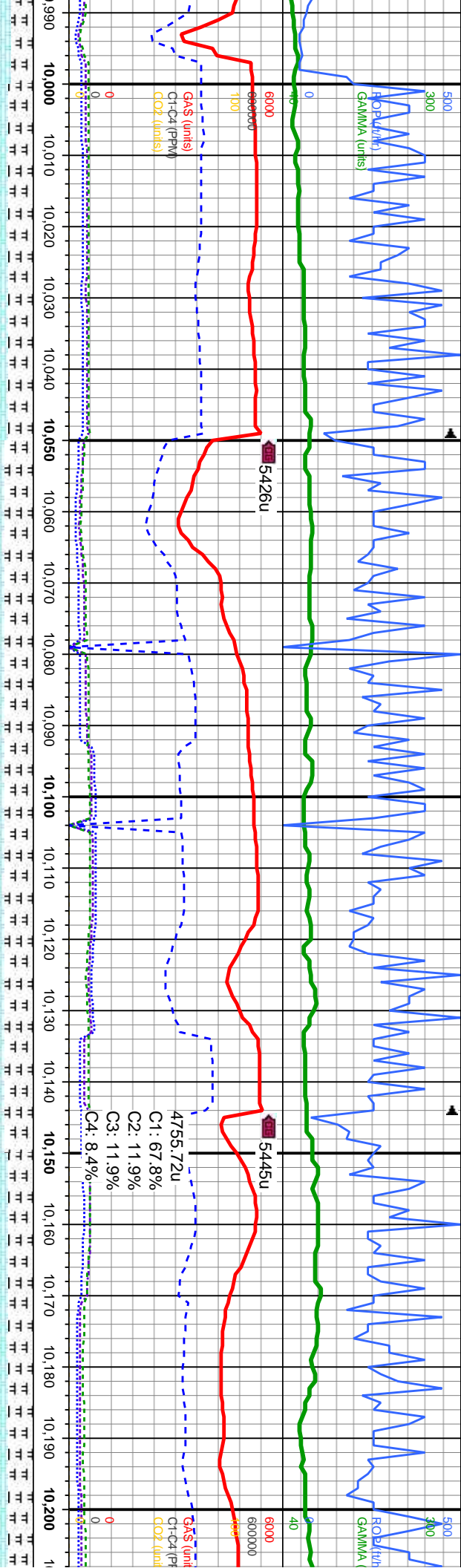


| | | | |
|--|---|---|---|
| y, tr brn, mot, vsft-sft, calc, crptxl, intbd w/ mri; MARL: v sft, sbply-pty, fri- brit, sil, , tr bent with dissim pyr; v bri -stmg cut, sl od, fnt yel bl vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri- brit, sil, vf grn tr fos frag, tr bent with dissim pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri- brit, sil, vf grn tr fos frag, tr bent with dissim pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri- brit, sil, vf grn tr fos frag, tr bent with dissim pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl tan vis light ring |
|--|---|---|---|

MD: 9,806
TVD: 7,201.14
Inclination: 90.4 °
Azimuth: 180.4 °
VS: -2,627.39' / 1000

MD: 9,899
TVD: 7,199.68
Inclination: 91.4 °
Azimuth: 178.7 °
VS: -2,720.37'

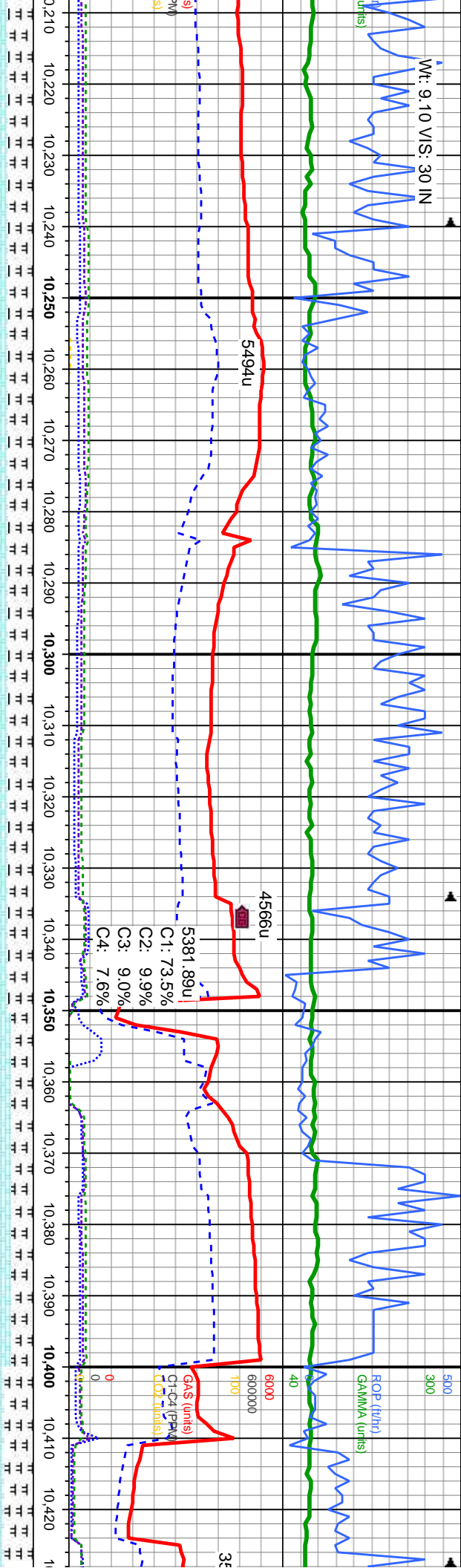




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|---|---|---|---|
| CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspily-biky, v calc, crptxl, intbd w/ mrl; MARL: sbspily-biky, v calc, crptxl, intbd w/ mrl; MARL: lt-dk gy, stri, sft-v sft, sbspily-pily, fri- brit, sil, tr inoc frag, tr sec cal: v bri bl mod fast mky-stmg cut, sl od, frnt yel bl flor res, v frnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspily-biky, v calc, crptxl, intbd w/ mrl; MARL: sbspily-biky, v calc, crptxl, intbd w/ mrl; MARL: lt-dk gy, stri, sft-v sft, sbspily-pily, fri- brit, sil, tr inoc frag, tr sec cal: v bri bl mod fast mky-stmg cut, sl od, frnt yel bl flor res, v frnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspily-biky, v calc, crptxl, intbd w/ mrl; MARL: sbspily-biky, v calc, crptxl, intbd w/ mrl; MARL: lt-dk gy, stri, sft-v sft, sbspily-pily, fri- brit, sil, tr inoc frag, tr sec cal: v bri bl mod fast mky-stmg cut, sl od, frnt yel bl flor res, v frnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspily-biky, v calc, crptxl, intbd w/ mrl; MARL: sbspily-biky, v calc, crptxl, intbd w/ mrl; MARL: lt-dk gy, stri, sft-v sft, sbspily-pily, fri- brit, sil, tr inoc frag, tr sec cal: v bri bl mod fast mky-stmg cut, sl od, frnt yel bl flor res, v frnt tan vis light ring |
|---|---|---|---|

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|--|--|--|
| D: 9.994 VD: 7.197.61 Inclination: 91.1 ° Azimuth: 181.9 ° S: -2,815.33' | MD: 10.089 TVD: 7.196.12 Inclination: 90.7 ° Azimuth: 181.7 ° VS: -2,910.27' | MD: 10.184 TVD: 7.194.62 Inclination: 91.1 ° Azimuth: 177.1 ° VS: -3,005.23' |
|--|--|--|

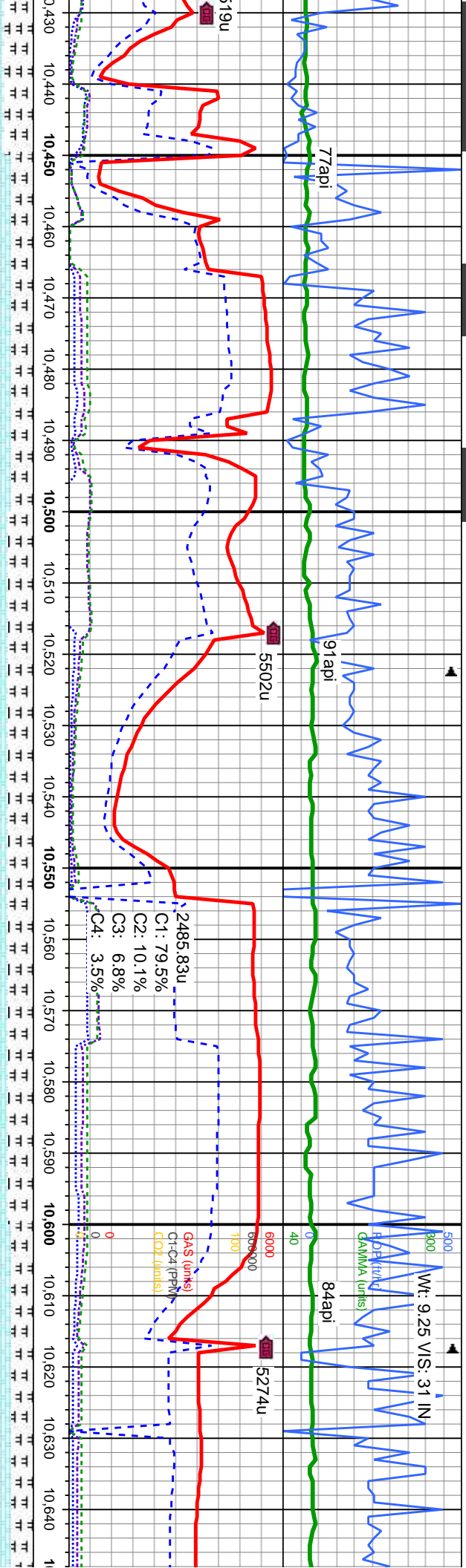




| | | | |
|--|--|--|--|
| lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mri; MARL: /, sti, sft-v sft, sbply-plty, fri- brt, sil, tr ag, tr sec cal: v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flr res, v frnt light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-plty, fri- brt, sil, tr inoc frag, tr sec cal: v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flr res, v frnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-plty, fri- brt, sil, tr inoc frag, tr sec cal: v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flr res, v frnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-plty, fri- brt, sil, tr inoc frag, tr sec cal: v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flr res, v frnt tan vis light ring |
|--|--|--|--|

| | | |
|---|---|------|
| MD: 10,279 TVD: 7,194.46' Inclination: 89.1° Azimuth: 178.6° VS: -3,100.16' | MD: 10,374 TVD: 7,195.95' Inclination: 89.1° Azimuth: 179° VS: -3,195.12' | 7800 |
|---|---|------|

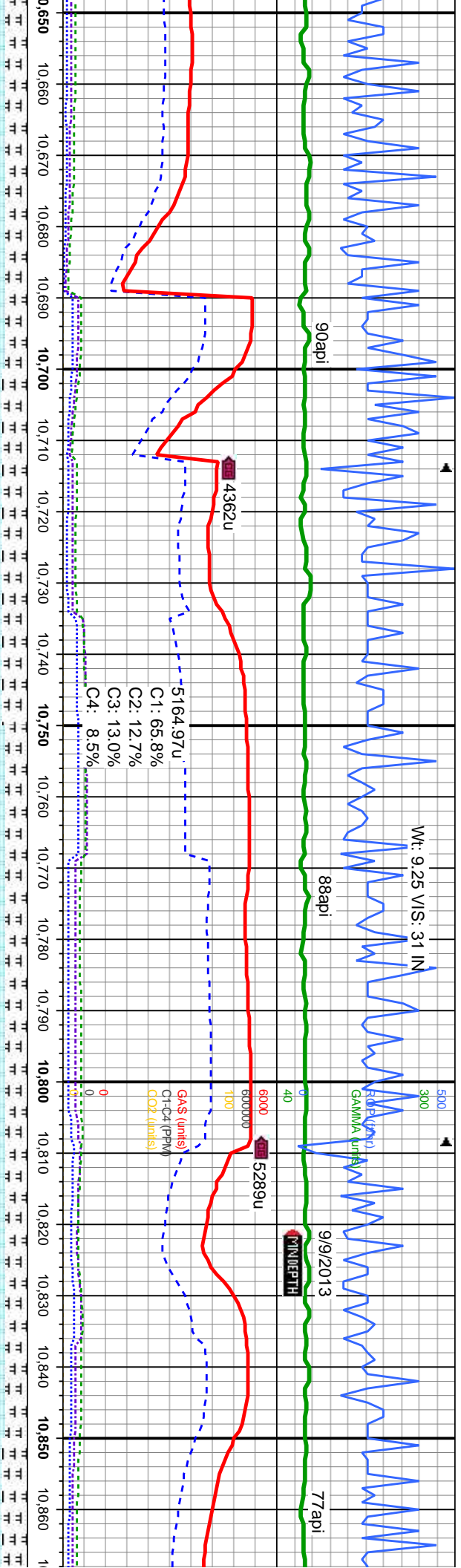




| | | | |
|---|--|--|--|
| mot, vsft-sft, intbd w/ mri; MARL: sblply-bkly, fri- brit, sil, tr bl mod fast mky-bl flor res, v fnt | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sblply-bkly, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v-sft, sblply-plty, fri- brit, sil, tr inoc frag, tr sec cal; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sblply-bkly, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v-sft, sblply-plty, fri- brit, sil, tr inoc frag, tr sec cal; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sblply-bkly, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v-sft, sblply-plty, fri- brit, sil, tr inoc frag, tr sec cal; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring |
|---|--|--|--|

| | | |
|--|---|------|
| MD: 10,469 TVD: 7,196.2' Inclination: 90.6° Azimuth: 184.5° VS: -3,290.04' | MD: 10,564 TVD: 7,194.63' Inclination: 91.3° Azimuth: 183.7° VS: -3,384.78' | 7800 |
|--|---|------|

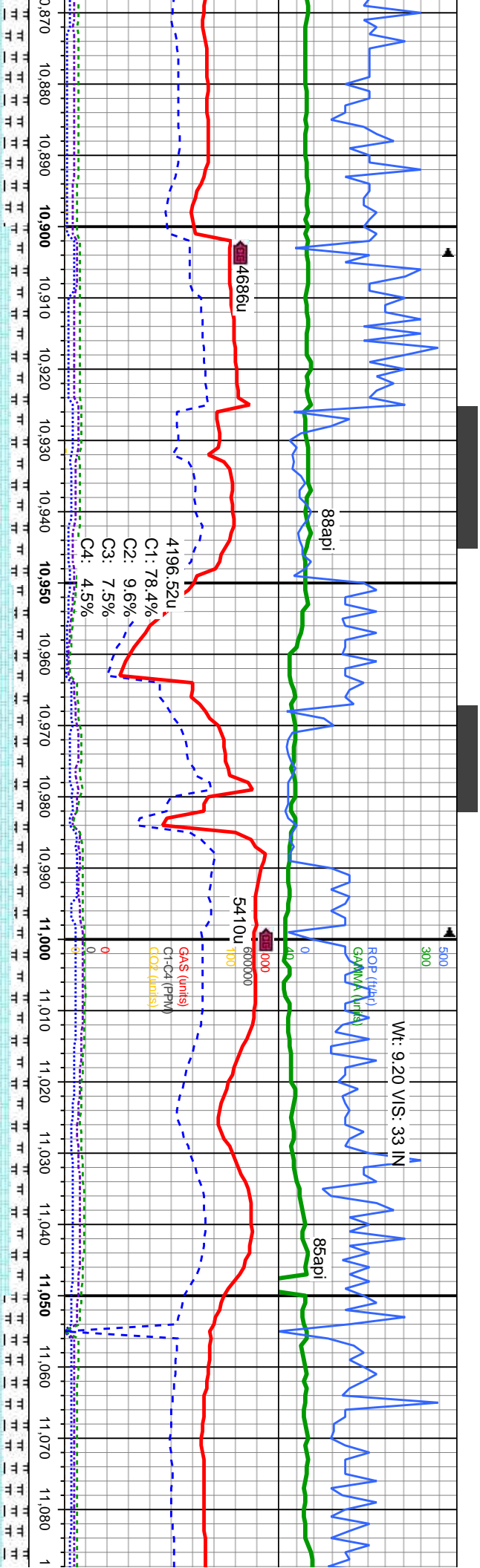


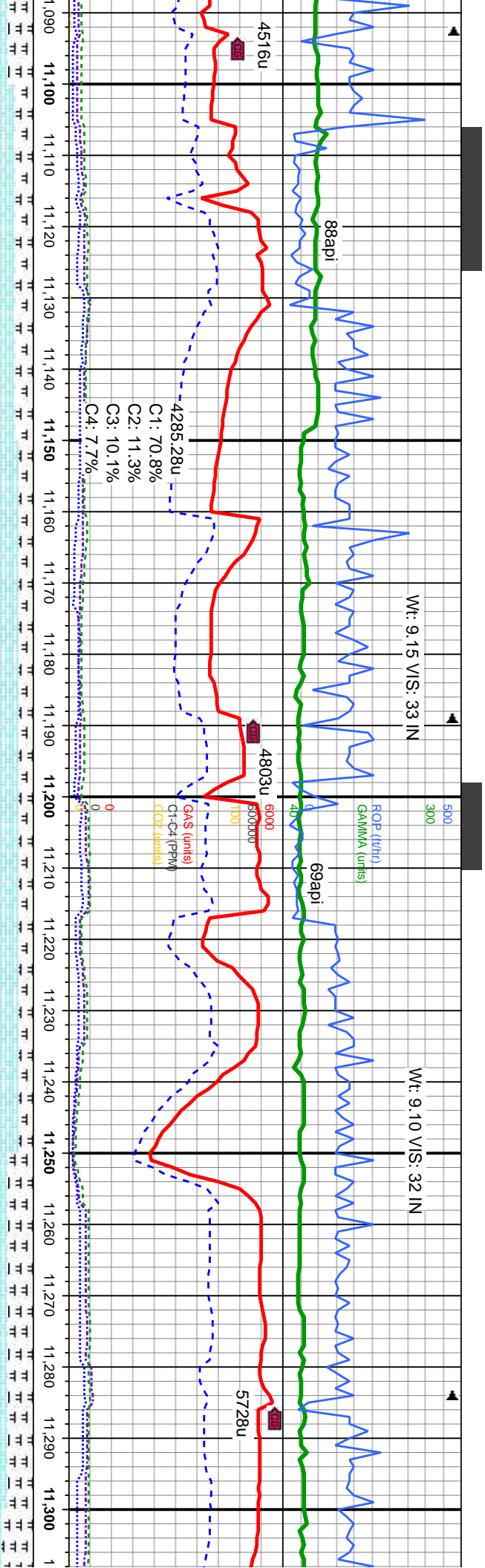


| | | | | |
|---|---|---|--|-------------------------------------|
| CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspily-dlky, v calc, cripxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbspily-pity, fri- brit, sil, tr inoc frag, tr sec cal; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspily-dlky, v calc, cripxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbspily-pity, fri- brit, sil, tr sec cal; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspily-dlky, v calc, cripxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbspily-pity, fri- brit, sil, tr sec cal; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | 6CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbspily-dlky, v calc, cripxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbspily-pity, fri- brit, sil, tr sec cal; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt g sbspily-dlky, v ca |
|---|---|---|--|-------------------------------------|

| | | |
|---|--|---|
| MD: 10,659 ' TVD: 7,192.55 ' Inclination: 91.2 ° Azimuth: 184.4 ° VS: -3,479.52 ' | MD: 10,754 ' TVD: 7,190.9 ' Inclination: 90.8 ° Azimuth: 182 ° VS: -3,574.35 ' | MD: 10,850 ' TVD: 7,189.64 ' Inclination: 90.7 ° Azimuth: 178.7 ° VS: -3,670.33 ' |
|---|--|---|

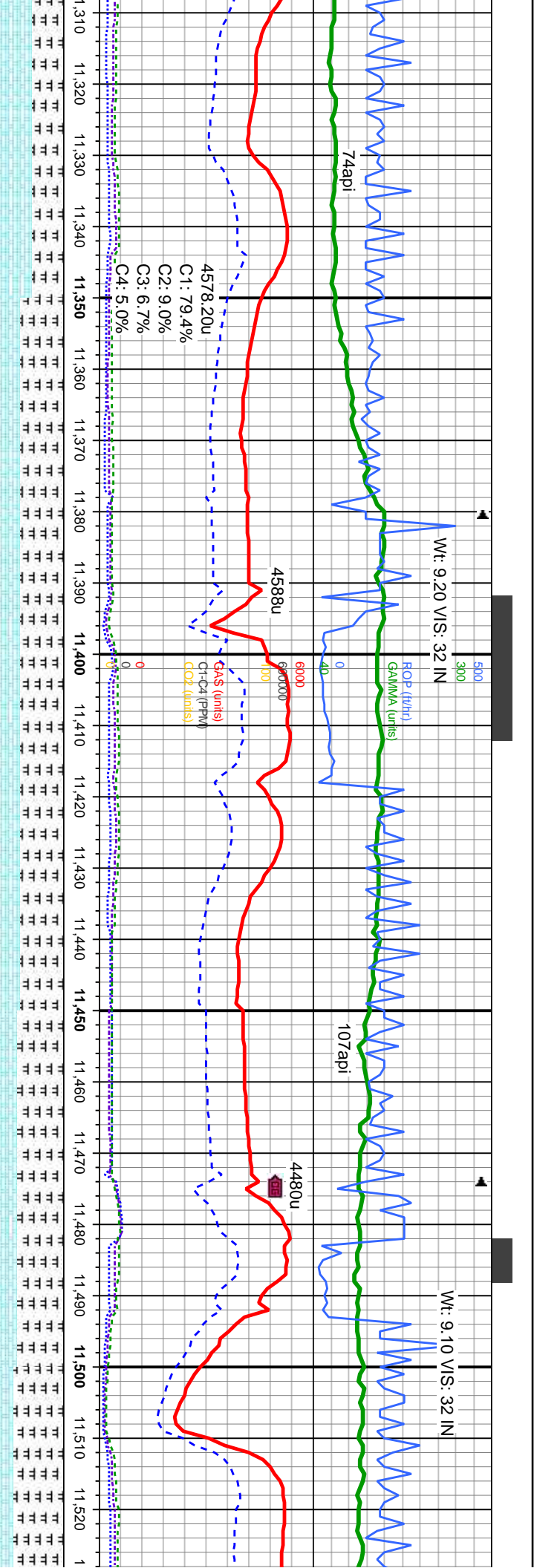


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| | | | |
|---|---|---|---|
| CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, cripxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri- brt, sil, tr sec cal, v tr bent with dissn pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, cripxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri- brt, sil, tr sec cal, v tr bent with dissn pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, cripxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri- brt, sil, tr sec cal, v tr bent with dissn pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, cripxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri- brt, sil, tr sec cal, v tr bent with dissn pyr; v bri bl mod fast mky-stmg cut, sl od, fnt yel bl flor res, v fnt tan vis light ring |
| MD: 11,134 TVD: 7,181.38 Inclination: 91.3 ° Azimuth: 181.2 ° VS: -3,954.08 ' | MD: 11,229 TVD: 7,179.97 Inclination: 90.4 ° Azimuth: 183.6 ° VS: -4,048.98 ' | MD: 11,229 TVD: 7,179.97 Inclination: 90.4 ° Azimuth: 183.6 ° VS: -4,048.98 ' | MD: 11,229 TVD: 7,179.97 Inclination: 90.4 ° Azimuth: 183.6 ° VS: -4,048.98 ' |





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| lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mri; MARL: v calc, crptxl, intbd w/ mri; MARL: sbply-blky, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri- brit, sil, tr sec cal, v tr bent with dissn pyr, tr inoc; v bri bl mod fast mky-stng cut, sl od, fnt yel bl flr res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mri; MARL: sbply-blky, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri- brit, sil, tr sec cal, v tr bent with dissn pyr, tr inoc; v bri bl mod fast mky-stng cut, sl od, fnt yel bl flr res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mri; MARL: sbply-blky, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri- brit, sil, tr sec cal, v tr bent with dissn pyr, tr inoc; v bri bl mod fast mky-stng cut, sl od, fnt yel bl flr res, v fnt tan vis light ring | CHK: lt-med lt gy, tr brn, mot, vsft-sft, sbply-blky, v calc, crptxl, intbd w/ mri; MARL: sbply-blky, v calc, crptxl, intbd w/ mri; MARL: lt-dk gy, stri, sft-v sft, sbply-pty, fri- brit, sil, tr sec cal, v tr bent with dissn pyr, tr inoc; v bri bl mod fast mky-stng cut, sl od, fnt yel bl flr res, v fnt tan vis light ring |
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| MD: 11,324' TVD: 7,178.15' Inclination: 91.8 ° Azimuth: 182.4 ° VS: -4,143.83' | MD: 11,419' TVD: 7,176.07' Inclination: 90.7 ° Azimuth: 178.9 ° VS: -4,238.78' | MD: 11,514' TVD: 7,175.08' Inclination: 90.5 ° Azimuth: 178.6 ° VS: -4,333.76' |
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