

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name HIGHWAY 160 15C-2HZ

Location NW/NE SEC. 2, T1N, R66W

State COLORADO

Country USA

API Number 0512338026

Region DJ BASIN

Spud Date 12/22/2013

Surface Coordinates 696FNL & 1532' FEL
40.085449 -104.74031

Bottom Hole Coordinates 1' FSL & 2550' FEL
40.073165 -104.7440

Ground Elevation 5102'

Logged Interval 7103' To 12690'

Formation CODELL

Type of Drilling Fluid FSNL

County WELD

Rig Number ENSIGN 132

AFE # 2085775

Field WATTENBERG

Drilling Completed 12/29/2013

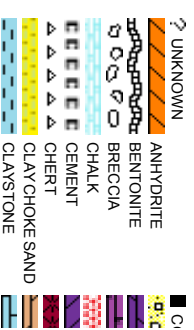
K.B. Elevation 5115'

Total Depth 5587'

Company ANADARKO PE
Address 1099 18th St, S
Denver, CO 80202

Name JAKE STUART
Company ANADARKO PE
Address 1099 18th St, S
Denver, CO 80202

SHANA



Operator

ETROLEUM INC.

uite 1800
202

Geologist

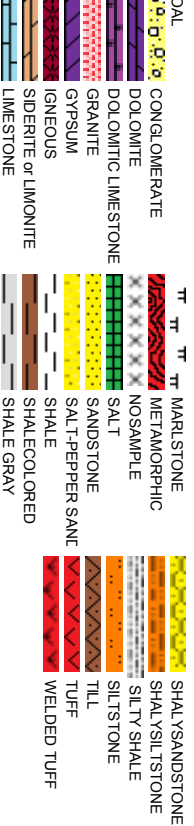
ETROLEUM INC.

uite 1800
202

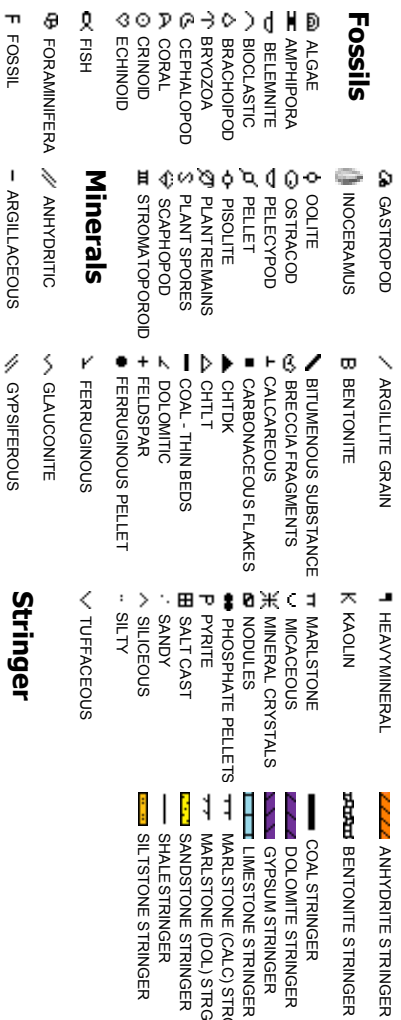
Other

SWIRIN, TOM WRIGHT

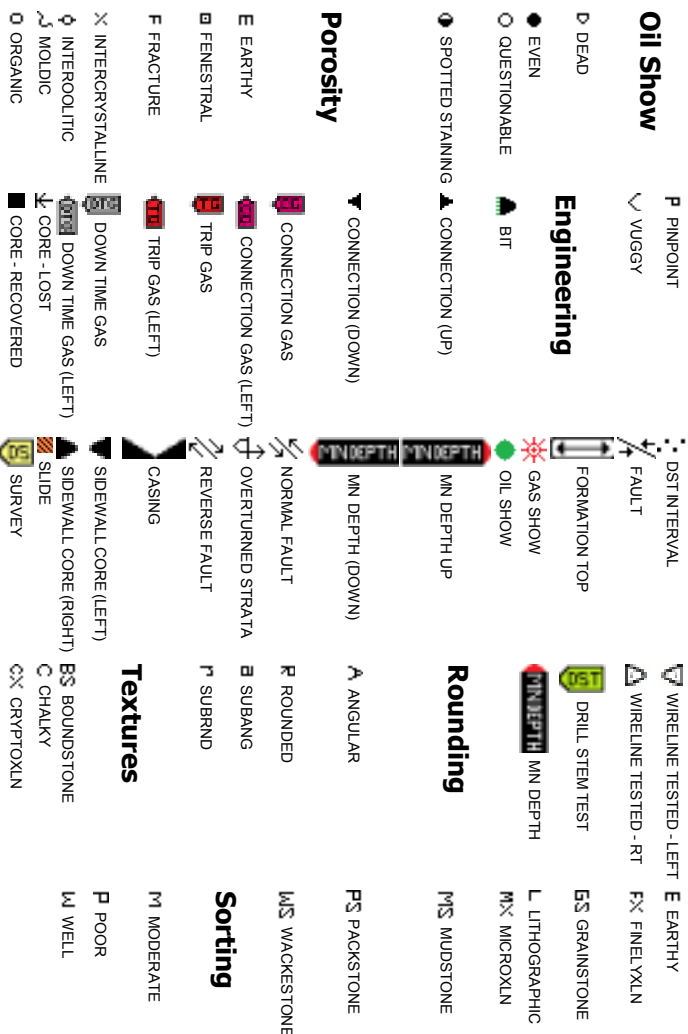
Rock Types



Accessories



Other Symbols



Slide/Rotate

Columbine Logging Two Person
Rigged Up 0900hrs 12/23/2013
With Bloodhound Unit # 0313

Problems with Gamma

ROP
ROF
GAMMA

Logging Started @
2105hrs 12/23/2013
at 7103' MD

Total Gas & Chromatograph

GAS
Bit #: 02
Type: HDDBS MMMD55M
Size: 8.75
Depth In: 1,259'
Depth Out: 7,521'
Jets: 5x16
S/N: 12204543

Depth Labels

% Lith

Begin in Sussex Formation

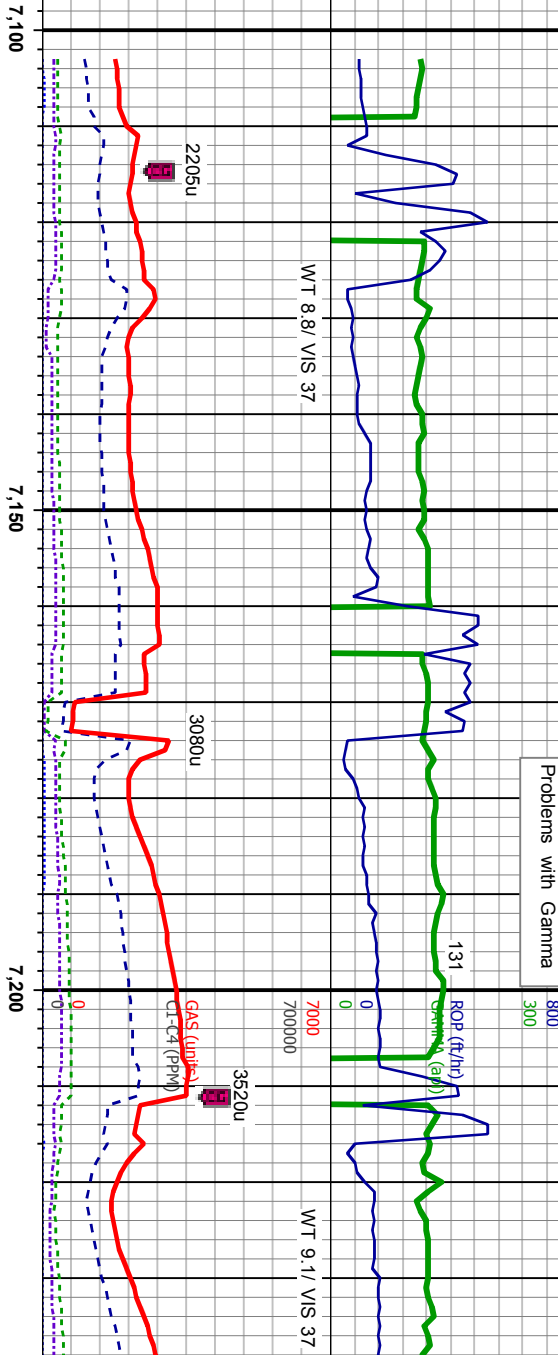
Well Bore
TVD

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 judgement of brilliance, color and longevity of the cut.

Oil Show

Images

ST
FM
CE



MD:7,116'
TVD:6,985.45'
Inclination: 3°
Azimuth: 195.8°
VS:-743.79°

MD:7,163'
TVD:7,032.27'
Inclination: 6.9°
Azimuth: 185.9°
VS:-739.77°

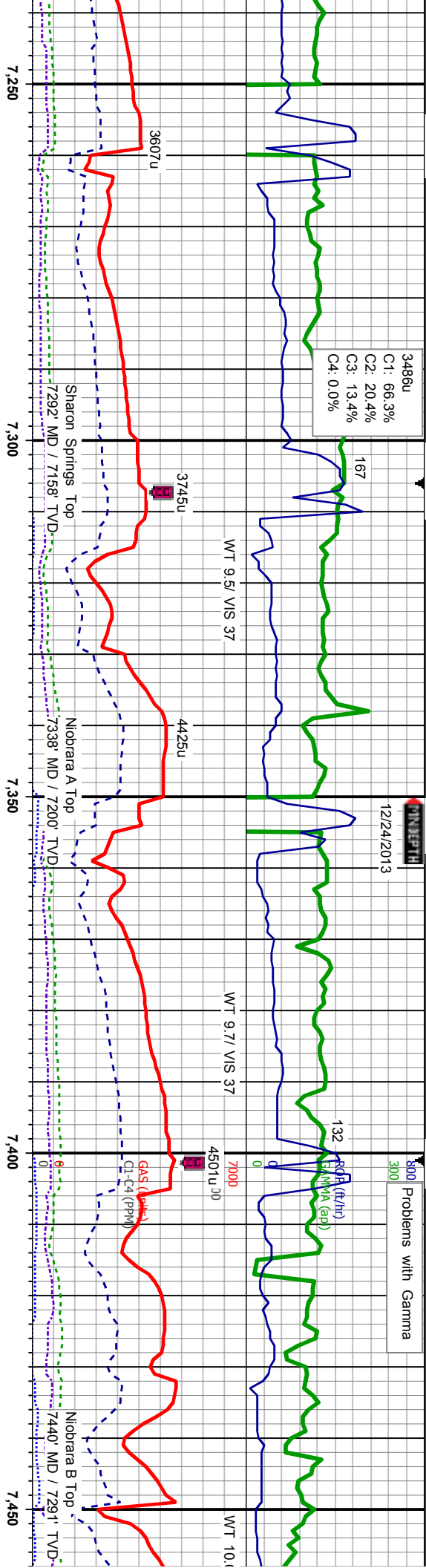
MD:7,211'
TVD:7,079.65'
Inclination: 11.3°
Azimuth: 183.62°
VS:-732.17°

SLTY SH: lt-med gy, sb pty-sb blkly, mod
sft-frn, w srt, sb rnd-sb ang, mod fri, tr shy
ss, sting bl cut, dull yel ring

SLTY SH: lt-med gy, sb pty-sb blkly, mod
sft-frn, w srt, sb rnd-sb ang, mod fri, tr shy
ss, sting bl cut, dull yel ring

SLTY SH: lt-med gy, sb pty-sb b
sft-frn, w srt, sb rnd-sb ang, moc
zess, sting bl cut, dull yel ring





SLTY SH: lt-med gy, sb ply-sb blk, mod
sft-fm, w srt, sb md-sb ang, mod fri, tr
chk, occ bent, sting bl cut, dull bl ring

CHK: lt gy-brn, blk-sb ply, sft-fm, sb
rd-sb ang, mod fri, MRLST: med gy-brn,
blk-sb ply, sft-fm, sb rd-sb ang, mod fri,
sting bl cut, dull bl ring

69CHK: lt gy-brn, blk-sb ply, sft-fm, sb
rd-sb ang, mod fri, MRLST: med gy-brn,
blk-sb ply, sft-fm, sb rd-sb ang, mod fri,
sting bl cut, bri bl ring

CHK
rd-sb
blk-sb
sting

MD: 7,268'
TVD: 7,126.28'
Inclination: 16.34°
Azimuth: 179.37°
VS: 720.95'

MD: 7,306'
TVD: 7,170.78'
Inclination: 20.68°
Azimuth: 181.53°
VS: 705.73'

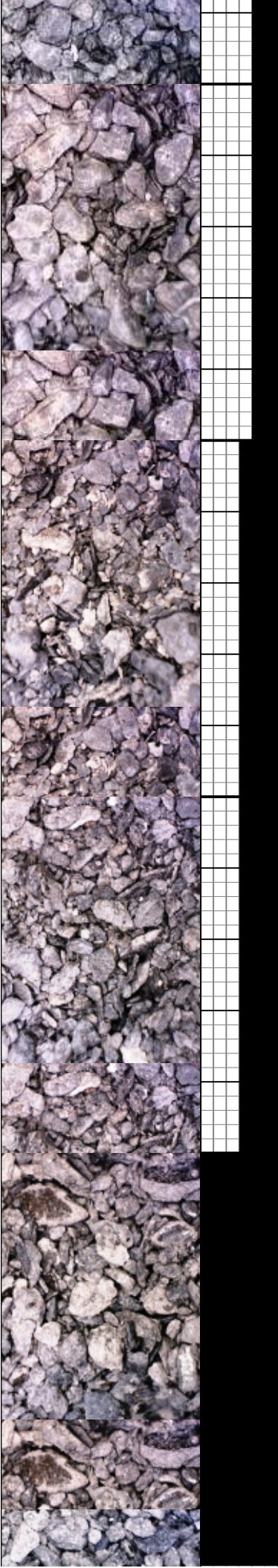
MD: 7,353'
TVD: 7,214.18'
Inclination: 24.48°
Azimuth: 181.41°
VS: 687.69'

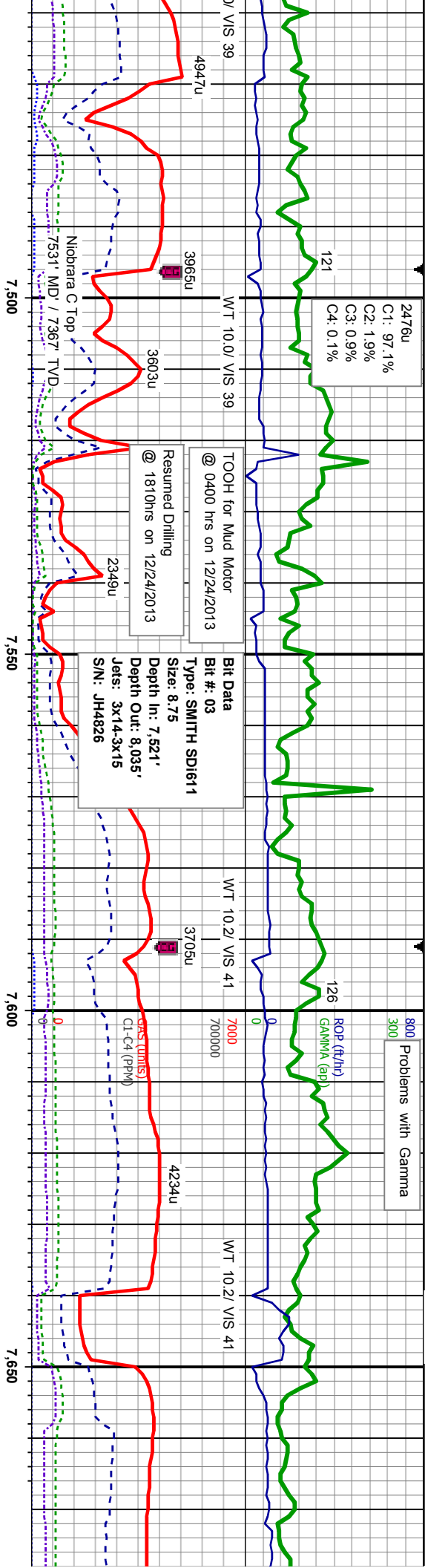
MD: 7,401'
TVD: 7,257.32'
Inclination: 27.52°
Azimuth: 180.78°
VS: 666.67'

MD: 7,448'
TVD: 7,298.36'
Inclination: 30.79°
Azimuth: 179.39°
VS: 643.79'

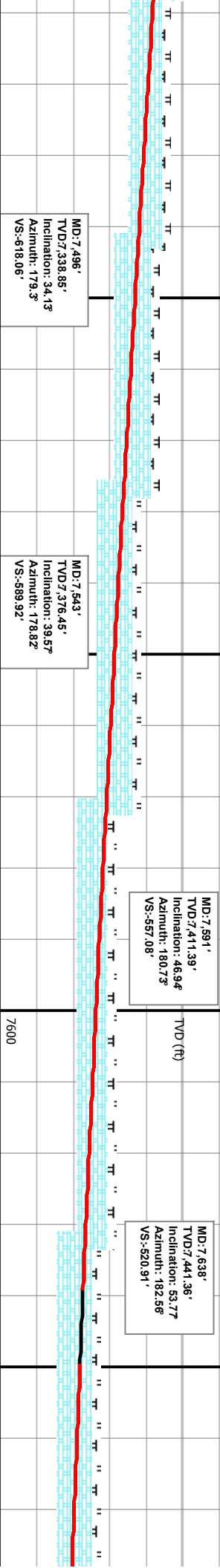
SLTY SH: lt-med gy, sb ply-sb blk, mod
sft-fm, w srt, sb md-sb ang, mod fri, tr shy
ss, abnt bent, sting bl cut, dull yel ring

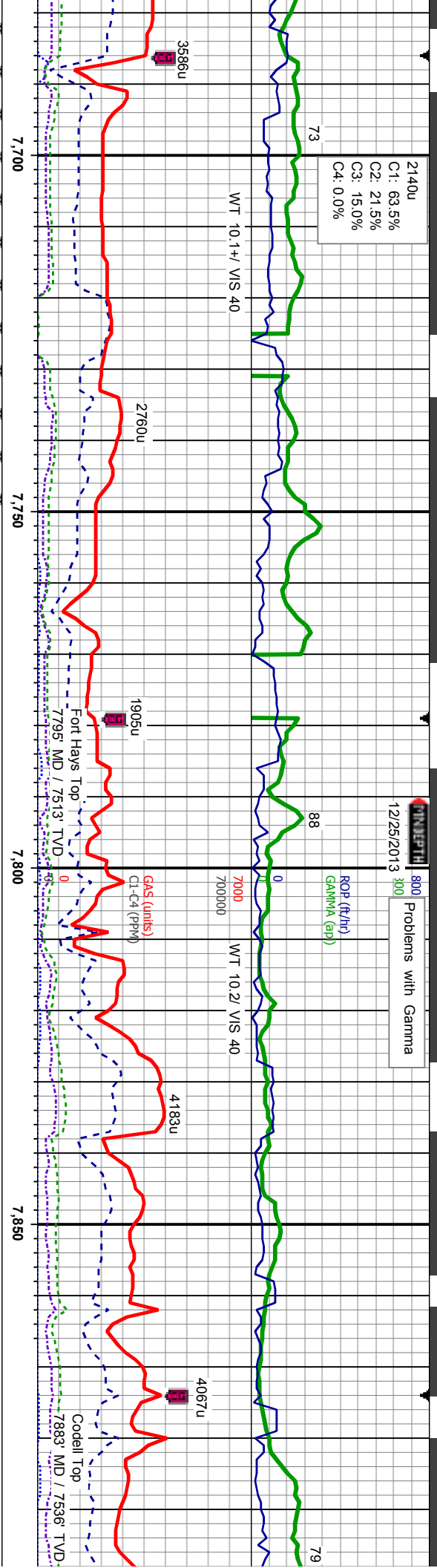
7600





it gy-brn, blk-y-sb ply, sft-frn, sb ang, mod fri, tr MRLST: med gy-brn, blk-y-sb ply, sft-frn, sb rd-sb ang, mod fri, stng bl cut, bri bl ring	CHK: It gy-brn, blk-y-sb ply, sft-frn, sb rd-sb ang, mod fri, MRLST: med gy-brn, blk-y-sb ply, sft-frn, sb rd-sb ang, mod fri, stng bl cut, bri bl ring	CHK: It gy-brn, blk-y-sb ply, sft-frn, sb rd-sb ang, mod fri, MRLST: med gy-brn, blk-y-sb ply, sft-frn, sb rd-sb ang, mod fri, stng bl cut, bri bl ring	6900 CHK: It gy-brn, blk-y-sb ply, sft-frn, sb rd-sb ang, mod fri, MRLST: med gy-brn, blk-y-sb ply, sft-frn, sb rd-sb ang, mod fri, stng bl cut, bri bl ring	CHK: It gy-brn, blk-y-sb ply, sft-frn, sb rd-sb ang, mod fri, MRLST: med gy-brn, blk-y-sb ply, sft-frn, sb rd-sb ang, mod fri, stng bl cut, bri bl ring
---	---	---	--	---





ST: med-dk
mod fri, string bl cut, dull yel ring

CHK: lt gy-brn, blk-y-sb pty, sft-firm, sb
rd-sb ang, mod fri, MRLST: med-dk
gy-brn, blk-y-sb pty, sft-firm, sb rd-sb ang,
mod fri, tr inst, sting bl cut, dull yel ring

LMST: lt gy-brn, offwht-crm, mod sft-mod
hd, sb blk-y-sb pty, SH: blk-dk gy, sb
pty-pty, mod sft-firm, CHK: lt gy-brn, occ
crm, blk-y-sb pty, sft-firm, sb rd-sb ang,
mod fri, sting bl cut, dull yel ring

LMST: lt gy-brn, offwht-crm, mod sft-mod
hd, sb blk-y-sb pty, SH: blk-dk gy, sb
pty-pty, mod sft-firm, sting bl cut, dull yel
ring

SS: lt-med gy-brn, clus, w sft, mod sft-hd,
w rd, med gr, non-sl calc, SH: blk-dk gy,
sb pty-pty, mod sft-firm, LMST: lt gy-brn,
offwht-crm, mod sft-mod hd, sb blk-y-sb
pty, sting bl cut, dull bl ring

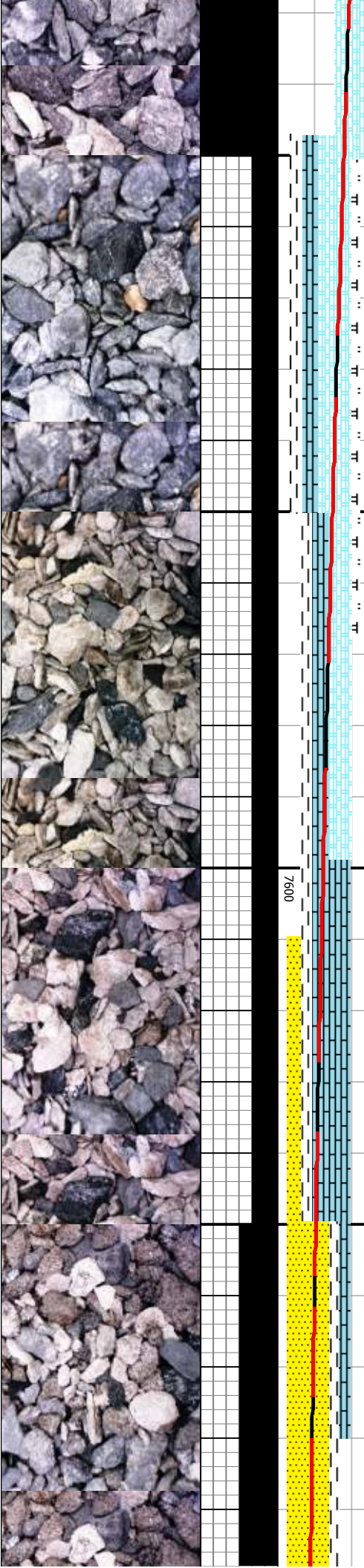
MD: 7,686'
TVD: 7,467.66'
Inclination: 59.75°
Azimuth: 182.49°
VS: 480.79'

MD: 7,733'
TVD: 7,489.31'
Inclination: 65.35°
Azimuth: 181.44°
VS: 439.09'

MD: 7,781'
TVD: 7,507.88'
Inclination: 69.14°
Azimuth: 183.53°
VS: 394.84'

MD: 7,829'
TVD: 7,523.15'
Inclination: 73.78°
Azimuth: 184.62°
VS: 349.38'

MD: 7,877'
TVD: 7,534.44'
Inclination: 79°
Azimuth: 185.21°
VS: 302.81'



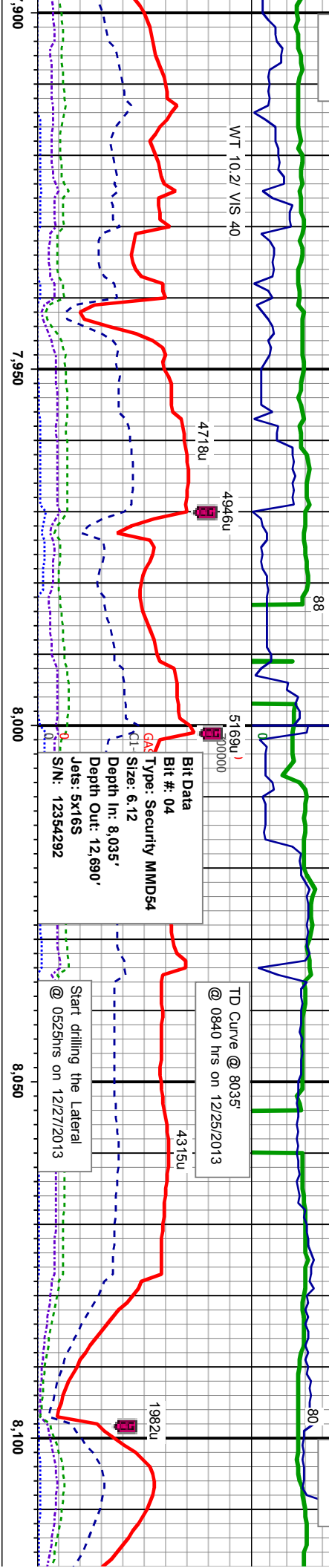
3334u
C1: 61.8%
C2: 22.9%
C3: 15.3%
C4: 0.0%

Problems with Gamma

ROP
SCALE
CHANGE

12/26/2013
12/27/2013

3919u
C1: 61.0%
C2: 20.9%
C3: 16.6%
C4: 1.5%



SS: lt-med gy-bm, clus, w srt, mod sft-hd, w rd, med gr, non-sl calc, SH: blk-dk gy, sb ply-ply, mod sft-frn, LMST: lt gy-brn, offwht-crm, mod sft-mod hd, sb blk-ly-sb ply, sting bl cut, dull bl ring

SS: lt-med gy-bm, clus, w srt, mod sft-hd, w rd, med gr, non-sl calc, SH: blk-dk gy, sb ply-ply, mod sft-frn, sting bl cut, dull bl ring

74SS: lt-med gy-bm, clus, w srt, mod sft-hd, w rd, med gr, non-sl calc, SH: blk-dk gy, sb ply-ply, mod sft-frn, sting bl cut, dull bl ring

SS: lt-med gy-brn, cl-sgp, clus, occ lse lith, w srt, mod sft-hd, w rd, med gr, non-sl calc, SH: blk-dk gy, sb ply-ply, mod sft-frn, sting bl cut, brt bl ring

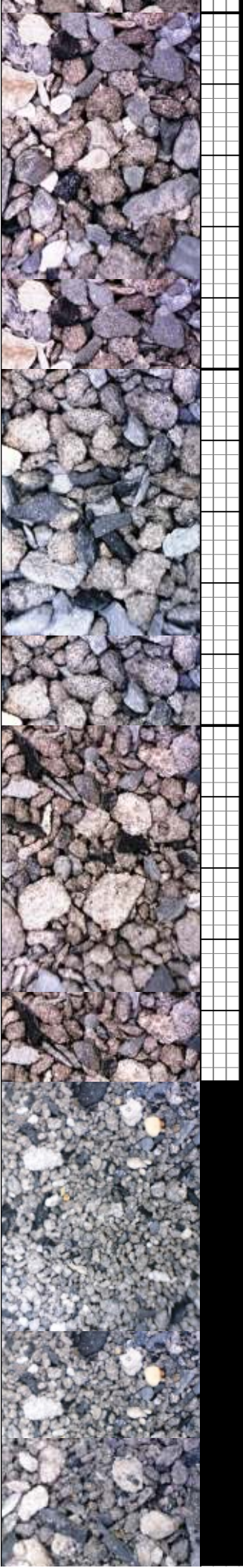
MD:7.924'
TVD:7,541.87'
Inclination: 82.8°
Azimuth: 186.2°
VS:286.51'

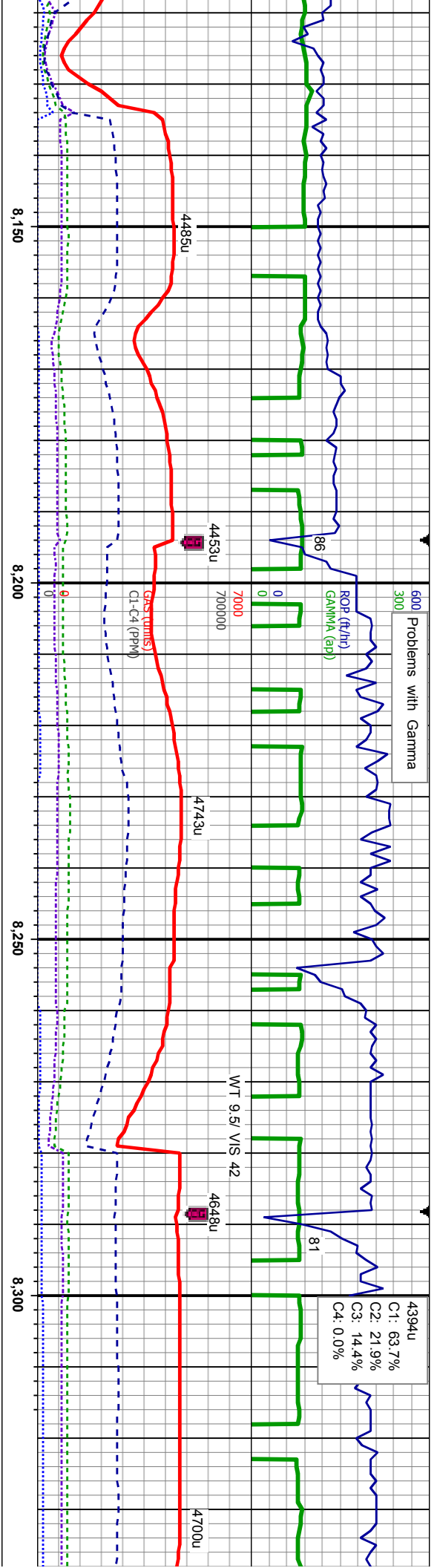
MD:7.955'
TVD:7,545.02'
Inclination: 85.53°
Azimuth: 186.2°
VS:225.75'

MD:7.987'
TVD:7,546.83'
Inclination: 88°
Azimuth: 186.3°
VS:193.9'

TVD
SCALE
CHANGE

MD:8.060'
TVD:7,547.54'
Inclination: 90.89°
Azimuth: 186.3°
VS:121.12'





SS: lt-med gy-bm, clr-s&p, clus, occ lse
lilh, w srt, mod sft-hd, w rd, med gr,
non-sl calc, SH: blk-dk gy, sb pily-pty,
mod sft-frm, sting bl cut, bri bl ring

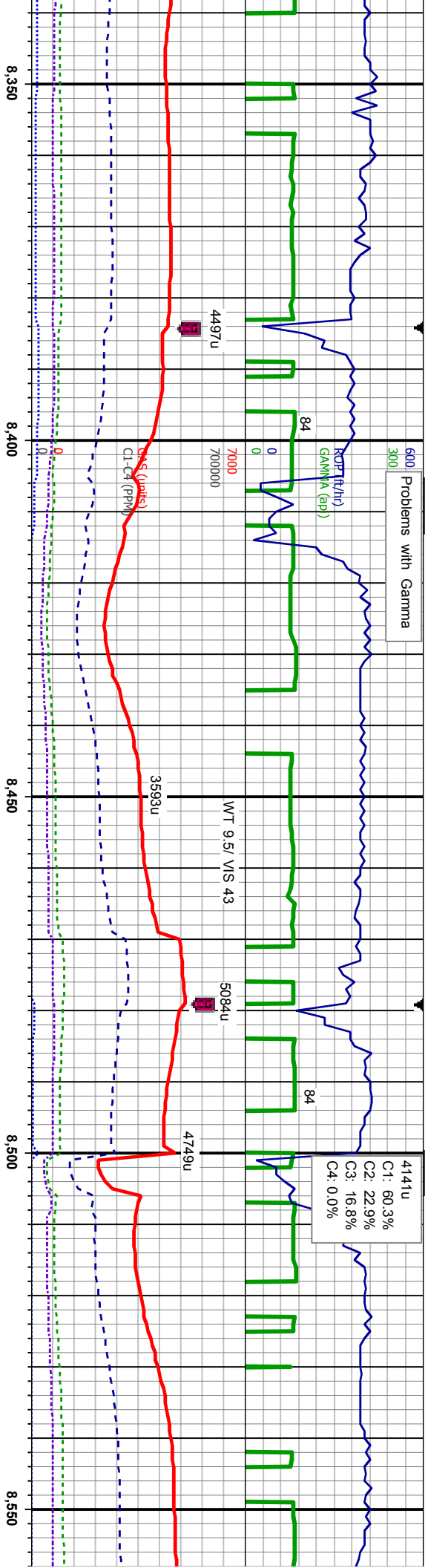
SS: lt-med gy-bm, clr-s&p, clus, tr lse lilh,
w srt, mod sft-hd, w rd, med gr, non-sl
calc, SH: blk-dk gy, sb pily-pty, mod
sft-frm, sting bl cut, bri bl ring

SS: lt-n
w srt, n
calc, SI
sft-frm,

MD: 8,155'
TVD: 7,545.56'
Inclination: 91.49°
Azimuth: 186.17°
VS: 26.4°

MD: 8,260'
TVD: 7,544.05'
Inclination: 90.34°
Azimuth: 185.65°
VS: 68.36°





med gy-bm, clr-s&p, clus, tr lse lith,
mod sft-hd, w rd, med gr, non-sl
t: blk-dk gy, sb pty-pty, mod
sting bl cut, bri bl ring

SS: lt-med gy-bm, clr-s&p, clus, tr lse lith,
w srt, mod sft-hd, w rd, med gr, non-sl
calc, tr SH: blk-dk gy, sb pty-pty, mod
sft-frm, sting bl cut, bri bl ring

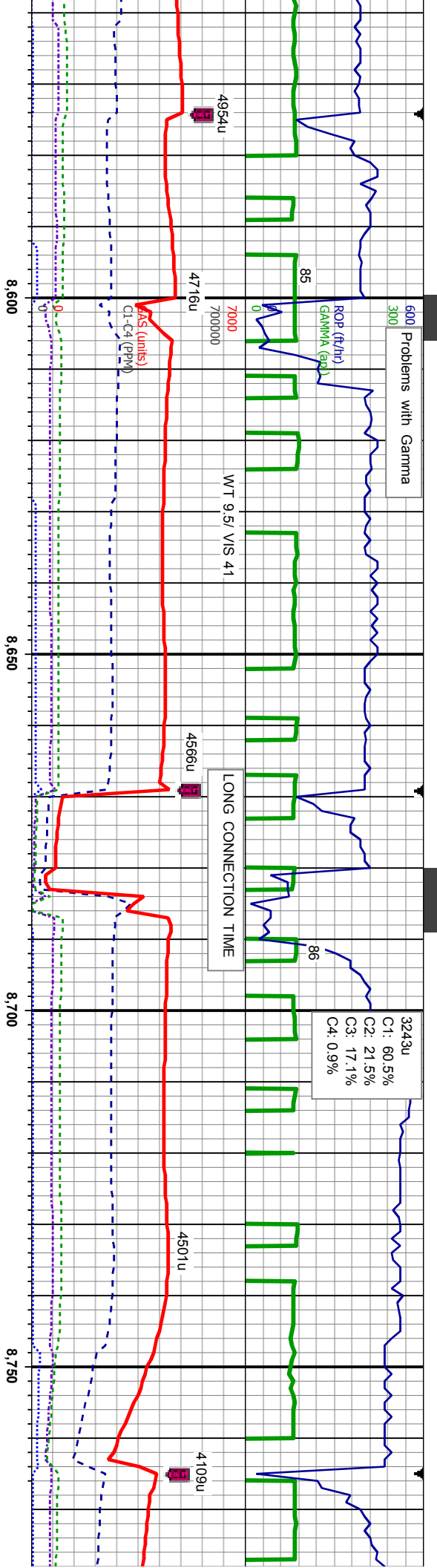
SS: lt-med gy-bm, clr-s&p
w srt, mod sft-hd, w rd, m
calc, tr SH: blk-dk gy, sb f
sft-frm, sting bl cut, bri bl

MD: 8,345'
TVD: 7,543.76'
Inclination: 90°
Azimuth: 194.86°
VS: 163.21'

MD: 8,440'
TVD: 7,544.81'
Inclination: 88.74°
Azimuth: 182.67°
VS: 258.15'

MD: 8,536'
TVD: 7,546.82'
Inclination: 88.88°
Azimuth: 181.94°
VS: 354.13'

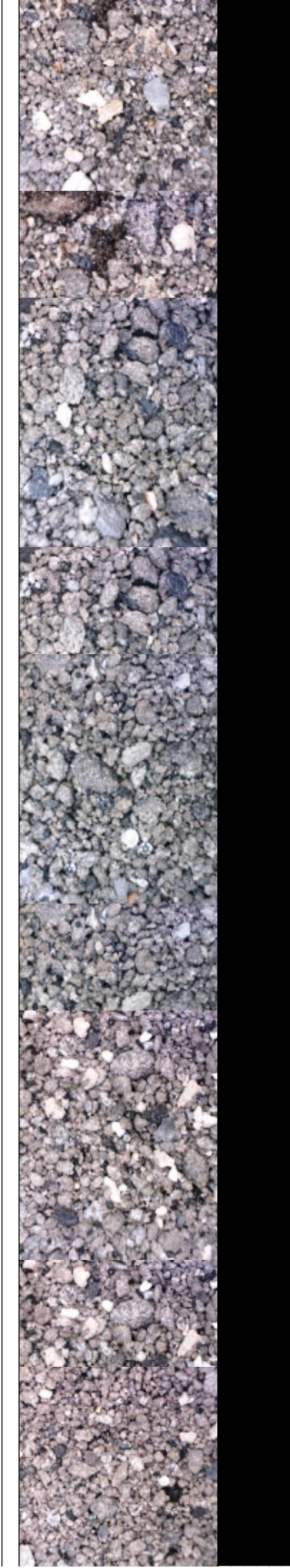
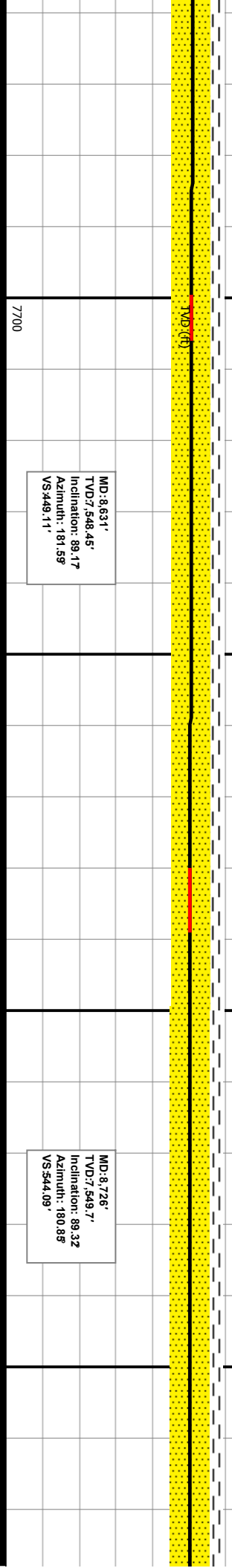


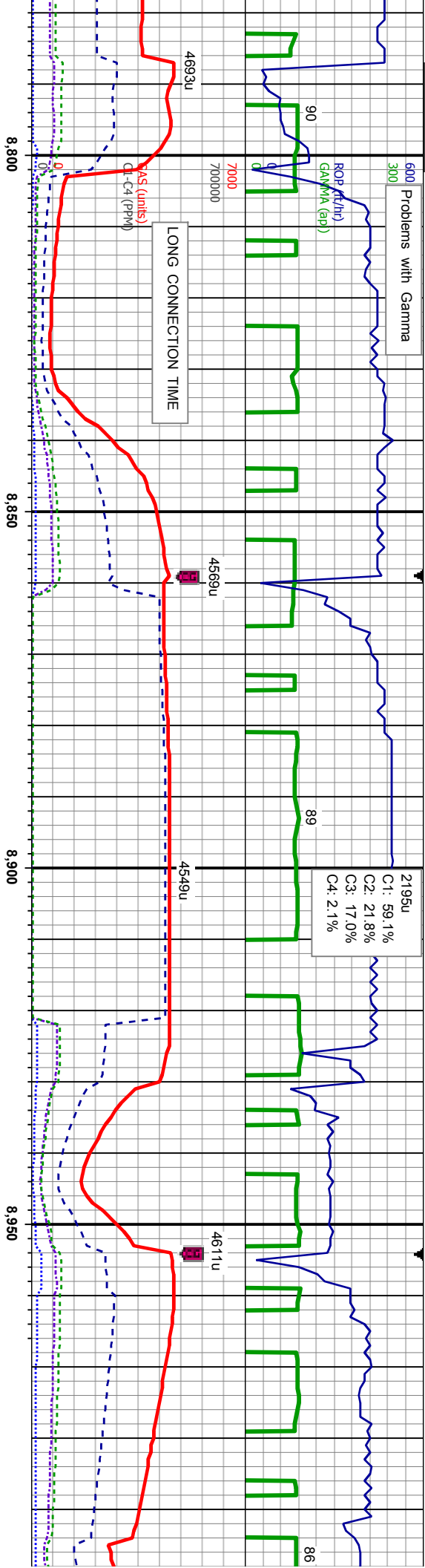


clus, tr lse lith,
ed gr, non-sl
ity-pty, mod
ring

SS: lt-med gy-brn, tr clr-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, SH: blk-dk gy, sb pty-pty, mod
sft-firm, sting bl cut, bri bl ring

SS: lt-med gy-brn, tr clr-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, SH: blk-dk gy, sb pty-pty, mod
sft-firm, sting bl cut, bri bl ring





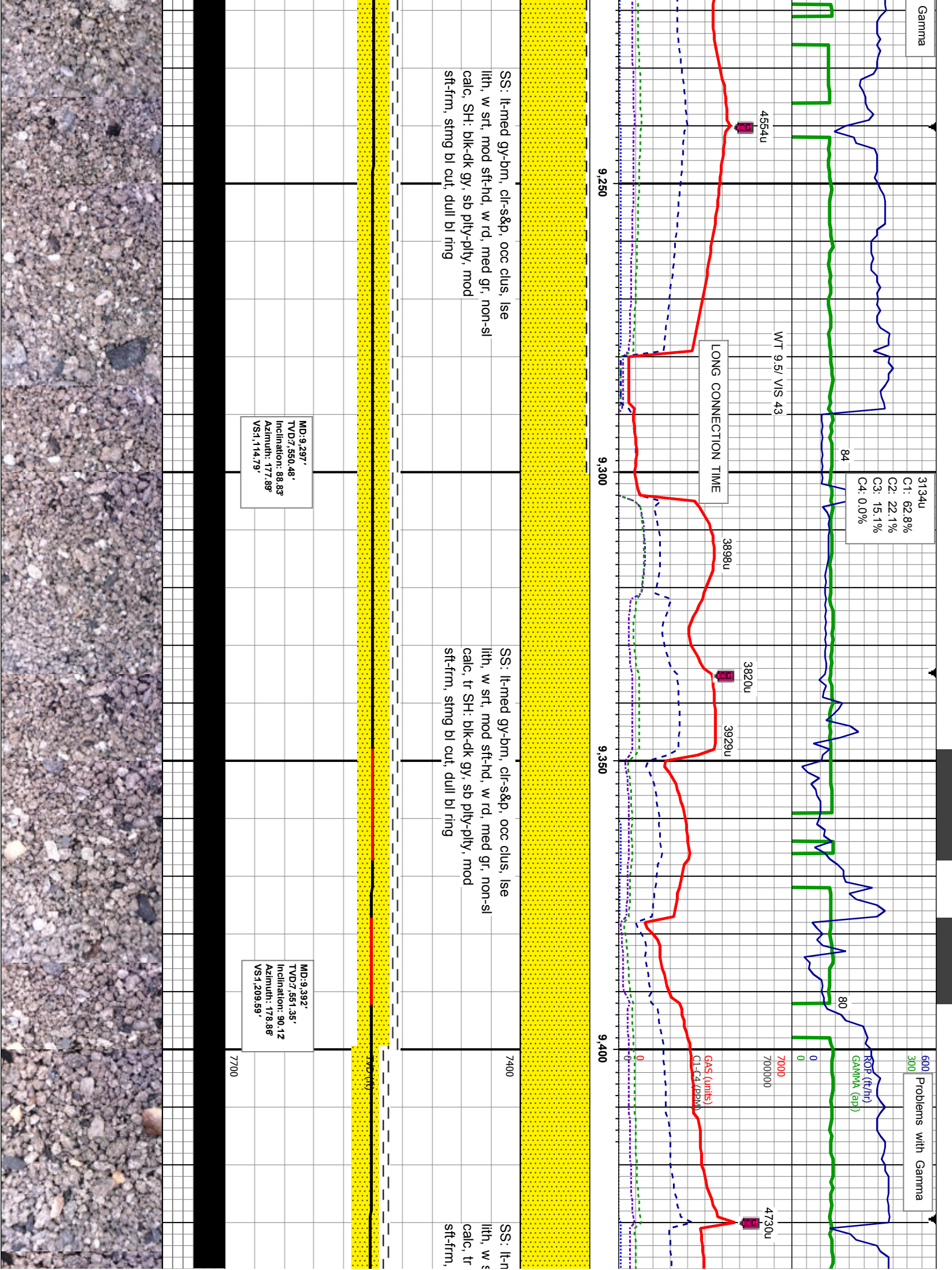
SS: lt-med gy-brn, tr clr-s&g, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, SH: blk-dk gy, sb pty-pty, mod
sft-firm, string bl cut, bri bl ring

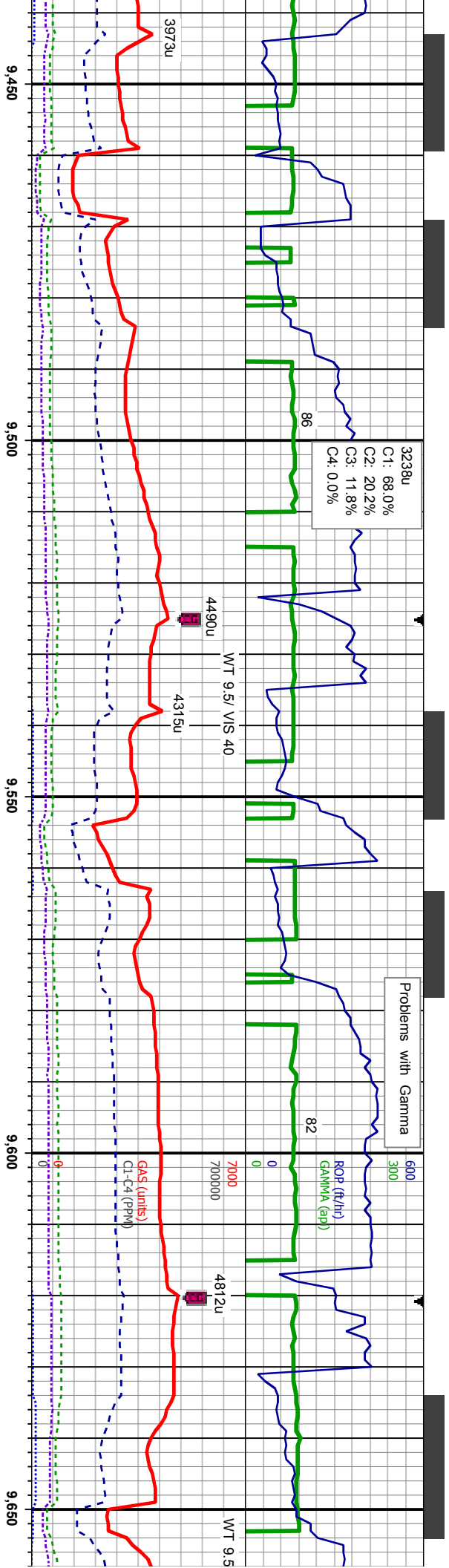
SS: lt-med gy-brn, tr clr-s&g, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, SH: blk-dk gy, sb pty-pty, mod
sft-firm, string bl cut, bri bl ring

MD: 8,821'
TVD: 7,550.12'
Inclination: 90.18°
Azimuth: 181.8°
VS: 639.08'

MD: 8,916'
TVD: 7,549.74'
Inclination: 90.28°
Azimuth: 181°
VS: 734.07'







led gy-brn, clr-s&p, occ clus, lse
sft, mod sft-hd, w rd, med gr, non-sl
SH: blk-dk gy, sb ply-pty, mod
string bl cut, dull bl ring

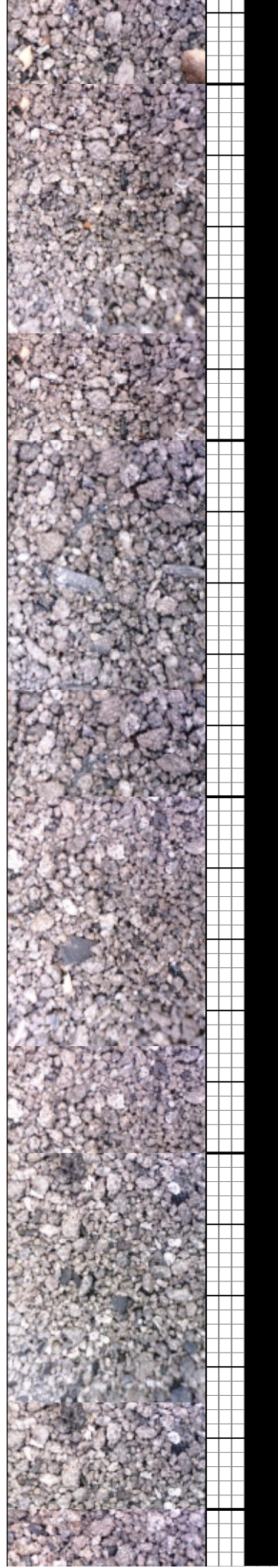
SS: lt-med gy-brn, clr-s&p, occ clus, lse
lith, w sft, mod sft-hd, w rd, med gr, non-sl
calc, tr SH: blk-dk gy, sb ply-pty, mod
sft-frn, string bl cut, dull bl ring

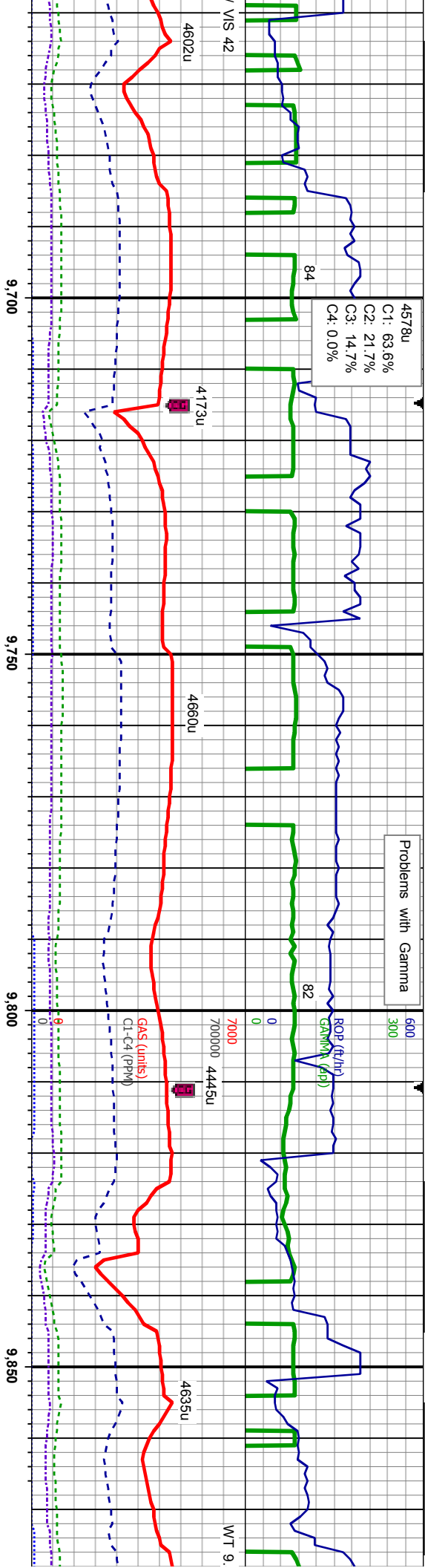
SS: lt-med gy-brn, clr-s&p
lith, w sft, mod sft-hd, w r
calc, tr SH: blk-dk gy, sb f
sft-frn, string bl cut, dull b

MD: 9,487'
TVD: 7,553.97'
Inclination: 88.71°
Azimuth: 180.2°
VS: 1,304.52'

MD: 9,580'
TVD: 7,556.27'
Inclination: 88.48°
Azimuth: 180.63°
VS: 1,397.45'

7700





Problems with Gamma

MD: 9,678'
TVD: 7,567.4'
Inclination: 90.22°
Azimuth: 181.98°
VS: 1,495.43'

MD: 9,773'
TVD: 7,567.88'
Inclination: 89.2°
Azimuth: 180.4°
VS: 1,590.42'

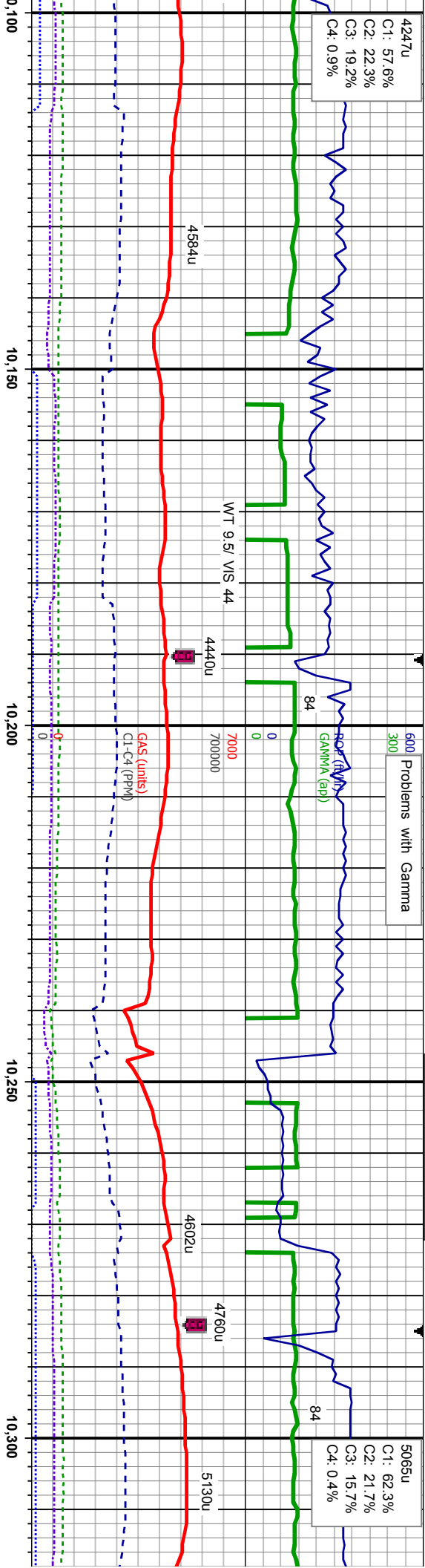
MD: 9,868'
TVD: 7,560.03'
Inclination: 88.2°
Azimuth: 180.1°
VS: 1,685.35'

, occ clus, lse
d, med gr, non-sl
bly-pty, mod
ring

SS: lt-med gy-brn, clr-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, tr SH: blk-dk gy, sb pty-pty, mod
sft-frn, string bl cut, dull bl ring

SS: lt-med gy-brn, clr-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, SH: blk-dk gy, sb pty-pty, mod
sft-frn, string bl cut, bri bl ring





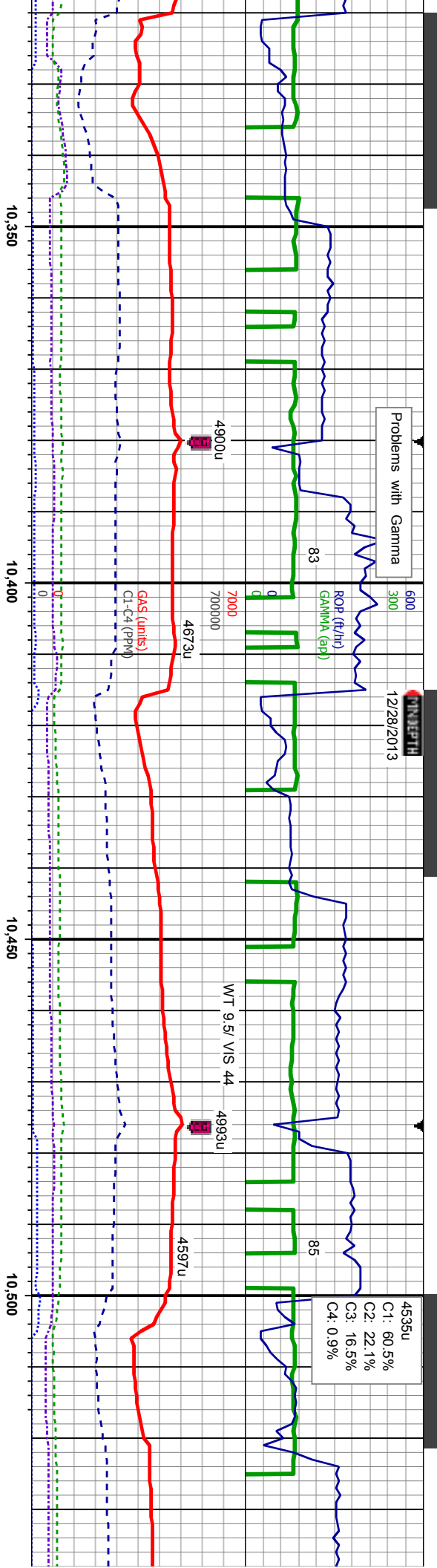
SS: lt-med gy-brn, clr-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, SH: blk-dk gy, sb plty-plty, mod
sft-frn, sting bl cut, bri bl ring

SS: lt-med gy-brn, clr-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, SH: blk-dk gy, sb plty-plty, mod
sft-frn, sting bl cut, bri bl ring

MD:10,153'
TVD7,556.12'
Inclination: 90.89°
Azimuth: 181.69°
VS1,970.23'

MD:10,280'
TVD7,556.29'
Inclination: 88.95°
Azimuth: 180.54°
VS2,097.21'





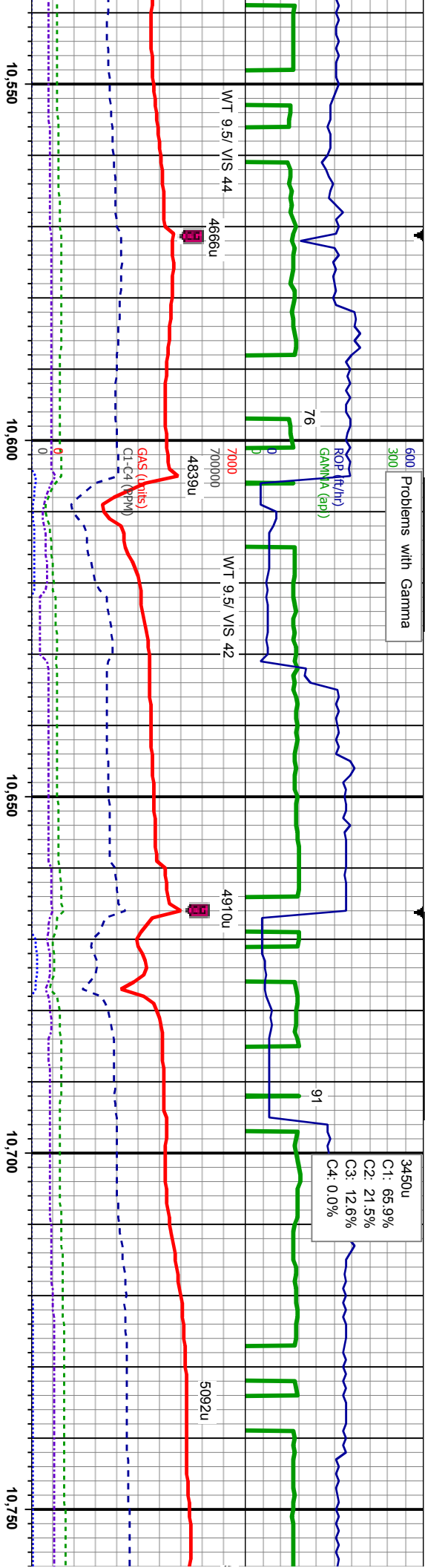
SS: lt-med gy-brn, clr-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, tr SH: blk-dk gy, sb pty-pty, mod
sft-frm, string bl cut, bri bl ring

MD:10,375'
TVD:7,556.62'
Inclination: 90.65°
Azimuth: 181.66°
VS2:192.19'

SS: lt-med gy-brn, clr-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, tr SH: blk-dk gy, sb pty-pty, mod
sft-frm, string bl cut, bri bl ring

MD:10,439'
TVD:7,555.95'
Inclination: 90.58°
Azimuth: 182.64°
VS2:256.19'

SS: lt-r
lith, w s
calc, tr
sft-frm,



med gy-brn, clr-s&p, occ clus, lse
sft, mod sft-hd, w rd, med gr, non-sl
SH: blk-dk gy, sb pty-pty, mod
string bl cut, bri bl ring

SS: lt-med gy-brn, clr-s&p, occ clus, lse
ilth, w sft, mod sft-hd, w rd, med gr, non-sl
calc, tr SH: blk-dk gy, sb pty-pty, mod
sft-fm, string bl cut, bri bl ring

SS: lt-med gy-brn, clr-s&p
ilth, w sft, mod sft-hd, w r
calc, tr SH: blk-dk gy, sb f
sft-fm, string bl cut, bri bl

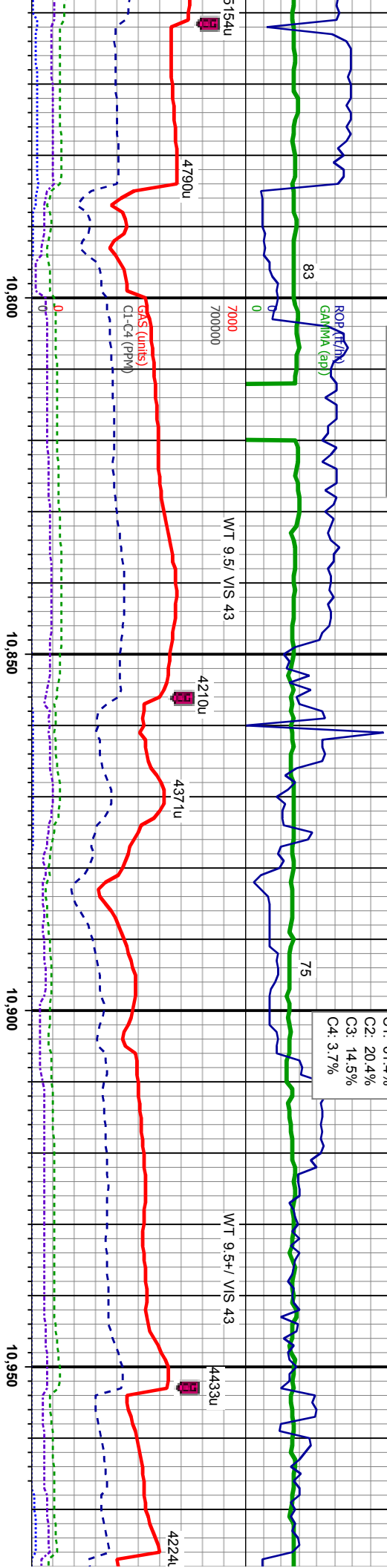
MD:10,566'
TVD:7,557.08'
Inclination: 88.43°
Azimuth: 180.55°
VS2,383.16'

MD:10,629'
TVD:7,556.44'
Inclination: 89.1°
Azimuth: 181.03°
VS2,446.14'

MD:10,724'
TVD:7,556.23'
Inclination: 91.14°
Azimuth: 182.1°
VS2,541.13'



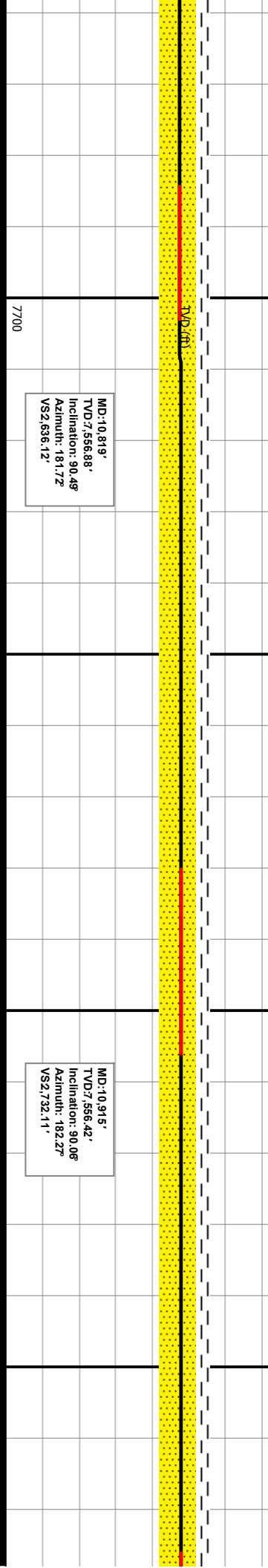
600 Problems with Gamma
300



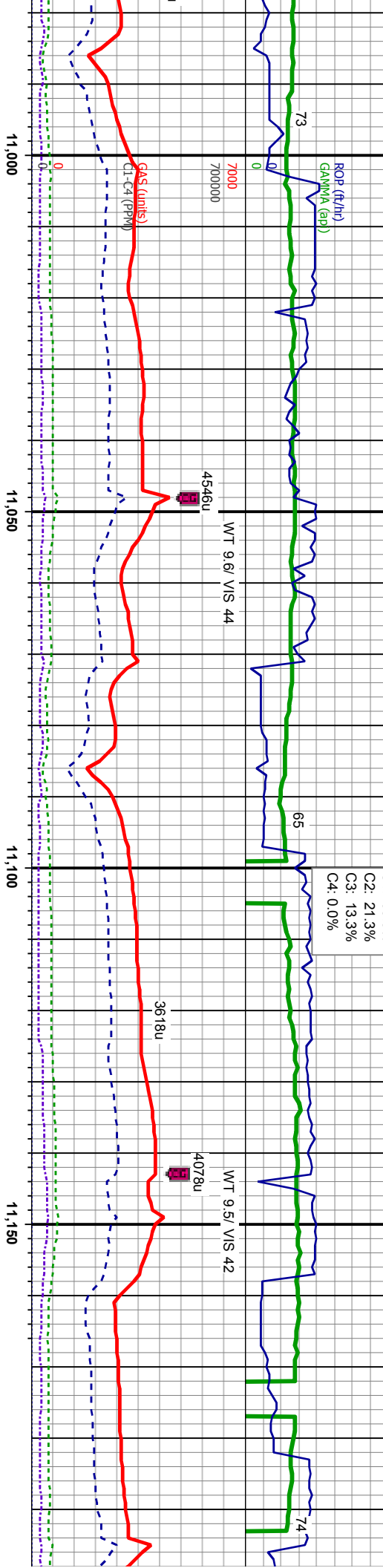
, occ clus, lse
d, med gr, non-sl
ilty-ilty, mod
ring

SS: lt-med gy-brn, cl-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, tr SH: blk-dk gy, sb ilty-ilty, mod
sft-firm, sting bl cut, bri bl ring

SS: lt-med gy-brn, cl-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, tr SH: blk-dk gy, sb ilty-ilty, mod
sft-firm, sting bl cut, dull bl ring



600 Problems with Gamma
300



2804u
C1: 65.3%
C2: 21.3%
C3: 13.3%
C4: 0.0%

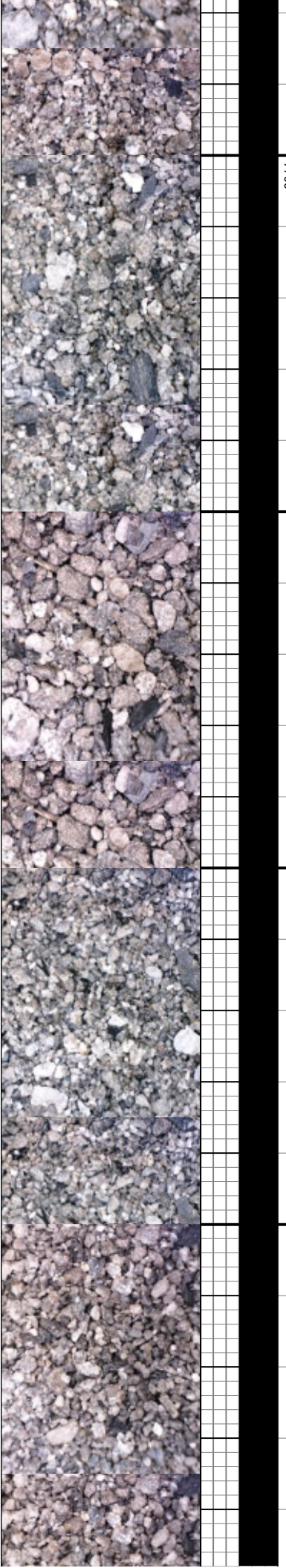
SS: lt-med gy-brn, cl-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, tr SH: blk-dk gy, sb pily-pily, mod
sft-firm, sting bl cut, dull bl ring

SS: lt-med gy-brn, cl-s&p, lse lith, w srt,
mod sft-hd, w rd, med gr, non-sl calc, tr
SH: blk-dk gy, sb pily-pily, mod sft-firm,
sting bl cut, dull bl ring

MD: 11,010'
TVD: 556.75'
Inclination: 89.54°
Azimuth: 182.38°
VS2: 827.11'

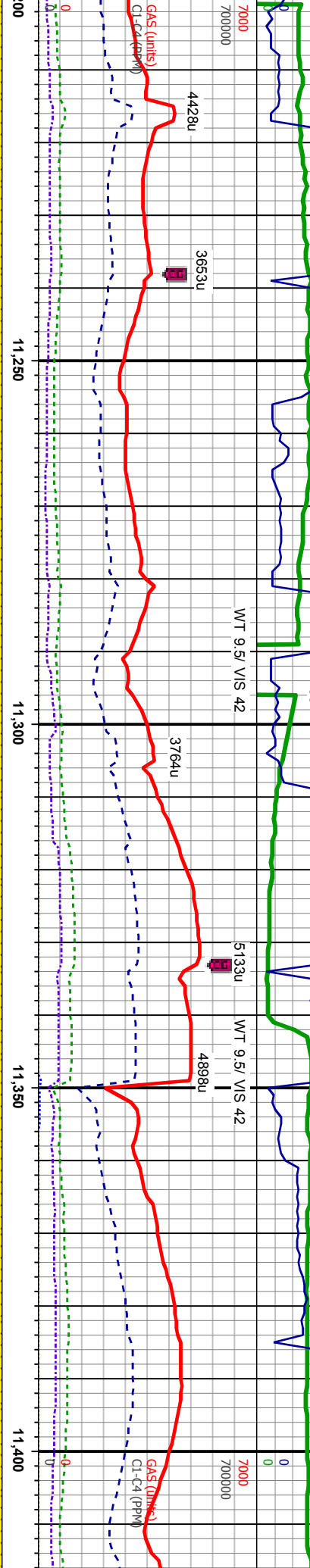
MD: 11,105'
TVD: 557.98'
Inclination: 88.98°
Azimuth: 182.34°
VS2: 922.11'

MD:
TVD
Incl
Azir
VS2



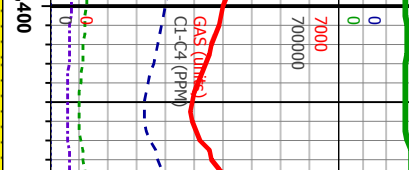
600 Problems with Gamma
300

ROP (ft/hr)
GAMMA (cp)



600 Problems with Gamma
300

ROP (ft/hr)
GAMMA (cp)



SS: lt-med gy-brn, cl-s&p, lse lith, w srt, mod sft-hd, w rd, med gr, non-sl calc, tr SH: blk-dk gy, sb ply-ply, mod sft-fm, string bl cut, dull bl ring

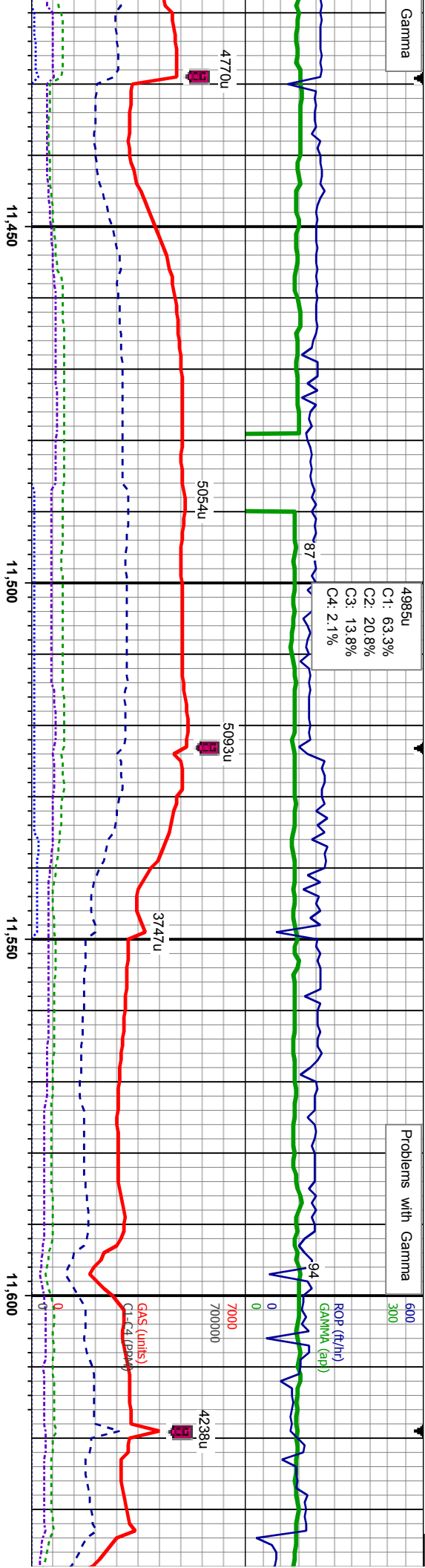
SS: lt-med gy-brn, cl-s&p, clus, occ lse lith, w srt, mod sft-hd, w rd, med gr, non-sl calc, LMST: lt gy-brn, offwht-cm, mod sft-mod hd, sb blkgy-sb ply, tr SH: blk-dk gy, sb ply-ply, mod sft-fm, sting bl cut, bri bl ring

11,200'
TVD: 7,559.84'
Inclination: 89.78°
Azimuth: 182.08°
VSA: 107.09°

MD: 11,295'
TVD: 7,559.84'
Inclination: 89.26°
Azimuth: 181.02°
VSA: 112.08°

MD: 11,390'
TVD: 7,559.61'
Inclination: 91.02°
Azimuth: 182.1°
VSA: 207.08°





SS: lt-med gy-brn, clr-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, LMST: lt gy-brn, offwht-crm, mod
sft-mod hd, sb blk-y-sb pily, tr SH: blk-dk
gy, sb pily-pily, mod sft-frn, sting bl cut,
dull bl ring

SS: lt-med gy-brn, clr-s&p, occ clus, lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, tr LMST: lt gy-brn, offwht-crm, mod
sft-mod hd, sb blk-y-sb pily, tr SH: blk-dk
gy, sb pily-pily, mod sft-frn, sting bl cut,
dull bl ring

SS: lt-n
lith, w s
calc, tr
sft-mod
gy, sb p
dull bl l

MD:11,486'
TVD:7,557.87'
Inclination: 91.08°
Azimuth: 181.95°
VS:3,303.06'

MD:11,581'
TVD:7,557.79'
Inclination: 89.08°
Azimuth: 180.5°
VS:3,398.05'

7700



3188u
C1: 60.8%
C2: 24.2%
C3: 15.0%
C4: 0.0%

24

4787u
WT 9.5/ VIS 44

21

ROP (ft/hr)
GAMMA (pp)
GAS (units)
CL-24 (2710)

7000

4727u 00000

4884u

11,900

11,950

12,000

12,050

,lse lith, w srt,
non-sl calc, tr
mod sft-fm,

SS: lt-med gy-brn, clr-s&p, clus, occ lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, LMST: lt gy-brn, offwht-crm, mod
sft-mod hd, sb blk-y-sb ply, sting bl cut, bri
bl ring

SS: lt-med gy-brn, clr-s&p, clus, occ lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, LMST: lt gy-brn, offwht-crm, mod
sft-mod hd, sb blk-y-sb ply, sting bl cut,
dull bl ring

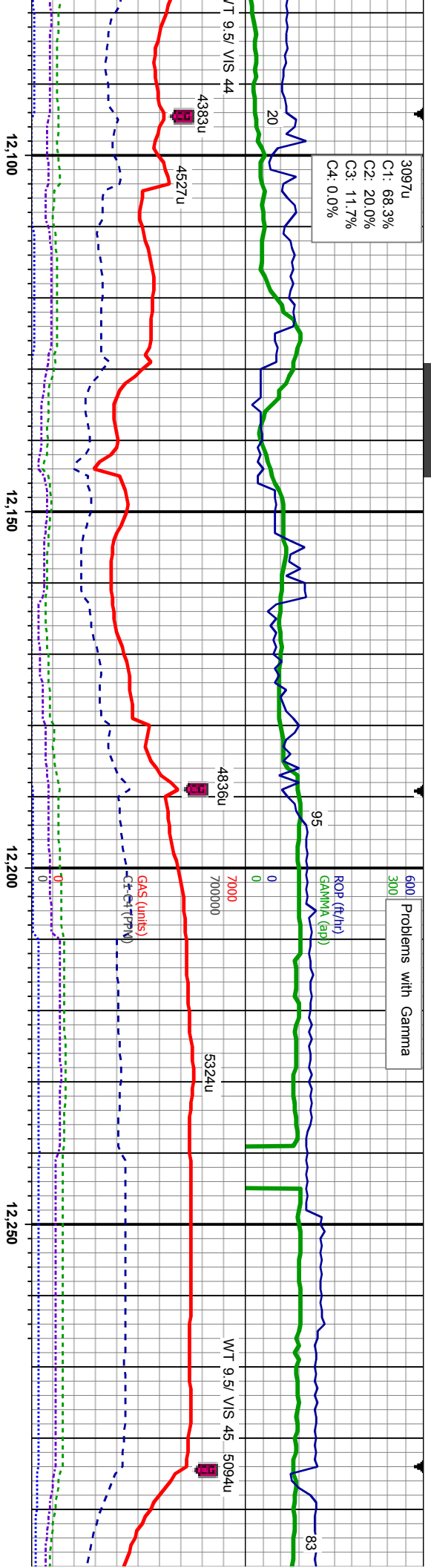
MD:11,866'
TVD:7,563.1'
Inclination: 90.28°
Azimuth: 181.7°
VS3,682.91'

MD:11,961'
TVD: 7,562
Inclination: 91.08°
Azimuth: 183.38°
VS3,777.89'

MD:12,056'
TVD:7,559.65'
Inclination: 91.79°
Azimuth: 183.86°
VS3,872.82'

7700

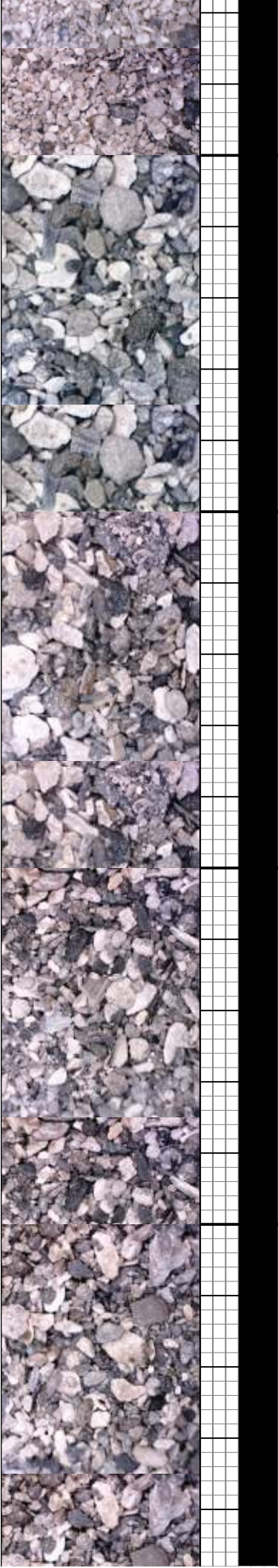
3097u
C1: 68.3%
C2: 20.0%
C3: 11.7%
C4: 0.0%



SS: lt-med gy-brn, clr-s&p, clus, occ lse
ilth, w srt, mod sft-hd, w rd, med gr, non-sl
calc, LMST: lt gy-brn, offwht-crm, mod
sft-mod hd, sb blkly-sb pily, tr SH: blk-dk
gy, sb pily-pily, mod sft-frm, sting bl cut,
dull bl ring

SS: lt-med gy-brn, clr-s&p, clus, occ lse
ilth, w srt, mod sft-hd, w rd, med gr, non-sl
calc, LMST: lt gy-brn, offwht-crm, mod
sft-mod hd, sb blkly-sb pily, tr SH: blk-dk
gy, sb pily-pily, mod sft-frm, sting bl cut,
dull bl ring

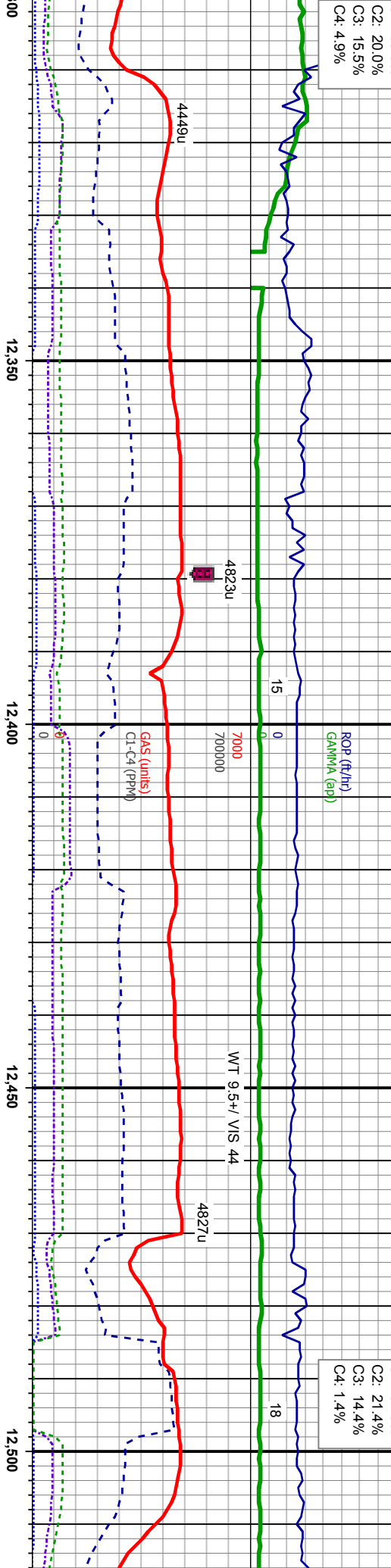
MD:12,246'
TVD:7,554.33'
Inclination: 91.42°
Azimuth: 184.32°
VSA:062.62°



2916u
C1: 59.6%
C2: 20.0%
C3: 15.5%
C4: 4.9%

4772u
C1: 62.8%
C2: 21.4%
C3: 14.4%
C4: 1.4%

Problems with Gamma

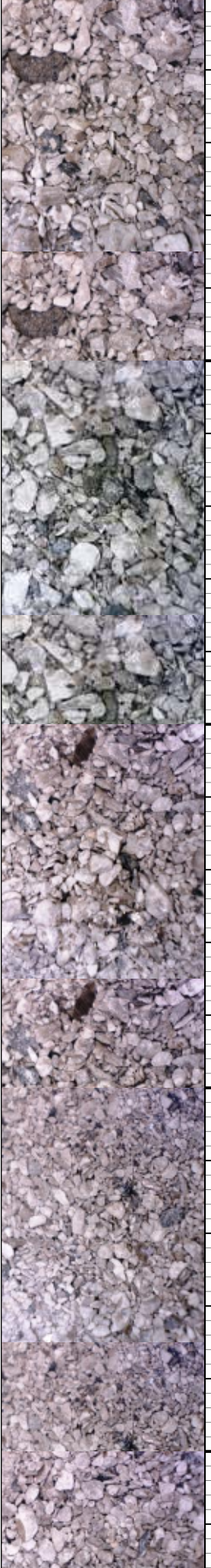


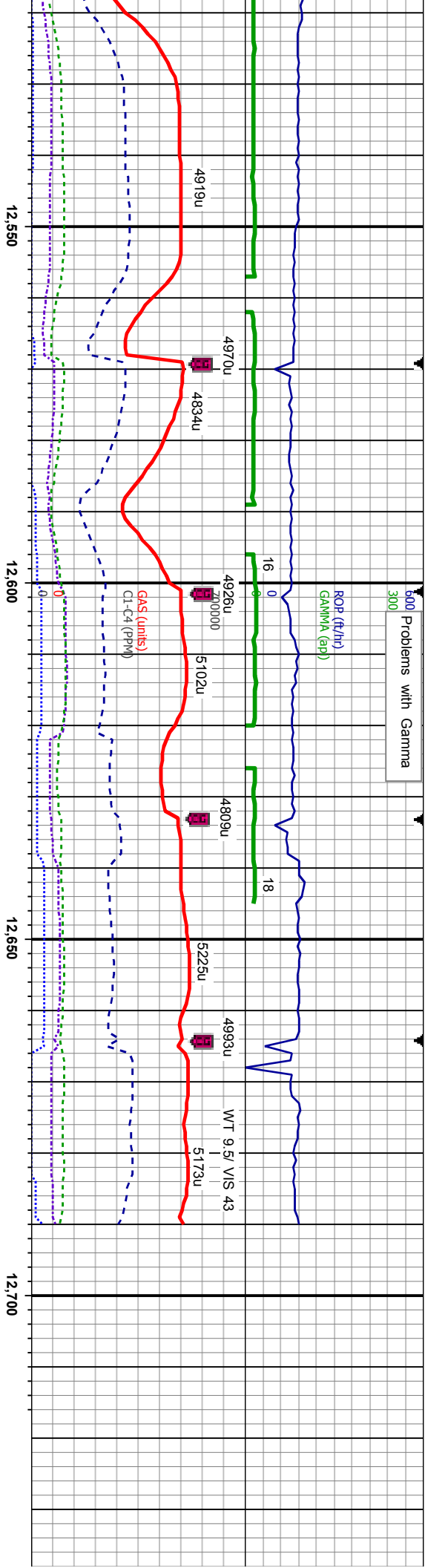
SS: lt-med gy-brn, clr-s&p, clus, occ lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, LMST: lt gy-brn, offwht-crm, mod
sft-mod hd, sb blk-y-sb pily, string bl cut,
dull bl ring

SS: lt-med gy-brn, clr-s&p, clus, occ lse
lith, w srt, mod sft-hd, w rd, med gr, non-sl
calc, LMST: lt gy-brn, offwht-crm, mod
sft-mod hd, sb blk-y-sb pily, string bl cut,
dull bl ring

MD: 12,341'
TVD: 554.77'
Inclination: 89.78°
Azimuth: 183°
VSA: 157.61°

MD: 12,437'
TVD: 555.26'
Inclination: 89.63°
Azimuth: 183.17°
VSA: 253.59°





SS: lt-med gy-brn, clr-s&p, clus, occ lse
ilth, w srt, mod sft-hd, w rd, med gr, non-sl
calc, LMST: lt gy-brn, offwht-crm, mod
sft-mod hd, sb blk-y-sb pily, sting bl cut,
dull bl ring

SS: lt-med gy-brn, clr-s&p, clus, occ lse
ilth, w srt, mod sft-hd, w rd, med gr, non-sl
calc, LMST: lt gy-brn, offwht-crm, mod
sft-mod hd, sb blk-y-sb pily, sting bl cut,
dull bl ring

MD:12,532'
TVD:7,556.62'
Inclination: 89.94°
Azimuth: 182.66°
VS4,348.58'

MD:12,627'
TVD:7,556.02'
Inclination: 89.57°
Azimuth: 182.36°
VS4,443.58'

MD:12,649'
TVD:7,556.25'
Inclination: 89.28°
Azimuth: 182.32°
VS4,465.67'

ANADARKO
Highway 160 15C-2HZ
WELL TD @ 12690' MD
ON 12/29/2013 @ 0145HRS

THANK YOU FOR USING
COLUMBINE LOGGING INC.

