

COLUMBINE LOGGING


Scale: 5" / 100'
Measured Depth Log


Well Name	BADDING 27N-26HZ		
Location	SEC 26 T2N R66W		
State	COLORADO	County	WELD
Country	USA	Rig Number	EXTREME 8
API Number	051233840600	AFE #	2086547
Region	DJ BASIN	Field	WATTENBERG
Spud Date	1/19/2014	Drilling Completed	1/26/2014
Surface Coordinates	350' FSL, 1901' FEL LAT 40.102988 LON -104.741664		
Bottom Hole Coordinates	200' FSL, 1125' FEL LAT 40.117040 LON -104.739000		
Ground Elevation	5115'	K.B. Elevation	5146'
Logged Interval	6790'	To	12726'
Formation	NIOBRARA B	Total Depth	5936'
Type of Drilling Fluid	FW LSND		

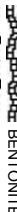
Company ANADARKO PE
Address 1099 18th, Suite


Name JOSH GARRET
Company ANADARKO
Address 1099 18th, Suite


LEAD: ROBERT DAVIS
2ND:PAUL KRUGER


 UNKNOWN


 ANHYDRITE


 BENTONITE


 BRECCIA


 CHALK


 CEMENT


 CHERT


 CLAY CHOKE SAND


 CLAYSTONE


 COAL


 OIL SHALE


 SILTSTONE

 SANDSTONE

 LIMESTONE

 GYPSUM

 SALT

 SHALE

Operator

PETROLEUM COMPANY

1800 Denver, CO 80202

Geologist

1800 Denver, CO 80202

Other

Rock Types

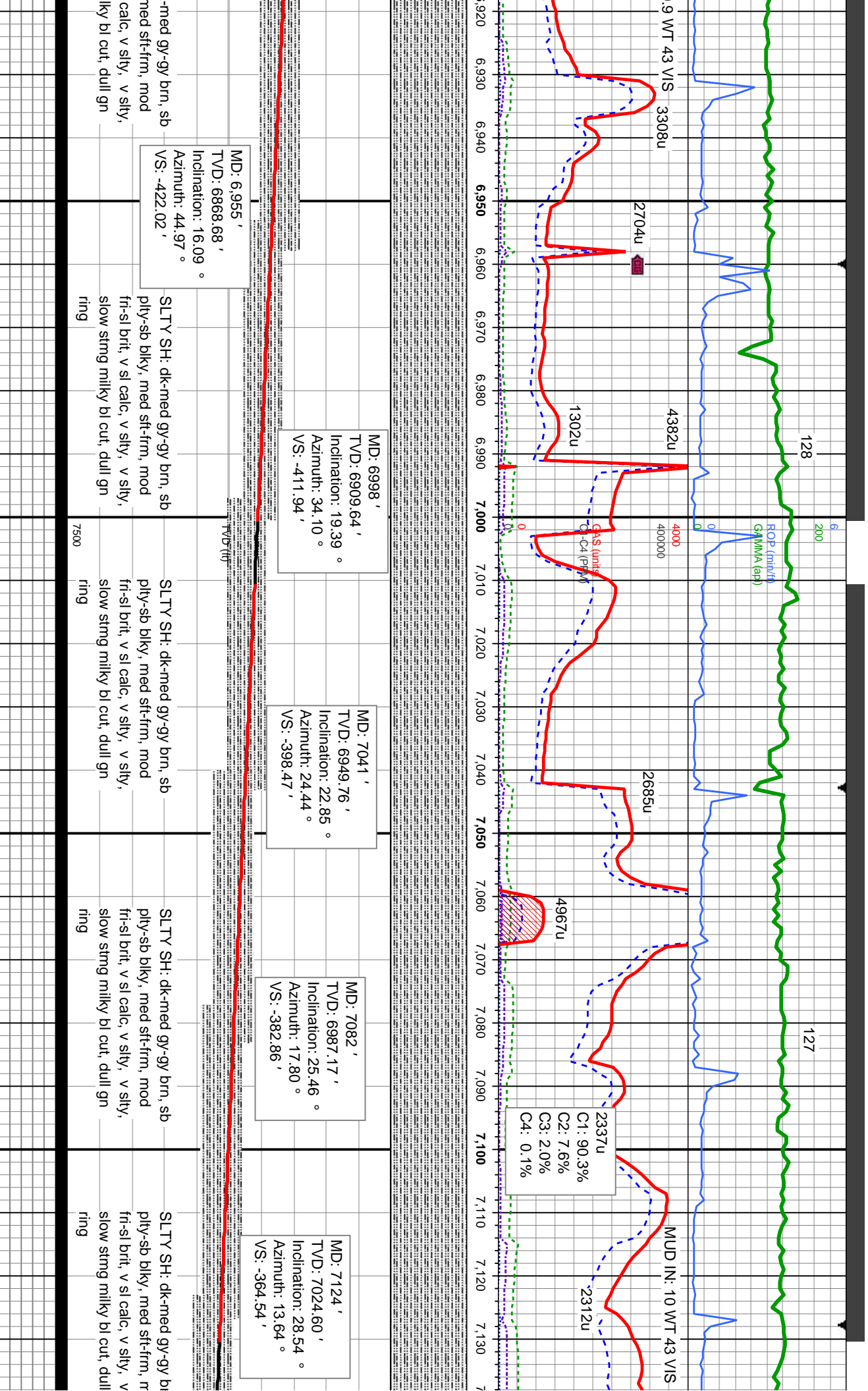
CONGLOMERATE	MARLSTONE	SHALY SANDSTONE
DOLomite	METAMORPHIC	SHALY SILTSTONE
DOLomite	NO SAMPLE	SILTSTONE
DOLomite	SALT	SILTSTONE
GRANITE	SANDSTONE	TILL
GYPSUM	SALT-PEPPER SAND	TUFF
IGNEOUS	SHALE	WELDED TUFF
SIDERITE or LIMONITE	SHALE COLORED	
LIMESTONE	SHALE GRAY	

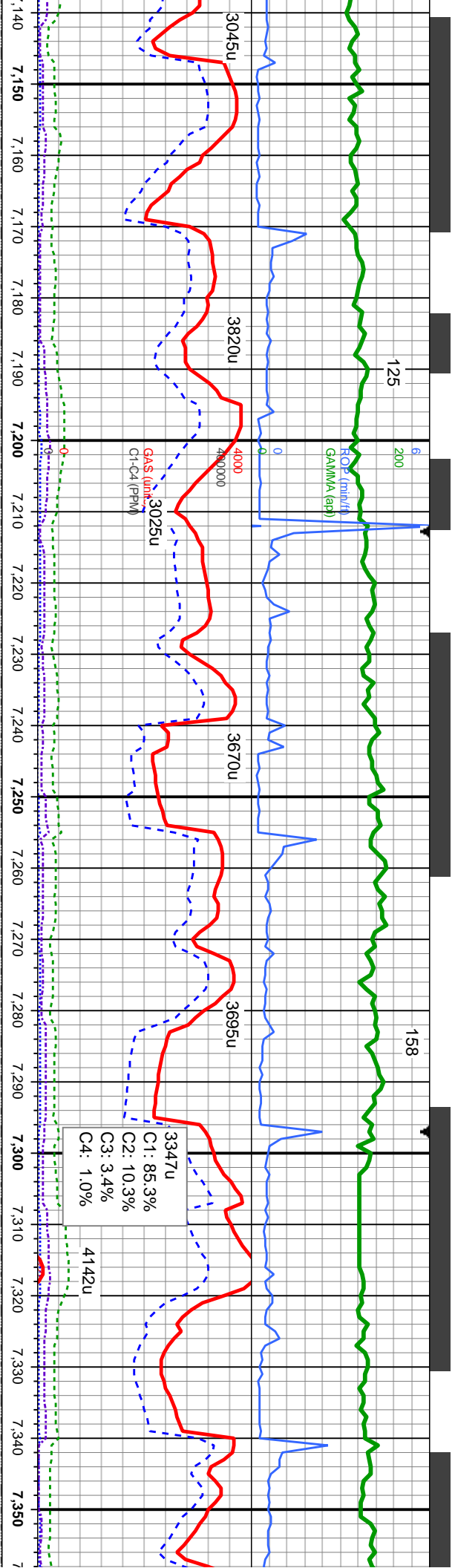
Accessories

Fossils	GASTROPOD	ARGILLITE GRAIN	HEAVY MINERAL
INOCERAMUS	B BENTONITE	K KAOLIN	ANHYDRITE STRINGER
ALGAE	O OOLITE	BITUMENOUS SUBSTANCE	COAL STRINGER
OSTRACOD	PELECYPOD	BRECCIA FRAGMENTS	DOLomite STRINGER
BELEMNITE	PISOLITE	CALCAREOUS	GYPSUM STRINGER
BIOCLASTIC	PELLET	CARBONACEOUS FLAKES	LIMESTONE STRINGER
BRACHIOPOD	PLANT REMAINS	CHITL	MARLSTONE (CALC) STRG
BRYOZOA	SCAPHOPOD	COAL - THIN BEDS	MARLSTONE (DOL) STRG
CEPHALOPOD	STROMATOPOROID	DOLOMITIC	SANDSTONE STRINGER
CORAL	FERRUGINOUS PELLET	FELDSPAR	SHALE STRINGER
CRINOID	FERRUGINOUS	GLAUCONITE	SILTSTONE STRINGER
ECHINOID	Minerals	GYPSIFEROUS	
FISH	FORAMINIFERA		
F FOSSIL	ARGILLACEOUS	Stringer	

Other Symbols

Oil Show	P PINPOINT	DST INTERVAL	WIRELINE TESTED - LEFT	E EARTHY
V VUGGY	FAULT	WIRELINE TESTED - RT	FX FINELYXLN	
Engineering	FORMATION TOP	DRILL STEM TEST	BS GRAINSTONE	
DEAD	GAS SHOW	MN DEPTH	L LITHOGRAPHIC	
EVEN	OIL SHOW	Rounding	MX MICROXLN	
QUESTIONABLE	BIT		MS MUDSTONE	
SPOTTED STAINING	CONNECTION (UP)			
Porosity	CONNECTION (DOWN)	MN DEPTH (DOWN)	A ANGULAR	PS PACKSTONE
E EARTHY	CONNECTION GAS (LEFT)	NORMAL FAULT	R ROUNDED	WS WACKSTONE
F FENESTRAL	TRIP GAS	OVERTURNED STRATA	B SUBANG	
FRACTURE	TRIP GAS (LEFT)	REVERSE FAULT	R SUBRND	
INTERCRYSTALLINE	DOWN TIME GAS	CASING	Textures	M MODERATE
INTEROOLITIC	DOWN TIME GAS (LEFT)	SIDEWALL CORE (LEFT)	P POOR	
MOLDIC	CORE - LOST	SIDEWALL CORE (RIGHT)	W WELL	
ORGANIC	CORE - RECOVERED	SLIDE	BS BOUNDSTONE	
		SURVEY	CHALKY	
			CRYPTOXLN	





MD: 7166 '
TVD: 7061.01 '
Inclination: 31.23 °
Azimuth: 12.39 °
VS: -344.18 '

MD: 7209 '
TVD: 7096.95 '
Inclination: 35.32 °
Azimuth: 11.78 °
VS: -321.15 '

MD: 7252 '
TVD: 7131.09 '
Inclination: 39.53 °
Azimuth: 9.50 °
VS: -295.50 '

MD: 7294 '
TVD: 7162.35 '
Inclination: 44.24 °
Azimuth: 7.48 °
VS: -267.80 '

MD: 7337 '
TVD: 7191.88 '
Inclination: 49.01 °
Azimuth: 5.51 °
VS: -236.77 '

SLTY SH: dk-med gy-gy brn, sb
ply-sb blk, med sft-frn, mod
fri-sl brit, v sl calc, v silty, v silty,
slow string milky bl cut, dull gn
ring

SLTY SH: dk-med gy-gy brn,
sb ply-sb blk, med sft-frn,
mod fri-sl brit, v sl calc, v silty,
v silty, slow string milky bl cut,
dull gn ring

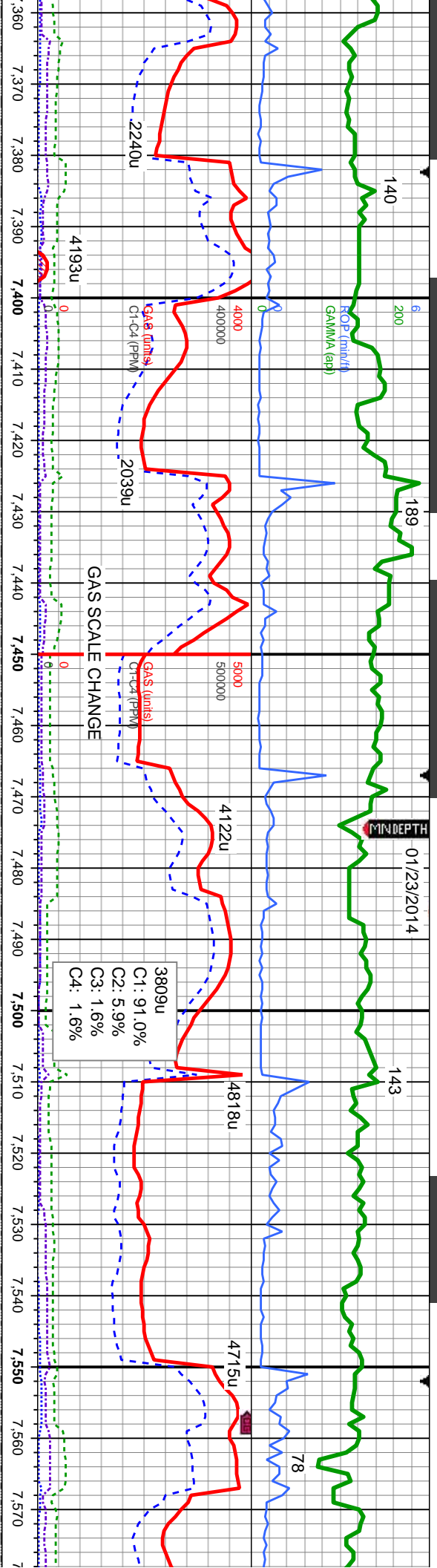
SLTY SH: dk-med gy-gy brn,
sb ply-sb blk, med sft-frn,
mod fri-sl brit, v sl calc, v silty,
v silty, slow string milky bl cut,
dull gn ring

SLTY SH: dk-med gy-gy brn, sb
ply-sb blk, med sft-frn, mod
fri-sl brit, v sl calc, v silty, v silty,
slow string milky bl cut, dull gn
ring



01/23/2014

MINDEPTH



MD: 7379 '
TVD: 7218.01 '
Inclination: 54.00 °
Azimuth: 4.18 °
VS: -204.05 '

6800

MD: 7422 '
TVD: 7242.25 '
Inclination: 57.36 °
Azimuth: 3.67 °
VS: -168.64 '

Sharon Springs:
7,434' MD
7,249' TVD

MD: 7465 '
TVD: 7264.45 '
Inclination: 60.47 °
Azimuth: 3.50 °
VS: -131.90 '

MD: 7507 '
TVD: 7284.14 '
Inclination: 63.63 °
Azimuth: 2.97 °
VS: -94.88 '

MD: 7550 '
TVD: 7301.90 '
Inclination: 67.56 °
Azimuth: 3.24 °
VS: -55.80 '

TY SH: dk-med gy-gy brn, sb
-sb blkly, tr pty, med sft-frm, mod
sl brit, v sl calc, v silty, tr bent, v silty,
stng milky bl cut, dull gn ring

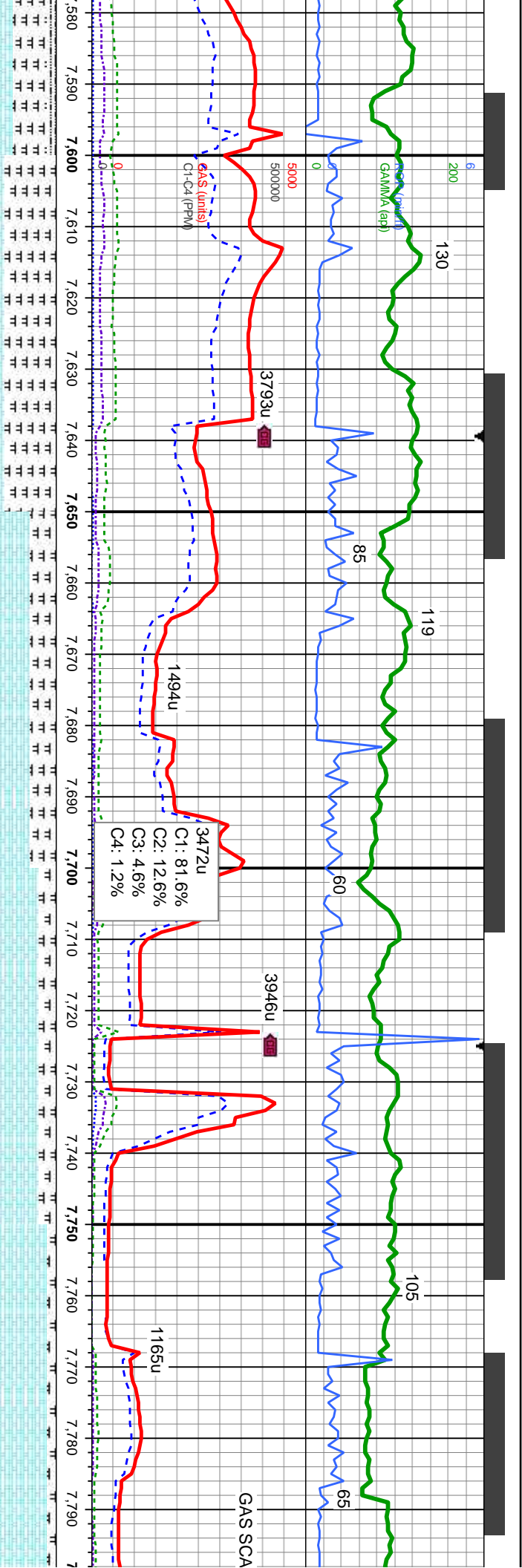
SLTY SH: dk-med gy-gy brn, sb pty-sb
blkly, tr pty, med sft-frm, mod fri-sl brit, v
sl calc, v silty, tr bent, v silty, mod stng
milky bl cut, dull gn ring

SLTY SH: dk-med gy-gy brn, sb
pty-sb blkly, tr pty, med sft-frm,
mod fri-sl brit, v sl calc, v silty, tr
bent, v silty, mod stng milky bl cut,
dull gn ring

SLTY SH: dk - med gy, sb pty - sb blkly,
mod sft - frm, mod fri - sl brit, v sl calc, v
silty, MRLST: med-dk gy, sb blkly, med
sft-frm, silty tex, v calc, CHK:lt-med gy, sb
blkly, sft, v calc, v silty, mod stng milky bl
cut, dull gn ring

CHK:lt-med gy, sb blkly, s
calc, MRLST: med-dk gy
sft-frm, silty tex, v calc, SI
gy, sb pty - sb blkly, mod
-sl brit, v sl calc, v silty, v
milky bl cut, dull gn ring





MD: 7,592 ' TVD: 7,317.00 ' Inclination: 70.29 ° Azimuth: 3.07 ° VS: -16.69 ' Niobrara B Chalk: 7,651' MD 7,335' TVD

MD: 7,635 ' TVD: 7,330.49 ' Inclination: 73.15 ° Azimuth: 3.19 ° VS: 24.06 ' MD: 7,678 ' TVD: 7,341.56 ' Inclination: 76.99 ° Azimuth: 2.31 ° VS: 65.54 ' MD: 7,721 ' TVD: 7,349.56 ' Inclination: 81.58 ° Azimuth: 1.59 ° VS: 107.75 ' MD: 7,763 ' TVD: 7,353.73 ' Inclination: 87.01 ° Azimuth: 1.44 ° VS: 149.50 '

sft, mot tex, v sb blk, med TY SH: dk - med sft - frm, mod fri sily, mod stng

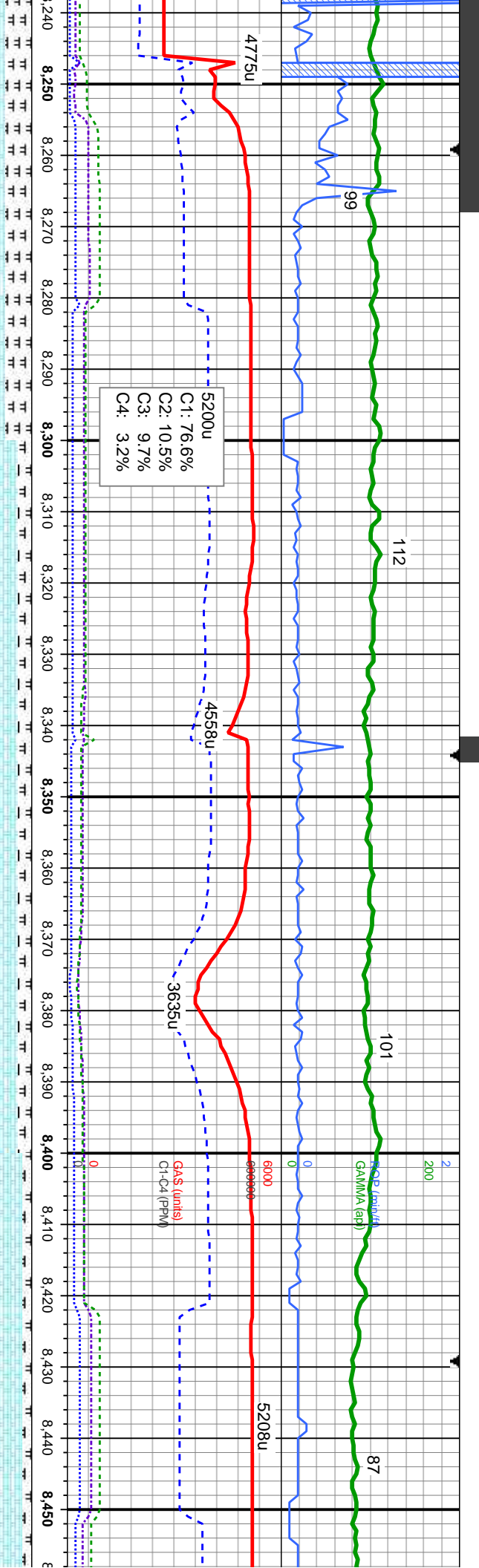
CHK:lt-med gy, sb blk, sft, mot tex, v calc; MRLST: med-dk gy, sb blk, med sft-frm, sily tex, v calc, v sily, mod stng milky bl cut, dull gn ring

CHK:lt-med gy, sb blk, sft, mot tex, v calc; MRLST: med-dk gy, sb blk, med sft-frm, sily tex, v calc, v sily, mod stng milky bl cut, dull gn ring

CHK:lt-med gy, sb blk, sft, mot tex, v calc; MRLST: med-dk gy, sb blk, med sft-frm, sily tex, v calc, fast stng milky bl cut, bri bl ring

CHK:lt-med gy, sb blk, sft, mot tex, v calc; MRLST: med-dk gy, sb blk, med sft-frm, sily tex, v calc, fast stng milky bl cut, bri bl ring





MD: 8,286'
TVD: 7,352.36'
Inclination: 89.78°
Azimuth: 359.66°
VS: 668.27'

5200u
C1: 76.6%
C2: 10.5%
C3: 9.7%
C4: 3.2%

GAS (units)
C1-C4 (ppm)

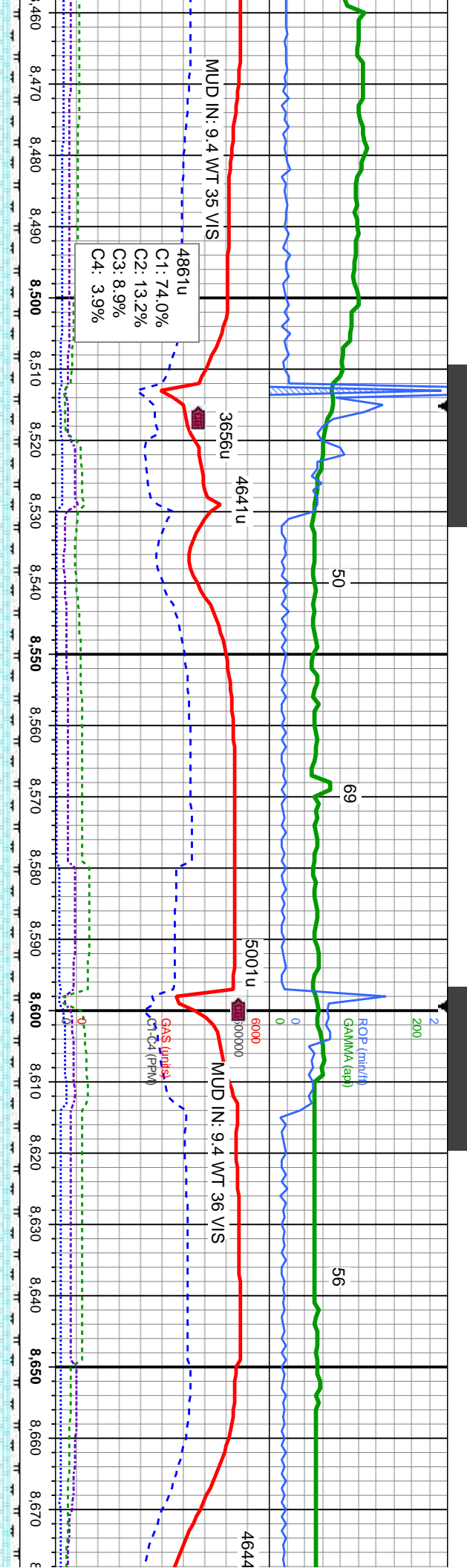
MD: 8,457'
TVD: 7,356'
Inclination: 359.25°
Azimuth: 89.78°
VS: 839.25'

d gy, sb blkly, sft, mot tex, v
ST: med-dk gy, sb blkly, med
v tex, v calc, fast stmg milky bl

CHK:lt-med gy, sb blkly, sft, mot tex, v
calc, MRLST: med-dk gy, sb blkly, med
sft-fm, silty tex, v calc, fast stmg milky
bl cut, bri bl ring

CHK:lt-med gy, sb blkly, s
calc, MRLST: med-dk gy,
med sft-fm, silty tex, v ca
milky bl cut, bri bl ring



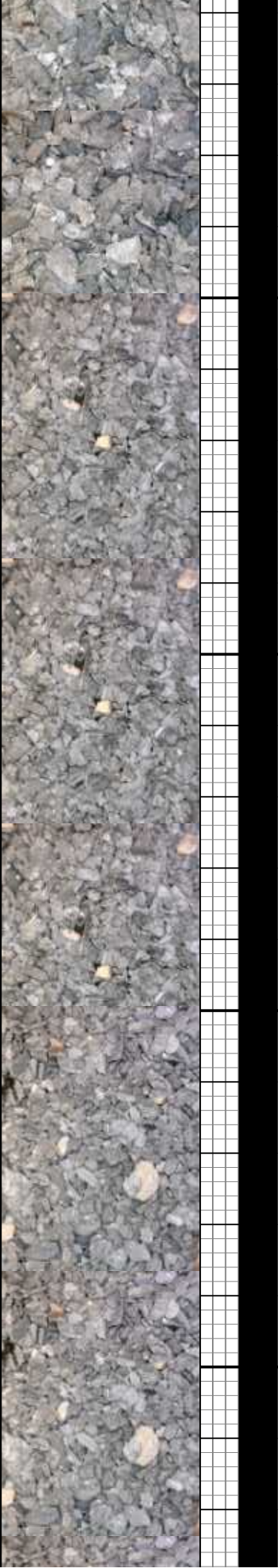


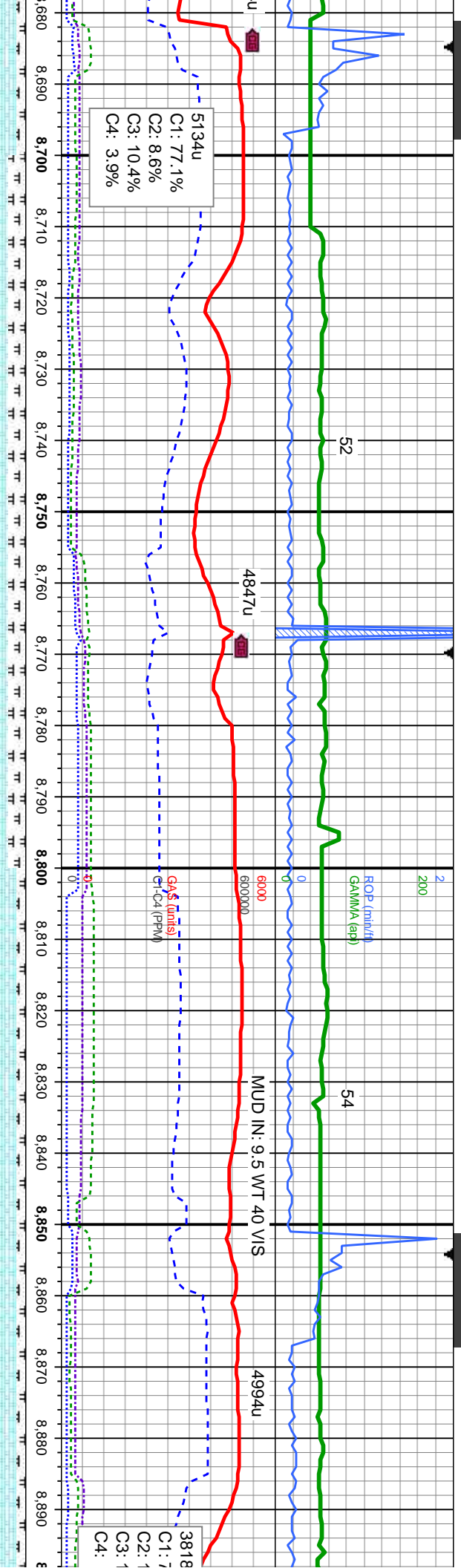
MD: 8492 '
TVD: 7348.92 '
Inclination: 91.47 °
Azimuth: 359.51 °

MD: 8542 '
TVD: 7348.92 '
Inclination: 90.65 °
Azimuth: 359.87 °
VS: 924.24 '

MD: 8628 '
TVD: 7348.46 '
Inclination: 89.96 °
Azimuth: 0.66 °
VS: 1010.23 '

ft, mot tex, v	ft, mot tex, v	ft, mot tex, v
sb blkly,	CHK:lt-med gy, sb blkly, sft, mot	CHK:lt-med gy, sb blkly, sft, mot
ic, fast stmg	tex, v calc; MRLST: med-dk gy, sb	tex, v calc; MRLST: med-dk gy, sb
	blkly, med sft-fm, silty tex, v calc,	blkly, med sft-fm, silty tex, v calc,
	fast stmg milky bl cut, bri bl ring	fast stmg milky bl cut, bri bl ring





5134u
C1: 77.1%
C2: 8.6%
C3: 10.4%
C4: 3.9%

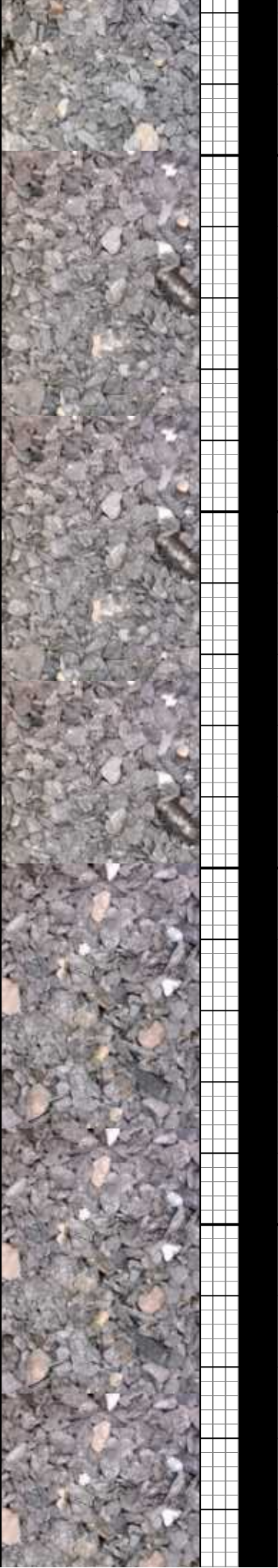
MD: 8713 '
TVD: 7349.16 '
Inclination: 89.10 °
Azimuth: 359.89 °
VS: 1095.22 '

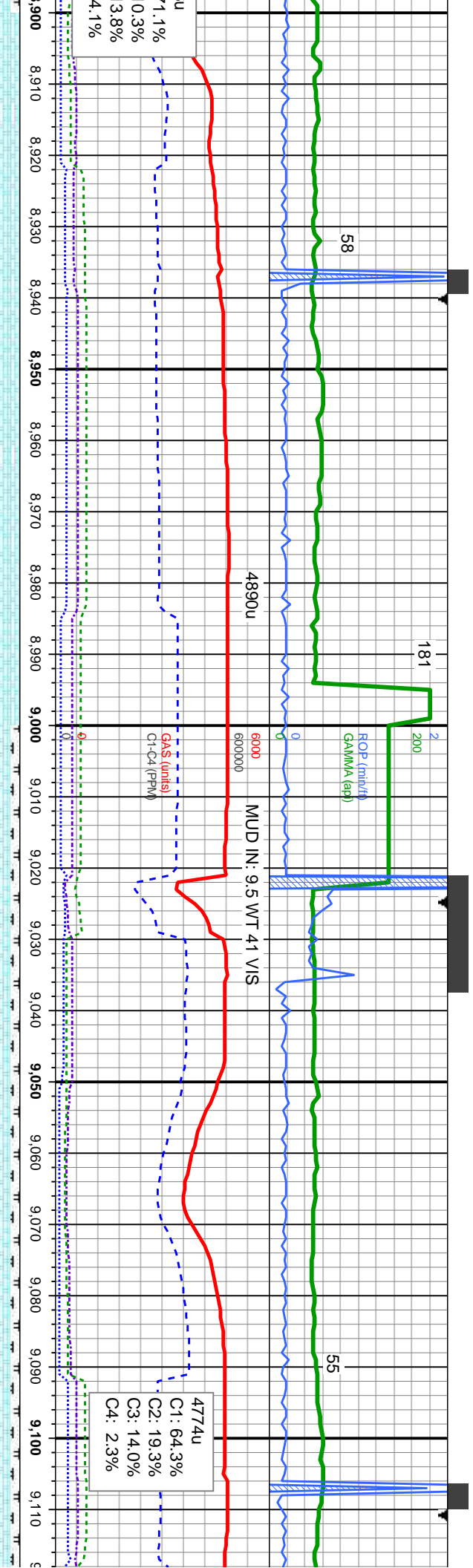
MD: 8798 '
TVD: 7349.83 '
Inclination: 90.00 °
Azimuth: 359.92 °
VS: 1180.22 '

MD: 8883 '
TVD: 7350.41 '
Inclination: 89.22 °
Azimuth: 359.54 °
VS: 1265.21 '

CHK:lt-med gy, sb blk, sft, mot tex, v calc;
MRLST: med-dk gy, sb blk, med sft-fm,
sily tex, v calc, fast stmg milky bl cut, brl bl
ring

CHK:lt-med gy, sb blk, sft, mot tex, v calc, MRLST:
med-dk gy, sb blk, med sft-fm, sily tex, v calc, fast
stmg milky bl cut, brl bl ring





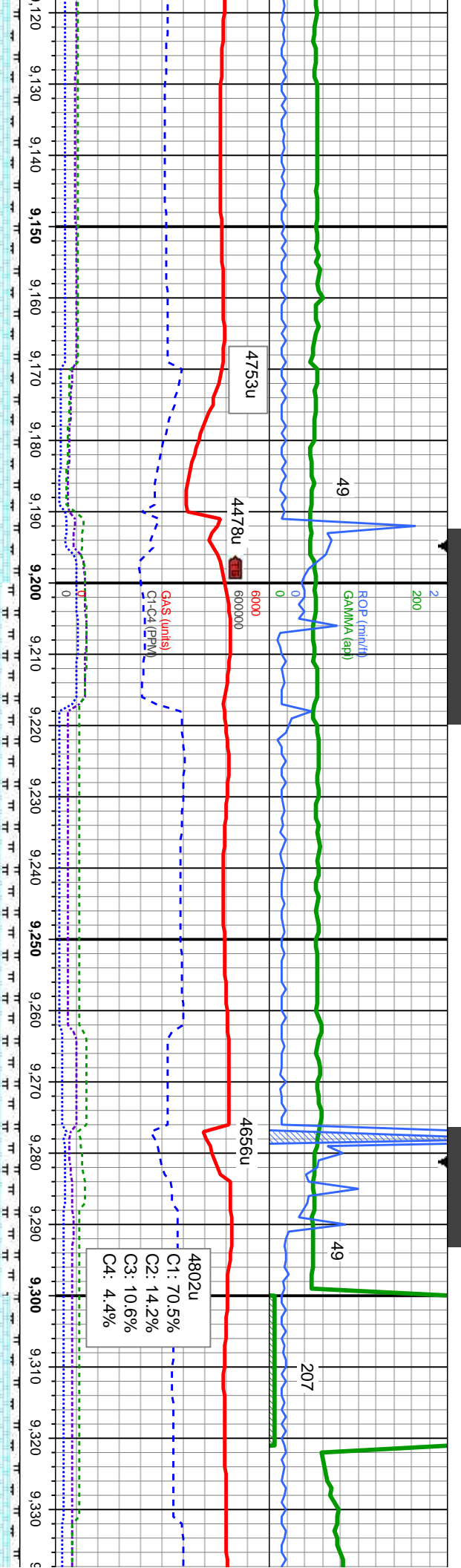
MD: 8968 '
TVD: 7350.96 '
Inclination: 90.03 °
Azimuth: 359.98 °
VS: 1350.21 '

MD: 9054 '
TVD: 7351.48 '
Inclination: 89.28 °
Azimuth: 358.84 °
VS: 1436.21 '

CHK:lt-med gy, sb blk, sft, mot tex, v calc, MRLST:
med-dk gy, sb blk, med sft-fm, silty tex, v calc, fast
stng milky bl cut, bri bl ring

CHK:lt-med gy, sb blk, sft, mot tex, v calc, MRLST: med-dk gy,
sb blk, med sft-fm, silty tex, v calc, fast stng milky bl cut, bri bl
ring

CHK
med-
milky



MD: 9139 '
TVD: 7351.93 '
Inclination: 90.12 °
Azimuth: 359.65 °
VS: 1621.20 '

MD: 9224 '
TVD: 7352.16 '
Inclination: 89.56 °
Azimuth: 359.48 °
VS: 1606.20 '

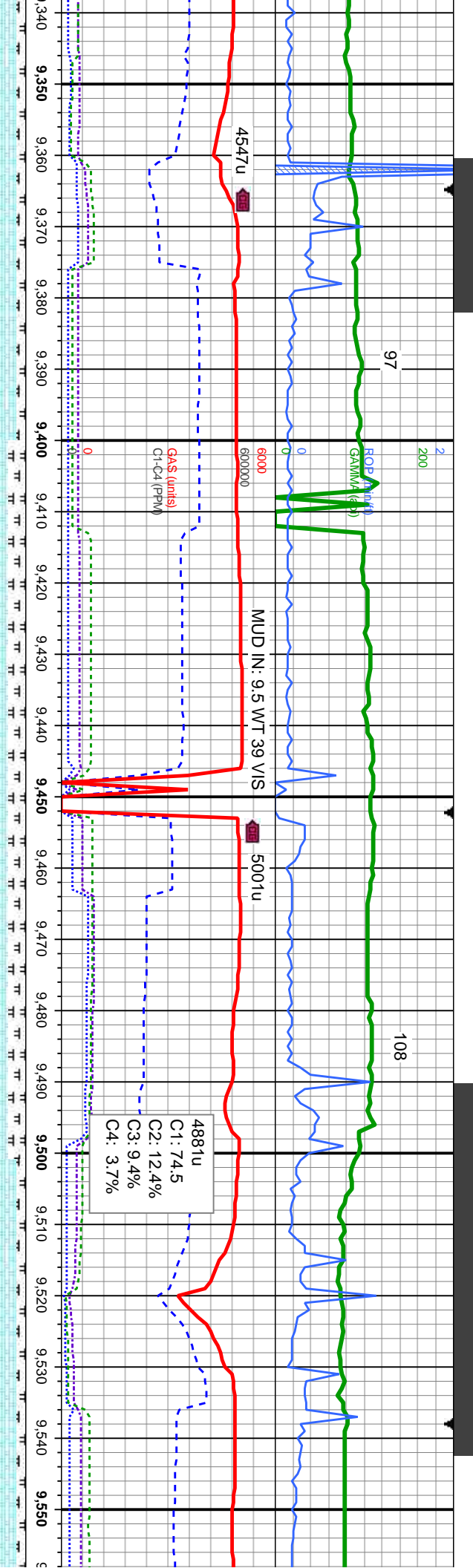
MD: 9310 '
TVD: 7352.82 '
Inclination: 89.56 °
Azimuth: 359.69 °
VS: 1692.20 '

ilt-med gy, sb blkly, tr sb plty, sft, mot tex, v calc, MRLST:
dk gy, sb blkly, med sft-frm, silty tex, v calc, fast string
bl cut, bri bl ring

CHK:lt-med gy, sb blkly, tr sb plty, sft, mot tex, v
calc, MRLST: med-dk gy, sb blkly, med sft-frm,
silty tex, v calc, fast string milky bl cut, bri bl ring

CHK:lt-med gy,
MRLST: med-dk
calc, fast string r





MD: 9395 '
TVD: 7353.73 '
Inclination: 89.22 °
Azimuth: 358.35 °
VS: 1777.19 '

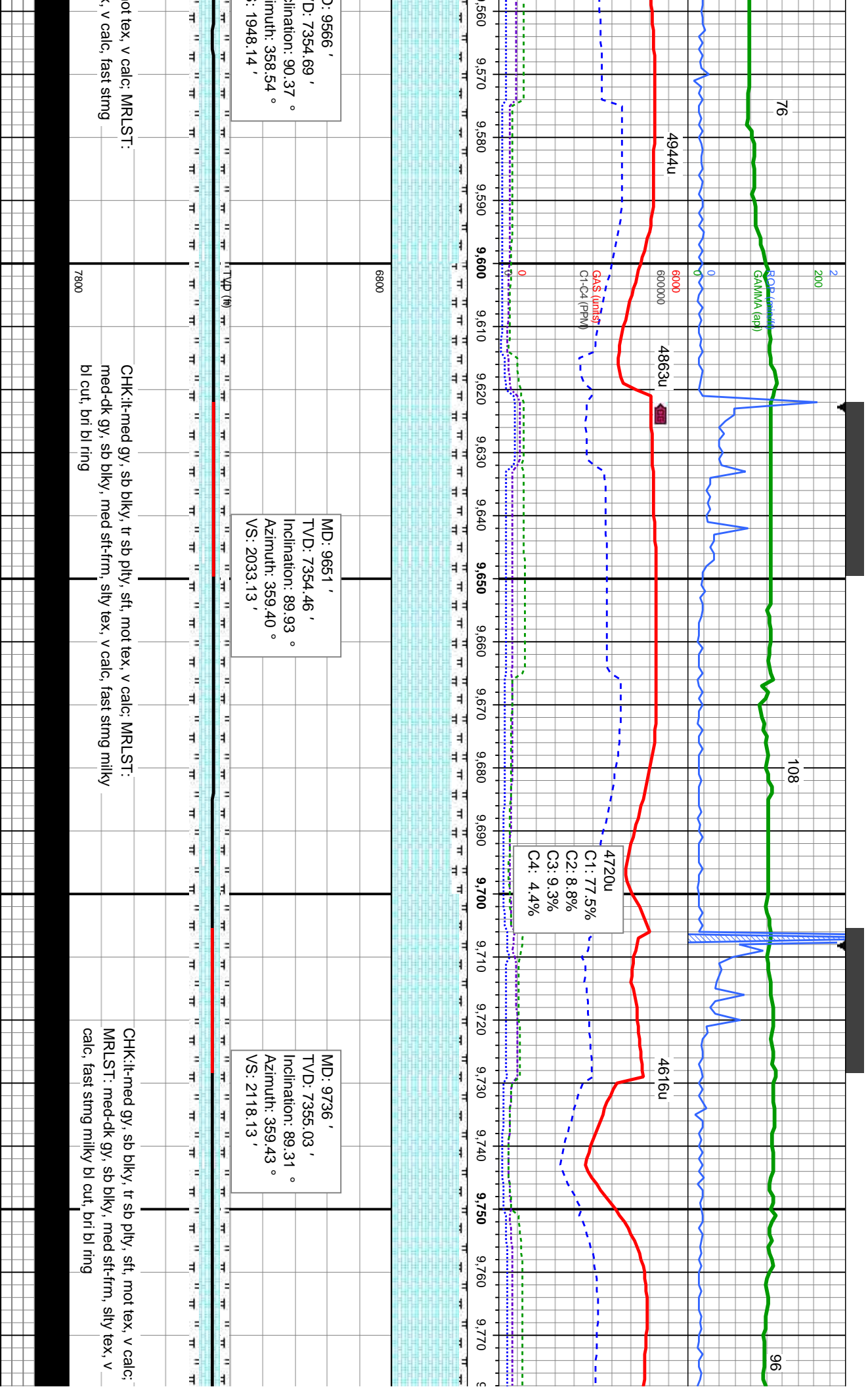
MD: 9480 '
TVD: 7354.63 '
Inclination: 90.37 °
Azimuth: 358.22 °
VS: 1862.16 '

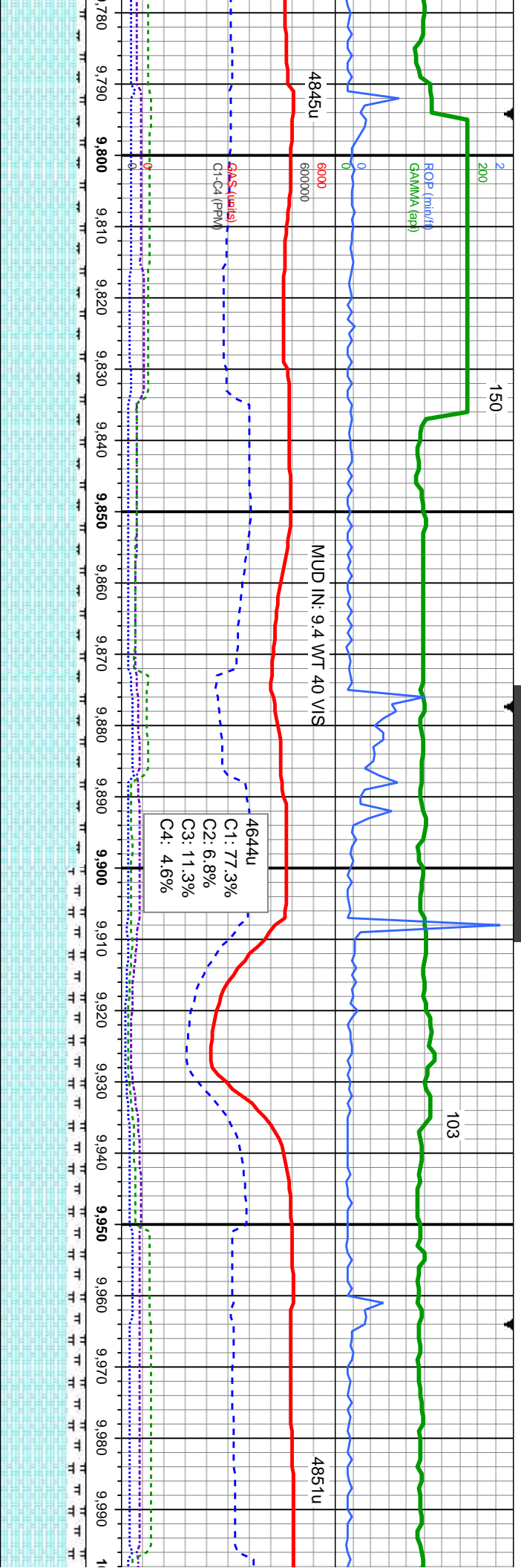
sb blkly, tr sb ply, sft, mot tex, v calc;
k gy, sb blkly, med sft-frn, silty tex, v
milky bl cut, bri bl ring

CHK:lt-med gy, sb blkly, tr sb ply, sft, mot tex,
v calc; MRLST: med-dk gy, sb blkly, med
sft-frn, silty tex, v calc, fast stmg milky bl cut,
bri bl ring

CHK:lt-med gy, sb blkly, tr sb ply, sft, m
med-dk gy, sb blkly, med sft-frn, silty tex
milky bl cut, bri bl ring







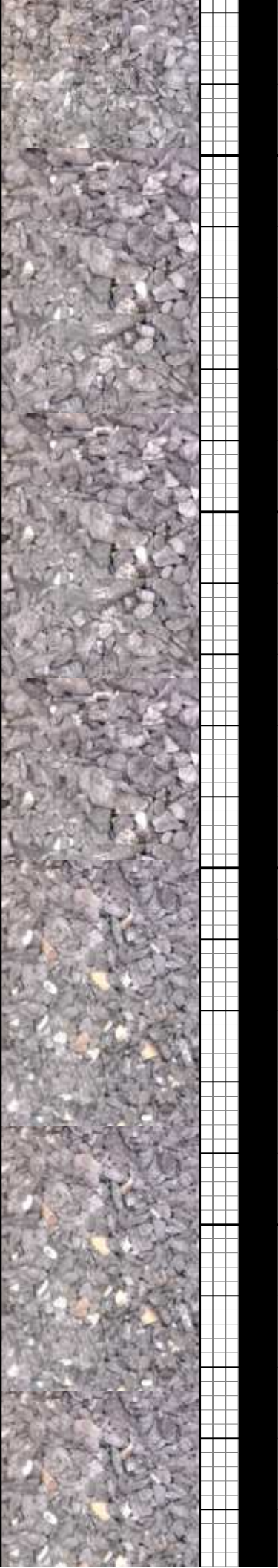
MD: 9821 '
TVD: 7355.22 '
Inclination: 90.43 °
Azimuth: 358.99 °
VS: 2203.12 '

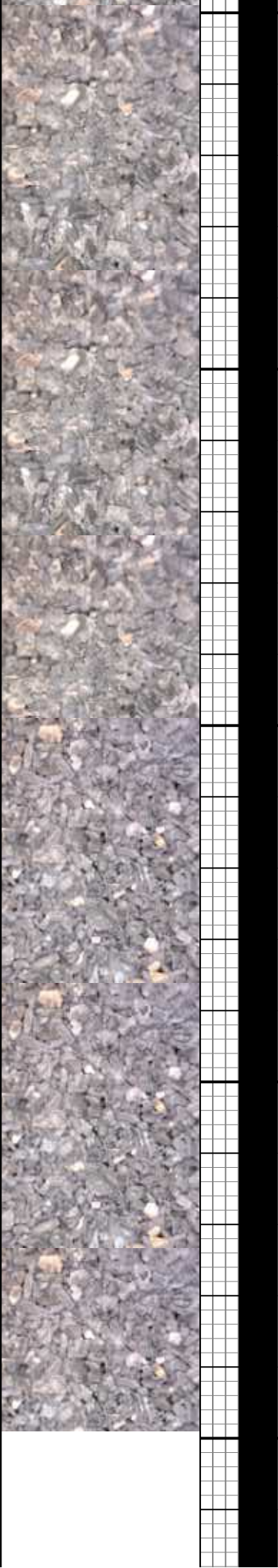
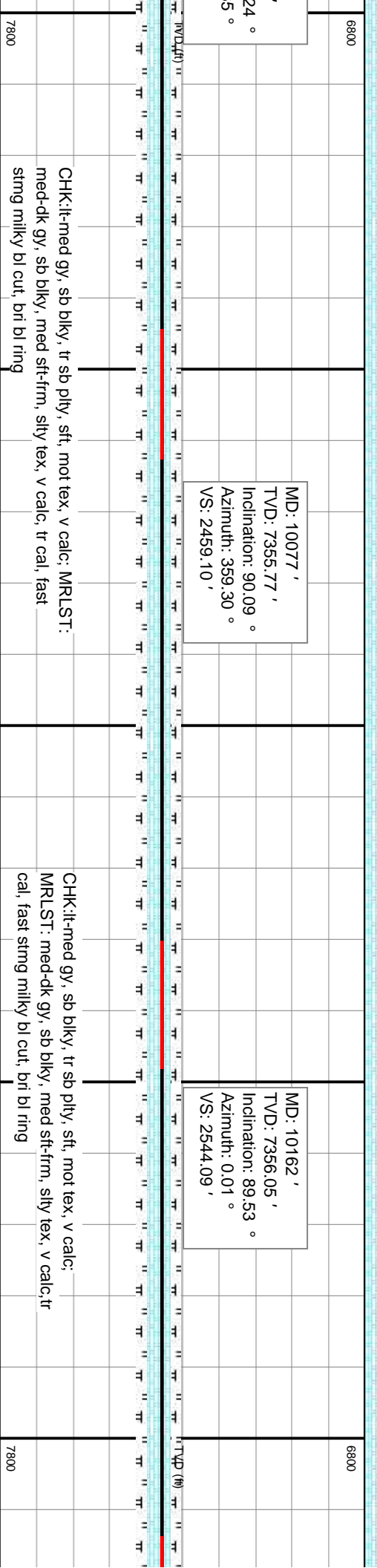
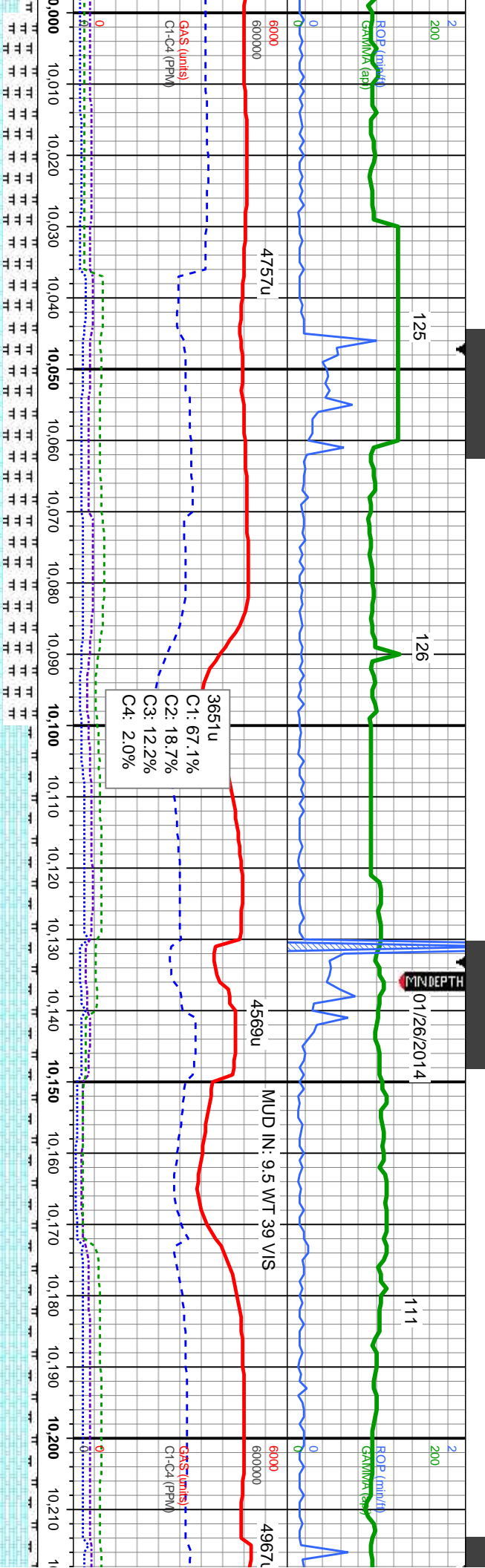
MD: 9907 '
TVD: 7355.55 '
Inclination: 89.13 °
Azimuth: 358.48 °
VS: 2289.11 '

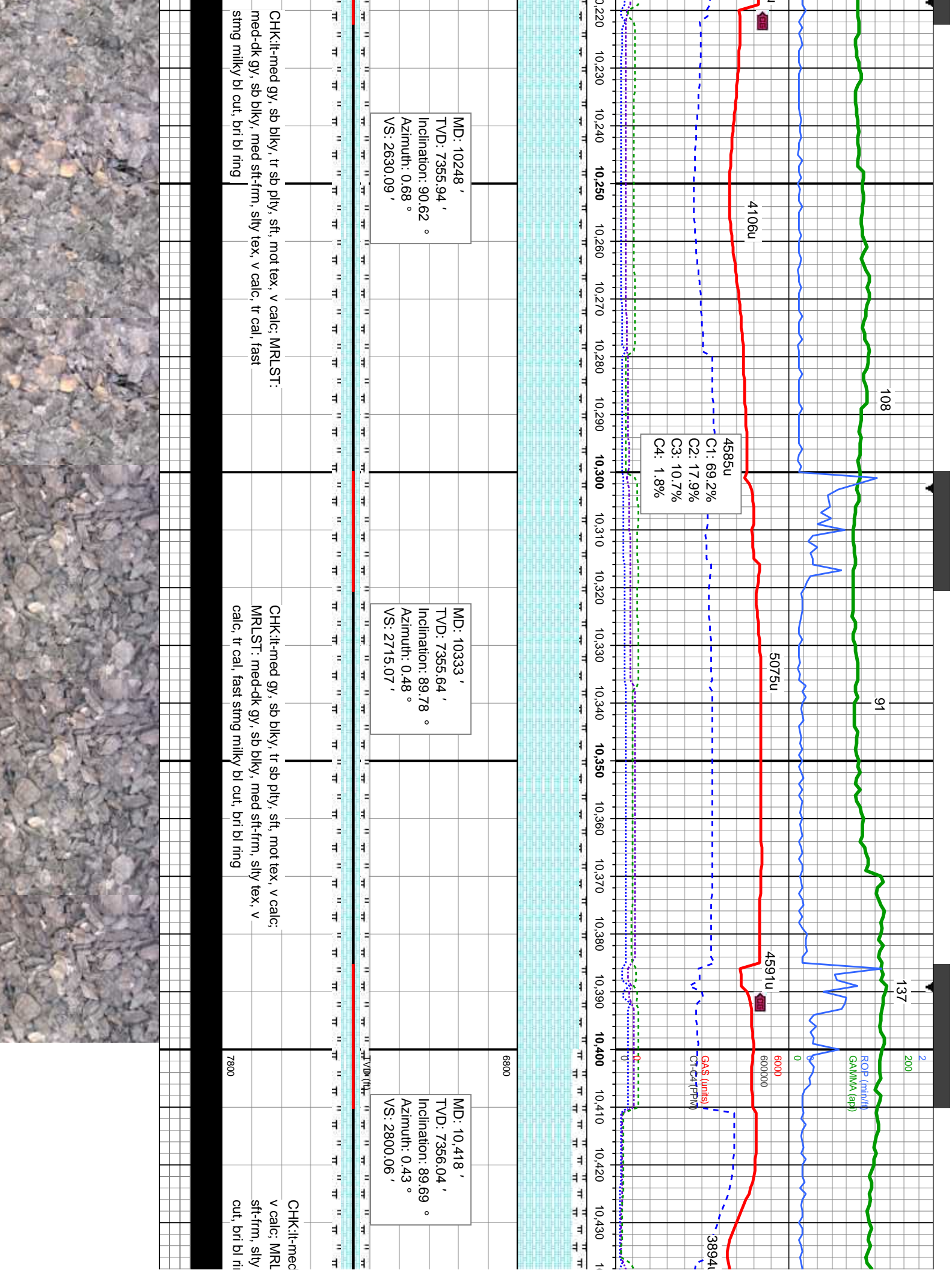
MD: 9992 '
TVD: 7356.02 '
Inclination: 90.0 °
Azimuth: 359.3 °
VS: 2374.10 '

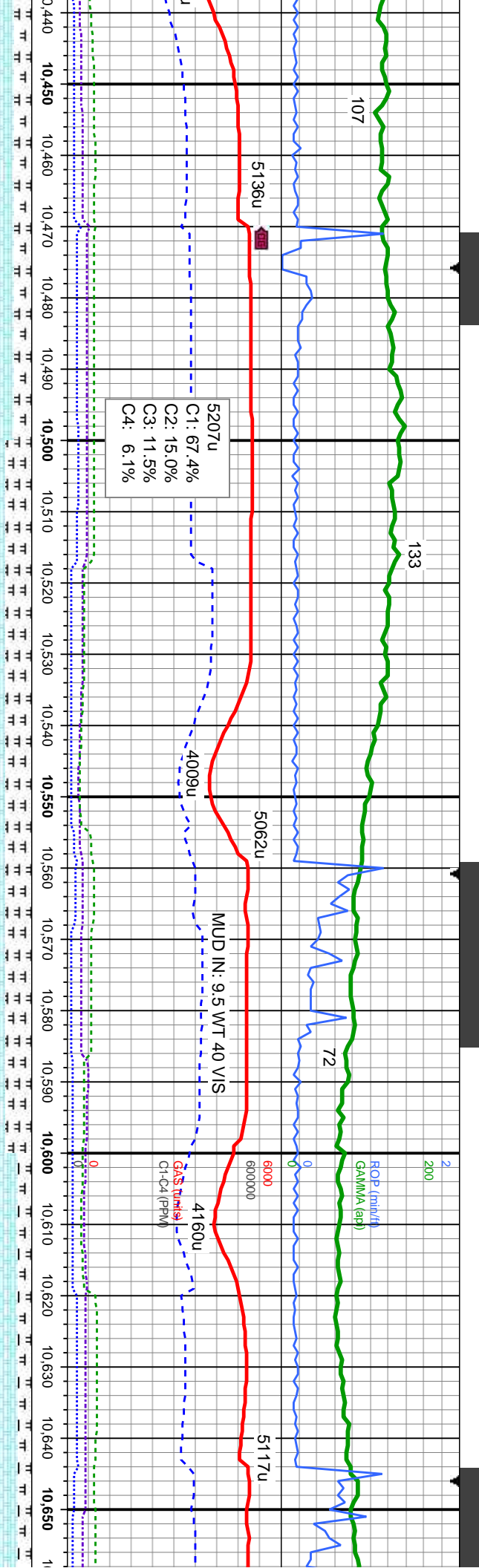
CHK:lt-med gy, sb blk, tr sb pily, sft, mot tex, v calc;
MRLST: med-dk gy, sb blk, med sft-frm, silty tex, v calc,
fast sting milky bl cut, bri bl ring

CHK:lt-med gy, sb blk, tr sb pily, sft, mot tex, v calc; MRLST:
med-dk gy, sb blk, med sft-frm, silty tex, v calc, fast sting
milky bl cut, bri bl ring









5207u
C1: 67.4%
C2: 15.0%
C3: 11.5%
C4: 6.1%

MD: 10,503 '
TVD: 7,355.39 '
Inclination: 90.9 °
Azimuth: 1.19 °
VS: 2885.04 '

MD: 10,589 '
TVD: 7,354.28 '
Inclination: 90.58 °
Azimuth: 359.43 °
VS: 2971.03 '

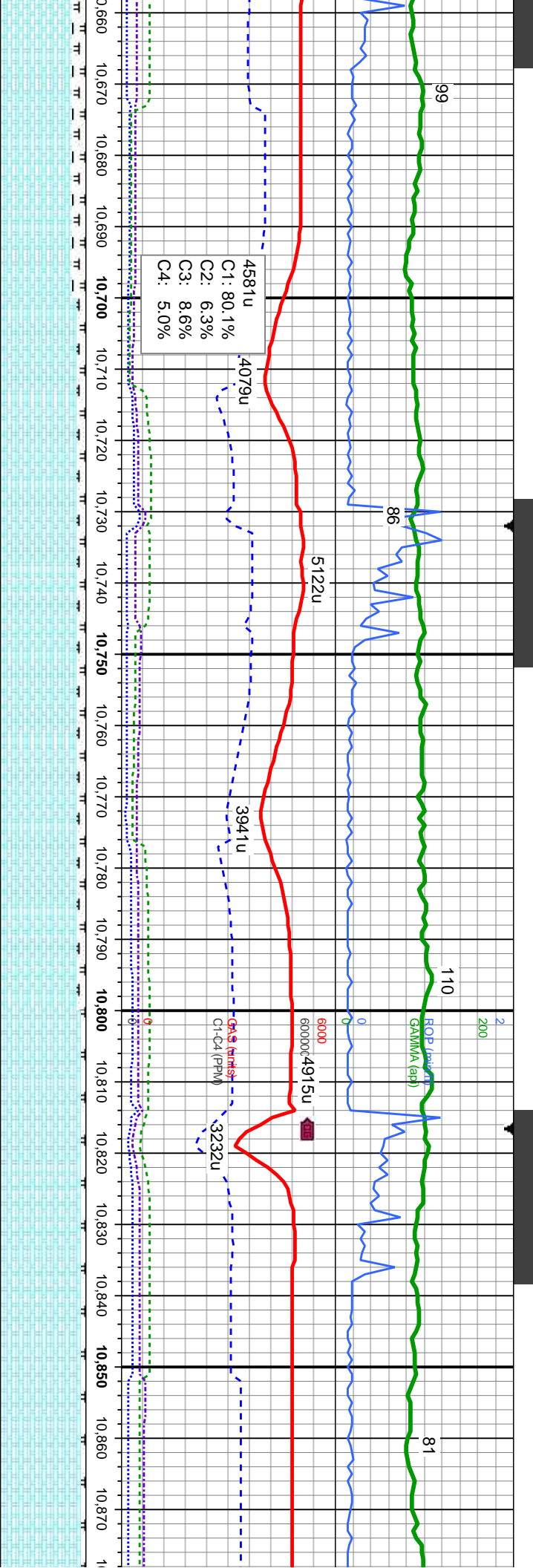
gy, sb blkly, tr sb plty, sft, mot tex,
ST: med-dk gy, sb blkly, med
tex, v calc, tr cal, fast stmg milky bl
g

CHK:it-med gy, sb blkly, tr sb plty, sft,
mot tex, v calc, MRLST: med-dk gy, sb
blkly, med sft-frn, stly tex, v calc, tr cal,
fast stmg milky bl cut, brl bl ring

7800

CHK:it-med gy, sb blkly, tr sb
mot tex, v calc, MRLST: me
blkly, med sft-frn, stly tex, v
stmg milky bl cut, brl bl ring





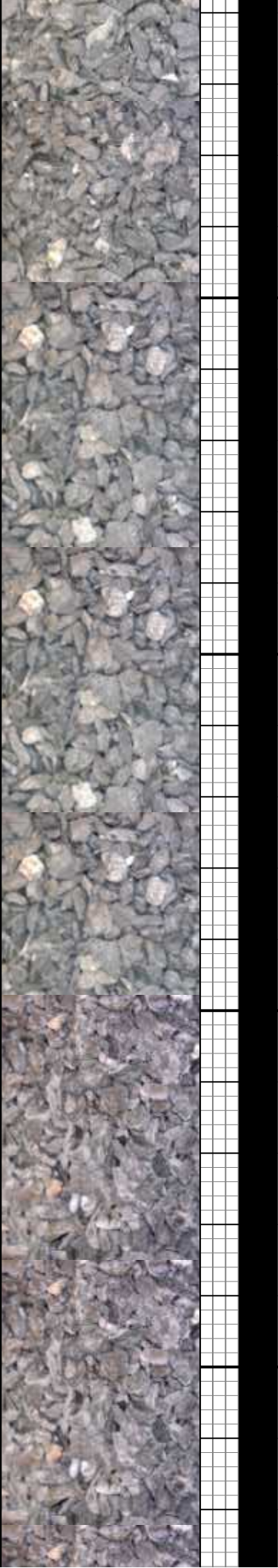
C1: 80.1%
C2: 6.3%
C3: 8.6%
C4: 5.0%

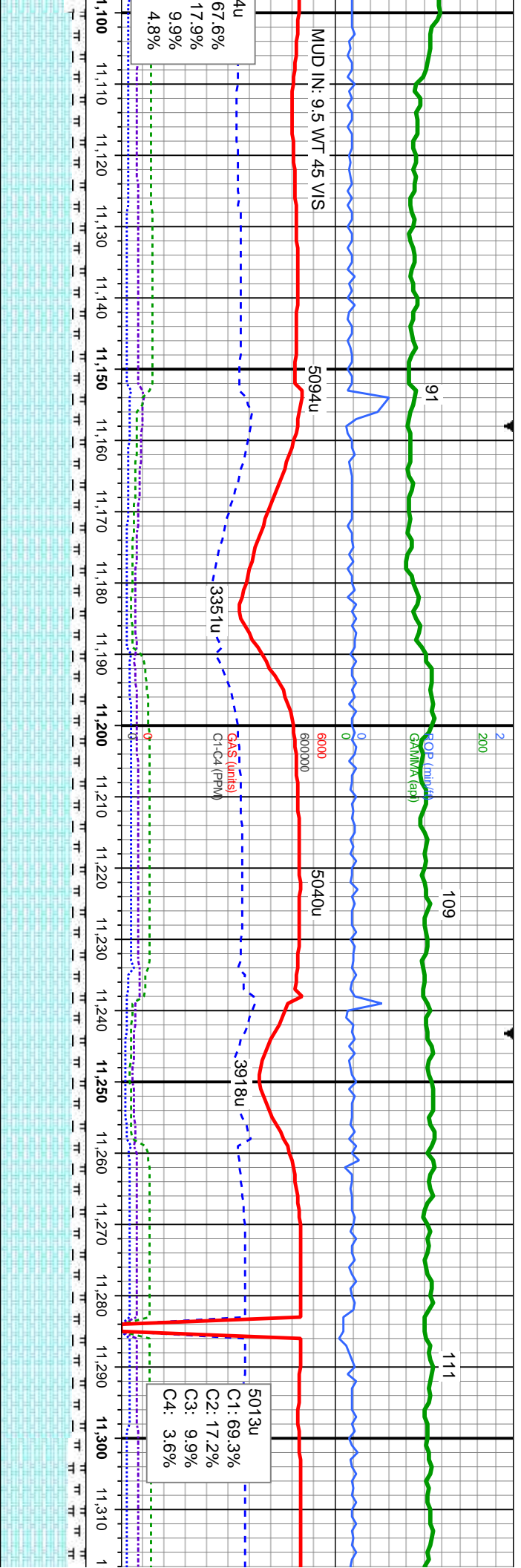
MD: 10,674 '
TVD: 7,353.08 '
Inclination: 91.04 °
Azimuth: 359.03 °
VS: 3056.02 '

MD: 10,759 '
TVD: 7,352.08 '
Inclination: 90.3 °
Azimuth: 358.75 °
VS: 3141.00 '

MD: 10,845 '
TVD: 7,353.07 '
Inclination: 88.67 °
Azimuth: 359.09 °
VS: 3226.99 '

o ply, sft,	CHK:lt-med gy, sb blk, tr sb ply, sft,
o-dk gy, sb	mot tex, v calc, MRLST: med-dk gy, sb
calc, fast	blk, med sft-fm, silty tex, v calc, fast
	stmg milky bl cut, bri bl ring





MD: 11,100 '
TVD: 7,356.1 '
Inclination: 88.32 °
Azimuth: 351.95 '

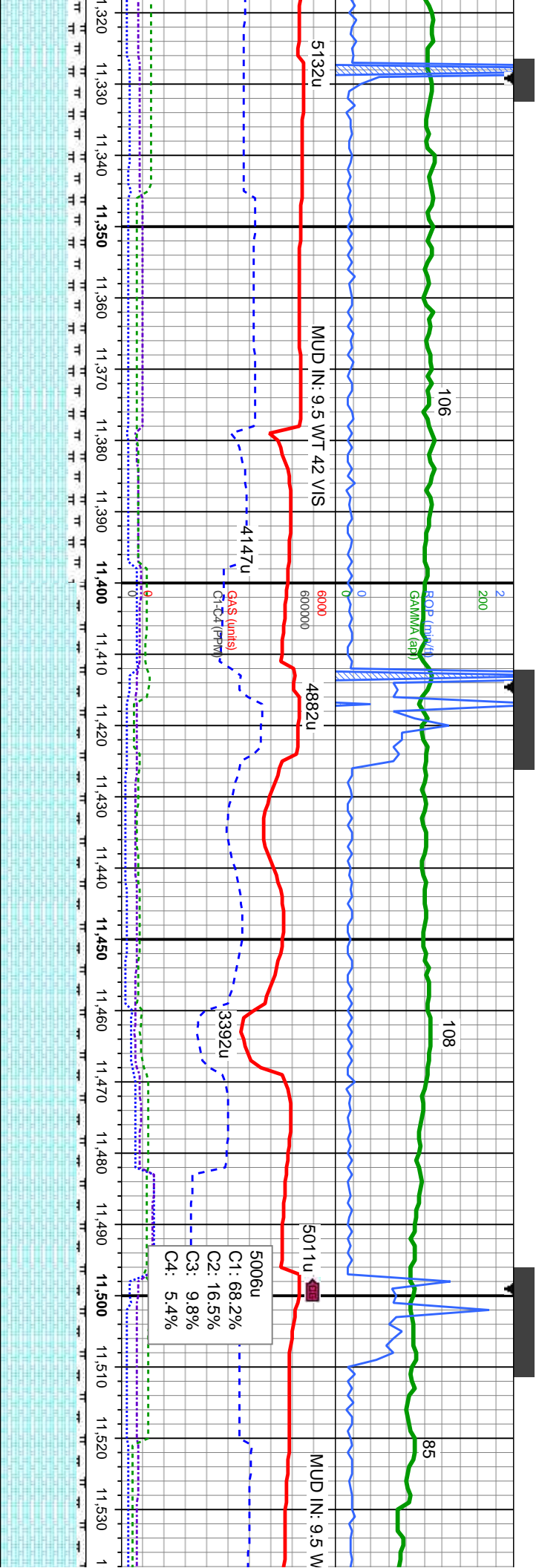
MD: 11,186 '
TVD: 7,358.1 '
Inclination: 88.88 °
Azimuth: 359.89 °
VS: 3567.93 '

MD: 11,271 '
TVD: 7,359.46 '
Inclination: 89.28 °
Azimuth: 359.87 °
VS: 3652.91 '

CHK:lt-med gy, sb blkly, tr sb plty, sft, mot
tex, v calc; MRLST: med-dk gy, sb blkly,
med sft-frm, silty tex, v calc, fast stmg
milky bl cut, bri bl ring

CHK:lt-med gy, sb blkly, tr sb plty, sft,
mot tex, v calc; MRLST: med-dk gy, sb
blkly, med sft-frm, silty tex, v calc, fast
stmg milky bl cut, bri bl ring





MD: 11,356 '
TVD: 7,359.38 '
Inclination: 90.83 °
Azimuth: 359.96 °
VS: 3737.91 '

MD: 11,442 '
TVD: 7,358.26 '
Inclination: 90.67 °
Azimuth: 0.03 °
VS: 3823.90 '

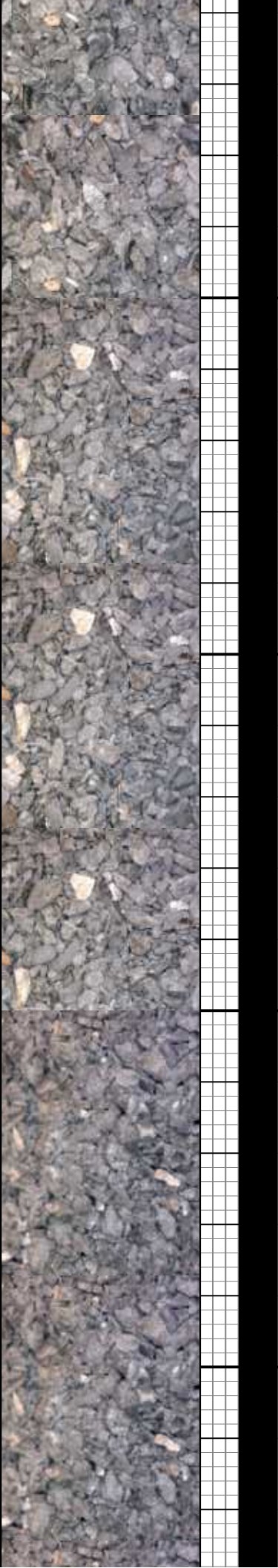
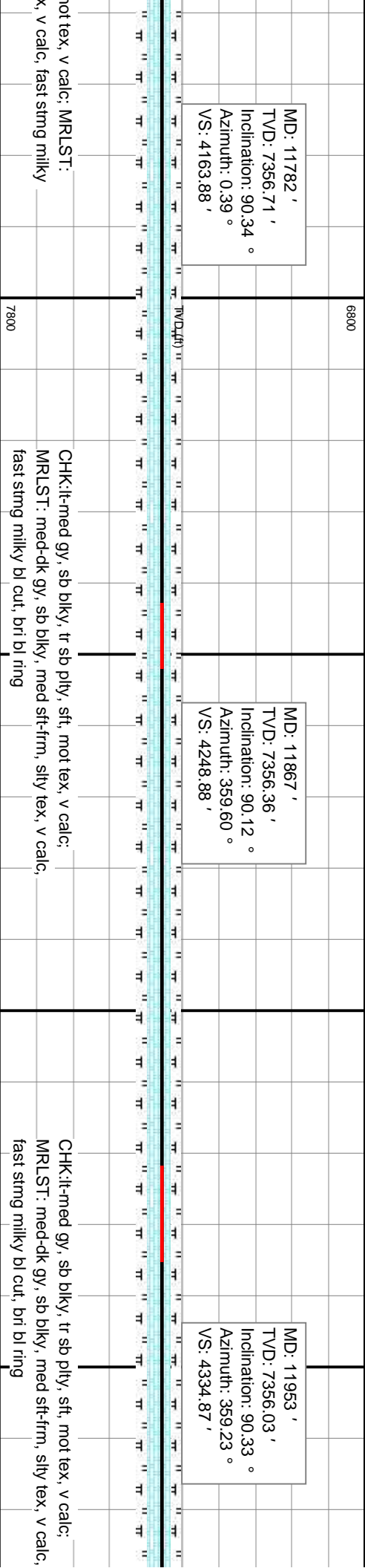
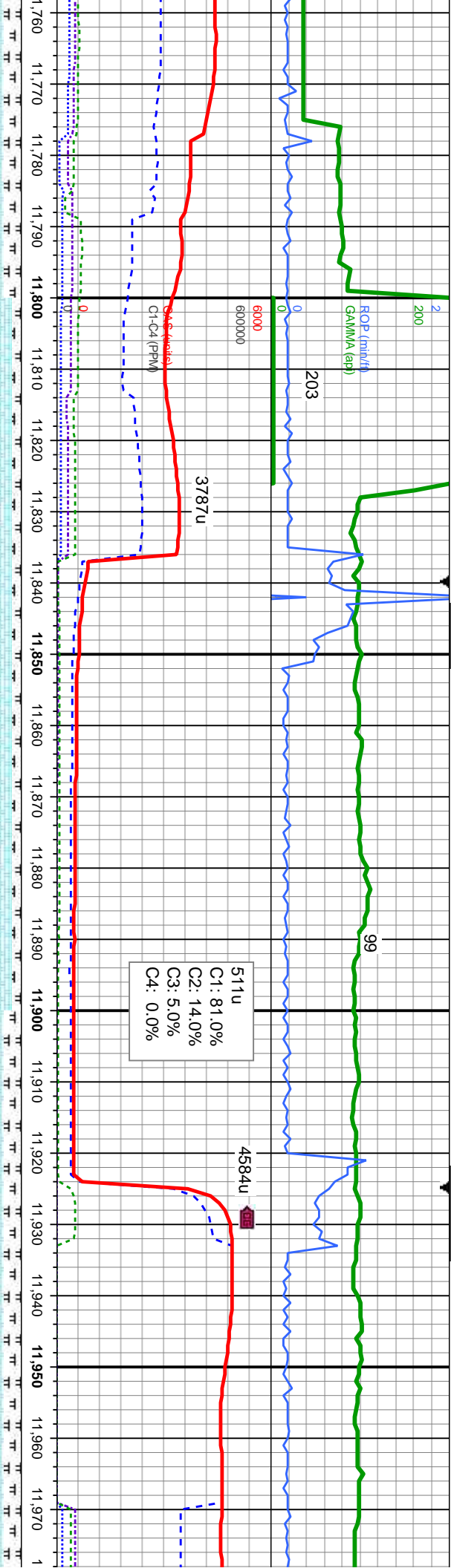
MD: 11,527 '
TVD: 7,357.44 '
Inclination: 90.43 °
Azimuth: 0.36 °
VS: 3908.89 '

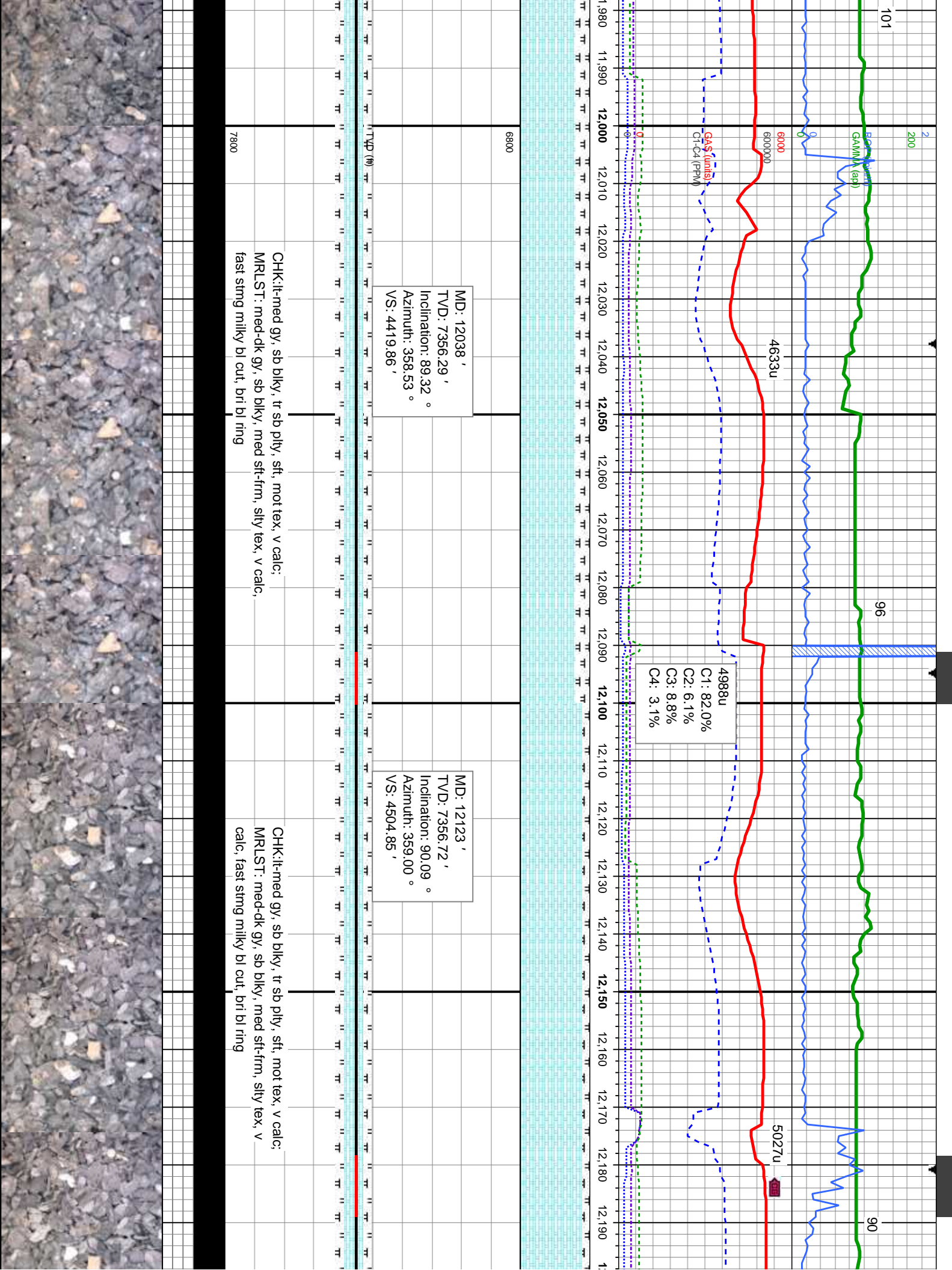
CHK:it-med gy, sb blkly, tr sb plty, sft,
mot tex, v calc; MRLST: med-dk gy, sb
blkly, med sft-frn, stly tex, v calc, fast
stmg milky bl cut, brl bl ring

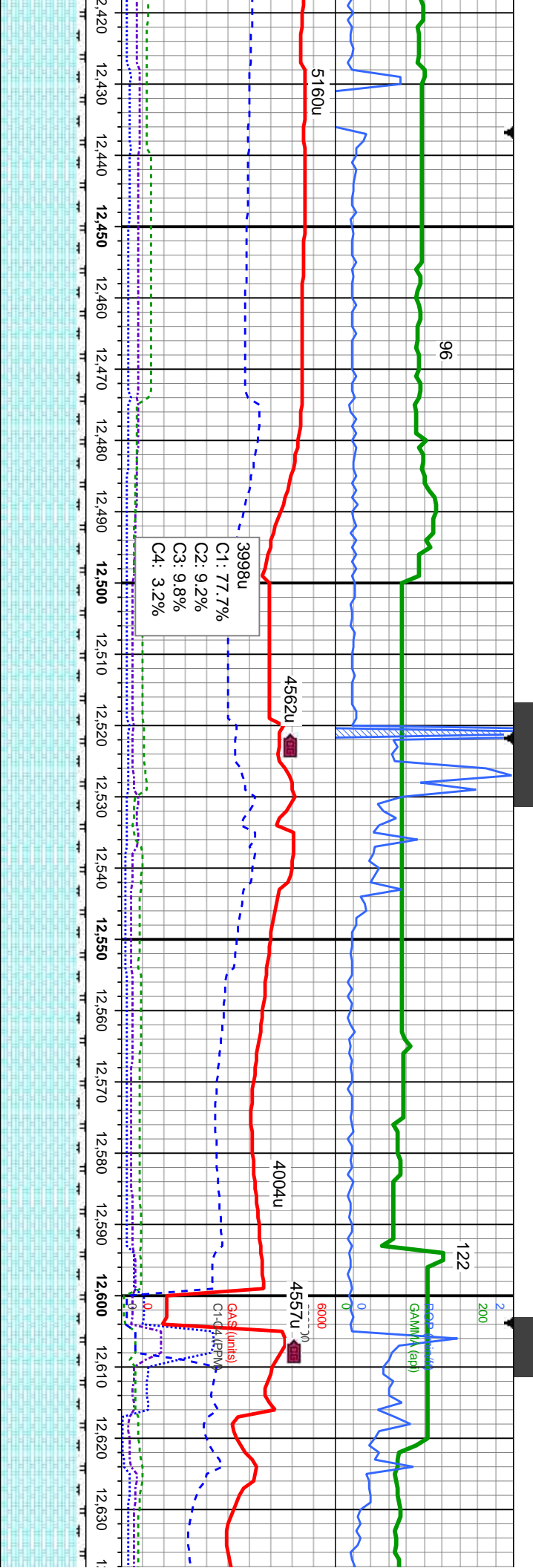
CHK:it-med gy, sb blkly, tr sb plty, sft,
mot tex, v calc; MRLST: med-dk gy, sb
blkly, med sft-frn, stly tex, v calc, fast
stmg milky bl cut, brl bl ring

CHK:it-me
mot tex, v
blkly, med
stmg milky









MD: 12464 '
TVD: 7356.45 '
Inclination: 90.67 °
Azimuth: 0.50 °
VS: 4845.83 '

MD: 12549 '
TVD: 7355.73 '
Inclination: 90.30 °
Azimuth: 0.67 °
VS: 4930.82 '

CHK:lt-med gy, sb blk, tr sb pty, sft, mot tex, v calc;
MRLST: med-dk gy, sb blk, med sft-fm, silty tex, v calc, fast strng milky bl cut, bri bl ring

CHK:lt-med gy, sb blk, tr sb pty, sft, mot tex, v calc;
MRLST: med-dk gy, sb blk, med sft-fm, silty tex, v calc, fast strng milky bl cut, bri bl ring

CHK:lt-med gy, sb blk, tr sb pty, sft, mot tex, v calc;
MRLST: med-dk gy, sb blk, med sft-fm, silty tex, v calc, fast strng milky bl cut, bri bl ring



