



Scale: 5" / 100'
Measured Depth Log

Well Name USA FED 04N-36HZ

Location SECTION 36 T3N R66W

State CO

County WELD

Country US

Rig Number XTREME8

API Number 051233689600

AFE # 2063669

Region WATTENBERG

Field WILDCAT

Spud Date 10/2/2013

Drilling Completed 10/6/2013

Surface Coordinates 761' FSL, 591' FWL

Bottom Hole Coordinates 460' FNL, 515' FWL

Ground Elevation 5024

K.B. Elevation 5041

Logged Interval 6787 To 11808

Total Depth 11808

Formation NIOBRARA C/B

Type of Drilling Fluid FW LSND

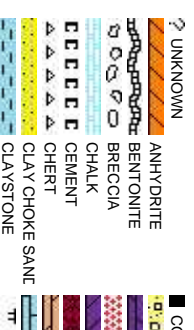
Company Anadarko

Address 1099 18th, Suite

Name Josh Garrett

Company Anadarko

Address 1099 18th, Suite



Operator

1800 Denver, CO 80202

Geologist

1800 Denver, CO 80202

Rock Types

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

Accessories

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

Other Symbols

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

Slide/Rotate

ROP
ROF
GAMMA

Bit Data
Bit #: 2
Type: SMITH
Size: 8.75

Total Gas & Chromatograph

GAS
C1
C2
C3
C4

Columbine Logging Two Man Rigged
Up 1730hrs 10/02/2013 With Bloodhound
Unit # 0650
Logging Began @ 0108hrs 10/03/2013
at 6787 MD

Depth Labels

% Lith

Well Bore
TVD

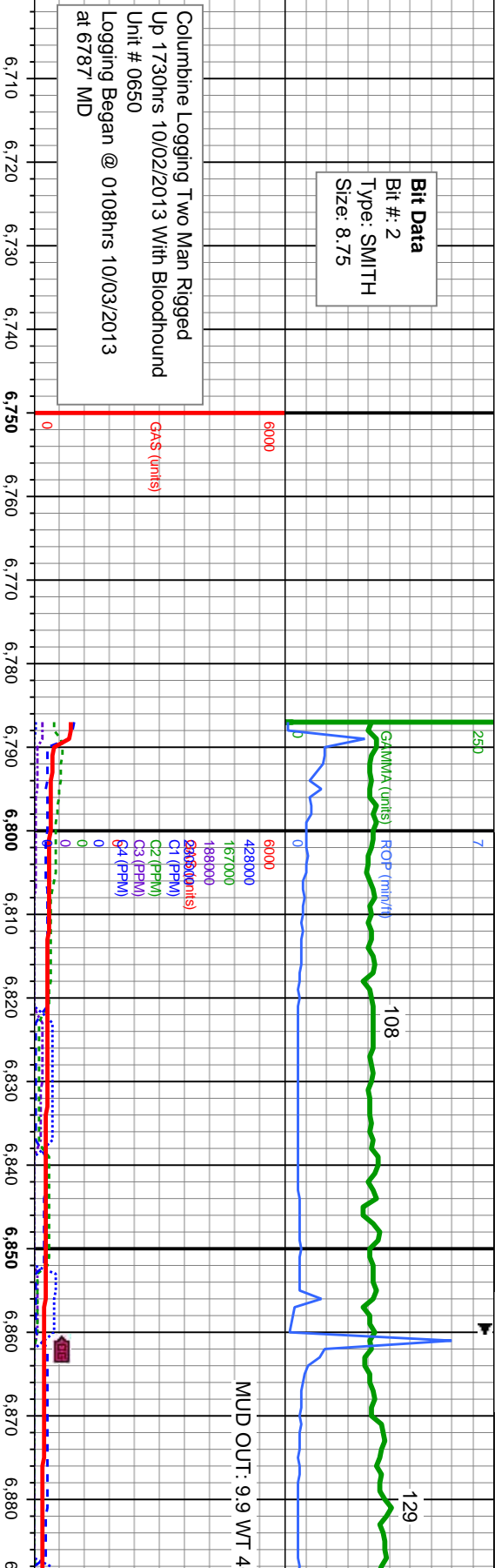
Acetone was used
as the cutting agent
with the dimple filled
to the rim.

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
judgment of brilliance,
color and longevity of the cut.

Oil Show

TR
P
FR
G
E

Images



MD: 6,816
TVD: 6,754.52'
Inclination: 4.63 °
Azimuth: 9.1 °
VS: -715.85'

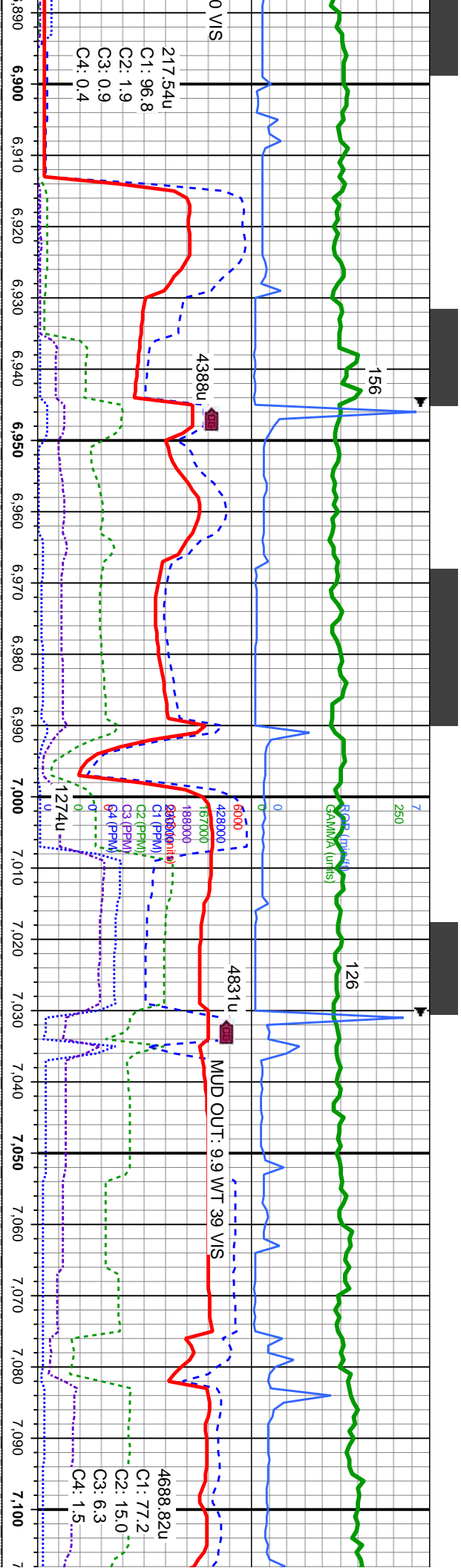
MD: 6,858
TVD: 6,796.14'
Inclination: 10.47 °
Azimuth: 6.02 °
VS: -710.37'

SLTY SH: dk-med gy-gy brn, sb
pily-sb blkly, med sft-frn, mod fri-sl
brt, v sl calc, v slty; cloudy bl cut, dull
gn yel flor res, v fnt tan vis light ring

SLTY SH: dk-med gy-gy brn, sb
pily-sb blkly, med sft-frn, mod fri-sl
brt, v sl calc, v slty; cloudy bl cut, dull
gn yel flor res, v fnt tan vis light ring

SLTY SH: dk-med gy-gy brn, sb
pily-sb blkly, med sft-frn, mod fr
brt, v sl calc, v slty; cloudy bl cu
gn yel flor res, v fnt tan vis light





MD: 6,901 ' TVD: 6,838.01 ' Inclination: 15.76 ° Azimuth: 6.72 ° VS: -700.68 ' 6500	MD: 6,944 ' TVD: 6,878.98 ' Inclination: 19.46 ° Azimuth: 4.9 ° VS: -687.73 ' 6500	MD: 6,986 ' TVD: 6,918.2 ' Inclination: 22.48 ° Azimuth: 1.52 ° VS: -672.73 ' 6500	MD: 7,029 ' TVD: 6,957.42 ' Inclination: 25.87 ° Azimuth: 1.56 ° VS: -655.12 ' 6500	MD: 7,072 ' TVD: 6,996.55 ' Inclination: 28.56 ° Azimuth: 0.03 ° VS: -635.46 ' 6500
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SLTY SH: dk-med gy-gy brn, sb pily-sb bily, med sft-firm, mod fri-sl brit, v sl calc, v silty; cloudy bl cut, dull gn yel flor res, v frnt tan vis light ring	SLTY SH: dk-med gy-gy brn, sb pily-sb bily, med sft-firm, mod fri-sl brit, v sl calc, v silty; cloudy bl cut, dull gn yel flor res, v frnt tan vis light ring	SLTY SH: dk-med gy-gy brn, sb pily-sb bily, med sft-firm, mod fri-sl brit, v sl calc, v silty; cloudy bl cut, dull gn yel flor res, v frnt tan vis light ring	SLTY SH: dk-med gy-gy brn, sb pily-sb bily, med sft-firm, mod fri-sl brit, v sl calc, v silty; cloudy bl cut, dull gn yel flor res, v frnt tan vis light ring	SLTY SH: dk-med gy-gy brn, sb pily-sb bily, med sft-firm, mod fri-sl brit, v sl calc, v silty; cloudy bl cut, dull gn yel flor res, v frnt tan vis light ring
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10/04-10/05

Bit Data

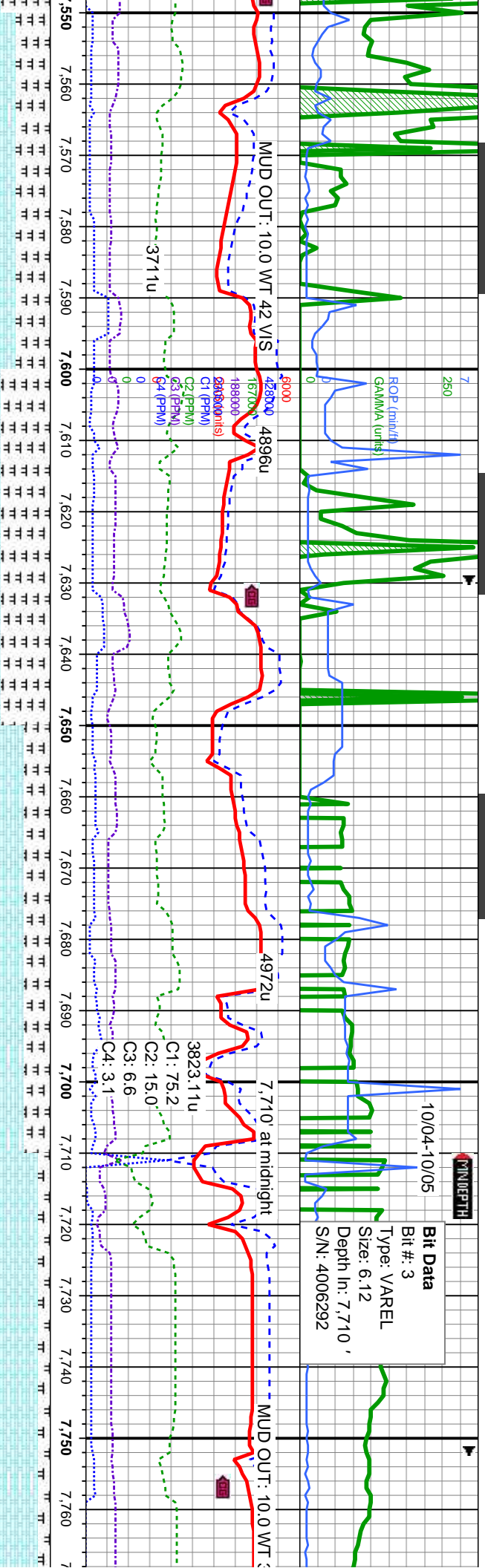
Bit #: 3

Type: VAREL

Size: 6.12

Depth In: 7.710 '

S/N: 4006292



Niobrara C
7.595' MD
7.287' TVD

Curve Landing
7710' MD
7.300' TVD
Began drilling Lateral
@1332hrs 10/5/2013

MD: 7.583'
TVD: 7.284.8'
Inclination: 79.03 °
Azimuth: 1.93 °
VS: -233.65'

MD: 7.662'
TVD: 7.296.08'
Inclination: 84.76 °
Azimuth: 1.71 °
VS: -155.52'

MD: 7.710'
TVD: 7.300.46'
Inclination: 84.76 °
Azimuth: 1.71 °
VS: 107.74'

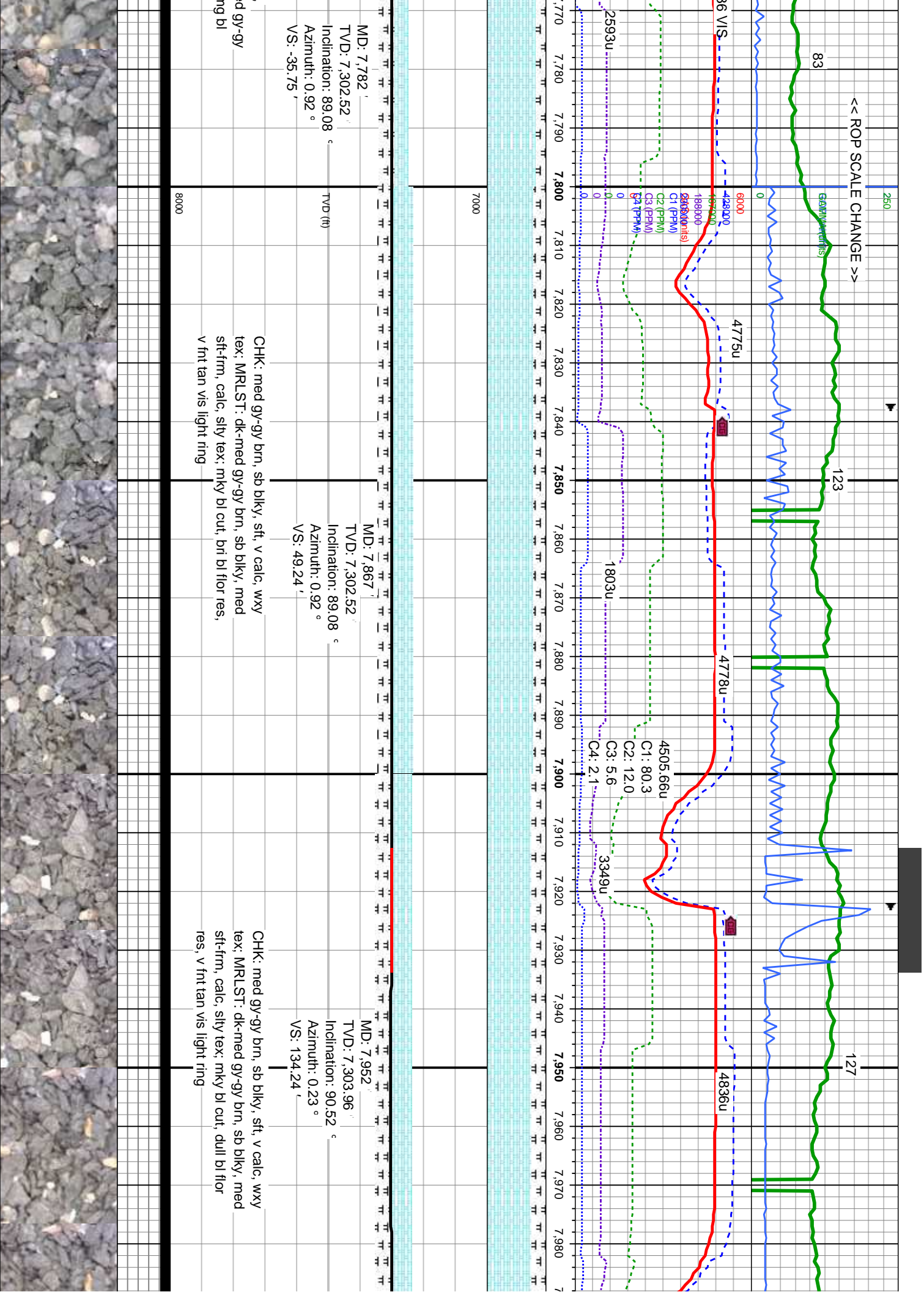
MRLST: dk-med gy-gy brn, sb blk, med
sft-fm, calc, silty tex; CHK: lt gy-med gy brn,
sly sb blk, sft, v calc, wxy-rthy tex; cloudy bl cut,
bri bl flor res, v frt tan vis light ring

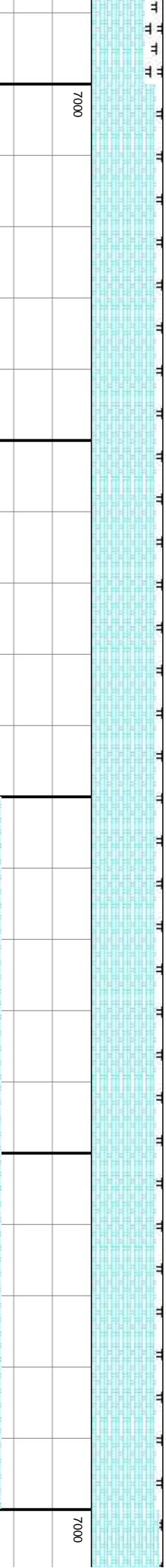
MRLST: dk-med gy-gy brn, sb blk, med
sft-fm, calc, silty tex; CHK: med gy-gy brn,
sly sb blk, sft, v calc, wxy-mot tex; cloudy bl
cut, bri bl flor res, v frt tan vis light ring

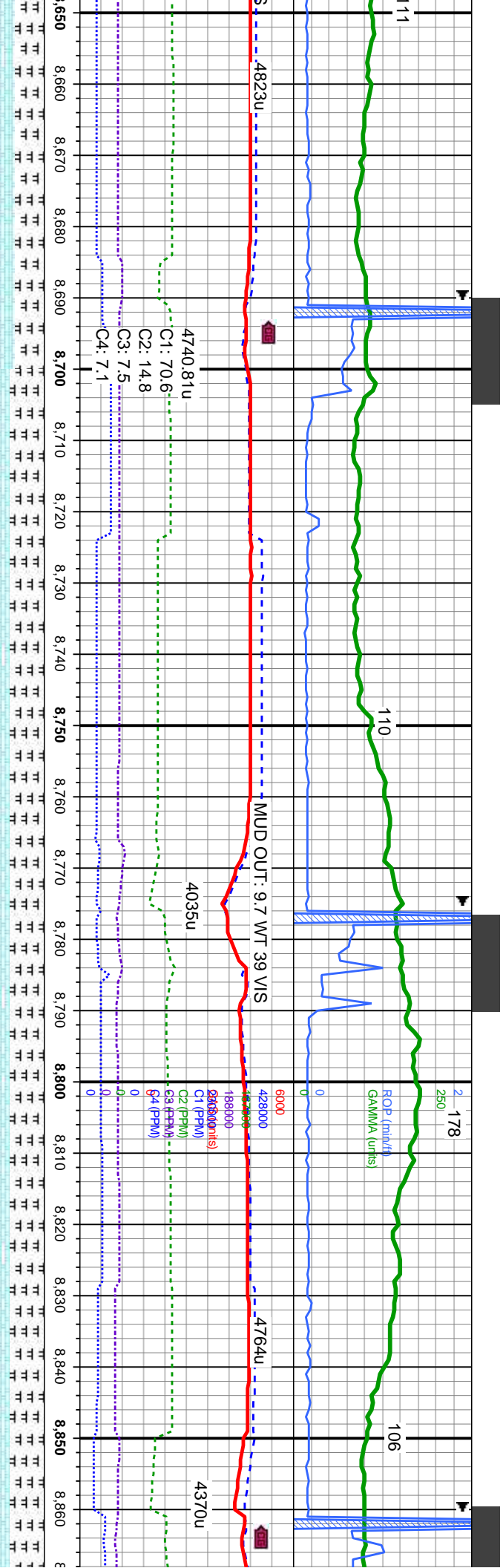
CHK: med gy-gy brn, sb blk, sft, v calc,
wxy-mot tex; MRLST: dk-med gy-gy brn, occ
blk, sb blk, med sft-fm, calc, silty tex; cloudy
bl cut, bri bl flor res, v frt tan vis light ring

CHK: med-lt gy-gy brn, sb blk, sft, v calc
wxy-mot tex, occ calc incl; MRLST: dk-me
brn, sb blk, med sft-fm, calc, silty tex; str
cut, bri bl flor res, v frt tan vis light ring









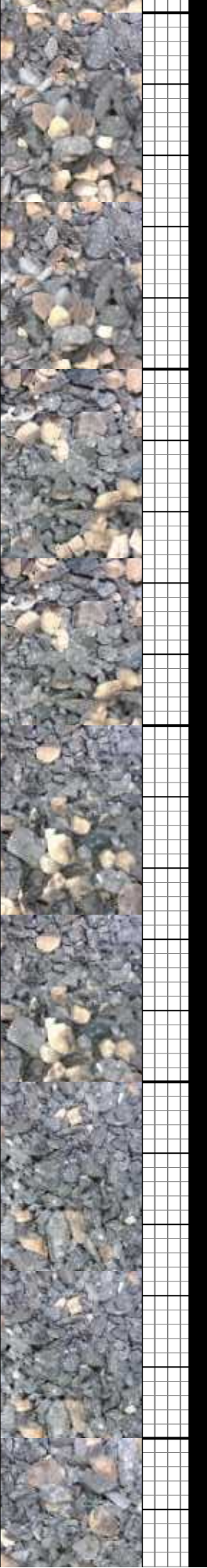
MD: 8,719
TVD: 7,293.46
Inclination: 90.12 °
Azimuth: 0.93 °
VS: 901.04

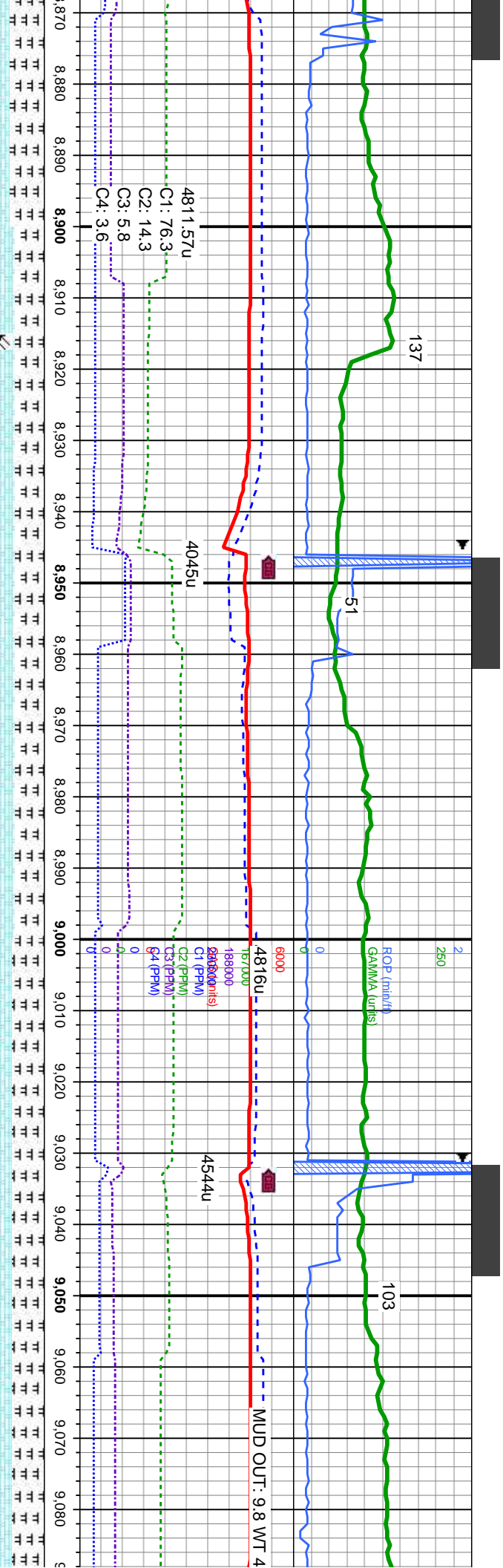
MD: 8,804
TVD: 7,293.41
Inclination: 89.94 °
Azimuth: 1.22 °
VS: 986.03

blk, sft, v calc, rthy tex;
gy brn, sb blk, med
occ calc incl; mky bl
lt yel vis light ring

CHK: med gy brn, sb blk, sft, v calc, rthy
tex: MRLST: dk-med gy-gy brn, sb blk, med
sft-fm, calc, silty tex, occ calc incl; mky bl
cut, bri bl gn flor res, lt yel vis light ring

CHK: med gy brn, sb blk, sft, v calc, rthy
MRLST: dk-med gy-gy brn, sb blk, med
sft-fm, calc, silty tex, occ calc incl; mky b
bri bl gn flor res, lt yel vis light ring





MD: 8,889'
TVD: 7,293.16'
Inclination: 90.4°
Azimuth: 1.38°
VS: 1,071.02'

Fault @ 8,917'
15' downthrow

CHK: med gy brn, sb blk, sft, v calc, rthy
tex: MRLST: dk-med gy-gy brn, sb blk, med
sft-fm, calc, silty tex, occ calc incl: mky bl
cut, dull bl gn flr res, lt yel vis light ring

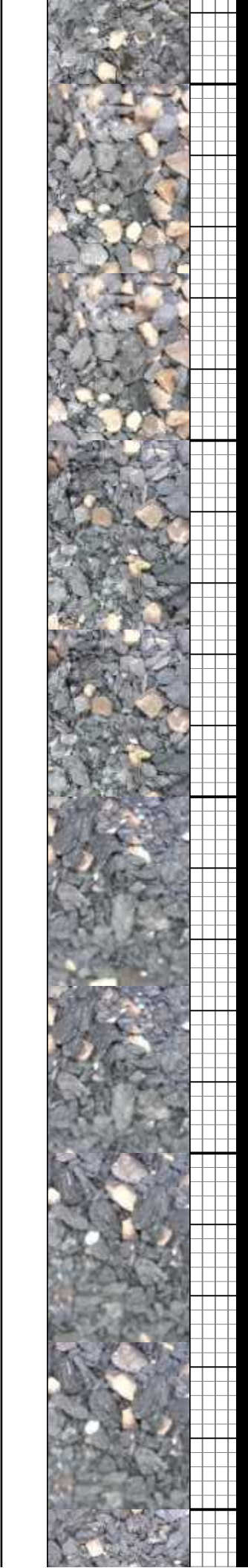
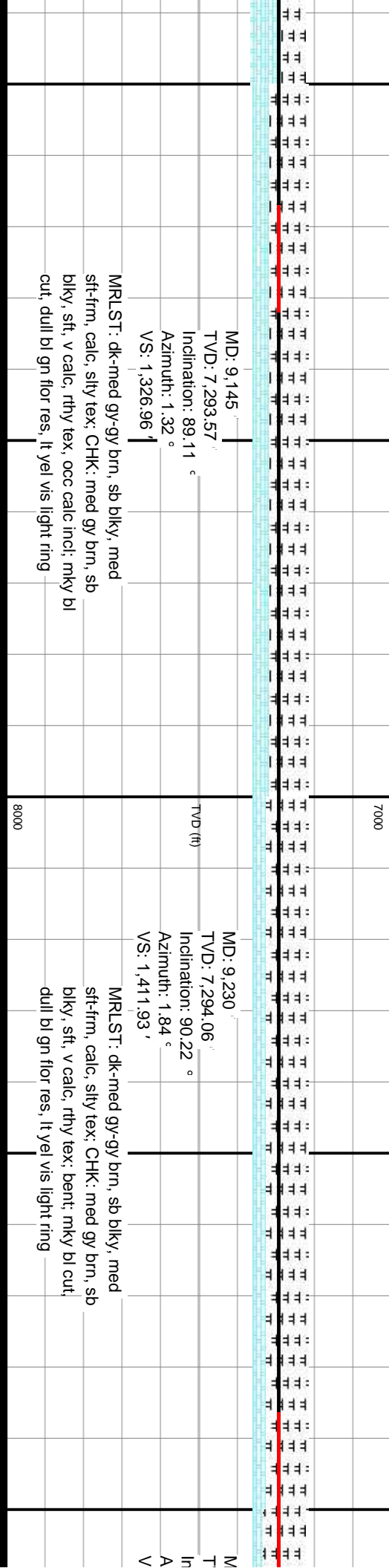
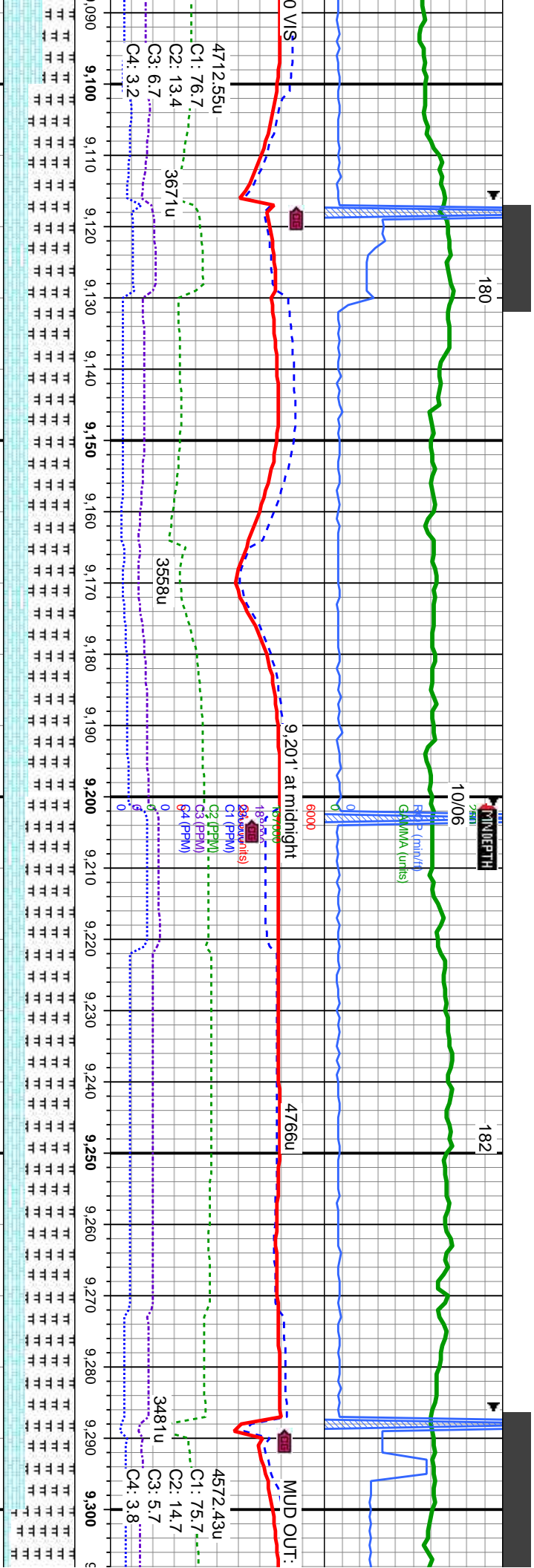
MD: 8,975'
TVD: 7,292.93'
Inclination: 89.91°
Azimuth: 1.18°
VS: 1,157'

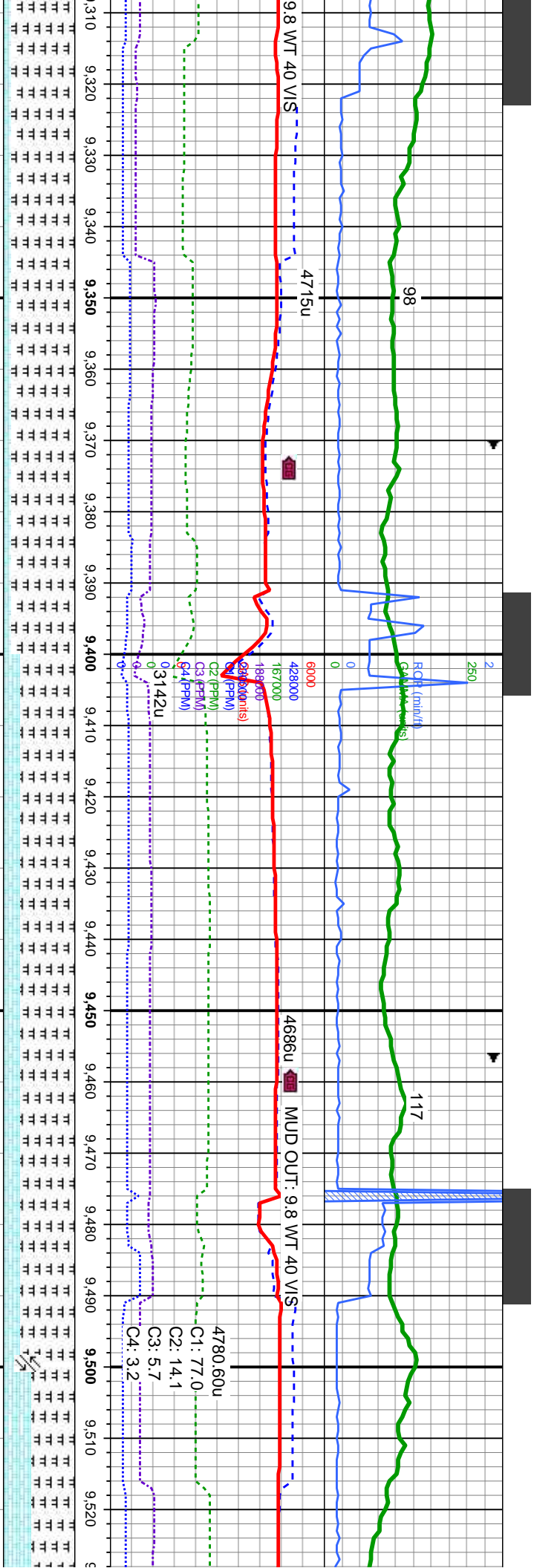
TVD (ft)
8000

CHK: med gy brn, sb blk, sft, v calc, rthy
tex, occ calc incl: MRLST: dk-med gy-gy
brn, sb blk, med sft-fm, calc, silty tex: mky
bl cut, dull bl gn flr res, lt yel vis light ring

MD: 9,060'
TVD: 7,292.95'
Inclination: 90.06°
Azimuth: 1.73°
VS: 1,241.98'







D: 9,315' TVD: 7,293.69' Inclination: 90.28° Azimuth: 0.97° VS: 1,496.91'

MD: 9,401' TVD: 7,293.04' Inclination: 90.59° Azimuth: 0.75° VS: 1,582.91'

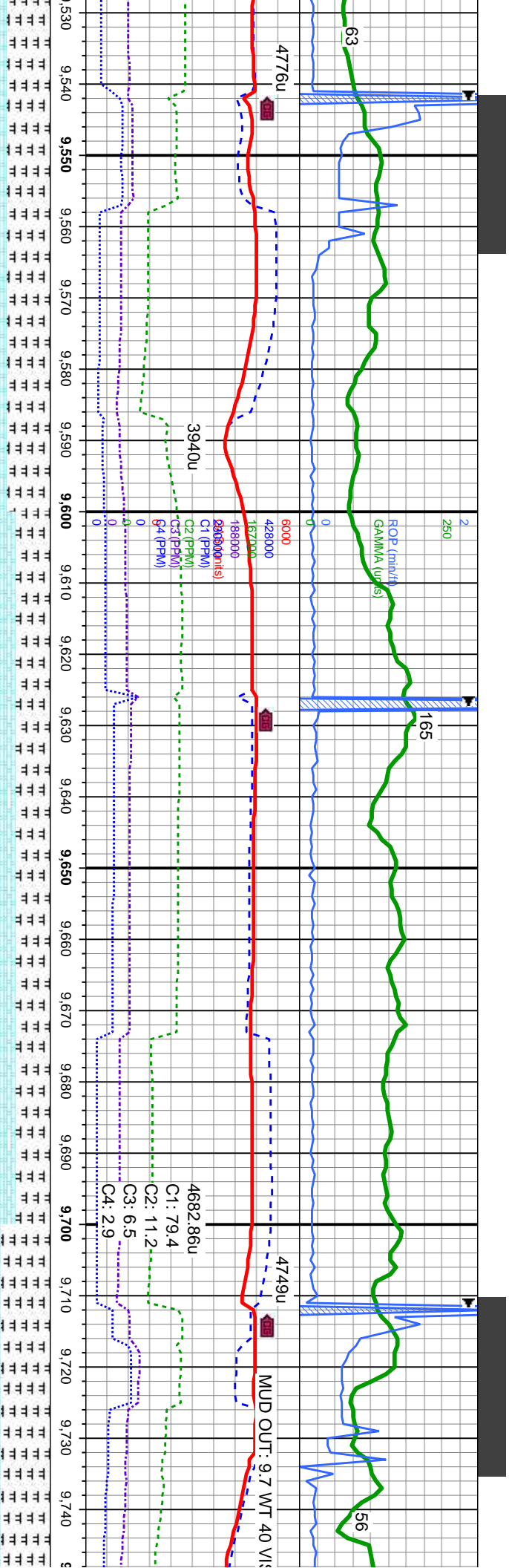
MD: 9,486' TVD: 7,292.35' Inclination: 90.34° Azimuth: 359.33° VS: 1,667.90'

MRLST: dk-med gy-gy brn, sb blk, med
stf-fm, calc, stly tex; CHK: med gy brn, sb
blk, stf, v calc, rthy tex; bent: mky bl cut,
dull bl gn flr res, lt yel vis light ring

MRLST: dk-med gy-gy brn, sb blk, med
stf-fm, calc, stly tex; CHK: med gy brn, sb
blk, stf, v calc, rthy tex; tr bent: mky bl cut,
dull bl gn flr res, lt yel vis light ring



Fault @ 9,499'
90' downthrow



MD: 9,571
TVD: 7,292.37
Inclination: 89.63 °
Azimuth: 359.78 °
VS: 1752.89 '

MRSLT: dk-med gy-gy brn, sb blk, med
sft-frn, calc, silty tex: CHK: med gy brn,
sb blk, sft, v calc, rthy tex: mky bl cut, bri
bl flor res, lt yel vis light ring

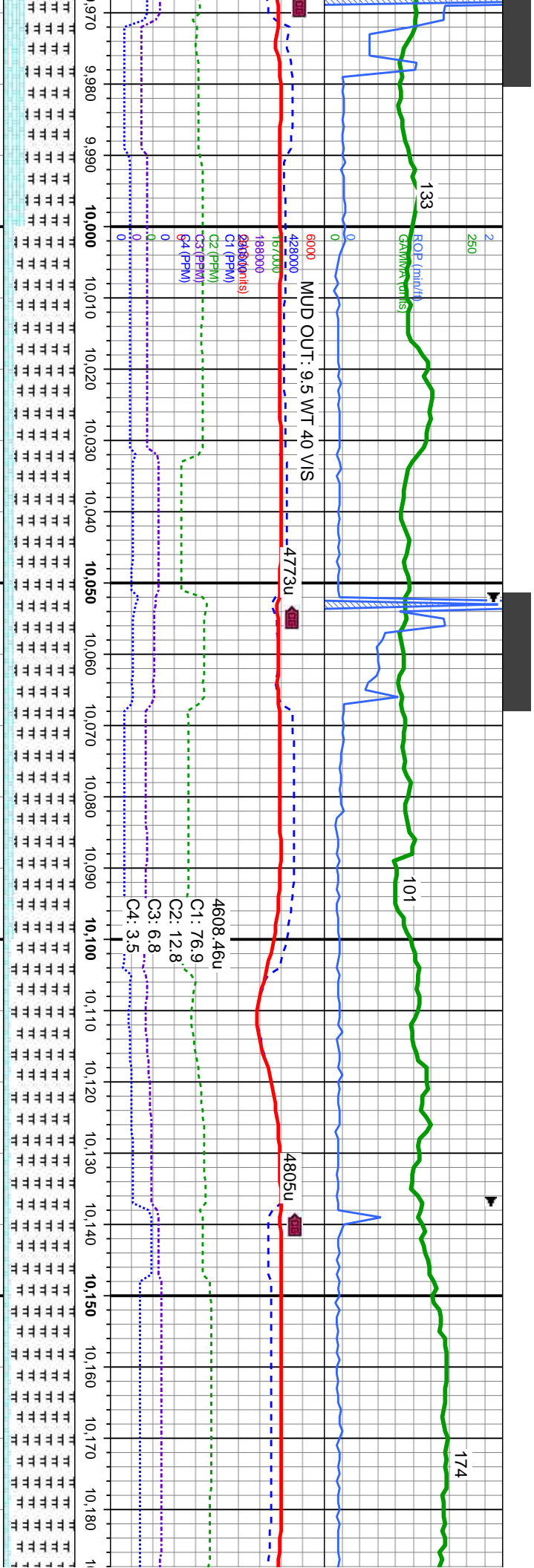
MD: 9,656
TVD: 7,292.67
Inclination: 89.97 °
Azimuth: 359.93 °
VS: 1837.89 '

MRSLT: dk-med gy-gy brn, sb blk,
med sft-frn, calc, silty tex: CHK: med gy
brn, sb blk, sft, v calc, rthy tex: mky bl
cut, bri bl flor res, lt yel vis light ring

MD: 9,741
TVD: 7,293.22
Inclination: 89.2 °
Azimuth: 359.4
VS: 1922.88 '

MRSLT: dk-med g
med sft-frn, calc, :
brn, sb blk, sft, v
cut, bri bl flor res,





MD: 9,997
TVD: 7,294.17
Inclination: 89.85 °
Azimuth: 359.33 °
VS: 2178.85 '

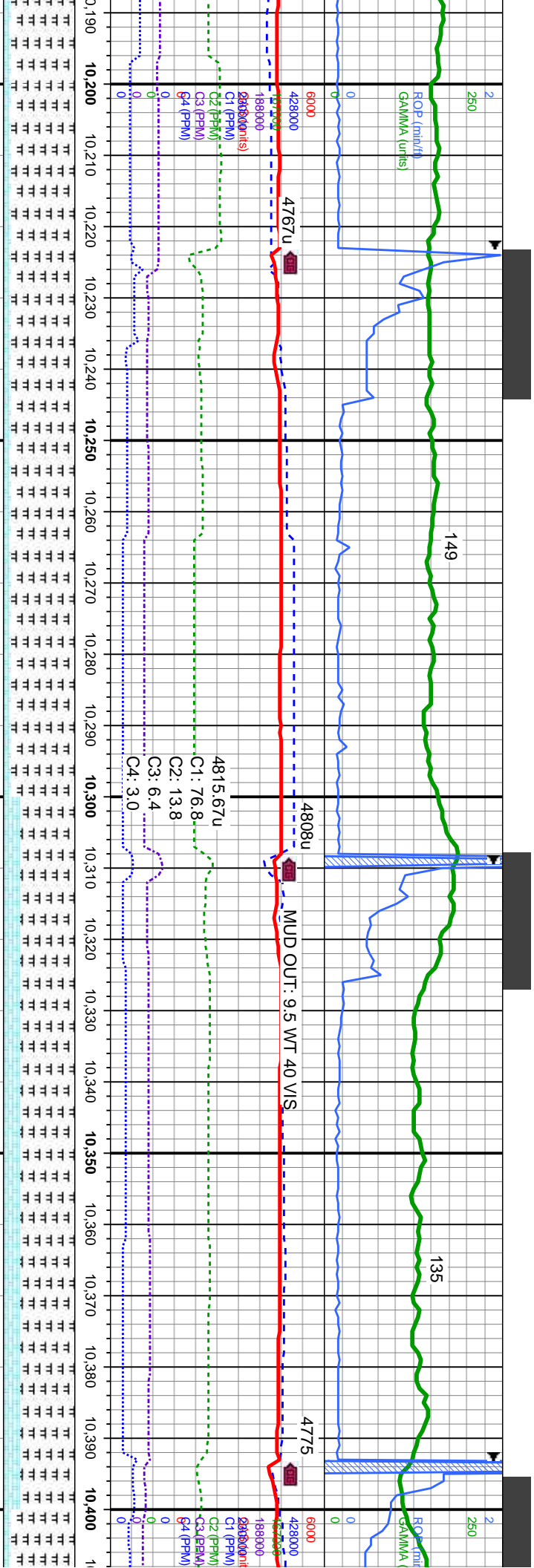
MRLST: dk-med gy-gy brn, sb blk, med
sft-fm, calc, silty tex; CHK: med gy brn,
sb blk, sft, v calc, rthy tex; mky bl cut, bri
bl gn flr res, lt yel vis light ring

MD: 10,082
TVD: 7,294.92
Inclination: 89.14 °
Azimuth: 358.54 °
VS: 2263.83 '

MRLST: dk-med gy-gy brn, sb blk, med
sft-fm, calc, silty tex; CHK: med gy brn,
sb blk, sft, v calc, rthy tex, tr bent; slng
bl cut, bri bl gn flr res, lt yel vis light ring

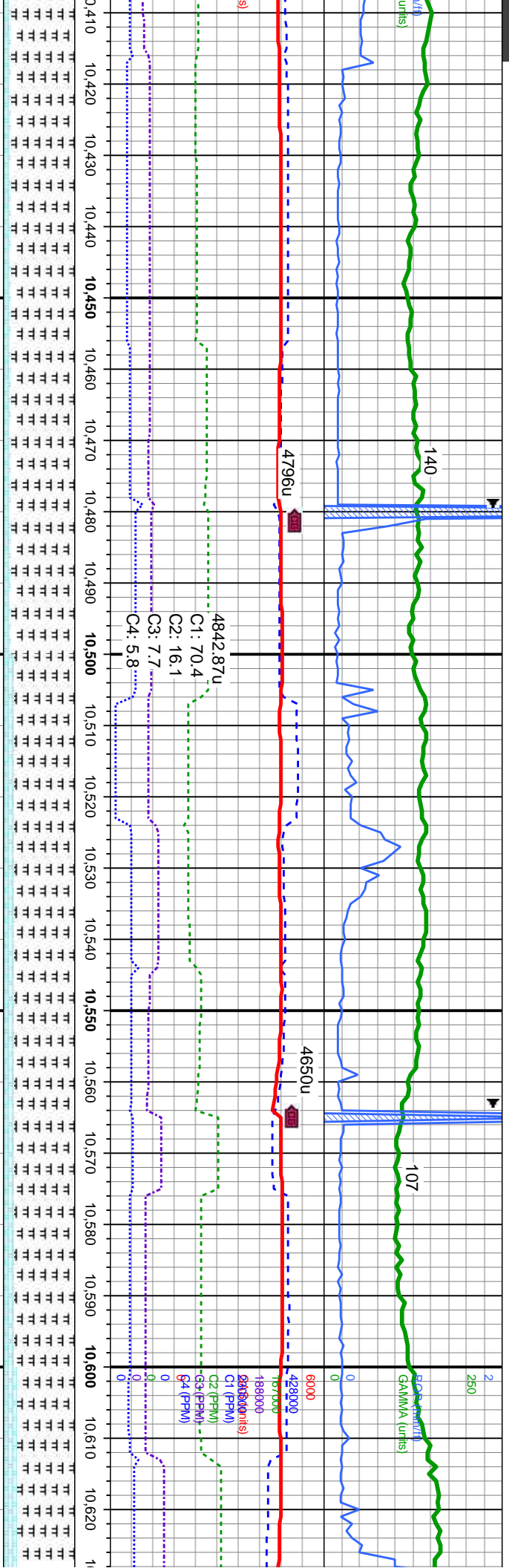
MD: 10,167
TVD: 7,296.1
Inclination: 89.26 °
Azimuth: 358.41 °
VS: 2348.78 '





7000	MD: 10,253 TVD: 7,297.26 Inclination: 89.2 ° Azimuth: 359.07 ° VS: 2434.74 '	MRLST: dk-med gy-gy brn, sb blk, med sft-fm, calc, silty tex; CHK: med gy brn, sb blk, sft, v calc, rthy tex, tr bent; sting bl cut, bri bl gn floor res, lt yel vis light ring
7000	MD: 10,338 TVD: 7,298.53 Inclination: 89.08 ° Azimuth: 359.65 ° VS: 2519.72 '	MRLST: dk-med gy-gy brn, sb blk, med sft-fm, calc, silty tex; CHK: med gy brn, sb blk, sft, v calc, rthy tex, tr bent; sting bl cut, bri bl gn floor res, lt yel vis light ring
8000		





MD: 10,423
TVD: 7,299.65'
Inclination: 89.41 °
Azimuth: 1.41 °
VS: 2604.71'

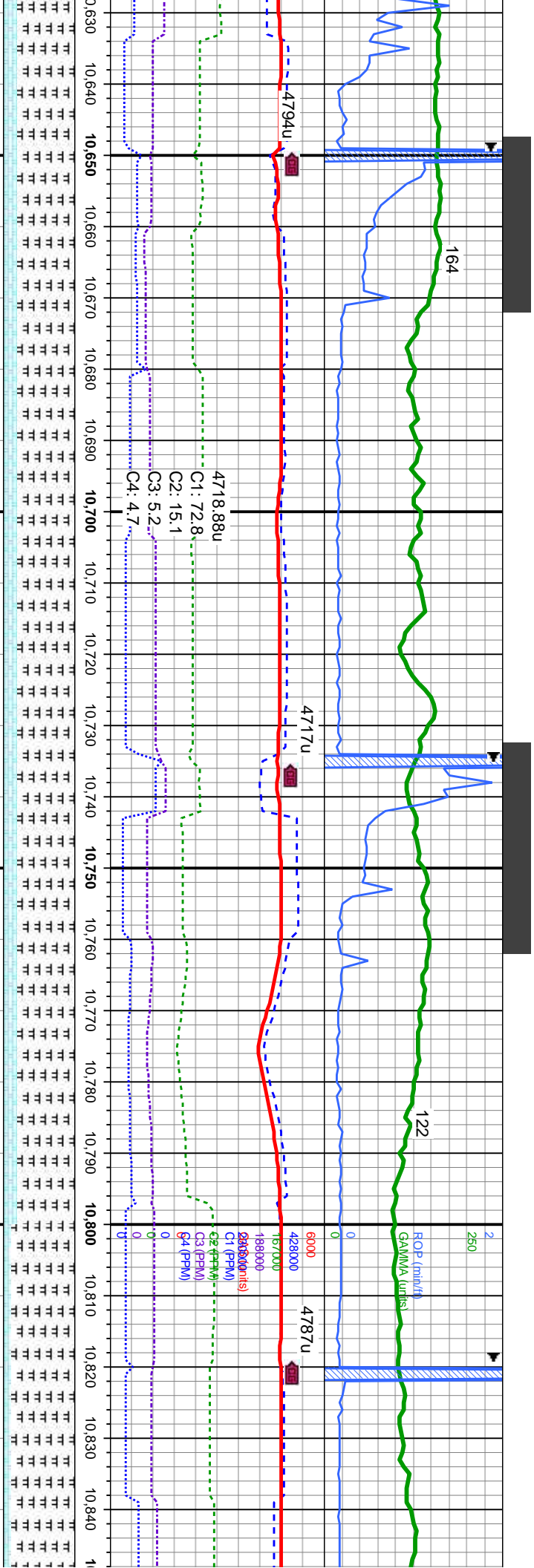
MD: 10,508
TVD: 7,300.5'
Inclination: 89.45 °
Azimuth: 0.7 °
VS: 2689.70'

MD: 10,593
TVD: 7,301.16'
Inclination: 89.66 °
Azimuth: 0.23 °
VS: 2774.69'

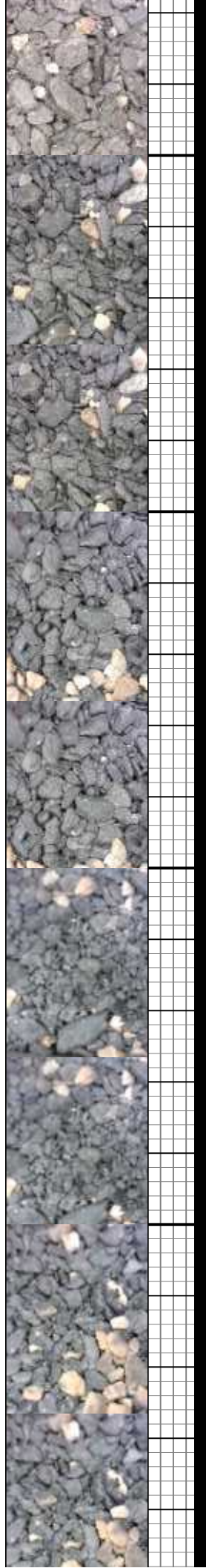
MRLST: dk-med gy-gy brn, sb blk, med
sft-frm, calc, silty tex; CHK: med gy brn, sb
blk, sft, v calc, rthy tex, bent; sting bl cut,
bri bl gn flr res, lt yel vis light ring

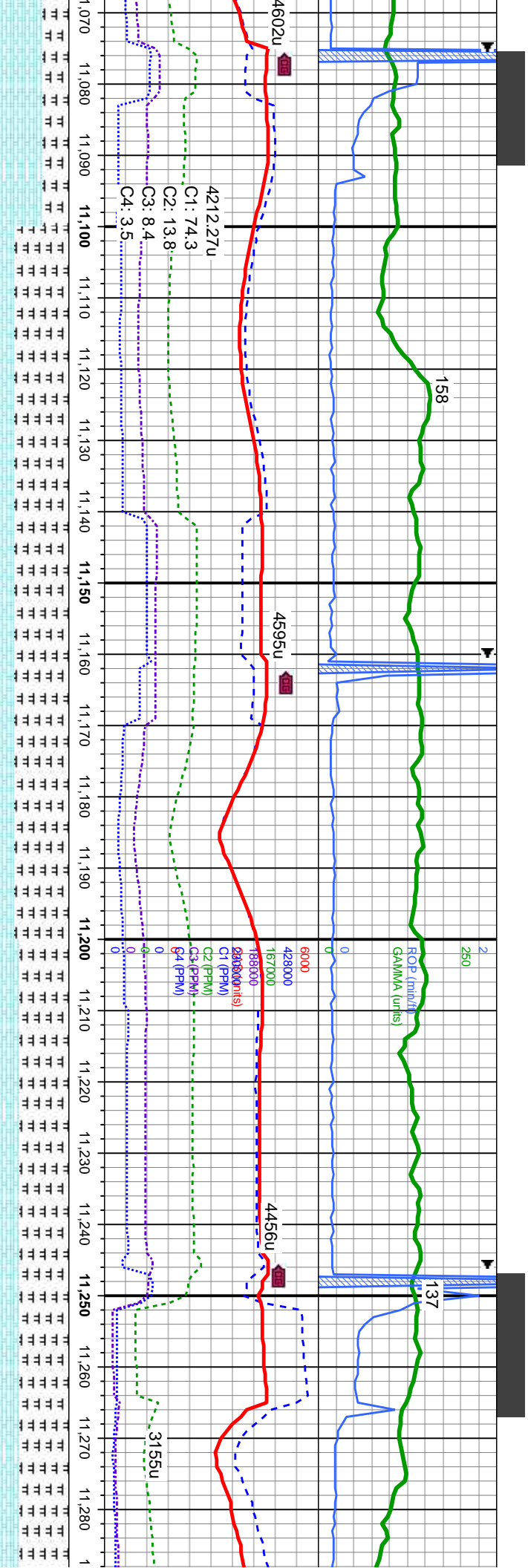
MRLST: dk-med gy-gy brn, sb blk, med
sft-frm, calc, silty tex; CHK: med gy brn,
sb blk, sft, v calc, rthy tex, bent; mky bl
cut, bri bl gn flr res, lt yel vis light ring





MD: 10,679 TVD: 7,301.8' Inclination: 89.48 ° Azimuth: 0.58 ° VS: 2860.69'		MD: 10,764 TVD: 7,301.85' Inclination: 90.46 ° Azimuth: 2 ° VS: 2945.67'		MD: 10,840 TVD: 7,301.85' Inclination: 90.46 ° Azimuth: 2 ° VS: 2945.67'	
RLST: dk-med gy-gy brn, sb blk, med t-frm, calc, silty tex; CHK: med gy brn, sb ky, sft, v calc, rthy tex, bent; mky bl cut, bri gn flr res, lt yel vis light ring		RLST: dk-med gy-gy brn, sb blk, med sft-frm, calc, silty tex; CHK: med gy brn, sb blk, sft, v calc, rthy tex, bent; mky bl cut, bri gn bl flr res, lt yel vis light ring		RLST: dk-med gy-gy brn, sb blk, med sft-frm, calc, silty tex; CHK: med gy brn, sb blk, sft, v calc, rthy tex, bent; mky bl cut, bri gn bl flr res, lt yel vis light ring	





MD: 11,105
TVD: 7,296.03'
Inclination: 90.52 °
Azimuth: 2.11 °
VS: 3286.40'

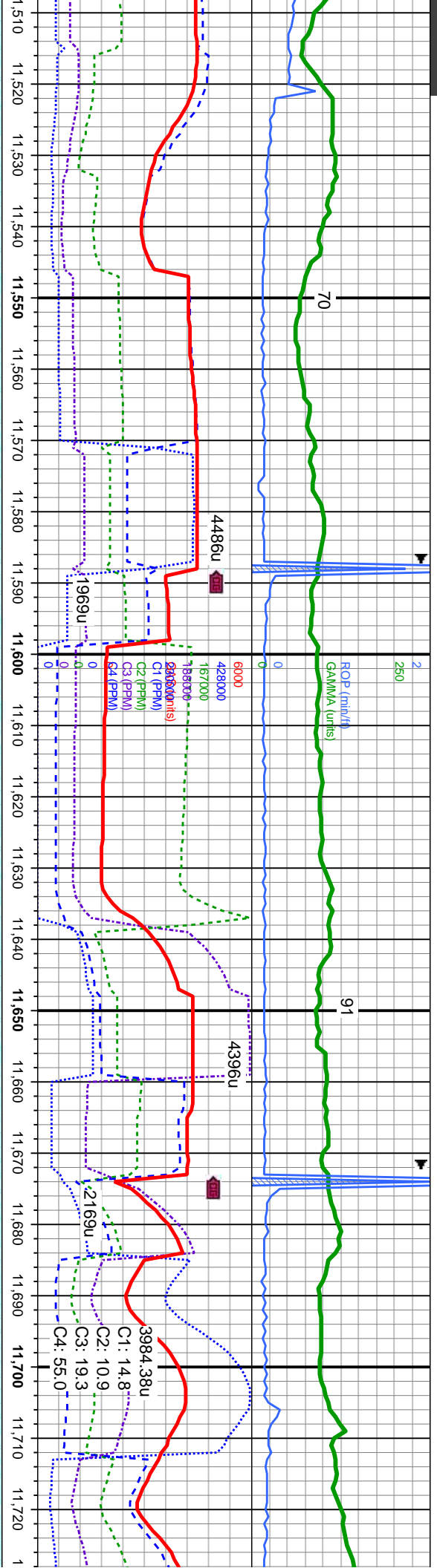
MD: 11,190
TVD: 7,294.85'
Inclination: 91.14 °
Azimuth: 1.82 °
VS: 3371.35'

MD: 11,275
TVD: 7,294.19'
Inclination: 89.75 °
Azimuth: 1.97 °
VS: 3,456.31'

MRLST: dk-med gy-gy brn, sb blkly, med
sft-frm, calc, silty tex; CHK: med gy brn, sb
blkly, sft, v calc, rthy tex, tr bent; mky bl cut,
bri gn bl flor res, lt yel vis light ring

MRLST: dk-med gy-gy brn, sb blkly, med
sft-frm, calc, silty tex, occ calc inci; CHK: med
gy brn, sb blkly, sft, v calc, rthy tex; tr bent; mky
bl cut, bri gn bl flor res, lt yel vis light ring





MD: 11,531
TVD: 7,293.81
Inclination: 89.17 °
Azimuth: 359.66 °
VS: 3,712.27 '

CHK: med gy-gy brn, sb blk, sft, v calc, rthy-wxy tex; r bent; mky bl cut, fnt gn yel flr res, lt yel vis light ring

TVD (ft)

8000

CHK: med gy-gy brn, sb blk, sft, v calc, rthy-wxy tex; mky bl cut, bl gn flr res, lt yel vis light ring



