

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name Big Sandy 3-65 36-31 2A-H

Location SEC 35 T3S-R65W

State COLORADO

County ADAMS

Country USA

Rig Number Nabors B16

API Number 05-001-1010100

AFE # WAY.CDR.7015

Geographic Region DJ BASIN

Field WILDCAT

Spud Date 3/1/2018

Drilling Completed 3/20/2018

Surface Coordinates 2545' FSL & 465' FEL SEC 35 T3S-R65W

SL Lat:

39° 44' 48.47" N (NAD 83)

SL Long:

104° 37' 24.56" W (NAD 83)

Bottom Hole Coordinates Proposed BHL: 1557' FNL & 325' FEL SEC 31 T3S-R64W

Ground Elevation 5524'

K.B. Elevation 5549'

Logged Interval 6000 To 18177

Total Depth 18177

Formation Niobrara C Chalk

Type of Drilling Fluid OBM

Operator

Company Conoco Phillips

Address 600 N. Dairy Ashford Rd.
Houston, TX 77079-1175



Geologist

Name Dave Aldridge

Company Conoco Phillips Central Rockies Implementa

Address Dave.E.Aldridge@conocophilips.com

Office: (832) 486-3983

600 N Dairy Ashford EC3 14-W134

Houston, TX 77079



Other

Columbine Logging Inc. Mud Logging Company

Geologists/Geosteers on Location: Todd Thiesse, Haynes Burnside

Gas Detection: Bloodhound chromatograph gas unit #311

DD/MWD: Baker Hughes

Columbine Computer 87A

- Fossils**
- ALGAE
 - AMPHIPH
 - BELEMN
 - BIOCCLAS
 - BRACH
 - BRYOZO
 - CERHAL
 - CORAL
 - CRINOID
 - ECHINOI
 - FISH
 - FORAMIF
 - F FOSSIL

Color Coding

- Oil
- Condensate
- Gas
- Note
- Core
- Pressure
- Error
- Water
- Seal

Rock Types

- UNKNOWN
- ANHYDRITE
- BENTONITE
- BRECCIA
- CHALK
- CEMENT
- CHERT
- CLAY CHOKE SAND
- CLAYSTONE
- COAL
- CONGLOMERATE
- DOLomite
- DOLOMITIC LIMESTONE
- GRANITE
- GYP SUM
- IGNEOUS
- SIDERITE or LIMONITE
- LIMESTONE
- MARLSTONE
- METAMORPHIC
- NO SAMPLE
- SALT
- SANDSTONE
- SALT-PEPPER SAND
- SHALE
- SHALE COLORED
- SHALE GRAY
- SHALY SANDSTONE
- SHALY SILTSTONE
- SILTSTONE
- TILL
- TUFF
- WELDED TUFF































Porosi

- E EARTHY
- FENESTR
- F FRACTUR
- INTERRO
- INTERRO
- MOLDIC
- ORGANIC




















































Oil Sho

- DEAD
- EVEN
- QUESTIO
- SPOTTE

Accessories

	Stringer
 GASTROPOD	 HEAVY MINERAL
 INOCERAMUS	 KAOLIN
 OOLITE	 MARCASITE
 OSTRACOD	 MARLSTONE
 PELECYPOD	 MICAEOUS
 PELLET	 MINERAL CRYSTALS
 PISOLUTE	 NODULES
 PLANT REMAINS	 PHOSPHATE PELLETS
 PLANT SPORES	 PYRITE
 SCAPHOPOD	 SALT CAST
 STROMATOPORA	 SANDY
 SIDERITE	 SIDERITE
 FERRUGINOUS	 SILTACEOUS
 ANHYDRITIC	 SILTY
 ARGILLACEOUS	 TUFFACEOUS

Other Symbols

Engineering	 PINPOINT	 WIRELINE TESTED - LEFT	 E EARTHY
 VUGGY	 WIRELINE TESTED - RT	 FX FINELYXLN	
Engineering	 FORMATION TOP	 DRILL STEM TEST	 GS GRAINSTONE
 GAS SHOW	 MN DEPTH	 MN DEPTH	 L LITHOGRAPHIC
 OIL SHOW	 MN DEPTH UP	 MX MICROXLN	
 DISABLE	 D STAINING	Rounding	 MS MUDSTONE
 CONNECTION (UP)	 MN DEPTH	 A ANGULAR	 PS PACKSTONE
 CONNECTION (DOWN)	 MN DEPTH	 R ROUNDED	 WS WACKESTONE
 CONNECTION GAS	 NORMAL FAULT	 S SUBANG	
 CONNECTION GAS (LEFT)	 OVERTURNED STRATA	 S SUBRND	Sorting
 TRIP GAS	 REVERSE FAULT		 M MODERATE
 TRIP GAS (LEFT)	 CASING	Textures	
 DOWN TIME GAS	 SIDEWALL CORE (LEFT)	 BS BOUNDSTONE	 P POOR
 DOWN TIME GAS (LEFT)	 SIDEWALL CORE (RIGHT)	 C CHALKY	 W WELL
 CORE - LOST	 SLIDE	 CX CRYPTOXLN	
 CORE - RECOVERED	 SURVEY		

COLUMBINE LOGGING

ROP

ROP

GAMMA

Columbine Logging Inc. Rigged Up 2 man logging 3/13/2018 Chromatograph Gas Unit #0311, began logging from 6000' MD at 4:44 AM, MDT on 3/15/18.

Gamma Data and Survey Data Provided by Baker Hughes

Total Gas & Chromatograph

GAS

C1

C2

C3

C4

Gas Data From Bloodhound Unit #0311, data imported via Rig Watch and Gaschart

Depth Labels

% Lith

Well Bore
TVD

100b

250

100b

250

100b

250

Bit Data
Bit #: 2
Type: HCC AT505F
Size: 8.5
Depth In: 2091'
Depth Out: 18177'
Jets: 5x14s
SN: 7163187

ROP (ft/hr)

GAMMA (units)

GAMMA (units)

359

134

ROP (ft/hr)

GAMMA (units)

196u

ROP: 399 ft/hr

RPM: 80

SPP: 3162

STRK 1: 103 SPM

WOB: 19 klbs

MUD WT IN: 9.7 VIS: 64

MUD WT OUT: 9.7 VIS: 64

C1: 92.4%

C2: 5.9%

C3: 1.7%

C4: 0%

GAS (units)

C1-C4 (units)

215u

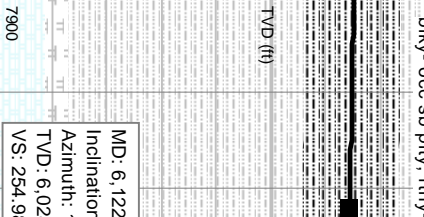
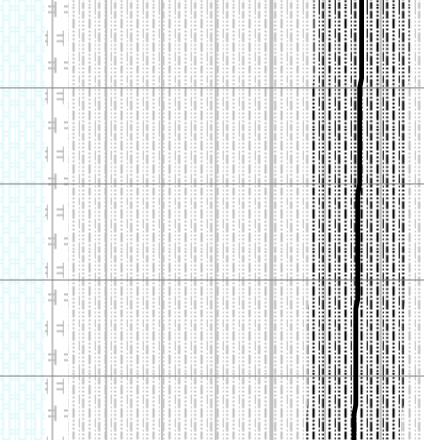
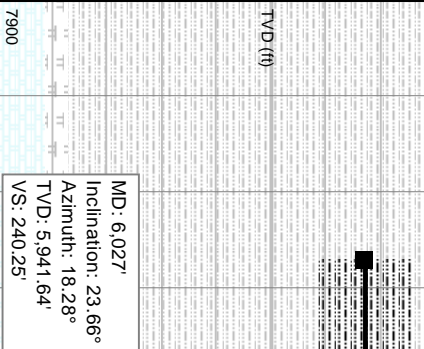
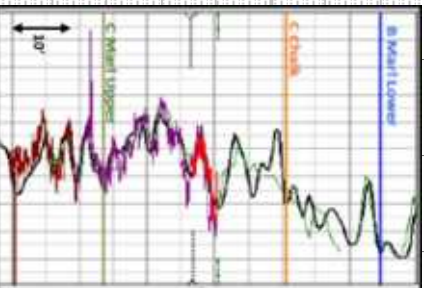
190u

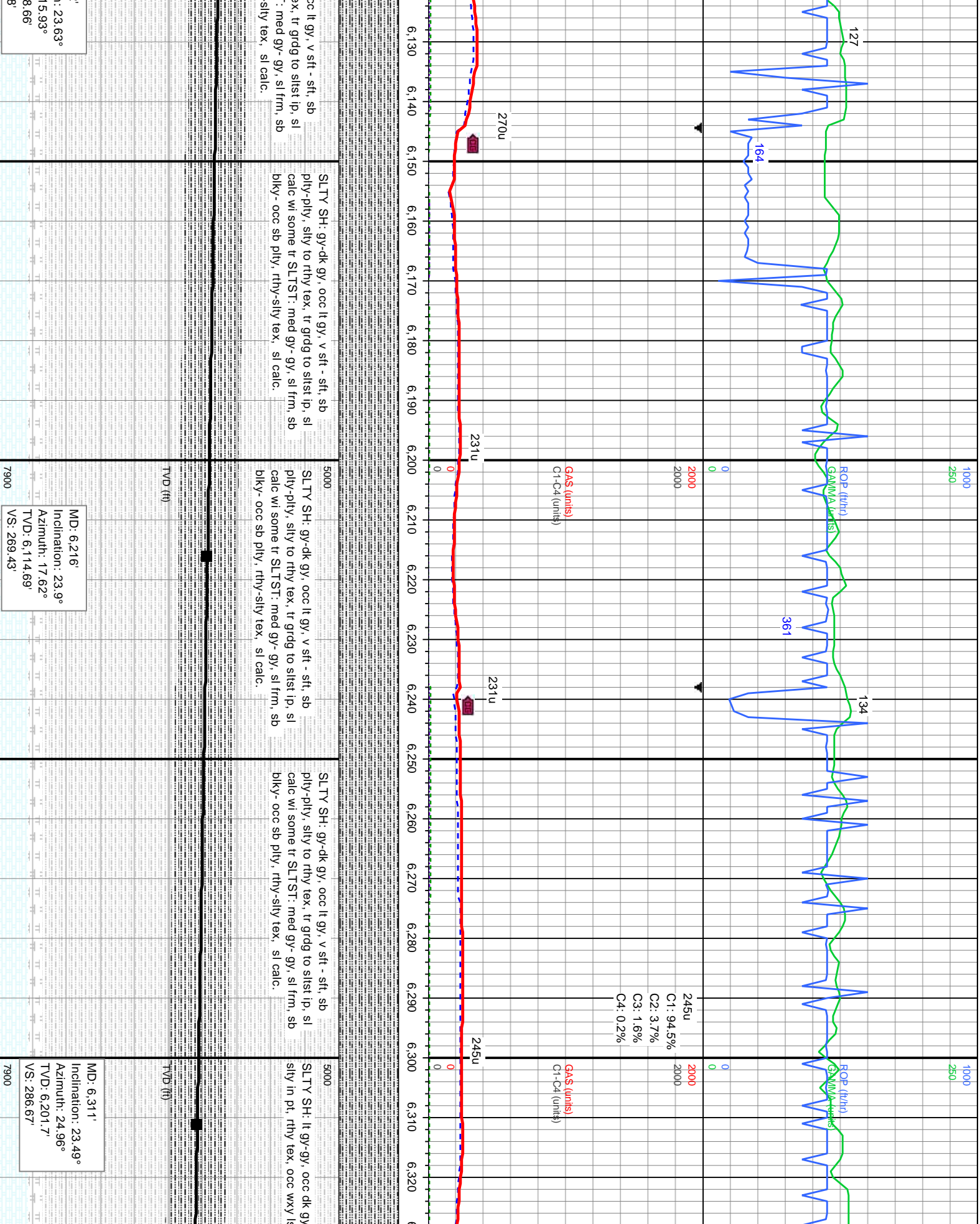
Target Formation/Member:
Niobrara C Chalk

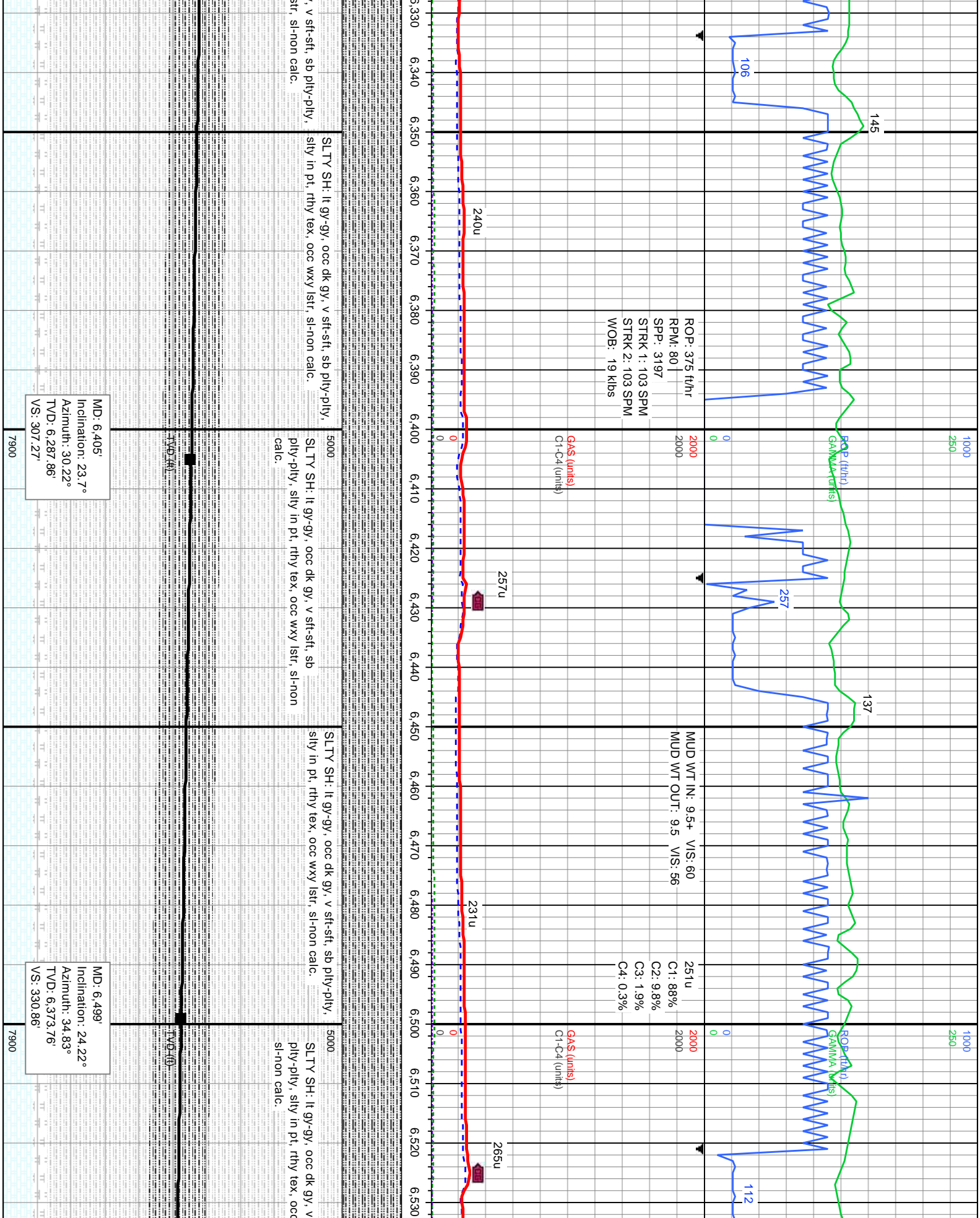
SLTY SH: gy-dk gy, occ lt gy, v sft - sft, sb
ply-pty, silty to rthy tex, tr grgd to slst in pt, sl
calc with some tr SLTST: med gy- gy, sl frm, sb
biky- occ sb pty, rthy-silty tex, sl calc.

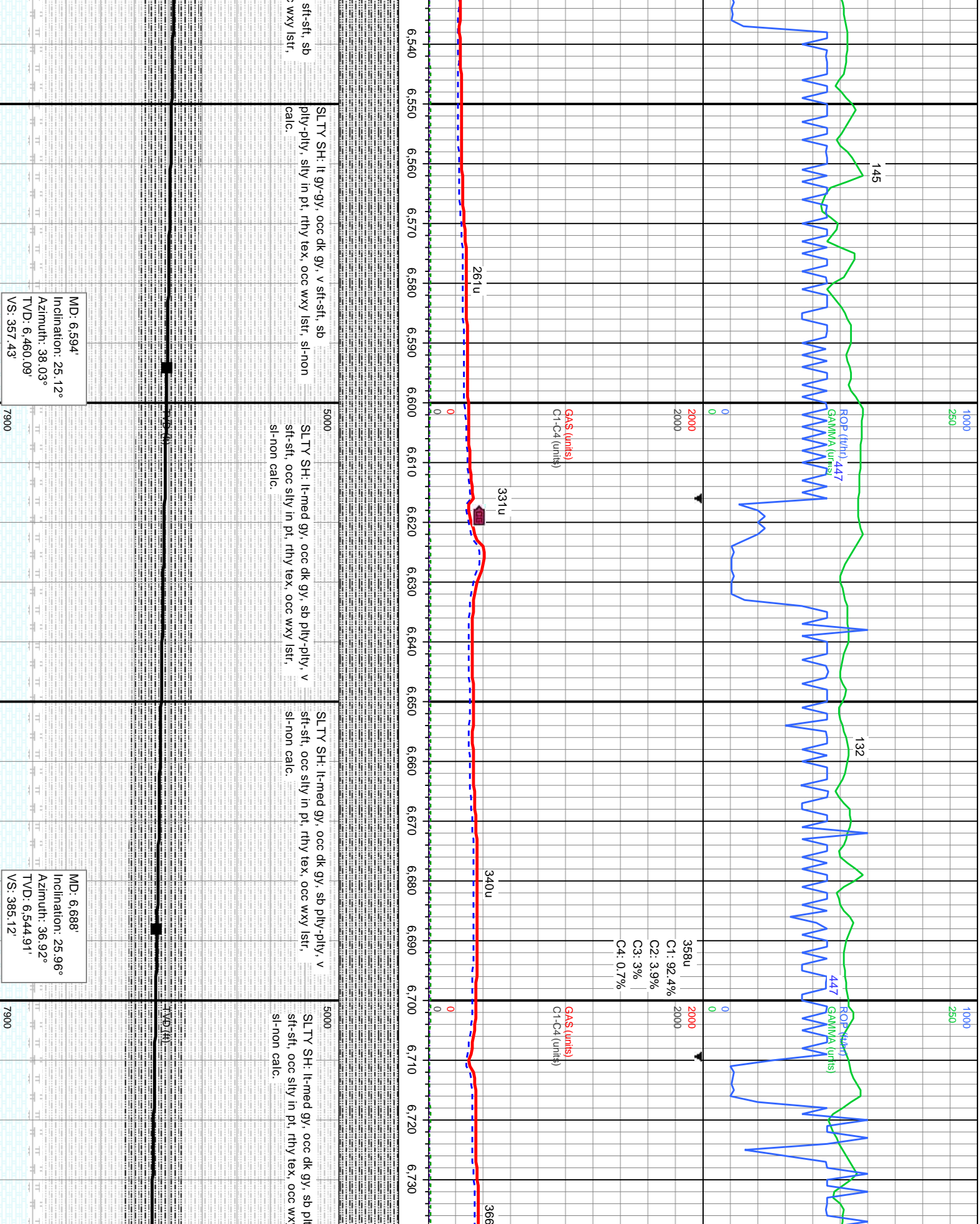
SLTY SH: gy-dk gy, occ lt gy, v sft - sft, sb
ply-pty, silty to rthy tex, tr grgd to slst in pt, sl
calc with some tr SLTST: med gy- gy, sl frm,
sb biky- occ sb pty, rthy-silty tex, sl calc.

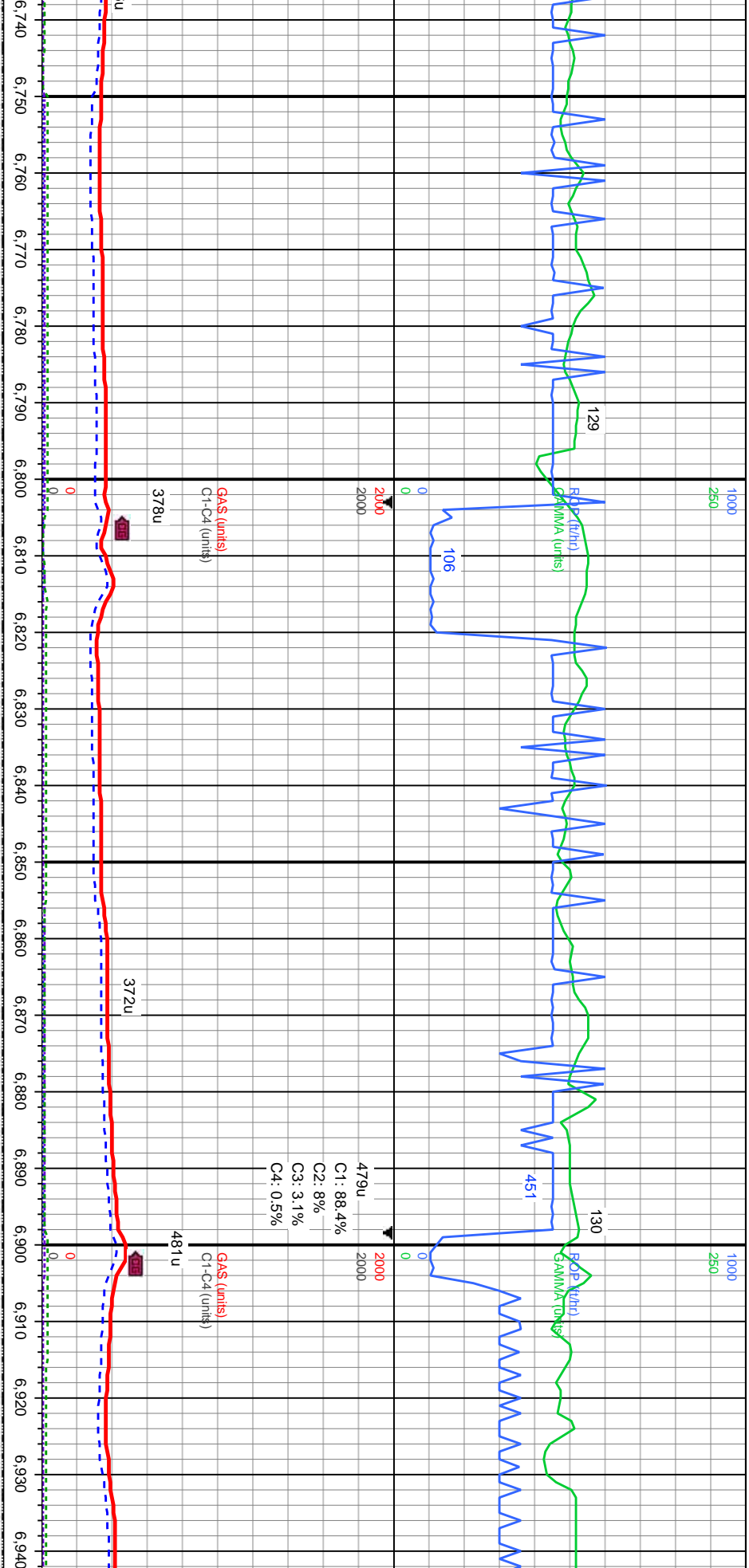
SLTY SH: gy-dk gy, occ lt gy, v sft - sft, sb
ply-pty, silty to rthy tex, tr grgd to slst in pt, sl
calc with some tr SLTST: med gy- gy, sl frm,
sb biky- occ sb pty, rthy-silty tex, sl calc.



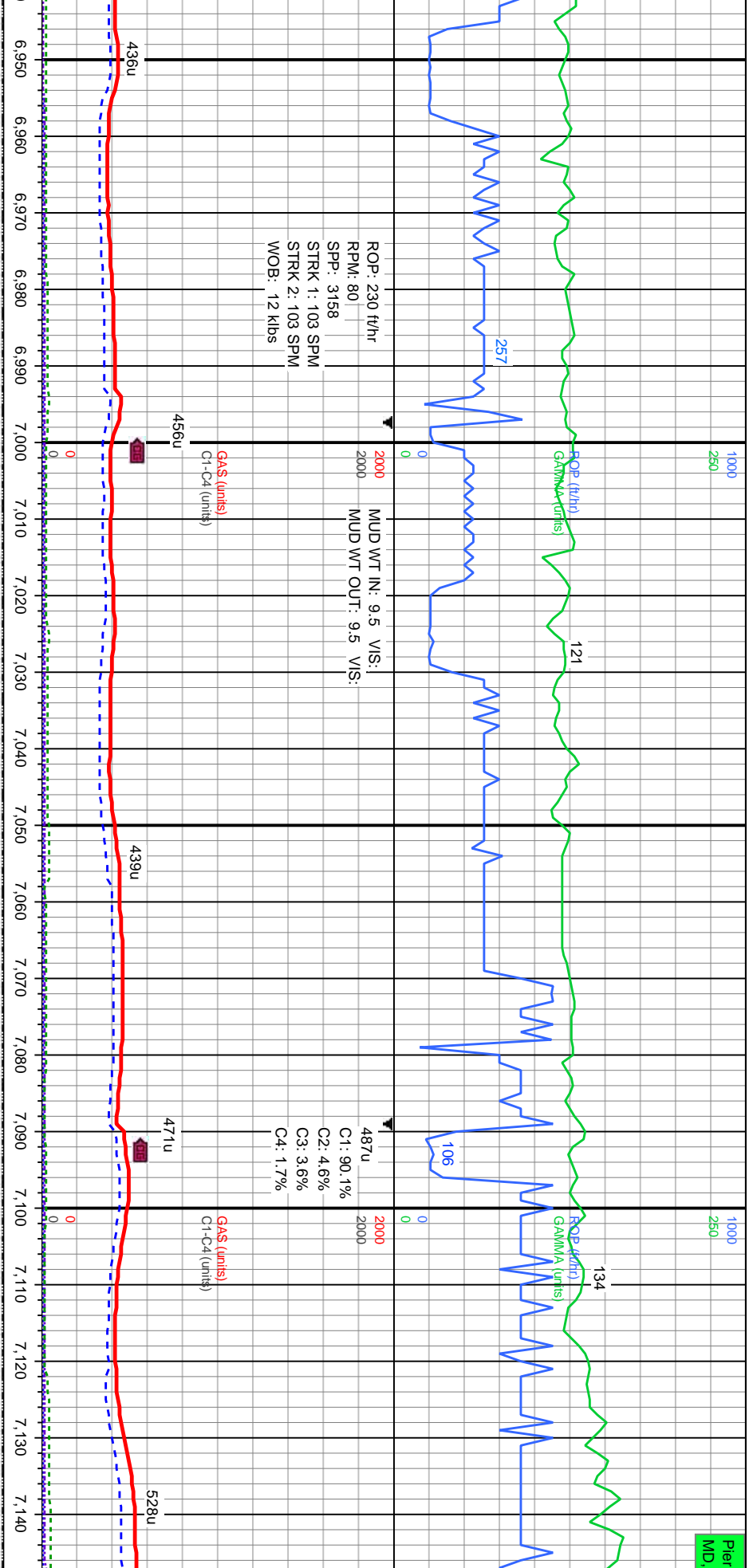




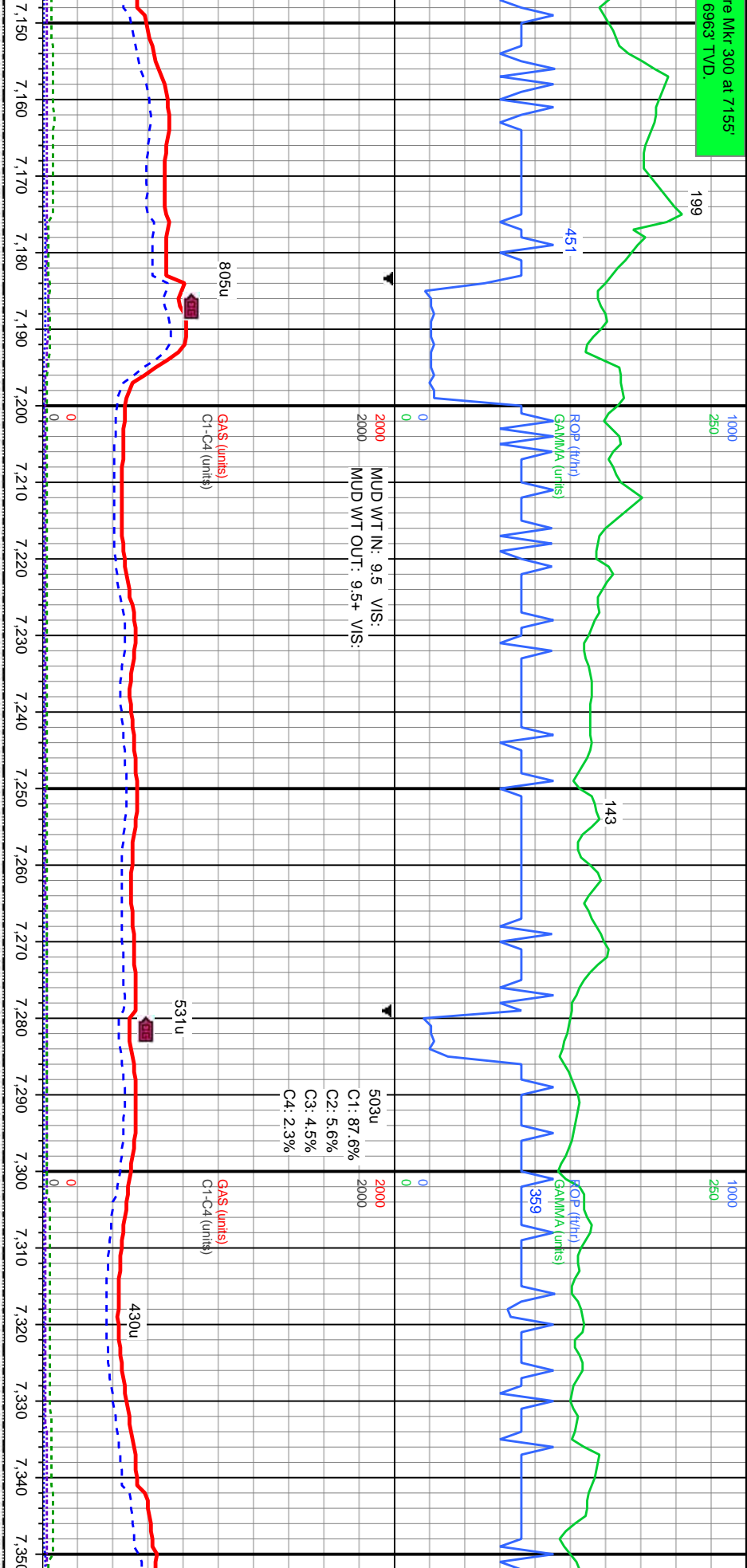




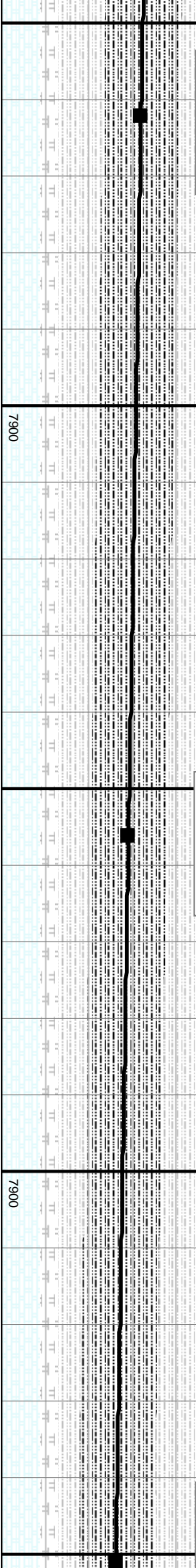
y-pty, v		SLTY SH: lt-med gy, occ dk gy, sb pty-pty, v		SLTY SH: lt-med gy, occ dk gy, sb pty-pty, v		SLTY SH: lt-med gy, occ dk gy, sb pty-pty, v	
y istr,		sft-sft, occ sily in pt, rthy tex, occ wxy istr, si-non calc.		sft-sft, occ sily in pt, rthy tex, occ wxy istr, si-non calc. wi tr Bent.		sft-sft, occ sily in pt, rthy tex, occ wxy istr, si-non calc.	
MD: 6.783°		MD: 6.878°		MD: 6.878°		MD: 6.878°	
Inclination: 25.13°		Inclination: 26.04°		Inclination: 26.04°		Inclination: 26.04°	
Azimuth: 38.37°		Azimuth: 38.13°		Azimuth: 38.13°		Azimuth: 38.13°	
TVD: 6.630.62		TVD: 6.716.31		TVD: 6.716.31		TVD: 6.716.31	
VS: 413.2'		VS: 441.64'		VS: 441.64'		VS: 441.64'	
TVD 40'		TVD 40'		TVD 40'		TVD 40'	
7900		7900		7900		7900	



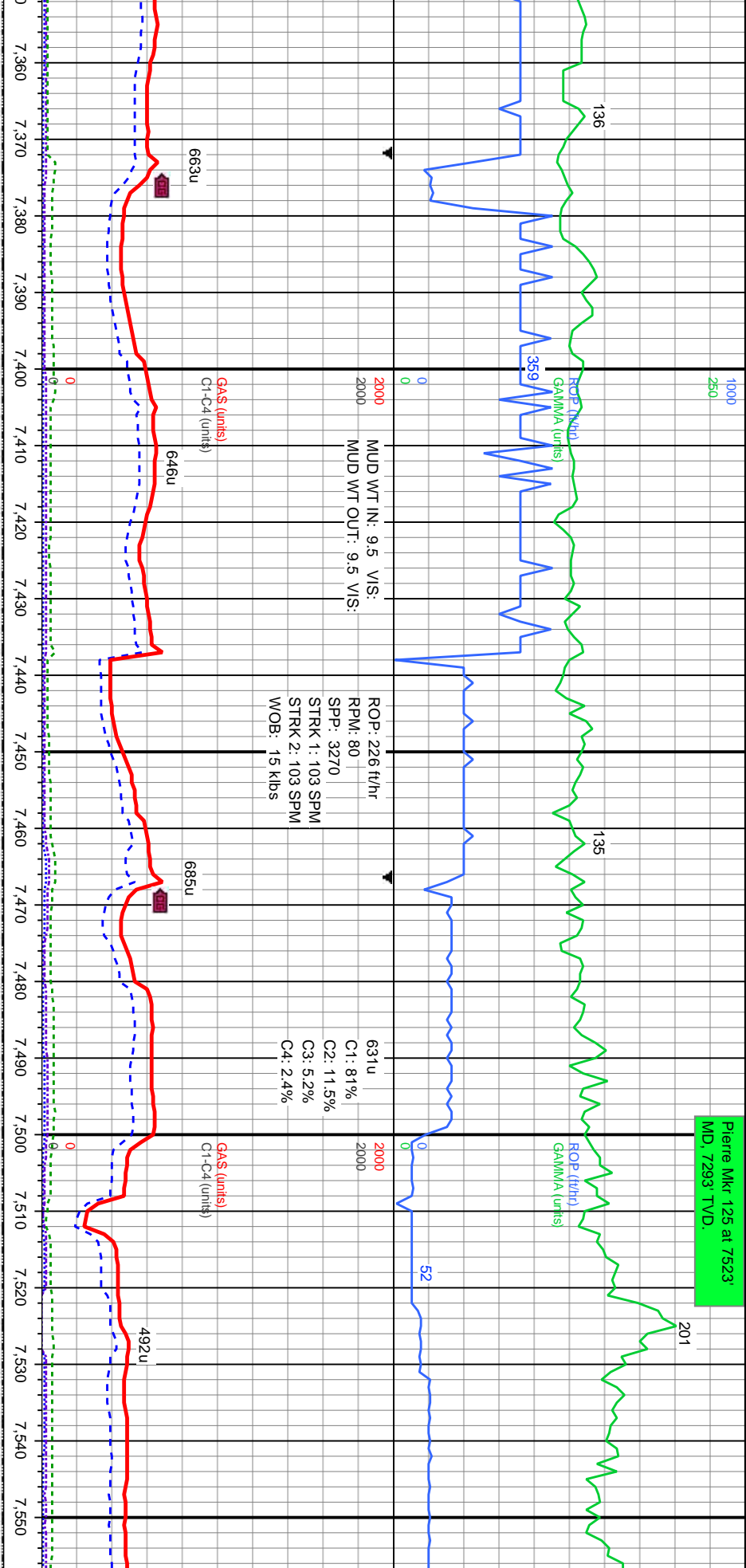
SLTY SH: lt-med gy, occ dk gy, sb pily-pily, v sft-sft, occ silty in pt, rthy tex, occ wxy lstr, sl-non calc.		5000	SLTY SH: lt-med gy, occ dk gy, sb pily-pily, v sft-sft, occ silty in pt, rthy tex, occ wxy lstr, sl-non calc. w/ tr Bent.	5000	SLTY SH: lt-med gy, occ dk gy, sb pily-pily, v sft-sft, occ silty in pt, rthy tex, occ wxy lstr, sl-non calc.	5000	SLTY SH: lt-med gy, occ dk gy, sb pily-pily, v sft-sft, occ silty in pt, rthy tex, occ wxy lstr, sl-non calc. w/ tr Bent.	5000
MD: 6.973 Inclination: 26.83° Azimuth: 34.11° TVD: 6.801.38' VS: 469.78'		TVD (ft)	MD: 7.067' Inclination: 26.9° Azimuth: 19.38° TVD: 6.885.33' VS: 492.36'		TVD (ft)	MD: 7.067' Inclination: 26.9° Azimuth: 19.38° TVD: 6.885.33' VS: 492.36'		TVD (ft)
7900			7900			7900		



SLTY SH: lt-med gy, occ dk gy, sb pty-pty, v sft-sft, occ silty in pt, rthy tex, occ wxy lstr, sl-non calc. w/ lr Bent.	SLTY SH: lt-med gy, occ dk gy, sb pty-pty, v sft-sft, occ silty in pt, rthy tex, occ wxy lstr, sl-non calc	SLTY SH: lt-med gy, occ dk gy, sb pty-pty, v sft-sft, occ silty in pt, rthy tex, occ wxy lstr, sl-non calc	SLTY SH: lt-med gy, occ dk gy, sb pty-pty, v sft-sft, occ silty in pt, rthy tex, occ wxy lstr, sl-non calc
MD: 7,162' Inclination: 26.72° Azimuth: 22.29° TVD: 6,970.12' VS: 511.46'	MD: 7,256' Inclination: 26.76° Azimuth: 22.26° TVD: 7,054.07' VS: 531.26'	MD: 7,351' Inclination: 15° Azimuth: 7.138° TVD: 7,138' VS: 550.38'	



Pierre Mkr 125 at 7523
MD, 7293' TVD.



SLTY SH: lt-med gy, occ dk gy, sb pily-pily, v
sft-sft, occ sily in pt, rthy tex, occ wxy lstr,
sl-non calc

SLTY SH: lt-med gy, occ dk gy, sb pily-pily,
v sft-sft, occ sily in pt, rthy tex, occ wxy
lstr, sl-non calc, wt tr Bent & Pyr.

SLTY SH: lt-med gy, occ dk gy, sb pily-pily, v
sft-sft, occ sily in pt, rthy tex, occ wxy lstr, sl-non
calc, wt tr Bent & Pyr.

SLTY SH: lt-med gy, occ dk gy, sb pily-pily, v
sft-sft, occ sily in pt, rthy tex, occ wxy lstr,
sl-non calc.

SL
v s
lstr

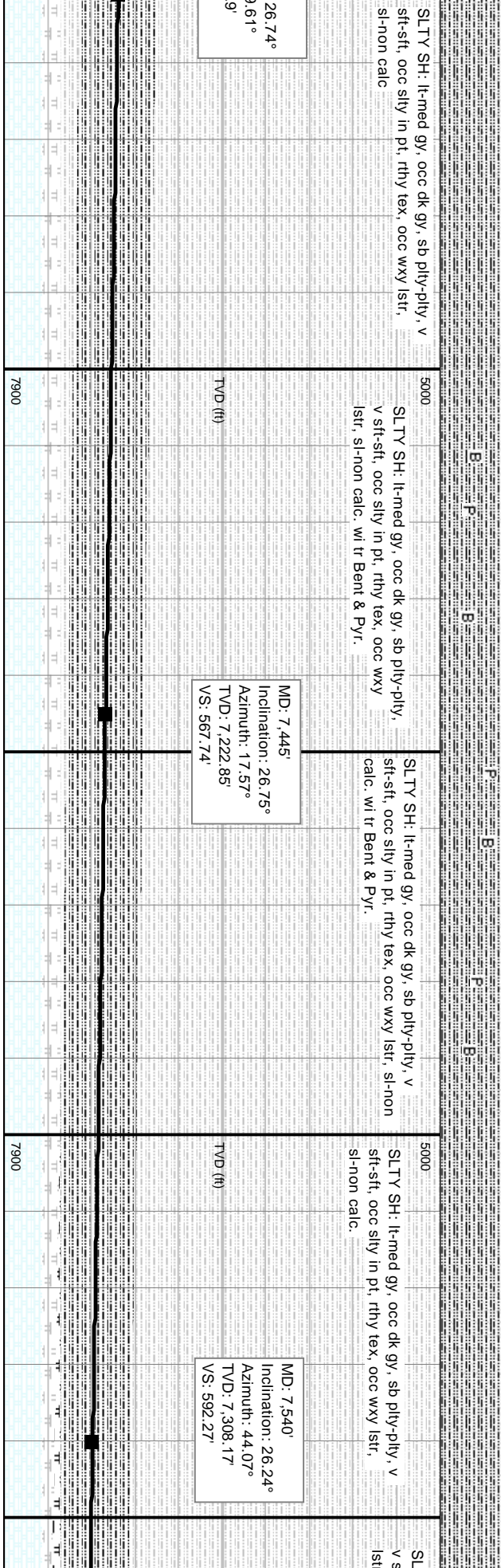
26.74°
161°
9'

TVD (ft)

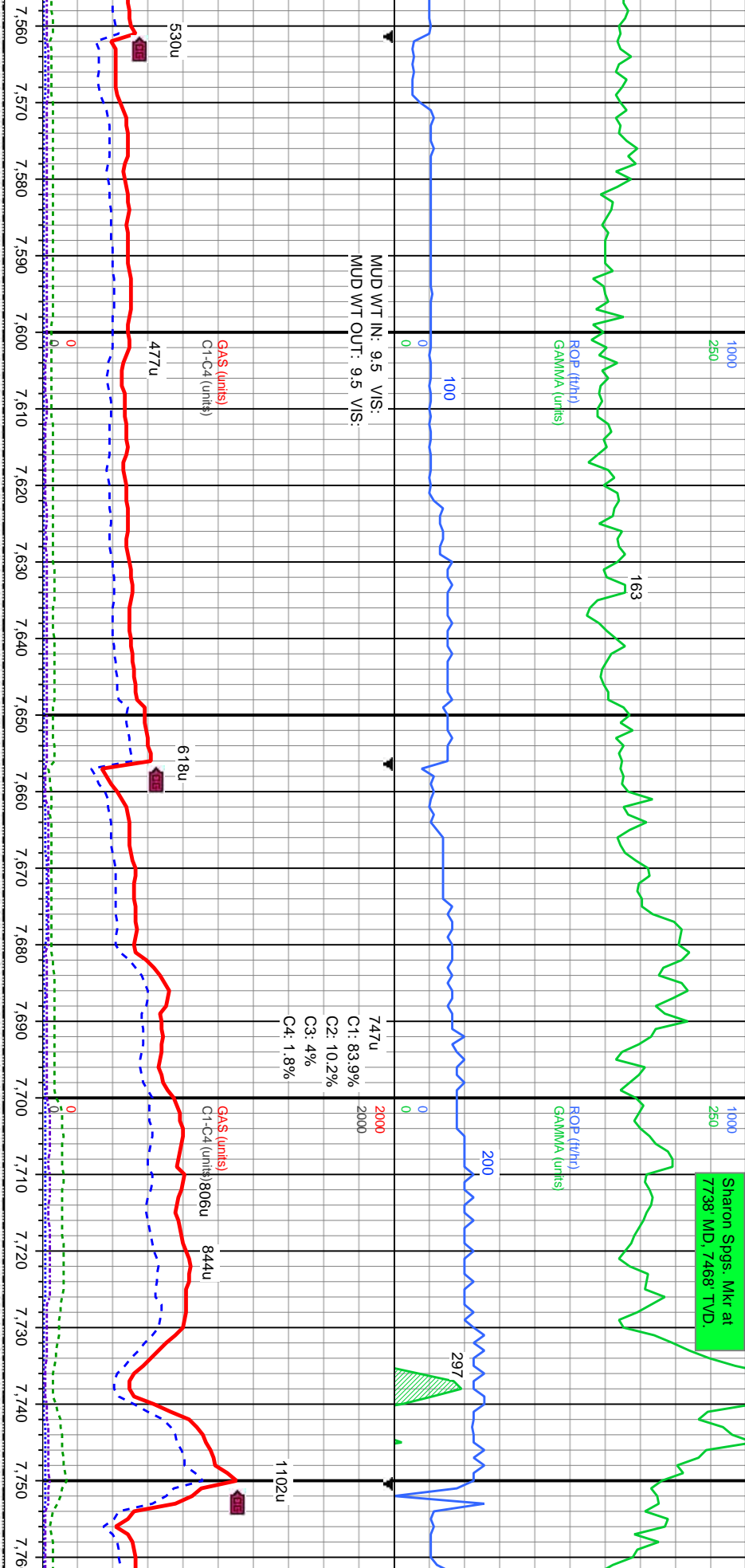
MD: 7,445'
Inclination: 26.75°
Azimuth: 17.57°
TVD: 7,222.85'
VS: 567.74'

TVD (ft)

MD: 7,540'
Inclination: 26.24°
Azimuth: 44.07°
TVD: 7,308.17'
VS: 592.27'



Sharon Spgs. Mkr at
7738' MD, 7468' TVD.



TY SH: lt-med gy, occ dk gy, sb pily-pily,
ft-sft, occ silty in pt, rthy tex, occ wxy
r, st-non calc.

SLTY SH: lt-med gy, occ dk gy, sb pily-pily, v
sft-sft, occ silty in pt, rthy tex, occ wxy lstr, sl
calc.

MD: 7,634'
Inclination: 34.83°
Azimuth: 56.62°
TVD: 7,389.14'
VS: 632'

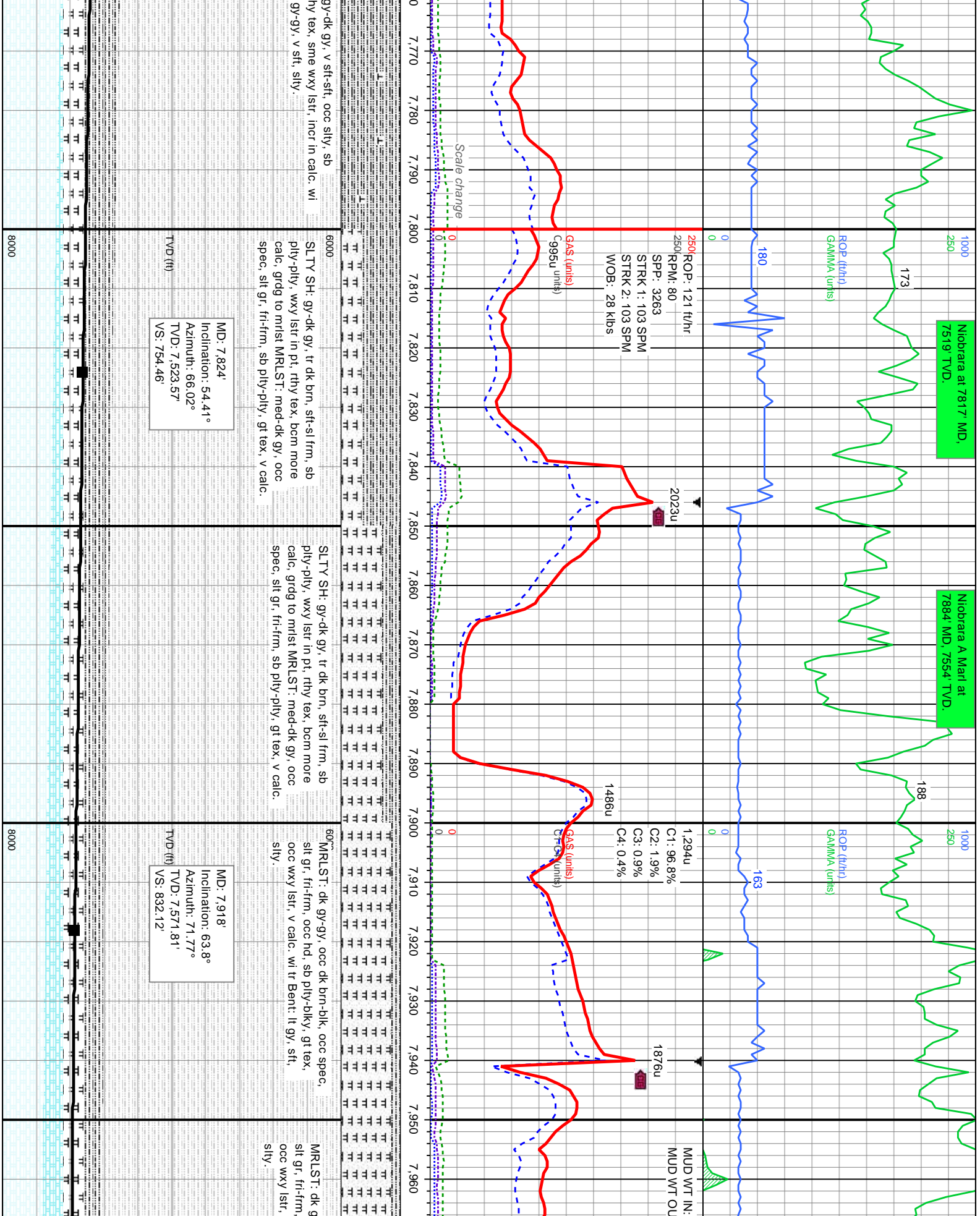
SLTY SH: gy-dk gy, v sft-sft, occ silty, sb pily-pily,
rthy tex, sme wxy lstr, bcm more calc. wi tr
BENT: lt gy-gy, v sft, occ silty.

SLTY SH: gy-dk gy, v sft-sft, occ silty, sb
pily-pily, rthy tex, sme wxy lstr, bcm more calc.
wi tr BENT: lt gy-gy, v sft, occ silty.

MD: 7,729'
Inclination: 44.78°
Azimuth: 61.05°
TVD: 7,462.05'
VS: 686.88'

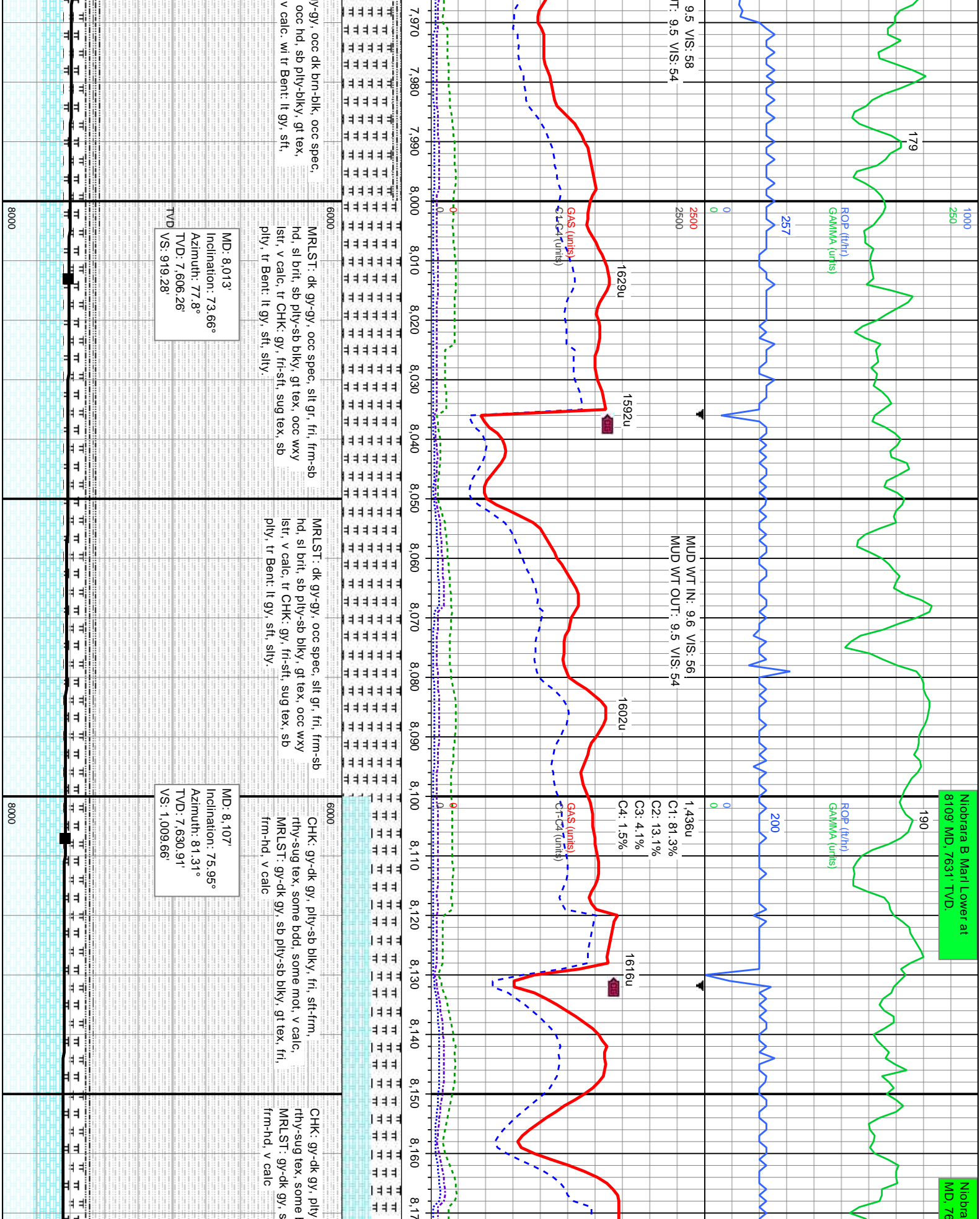
SLTY SH: pily-pily, r
tr BENT: lt

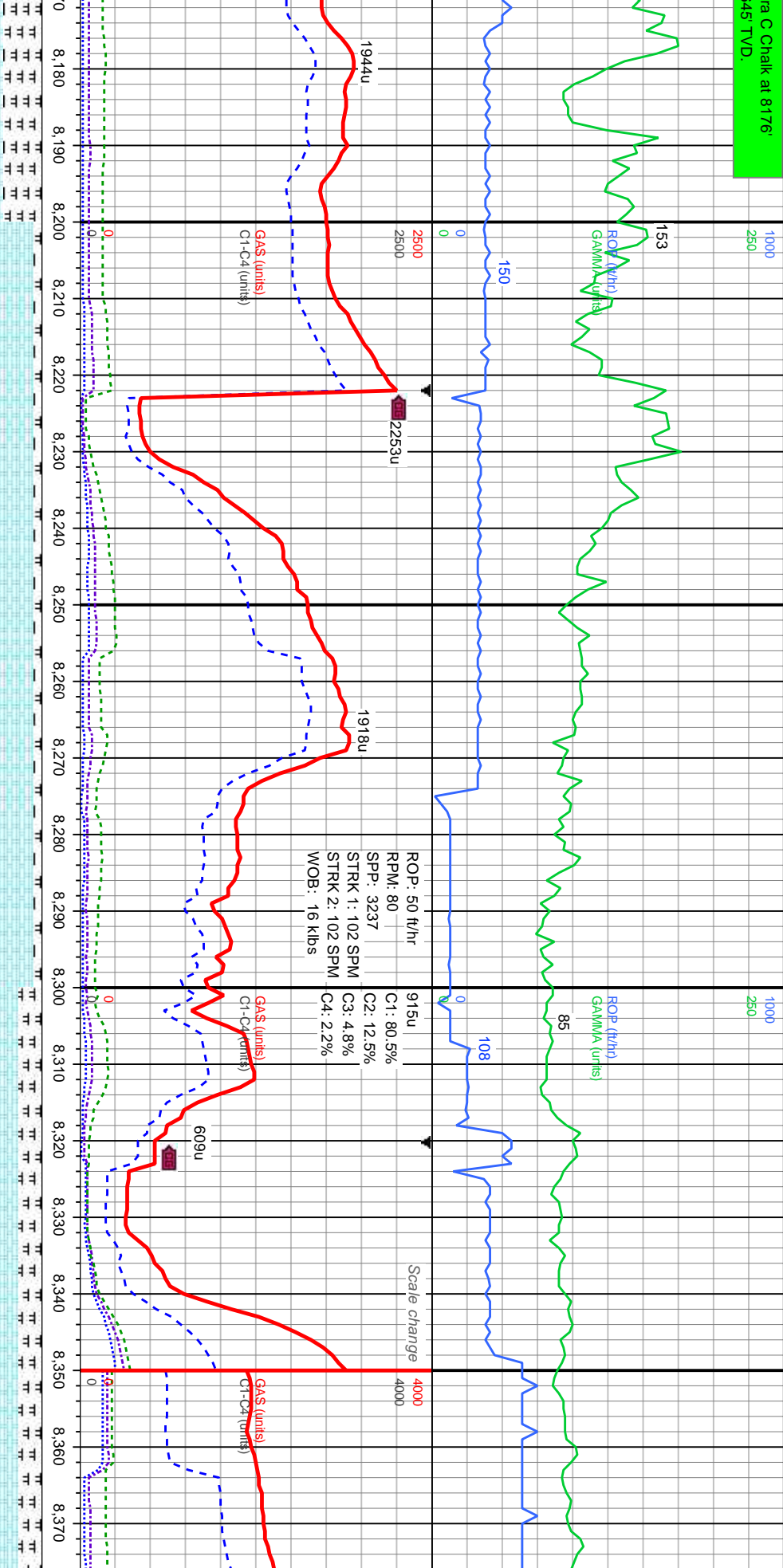
TVD (ft)



Niobrara B Marl Lower at
8109 MD, 7631' TVD

Niobrara
MD, 76





sb blkly, fri, sft-frm,
pdd, some mot, v calc,
b ply-sb blkly, gt tex, fri,

CHK: lt-med gy, ply-sb ply, fri, sft- sl frm,
rthy-sug tex, some bdd, some mot, v calc,
some v thin bdg, MRLST: gy-dk gy, sb ply-sb
blkly, gt tex, fri, frm, v calc

CHK: lt-med gy, ply-sb ply, fri, sft- sl frm,
rthy-sug tex, some bdd, some mot, v calc,
some v thin bdg, MRLST: gy-dk gy, sb ply-sb
blkly, gt tex, fri, frm, v calc

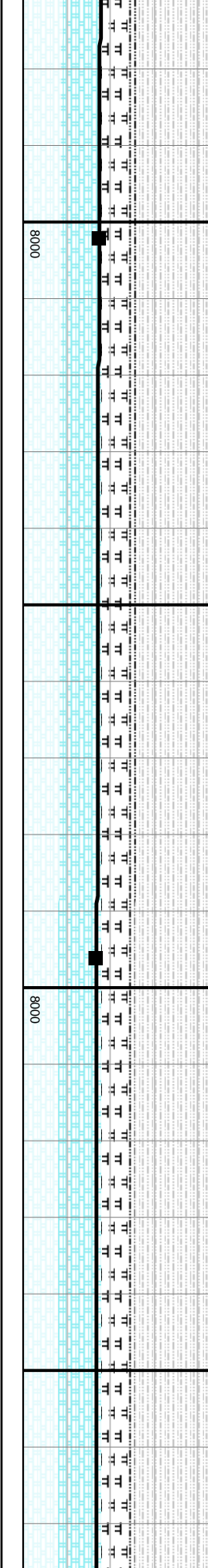
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some bdd, some mot, v calc, MRLST: gy-dk
gy, sb ply-sb blkly, gt tex, fri, frm, v calc

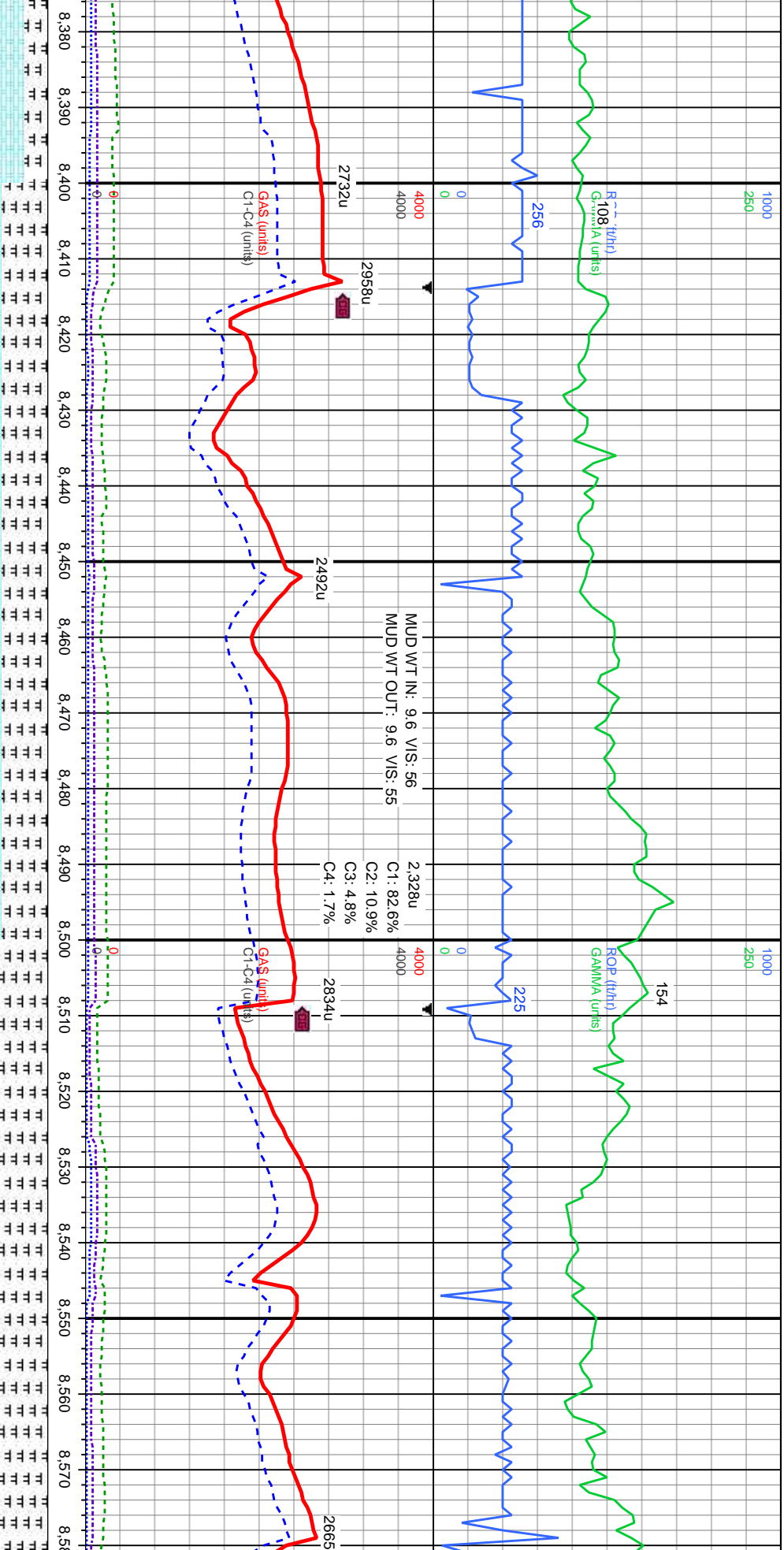
CHK: med gy, sb ply, fri,
some bdd, some mot, v c
gy, sb ply-sb blkly, gt tex

MD: 8,202'
Inclination: 79.6°
Azimuth: 86.14°
TVD: 7,651.03'
VS: 1,102.45'

MD: 8,296'
Inclination: 89.02°
Azimuth: 91.31°
TVD: 7,660.35'
VS: 1,195.58'

(ft)





sft-frm, rthy-sug tex, hd, sl brit, sb pily-pily, gt tex, occ wxy lst, v calc, CHK: med gy, fri, sl frm, sug tex, sb pily-pily

MD: 8,391'
Inclination: 90.49°
Azimuth: 91.88°
TVD: 7,660.75'
VS: 1,289.82'

6000
MRLST: dk gy-gy, occ spec, slt gr, fri, frm-sb
hd, sl brit, sb pily-pily, gt tex, occ wxy lst, v calc, CHK: med gy, fri, sl frm, sug tex, sb pily-pily

TVD (ft)

6000
MRLST: dk gy-gy, occ spec, slt gr, fri, frm-sb
hd, sl brit, sb pily-pily, gt tex, occ wxy lst, v calc, CHK: med gy, fri, sl frm, sug tex, sb pily-pily

MD: 8,486'
Inclination: 90.8°
Azimuth: 91.97°
TVD: 7,659.68'
VS: 1,383.98'

TVD (ft)

6000
MRLST: dk gy-gy, occ spec, slt gr, fri, frm-sb
hd, sl brit, sb pily-pily, gt tex, occ wxy lst, v calc, CHK: lt-med gy, fri, v sft-sl frm, rthy-sug tex, sb pily-pily

MRLST: dk gy-gy, occ spec, hd, sl brit, sb pily-pily, gt tex, v calc, CHK: lt-med gy, fri, v rthy-sug tex, sb pily-pily

MD: 8,581'
Inclination: 90.8°
Azimuth: 91.97°
TVD: 7,659.68'
VS: 1,383.98'

1000
250

1000
250

03/15/2018

03/16/2018

MINDEPTH

ROP (ft/h)
GAMMA (units)

ROP (ft/h)
GAMMA (units)

144

125

112

257

0
4000

0
4000

2971u

2694u

2872u

AS (in/s)
C1-C4 (in/hr)

AS (in/s)
C1-C4 (in/hr)

2.213u
C1: 86%
C2: 9.1%
C3: 3.7%
C4: 1.2%

8,590

8,600

8,610

8,620

8,630

8,640

8,650

8,660

8,670

8,680

8,690

8,700

8,710

8,720

8,730

8,740

8,750

8,760

8,770

8,780

silt gr, fri, frm-sb
occ wxy lsir,
sft-si frm,

MRLST: dk gy-gy, silt gr, fri, frm-sb hd, sl
bit, sb ply-ply, gt tex, occ wxy lsir, v calc,
CHK: med gy, fri, frm, rthy-sug tex, sb
ply-ply

MRLST: dk gy-gy, silt gr, fri, frm-sb hd, sl
bit, sb ply-ply, gt tex, occ wxy lsir, v calc,
CHK: med gy, fri, frm, rthy-sug tex, sb
ply-ply

CHK: med gy, sb ply-sb blkly, fri, sft-si frm,
rthy-sug tex, some bdd, some mot, occ wh
spec, v calc, MRLST: gy-dk gy, sb ply-sb
blkly, gt tex, fri, frm-hd, v calc, tr inoc los

CHK: med gy, sb ply-sb blkly, fri, s
rthy-sug tex, some bdd, some mot
spec, v calc, MRLST: gy-dk gy, sb
blkly, gt tex, fri, frm-hd, v calc, tr in

DN: 90.77°
: 92.59°
58.39'
7.08'

TYD (ft)

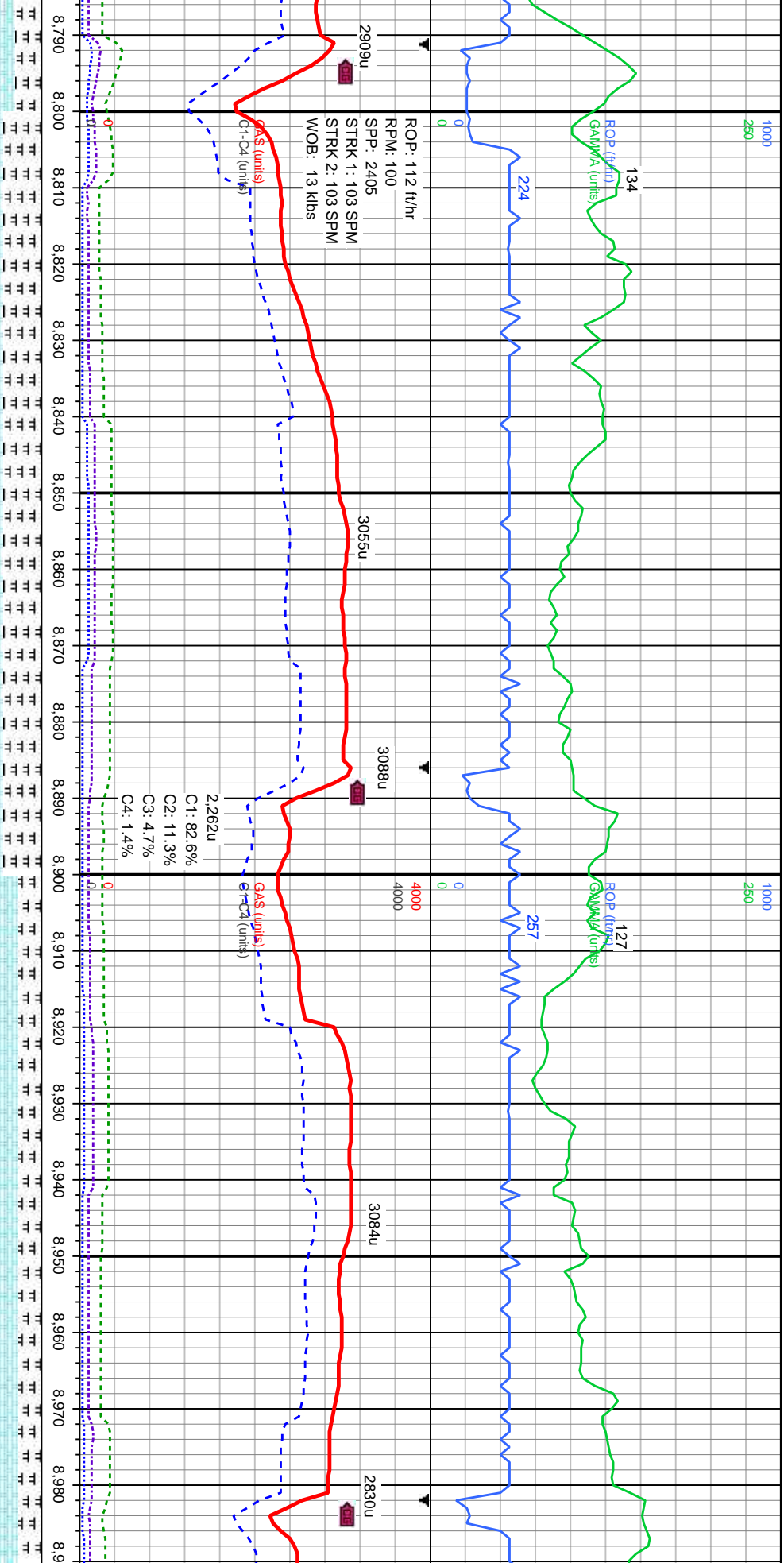
MD: 8.675'
Inclination: 90.8°
Azimuth: 92.75°
TYD: 7.657.09'
VS: 1.571.07'

TYD (ft)

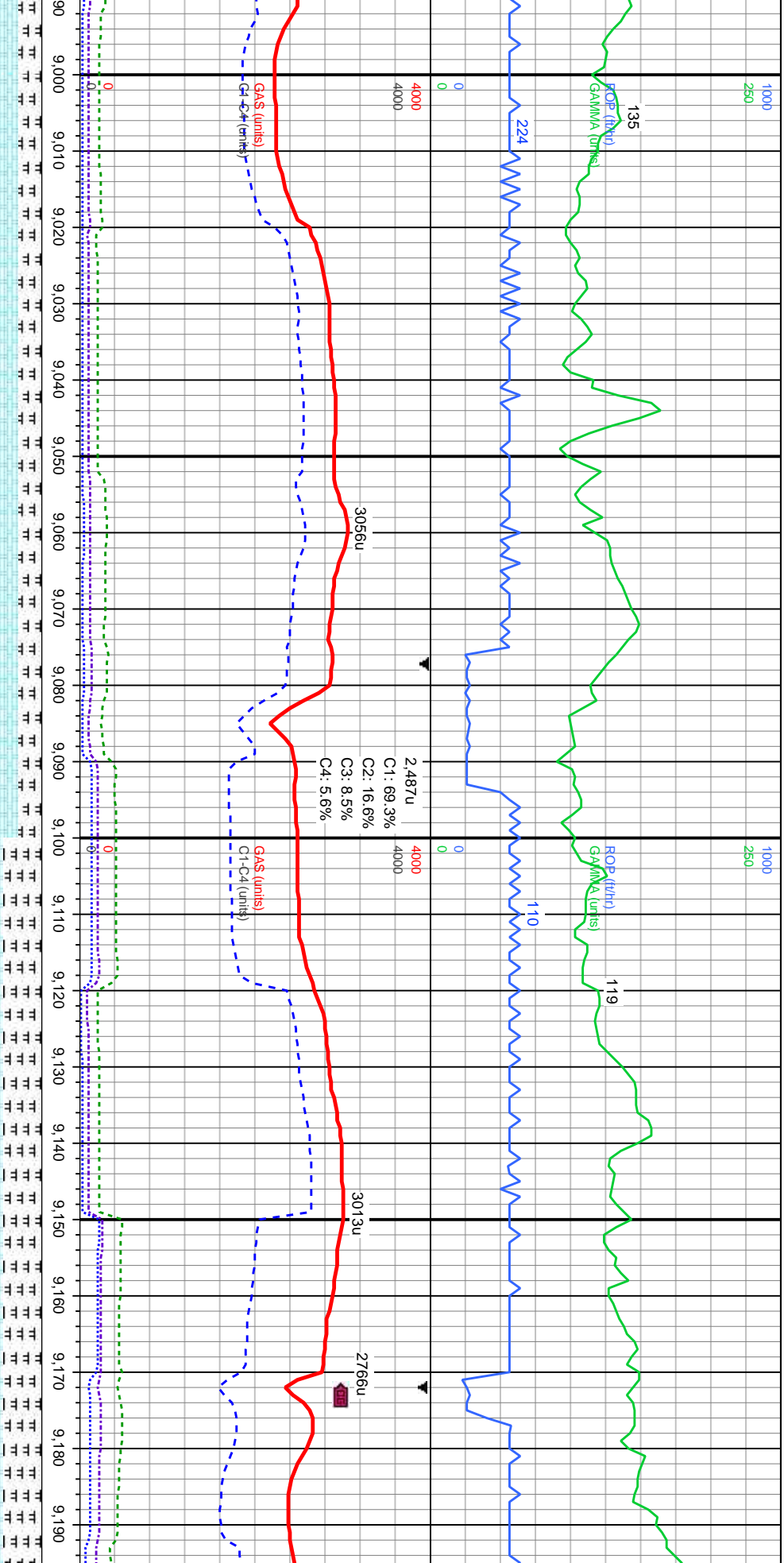
MD: 8.769'
Inclination: 90.74°
Azimuth: 93.06°
TYD: 7.655.83'
VS: 1.664.02'

8000

8000

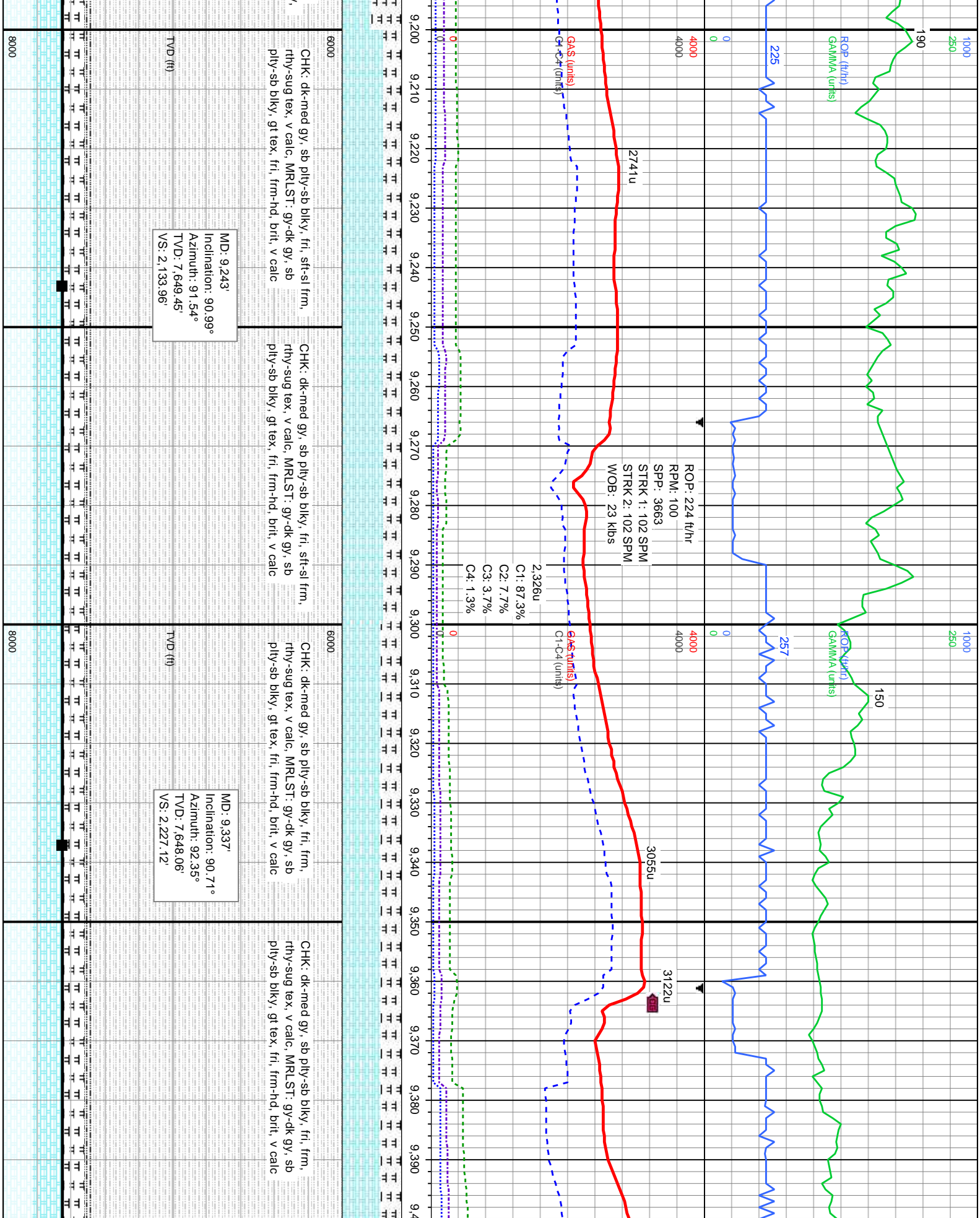


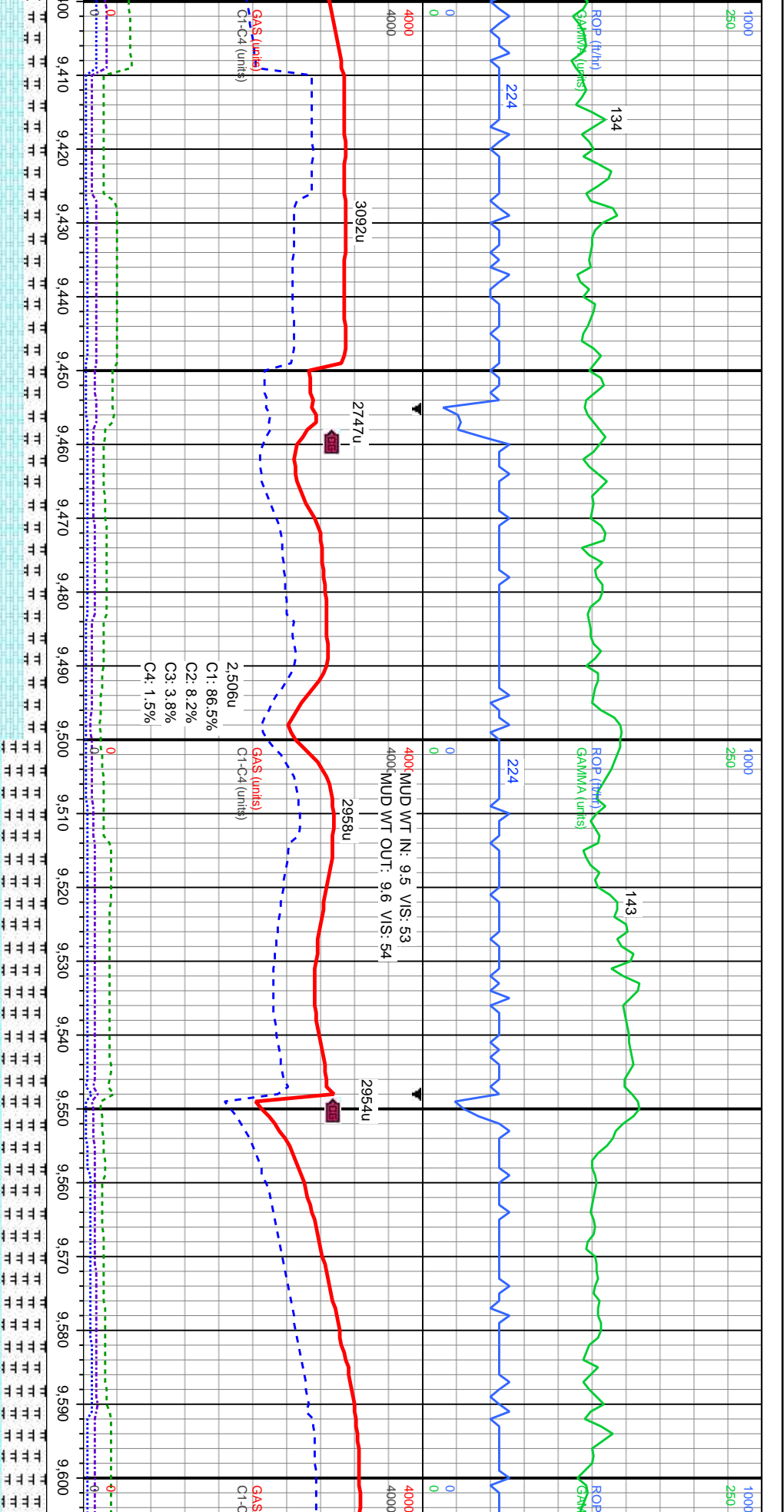
6000		6000		6000	
CHK: med gy, sb pily-sb blkly, fri, sft-si frm, rthy-sug tex, some mot, tr intbdd inoc fos, v calc, MRLST: gy-dk gy, sb pily-sb blkly, gt tex, fri, frm-hd, sl brlt, v calc		CHK: med gy, sb pily-sb blkly, fri, sft-si frm, rthy-sug tex, some mot, tr intbdd inoc fos, v calc, MRLST: gy-dk gy, sb pily-sb blkly, gt tex, fri, frm-hd, sl brlt, v calc		CHK: med gy, sb pily-pily, fri, sft-si frm, rthy-sug tex, some mot, tr v thin wh-tan bd, v calc, MRLST: gy-dk gy, sb pily-sb blkly, gt tex, fri, frm-hd, sl brlt, v calc, tr inoc fos	
MD: 8.864' Inclination: 90.71° Azimuth: 92.34° TVD: 7.654.63' VS: 1.758.01'		MD: 8.959' Inclination: 90.77° Azimuth: 91.97° TVD: 7.653.4' VS: 1.852.12'			
TVD (ft)		TVD (ft)			
8000		8000			



MD: 9.053°
Inclination: 90.65°
Azimuth: 91.14°
TVD: 7.652.24
VS: 1.945.37

MD: 9.148°
Inclination: 90.86°
Azimuth: 91.27°
TVD: 7.650.98
VS: 2.039.69

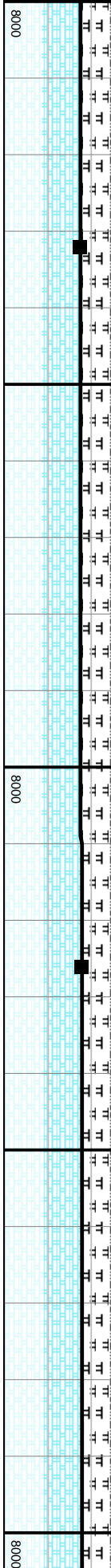


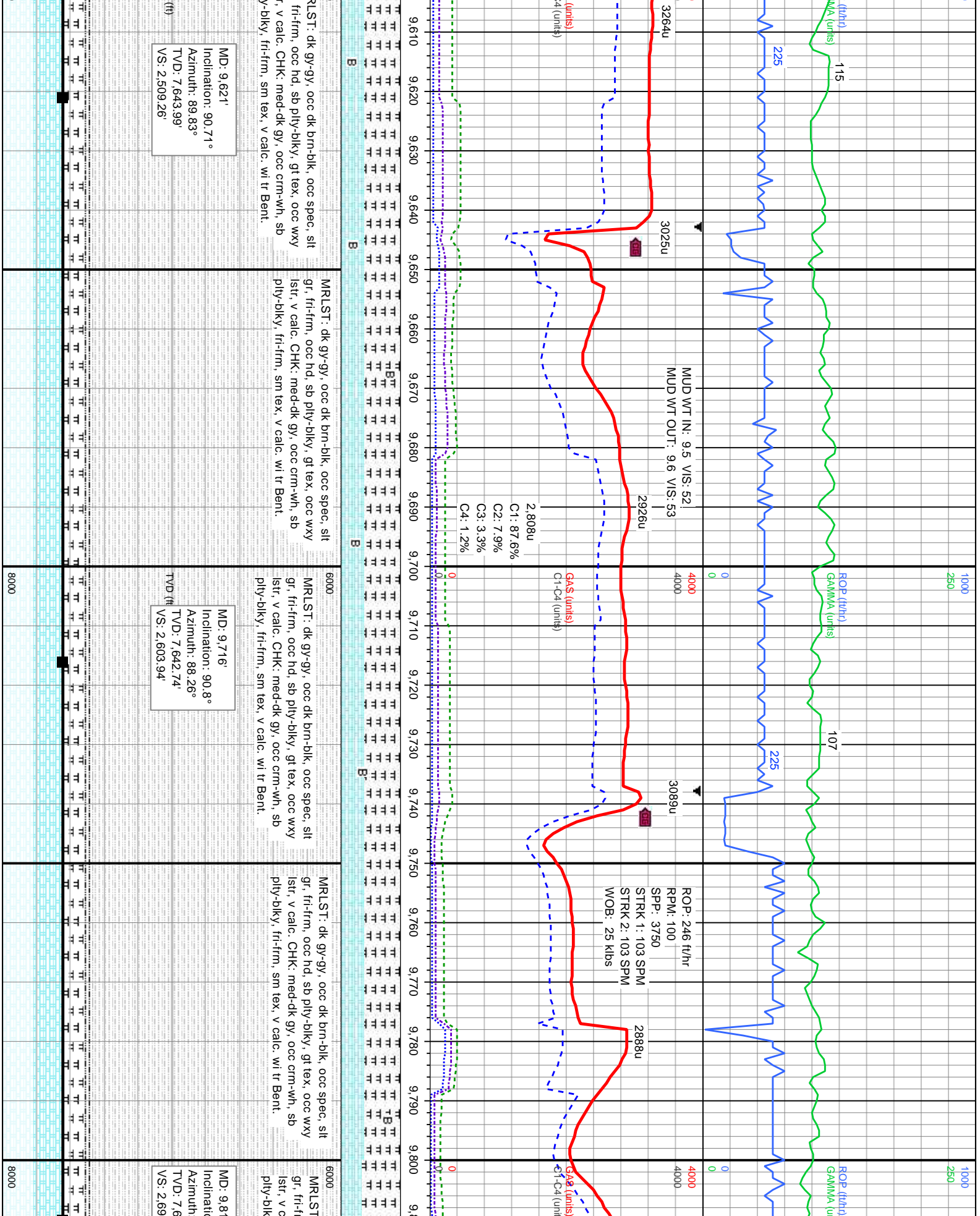


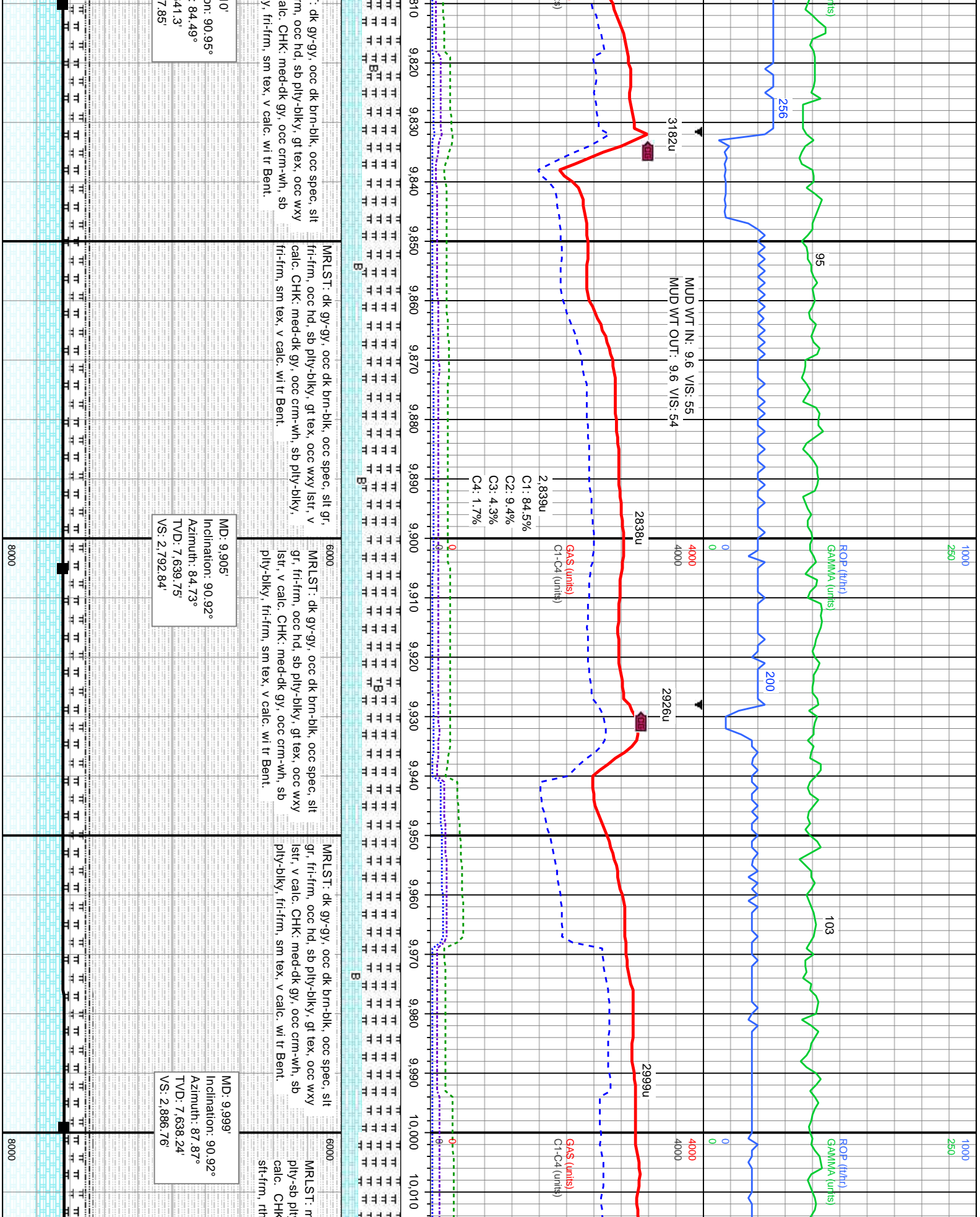
6000	6000	6000
CHK: lt-med gy, sb pily-pily, fri, sft-firm, sug tex, some mot v calc, MRLST: gy-dk gy, sb pily-sb biky, gt tex, fri, frm-hd, sl brit, v calc, tr inoc fos	CHK: lt-med gy, sb pily-pily, fri, sft-firm, sug tex, some mot v calc, MRLST: gy-dk gy, sb pily-sb biky, gt tex, fri, frm-hd, sl brit, v calc, tr inoc fos	MRLST: dk gy-gy, occ dk brn-blk, occ spec, silt gr, fri-firm, occ hd, sb pily-biky, gt tex, occ wxy lsrt, v calc. CHK: m-dk gy, occ crm-wh, sb pily-biky, fri-firm, sm tex, v calc.

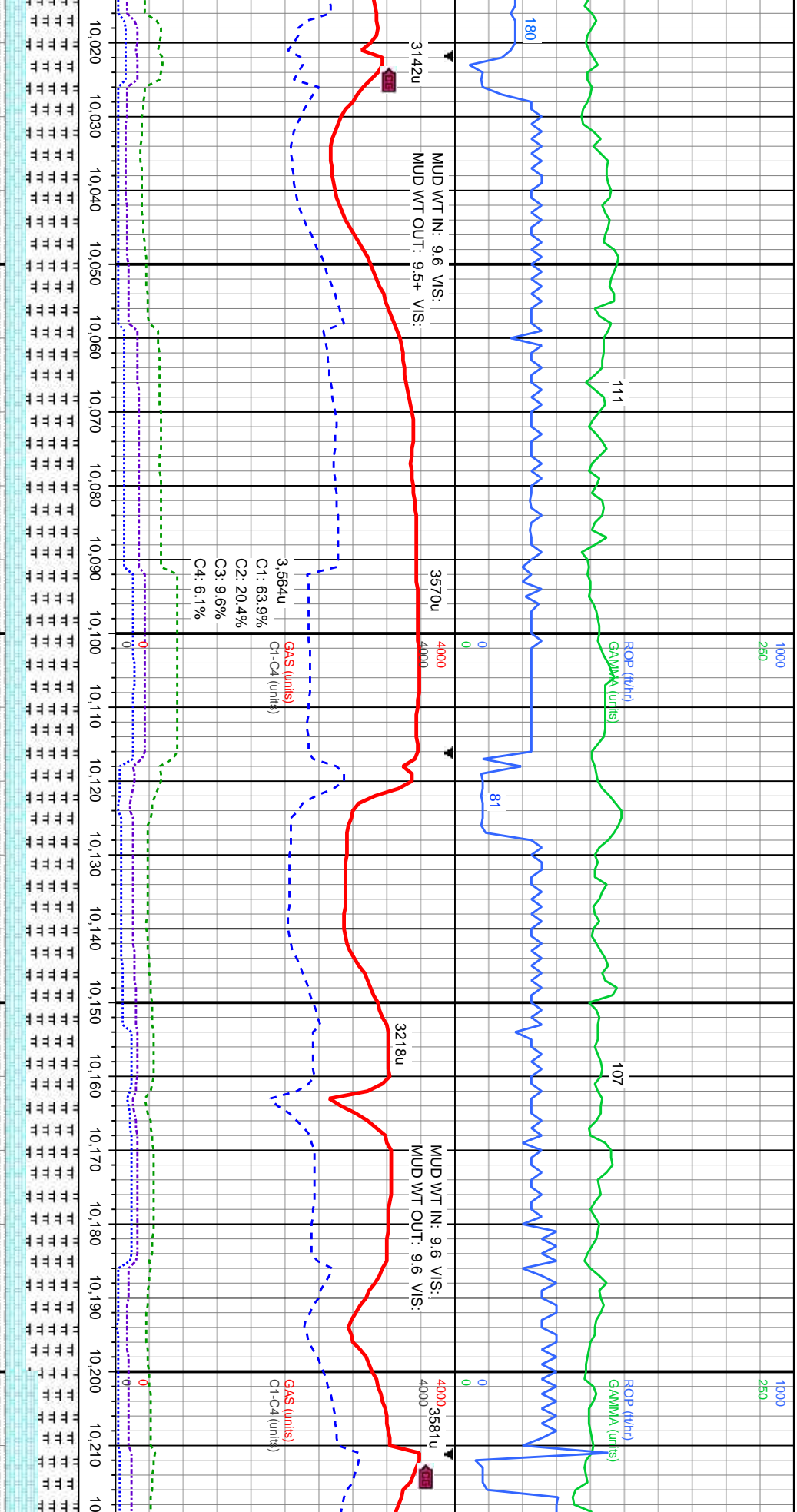
MD: 9.432'
Inclination: 90.8°
Azimuth: 91.58°
TVD: 7.646.8'
VS: 2.321.28'

MD: 9.526'
Inclination: 90.95°
Azimuth: 89.72°
TVD: 7.645.37'
VS: 2.414.7'



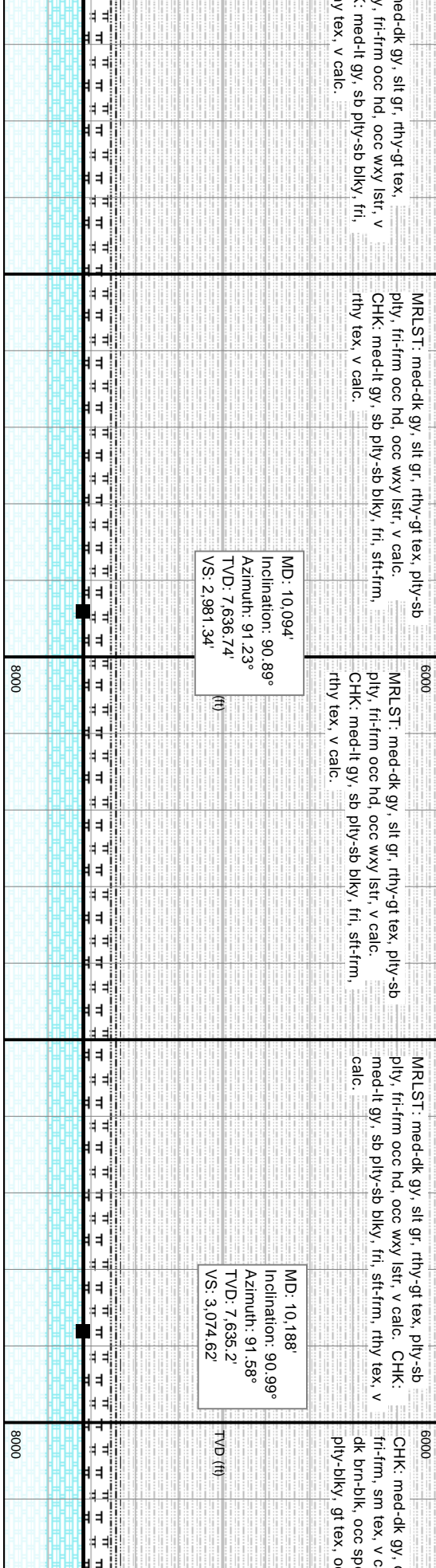


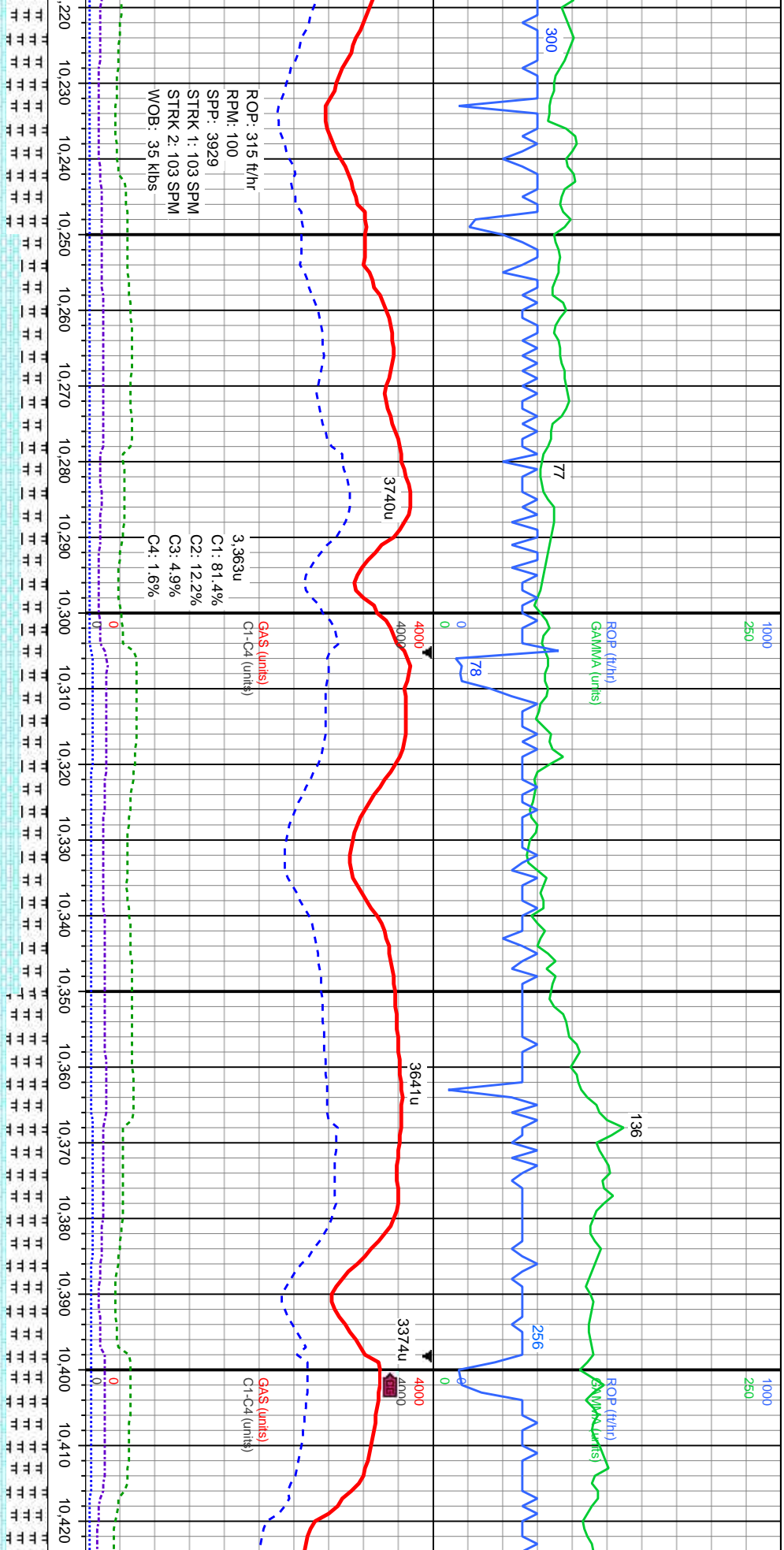




MD: 10,094'
Inclination: 90.89°
Azimuth: 91.23°
TVD: 7,636.74'
VS: 2,981.34'

MD: 10,188'
Inclination: 90.99°
Azimuth: 91.58°
TVD: 7,635.2'
VS: 3,074.62'





occ crm-wh, sb pily-blky,
alc. MRLST: dk gy-gy, occ
ec, slt gr, fri-frm, occ hd, sb
oc wxy lstr, v calc.

CHK: med-dk gy, occ crm-wh, sb pily-blky,
fri-frm, sm tex, v calc. MRLST: dk gy-gy, occ dk
brn-blk, occ spec, slt gr, fri-frm, occ hd, sb
pily-blky, gt tex, occ wxy lstr, v calc.

MD: 10,283'
Inclination: 90.71°
Azimuth: 91.1°
TVD: 7,633.79'
VS: 3,168.91'

6000
CHK: med-dk gy, occ crm-wh, sb pily-blky,
fri-frm, sm tex, v calc. MRLST: dk gy-gy, occ
dk brn-blk, occ spec, slt gr, fri-frm, occ hd,
sb pily-blky, gt tex, occ wxy lstr, v calc.

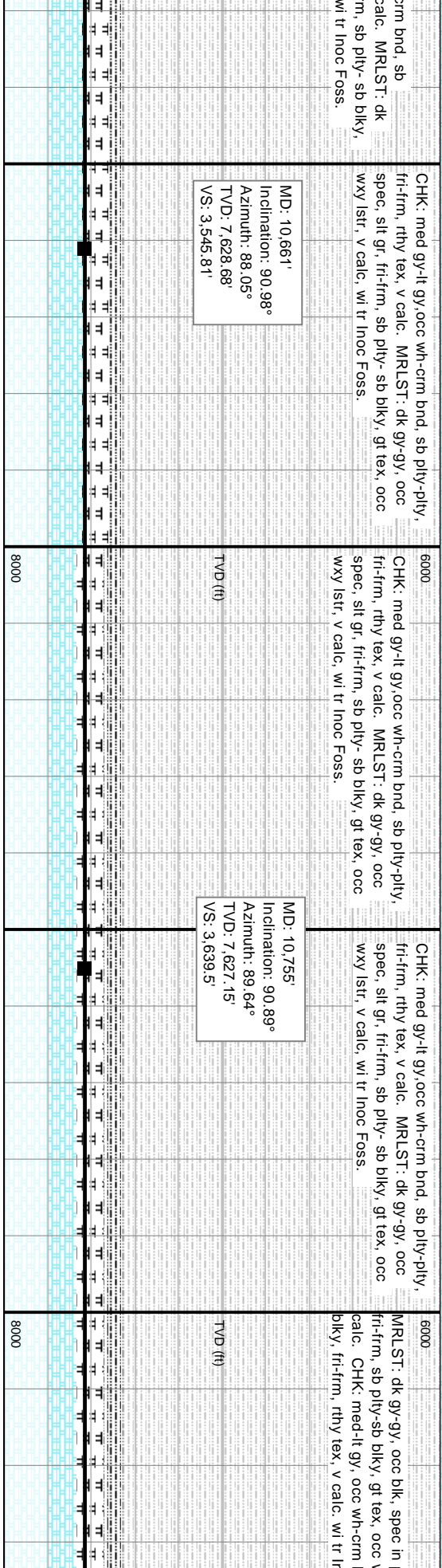
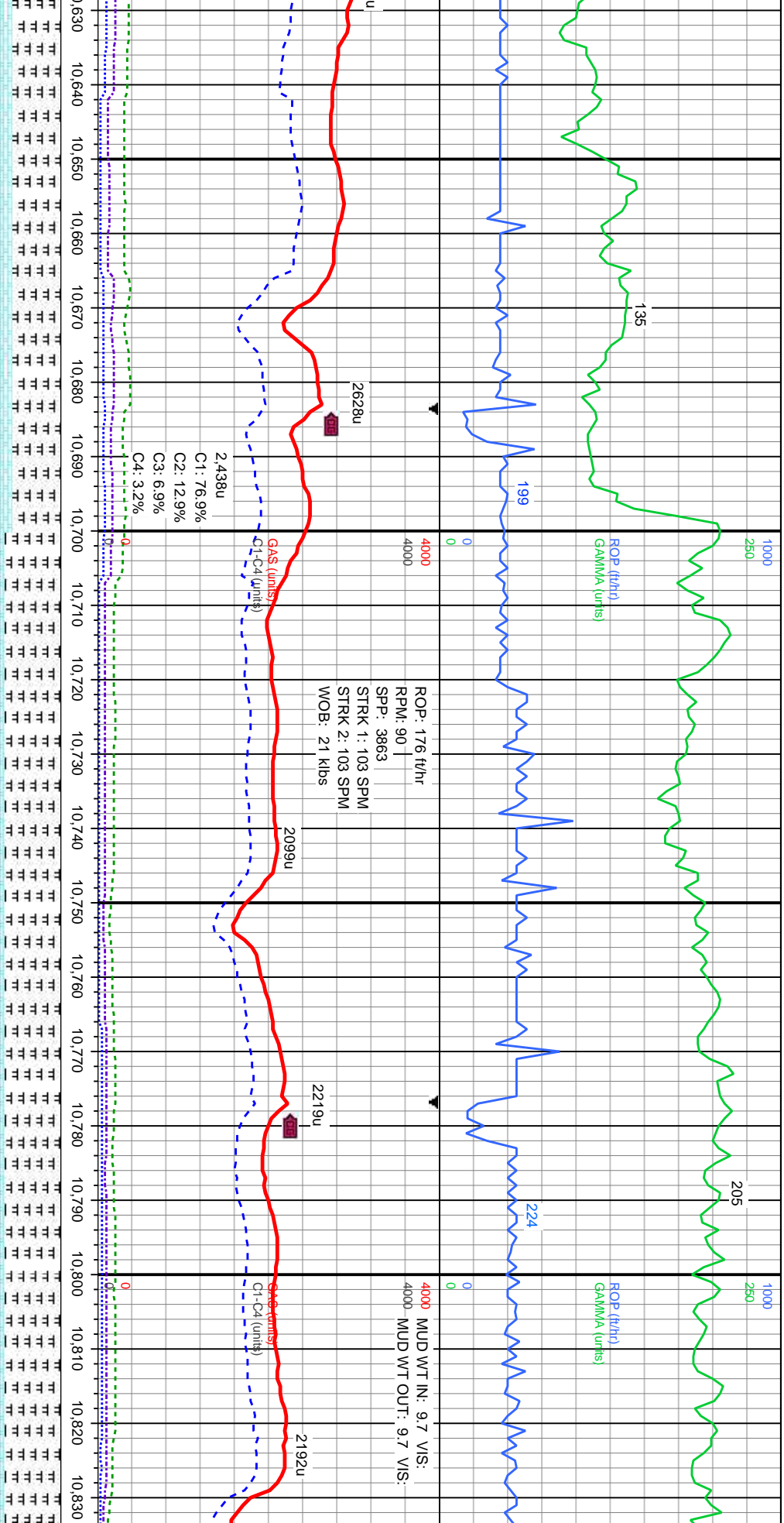
TVD (ft)

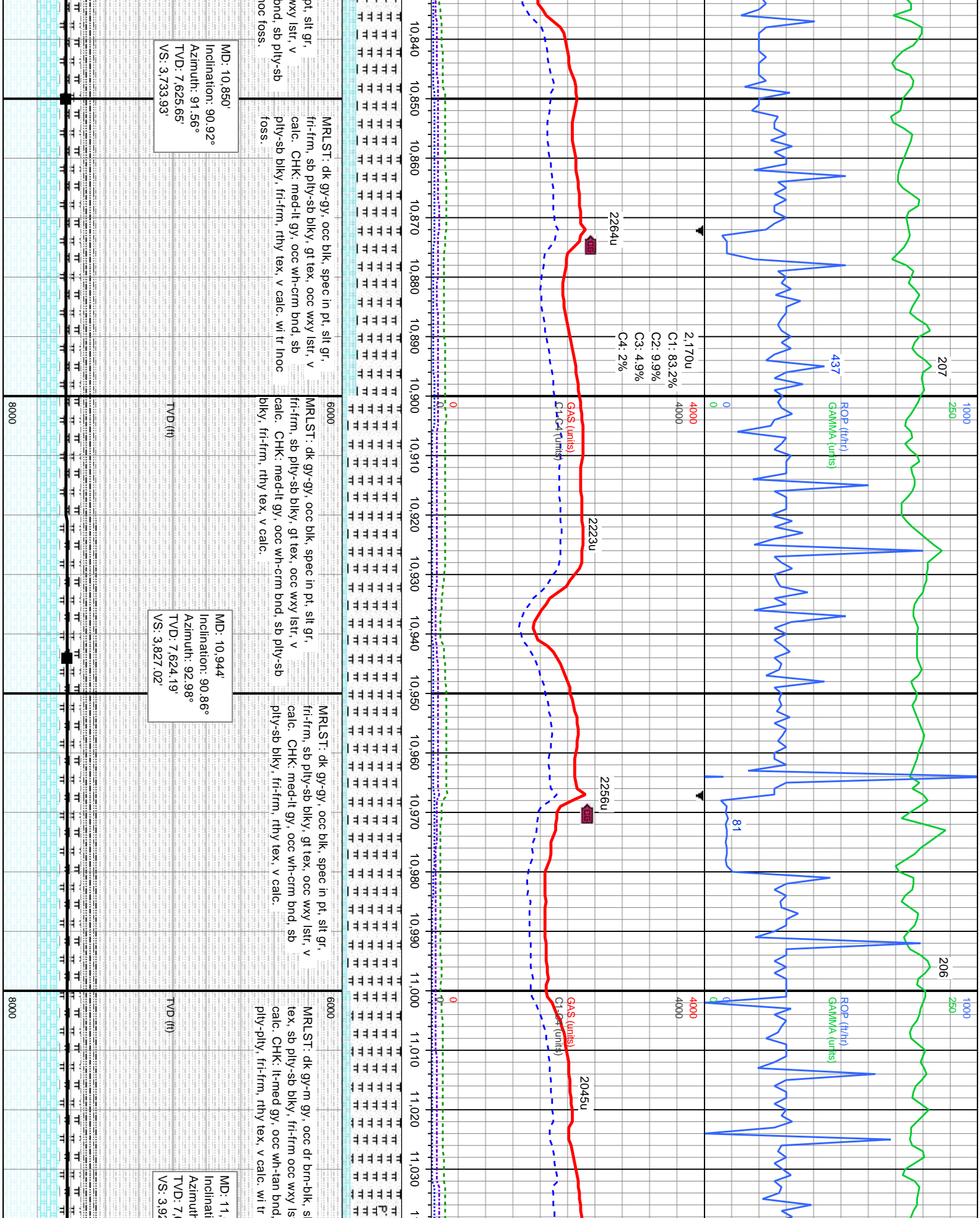
CHK: med-dk gy, occ crm-wh, sb pily-blky,
fri-frm, sm tex, v calc. MRLST: dk gy-gy, occ dk
brn-blk, occ spec, slt gr, fri-frm, occ hd, sb
pily-blky, gt tex, occ wxy lstr, v calc.

MD: 10,377'
Inclination: 90.71°
Azimuth: 91.02°
TVD: 7,632.63'
VS: 3,262.26'

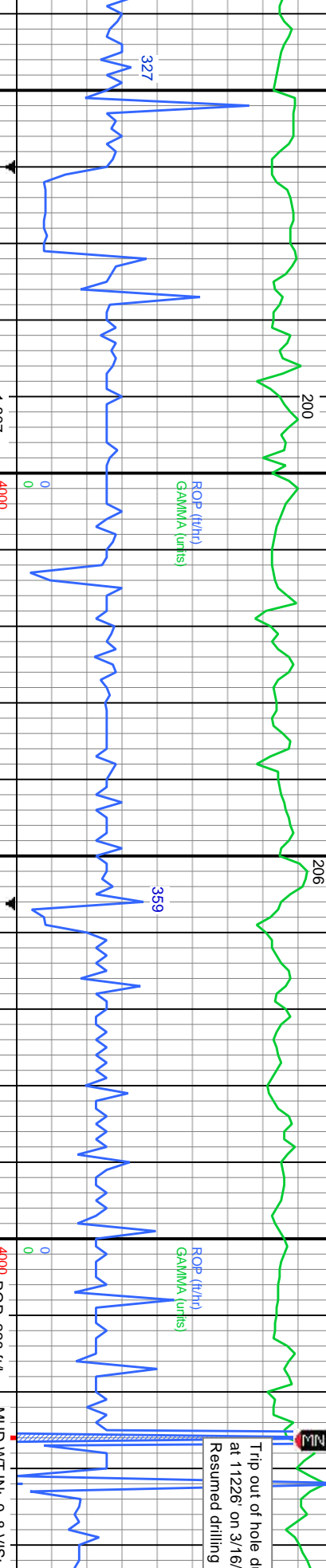
TVD (ft)

6000
CHK: med-dk gy, occ crm-wh, sb pily-blky,
fri-frm, sm tex, v calc. MRLST: dk gy-gy, occ dk
brn-blk, occ spec, slt gr, fri-frm, occ hd, sb
pily-blky, gt tex, occ wxy lstr, v calc.



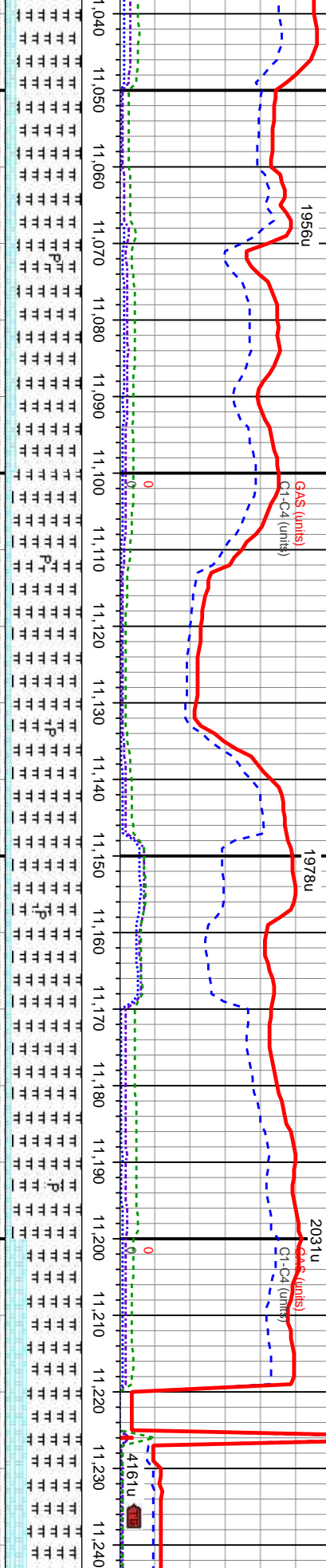


Trip out of hole d
at 11226' on 3/16/
Resumed drilling



1,807u
C1: 85.6%
C2: 8.6%
C3: 4%
C4: 1.8%

4000 ROP: 228 ft/hr
4000 RPM: 110
SPP: 4087
STRK 1: 103 SPM
STRK 2: 103 SPM
WOB: 30 klbs
MUD WT IN: 9.8 VIS:
MUD WT OUT: 9.8 VIS:



sb pily-sb bily, fri-frm occ wxy lstr, v calc.
CHK: lt-med gy, occ wh-tan bnd, mot, sb
pily-pily, fri-frm, rthy tex, v calc. wi tr Pyr.

MR LST: dk gy-m gy, occ dr brn-blk, slt gr, gt tex,
sb pily-sb bily, fri-frm occ wxy lstr, v calc.
CHK: lt-med gy, occ wh-tan bnd, mot, sb
pily-pily, fri-frm, rthy tex, v calc. wi tr Pyr.

MR LST: dk gy-m gy, occ dr brn-blk, slt gr, gt tex,
sb pily-sb bily, fri-frm occ wxy lstr, v calc.
CHK: lt-med gy, occ wh-tan bnd, mot, sb
pily-pily, fri-frm, rthy tex, v calc. wi tr Pyr.

MR LST: dk-med gy, slt gr, gt tex, sb pily-sb
fri, frm-hd, occ wxy lstr, v calc. CHK: med g
occ wh-tan bnd, mot, sb pily-pily, fri, slt-frm
rthy-sug tex, v calc, tr bent.

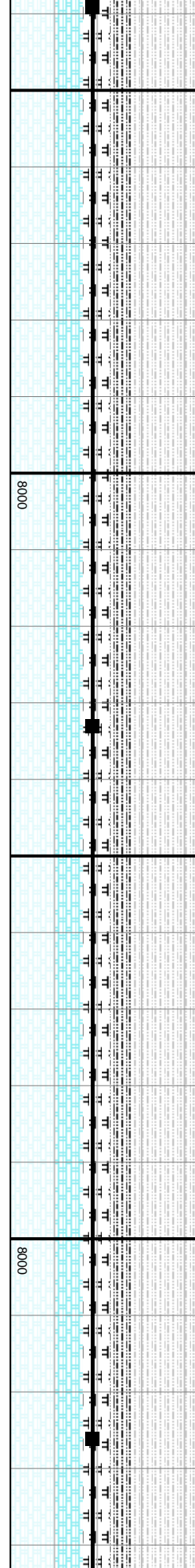
039'
on: 90.95°
i: 94.27°
6322.69'
0.76'

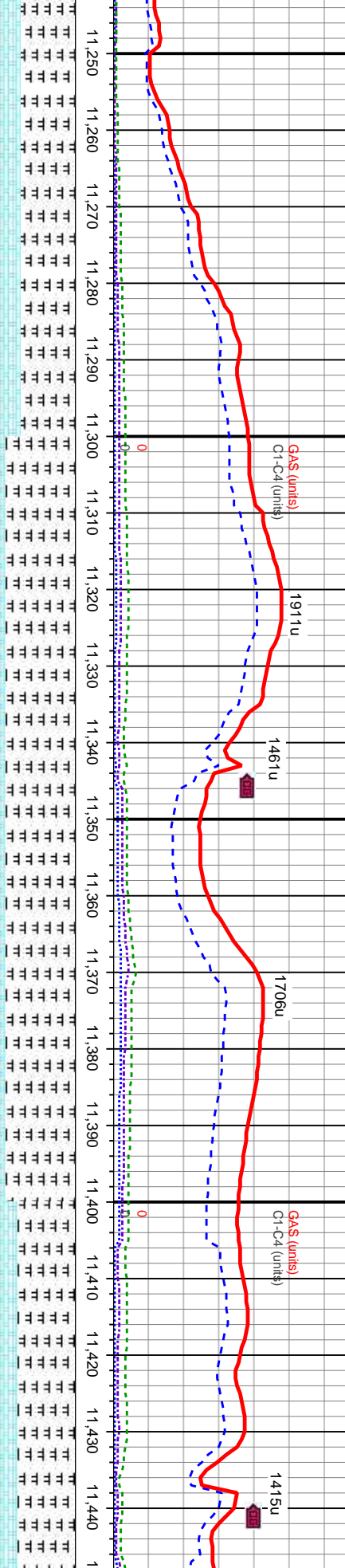
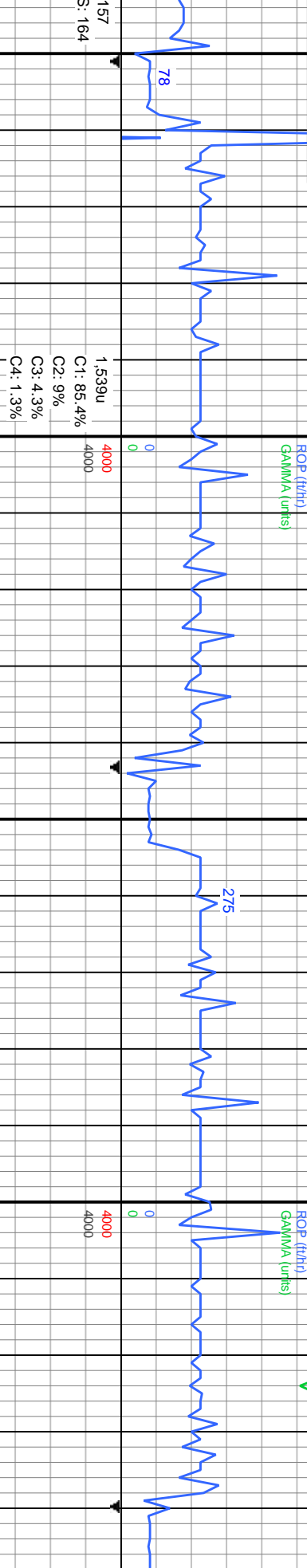
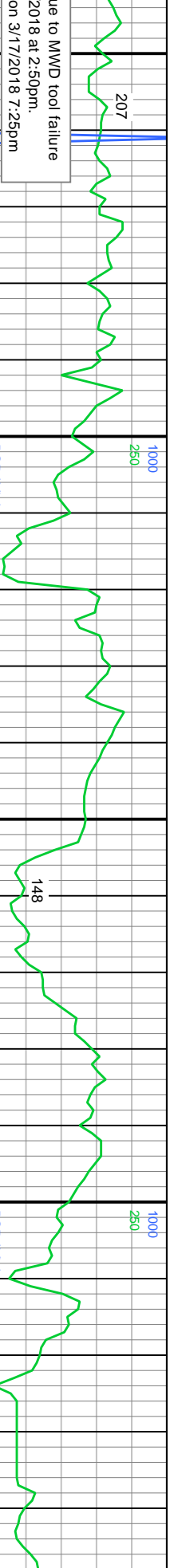
TVD (ft)

MD: 11,133'
Inclination: 90.98°
Azimuth: 93.48°
TVD: 7,621.11'
VS: 4,013.46'

TVD (ft)

MD: 11,226'
Inclination: 91.05°
Azimuth: 93.89°
TVD: 7,619.46'
VS: 4,105.21'





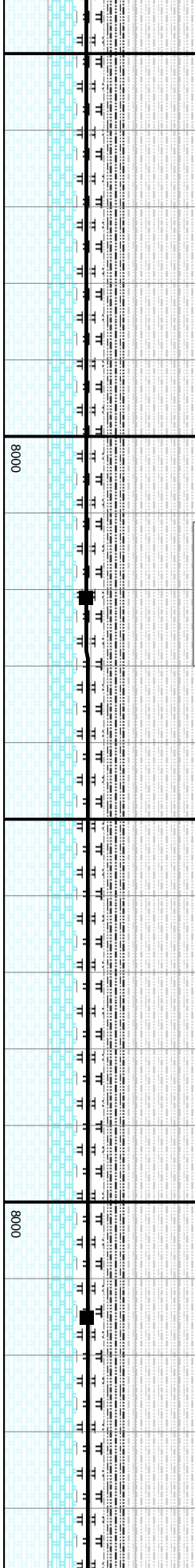
MRSLT: dk-med gy, slt gr, gt tex, sb pily-sb blkly, fri, frm-hd, occ wxy lst, v calc. CHK: med gy, occ wh-tan brd, mot, sb pily-pily, fri, slt-frm, rthy-sug tex, v calc, tr bent.

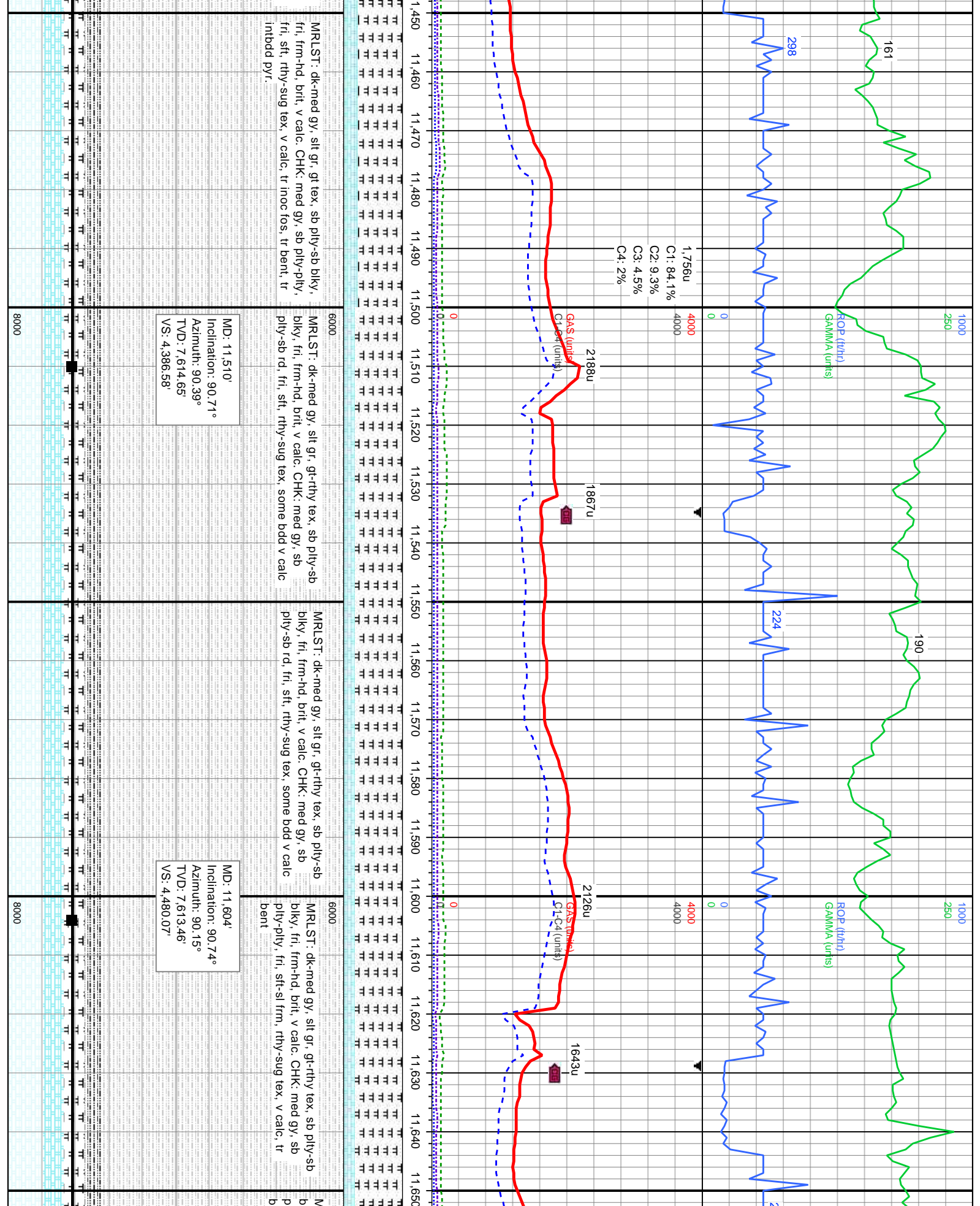
MRSLT: dk-med gy, slt gr, gt tex, sb pily, fri, sb hd-hd, brt, v calc. CHK: med gy, sb pily-pily, fri, sft, rthy-sug tex, v calc, tr inoc fos.

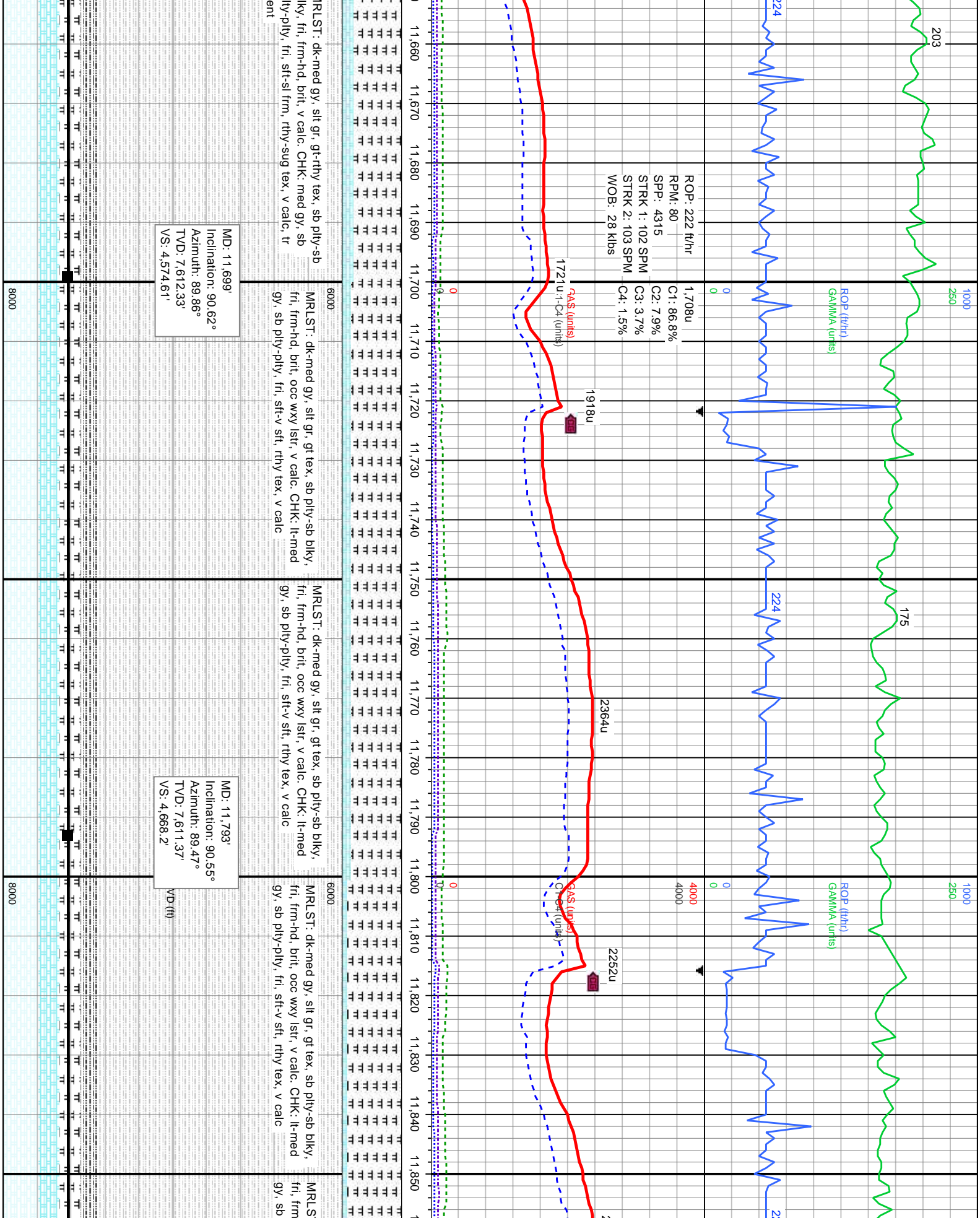
MRSLT: dk-med gy, slt gr, gt tex, sb pily, fri, sb hd-hd, brt, v calc. CHK: med gy, sb pily-pily, fri, sft, rthy-sug tex, v calc, tr inoc fos.

MD: 11,321'
Inclination: 91.11°
Azimuth: 92.72°
TVD: 7,617.67'
VS: 4,199.04'

MD: 11,415'
Inclination: 90.92°
Azimuth: 91.24°
TVD: 7,616'
VS: 4,292.19'







03/17/2018 03/18/2018

MINDEPTH

1000 250

177

153

146

ROP (ft/hr)
GAMMA (units)

ROP (ft/hr)
GAMMA (units)

25

224

200

0

0

2,044u
C1: 87.9%
C2: 8.2%
C3: 3.1%
C4: 0.8%

400u
4000

3372u

2609u

2057u

2346u

GAS (units)
CL-Oil (units)

GAS (units)
CL-Oil (units)

0

0

11,860 11,870 11,880 11,890 11,900 11,910 11,920 11,930 11,940 11,950 11,960 11,970 11,980 11,990 12,000 12,010 12,020 12,030 12,040 12,050 12,060

T: dk-med gy, silt gr, gt tex, sb pily-sb blkly,
hd, brit, occ wxy lsir, v calc. CHK: lt-med
pily-pily, fri, silt-v silt, rthy tex, v calc

MRLST: dk-med gy, silt gr, gt tex, sb pily-sb rd,
fri, frm-hd, brit, occ wxy lsir, v calc. CHK: lt-med
gy, sb pily-sb blkly, fri, silt-frm, sug tex, v calc

MRLST: dk-med gy, silt gr, gt tex, sb pily-sb rd,
fri, frm-hd, brit, occ wxy lsir, v calc. CHK: lt-med
gy, sb pily-sb blkly, fri, silt-frm, sug tex, v calc

MRLST: dk-med gy, silt gr, gt tex, sb pily, fri,
frm-hd, brit, occ wxy lsir, v calc. CHK: lt-med gy,
sb pily-pily, fri, v silt-silt, sug-rthy tex, v calc, tr
bent

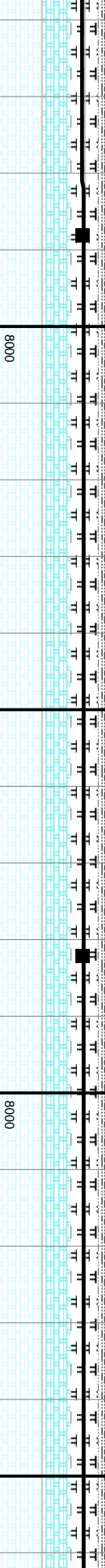
MRLST: dk
frm-hd, brit,
sb pily-pily,
bent

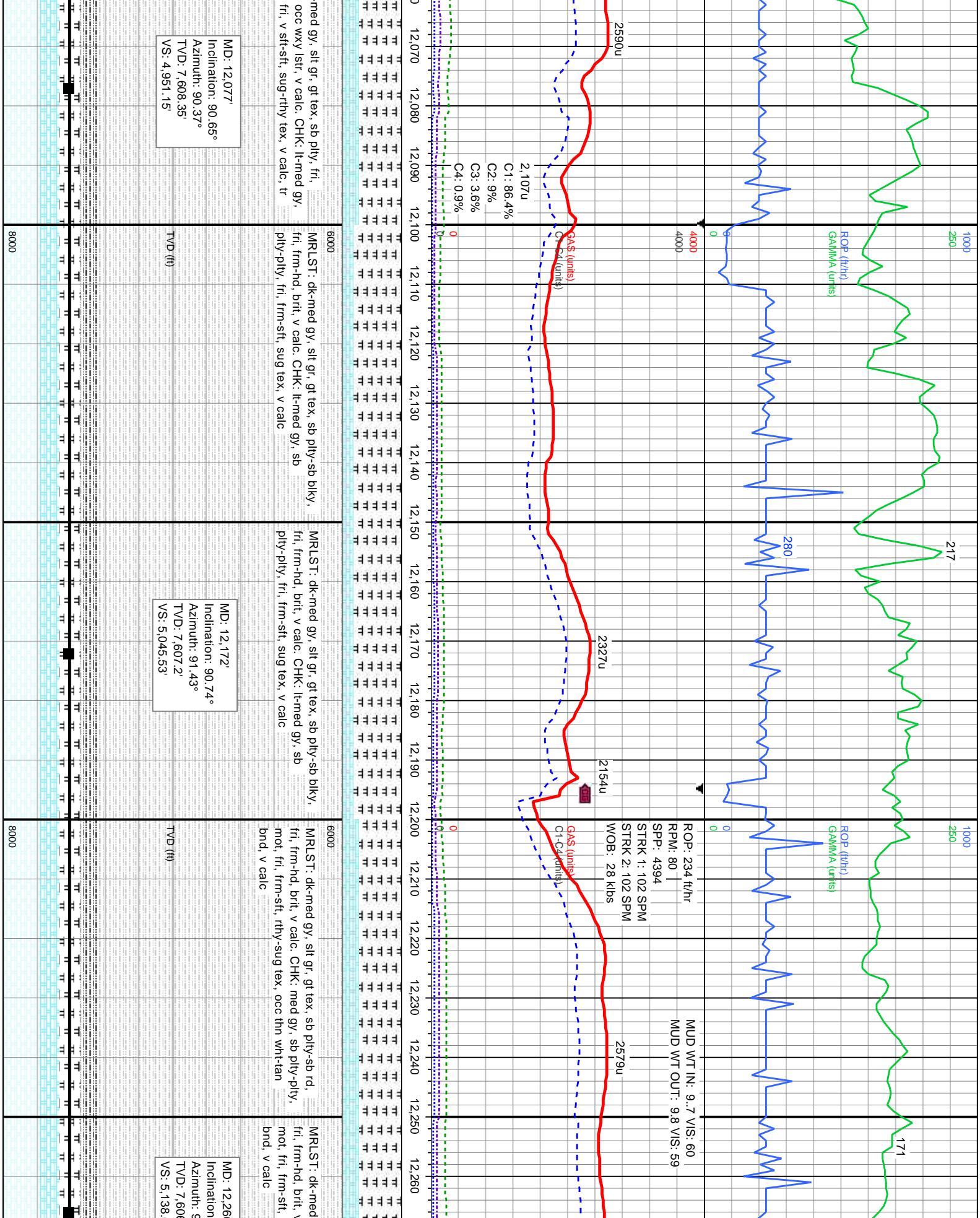
MD: 11,888'
Inclination: 90.55°
Azimuth: 89.05°
TVD: 7,610.46'
VS: 4,762.85'

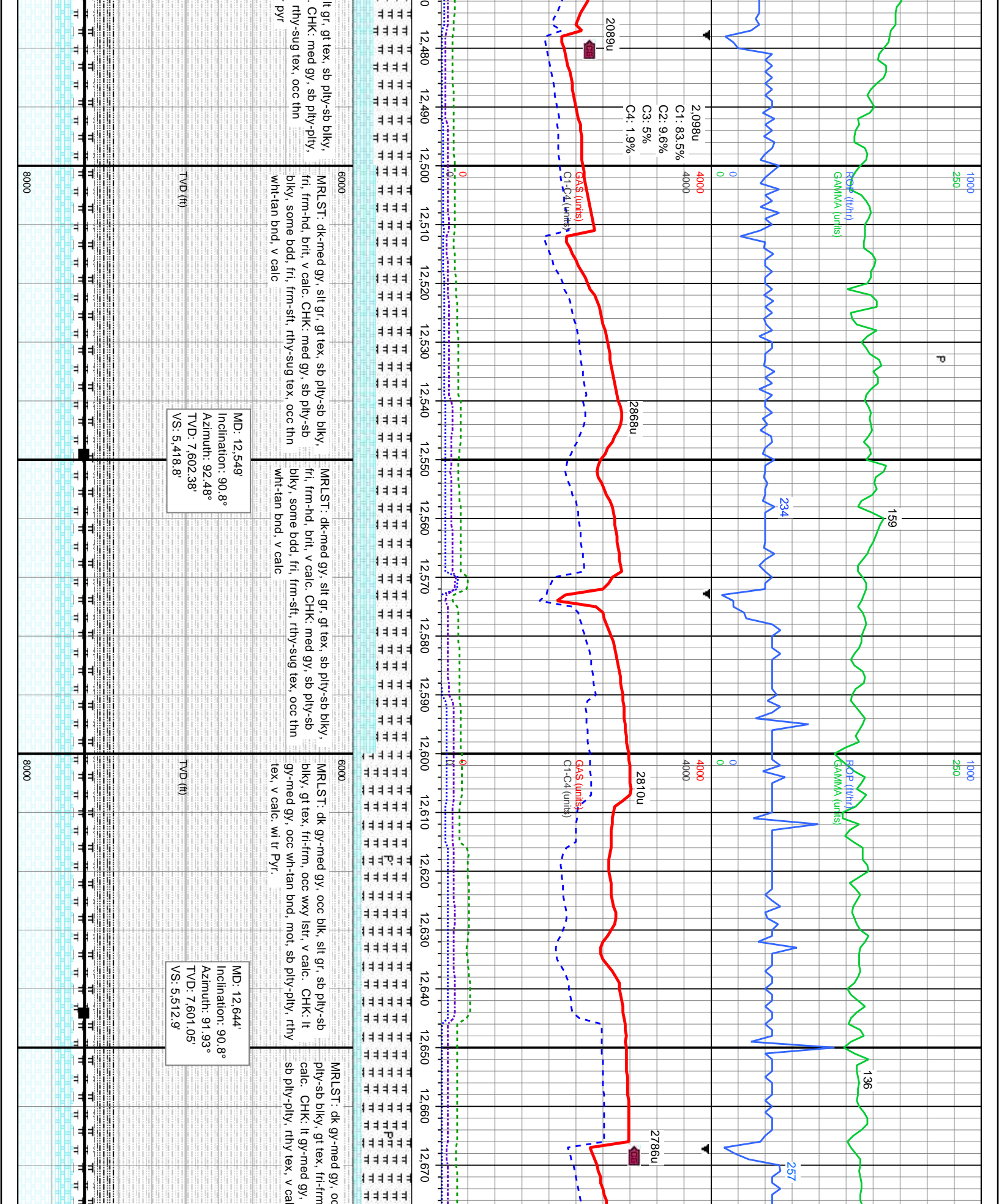
MD: 11,982'
Inclination: 90.68°
Azimuth: 88.69°
TVD: 7,609.45'
VS: 4,856.55'

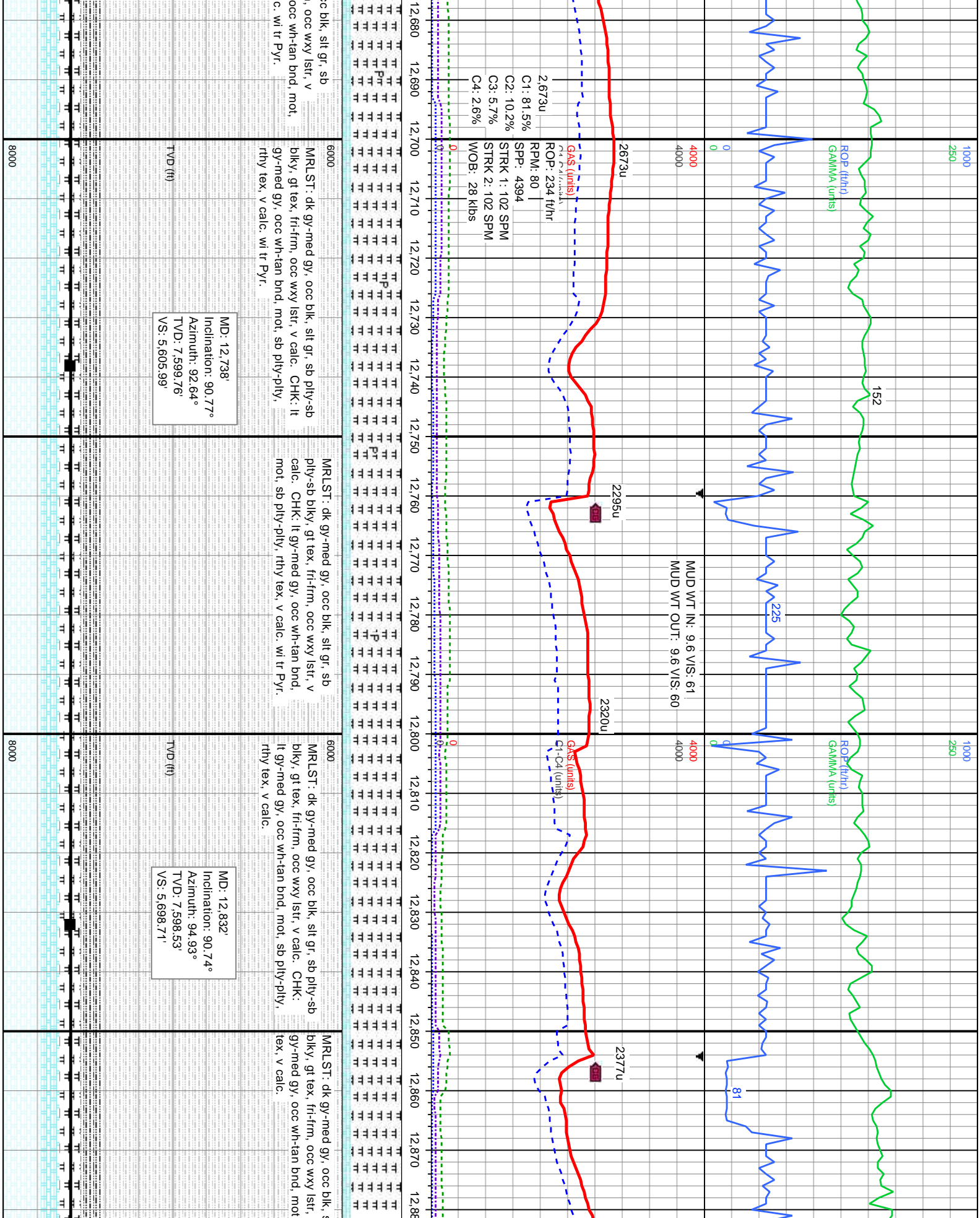
TVD (ft)

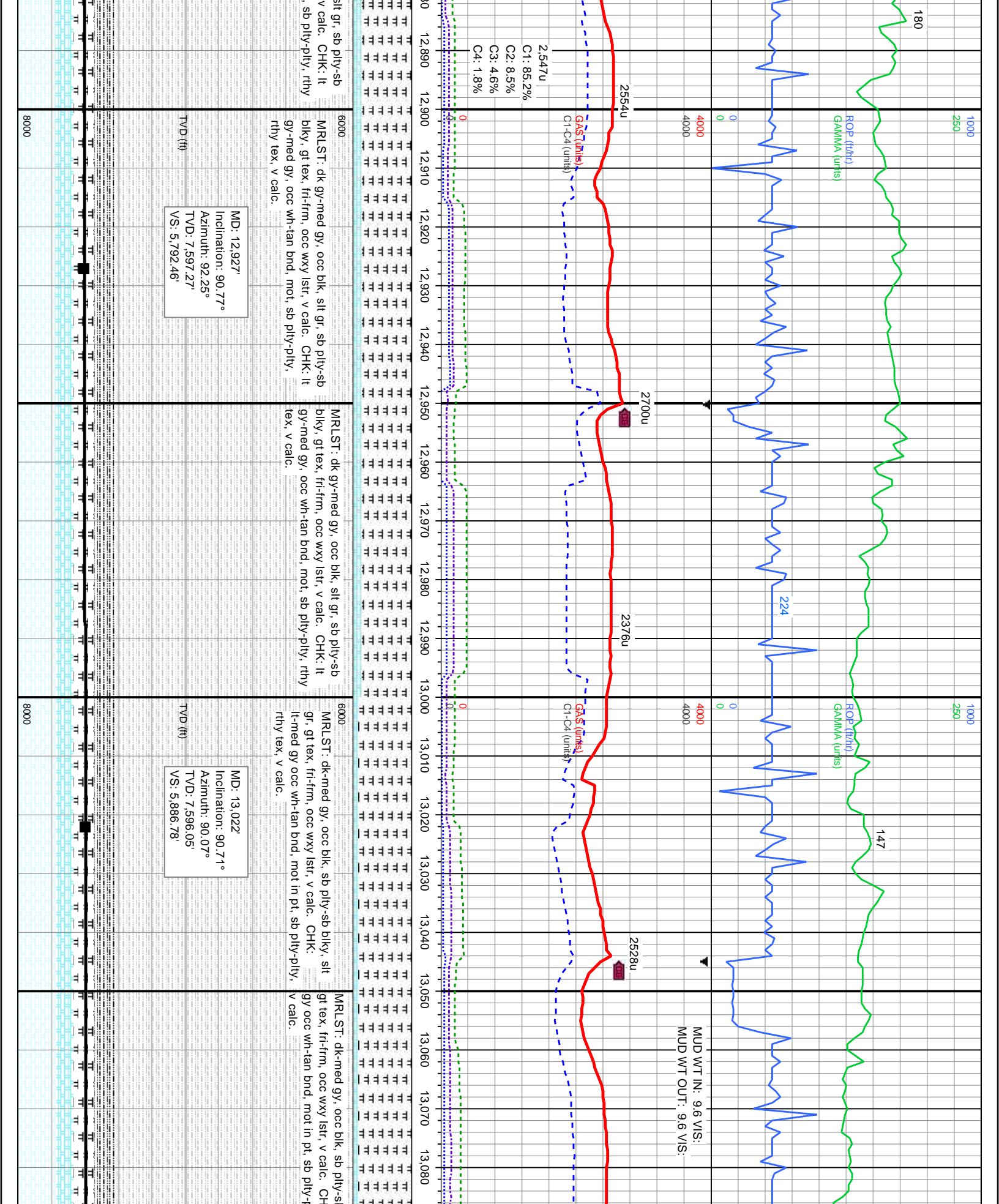
TVD (ft)

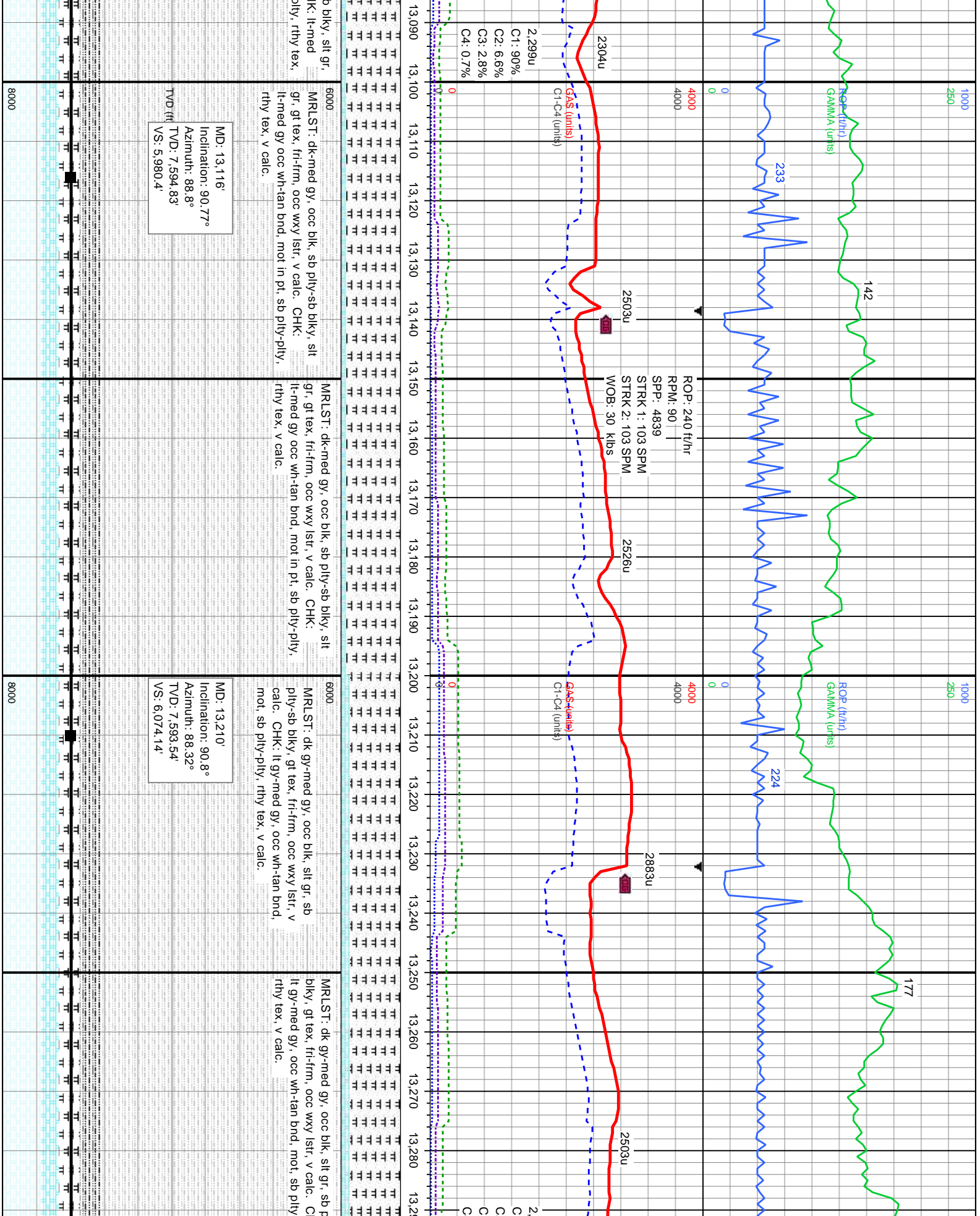


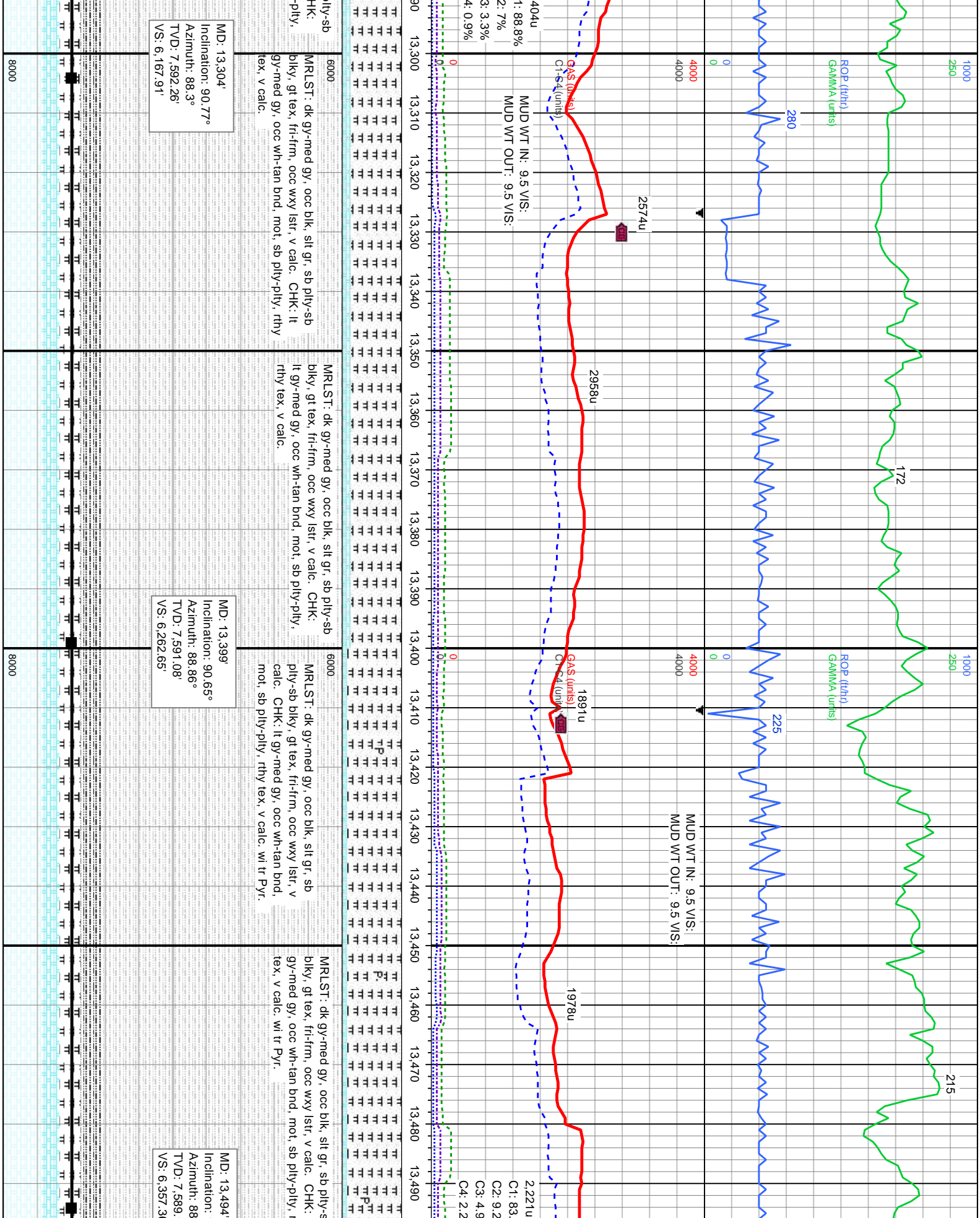


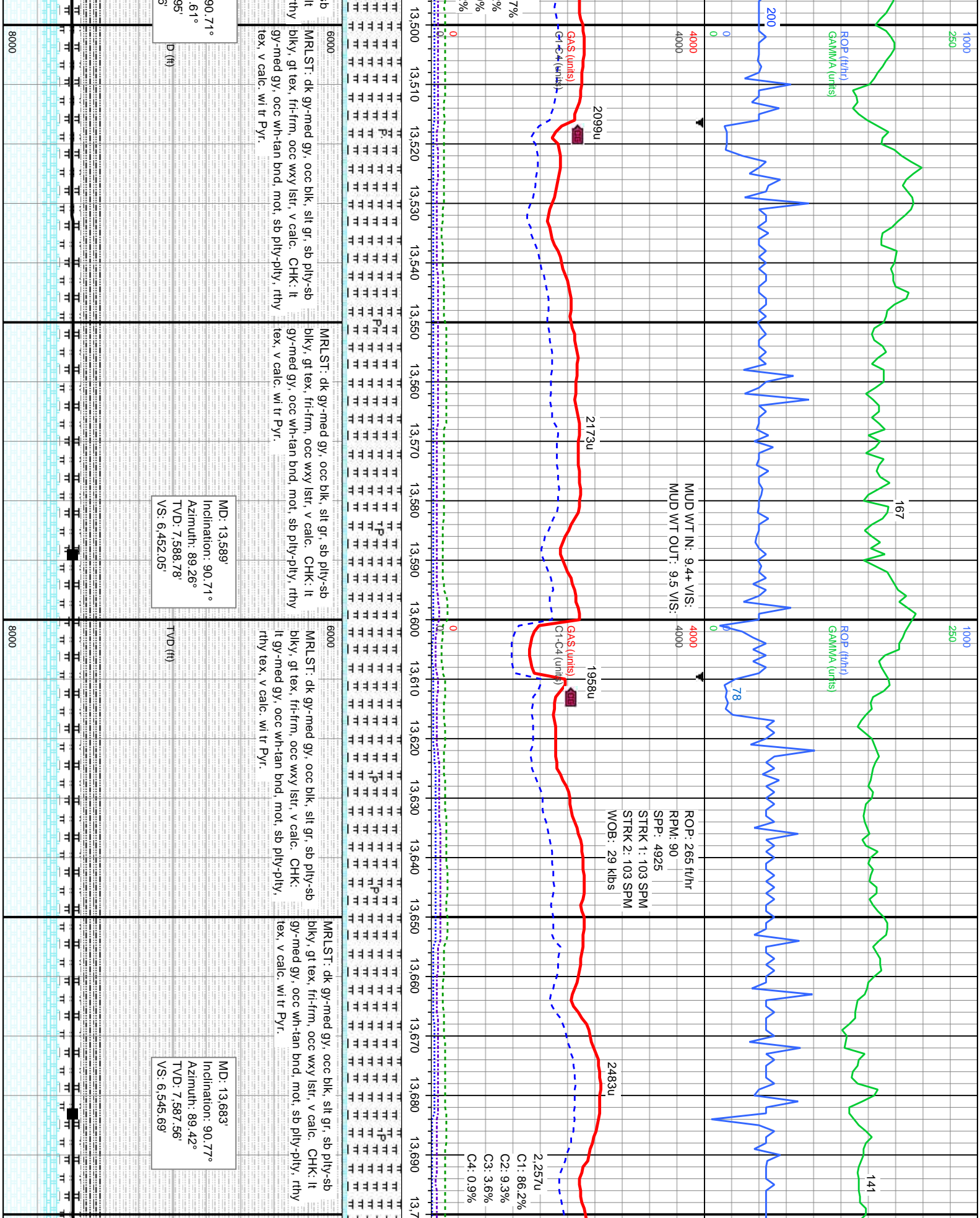


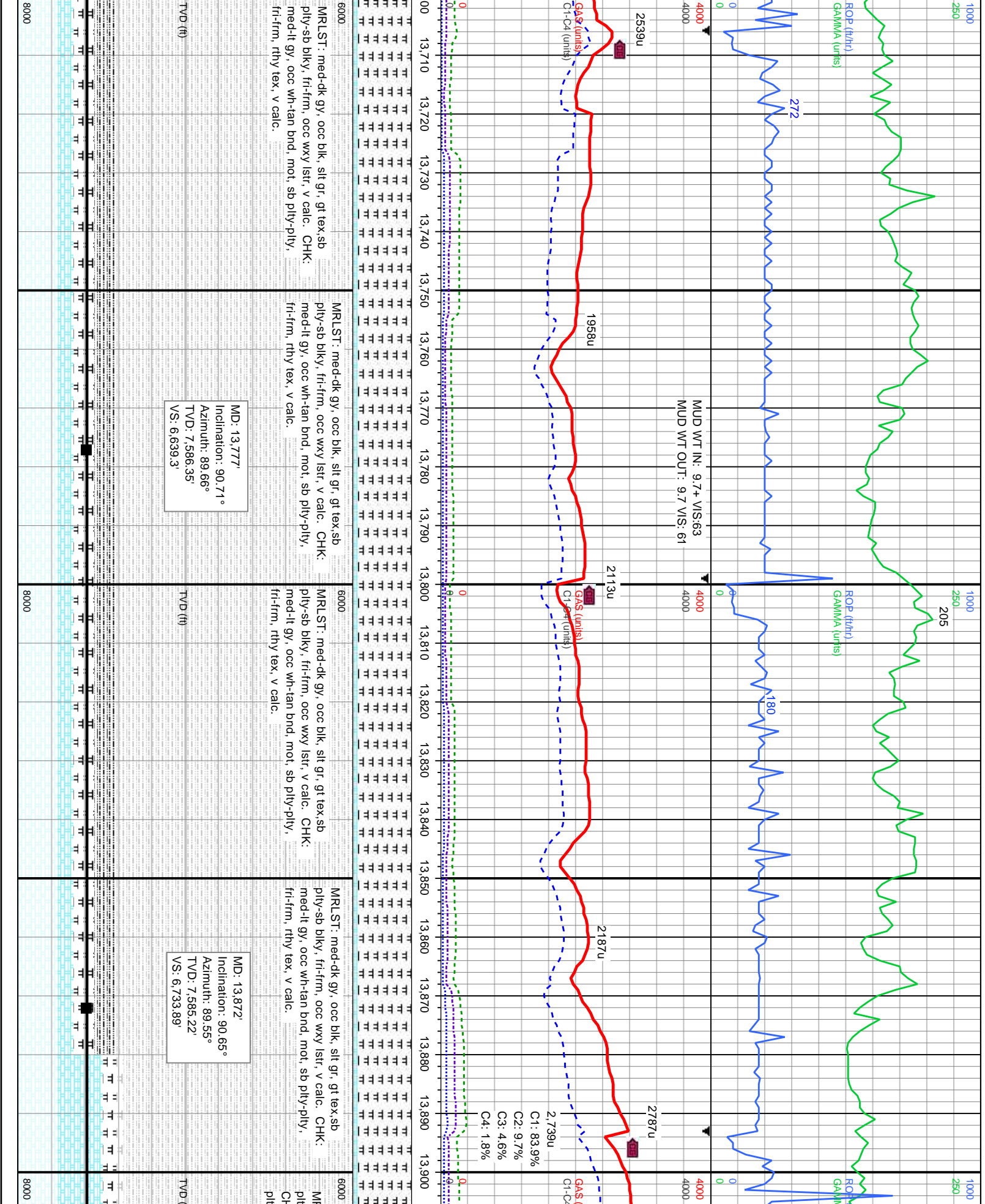


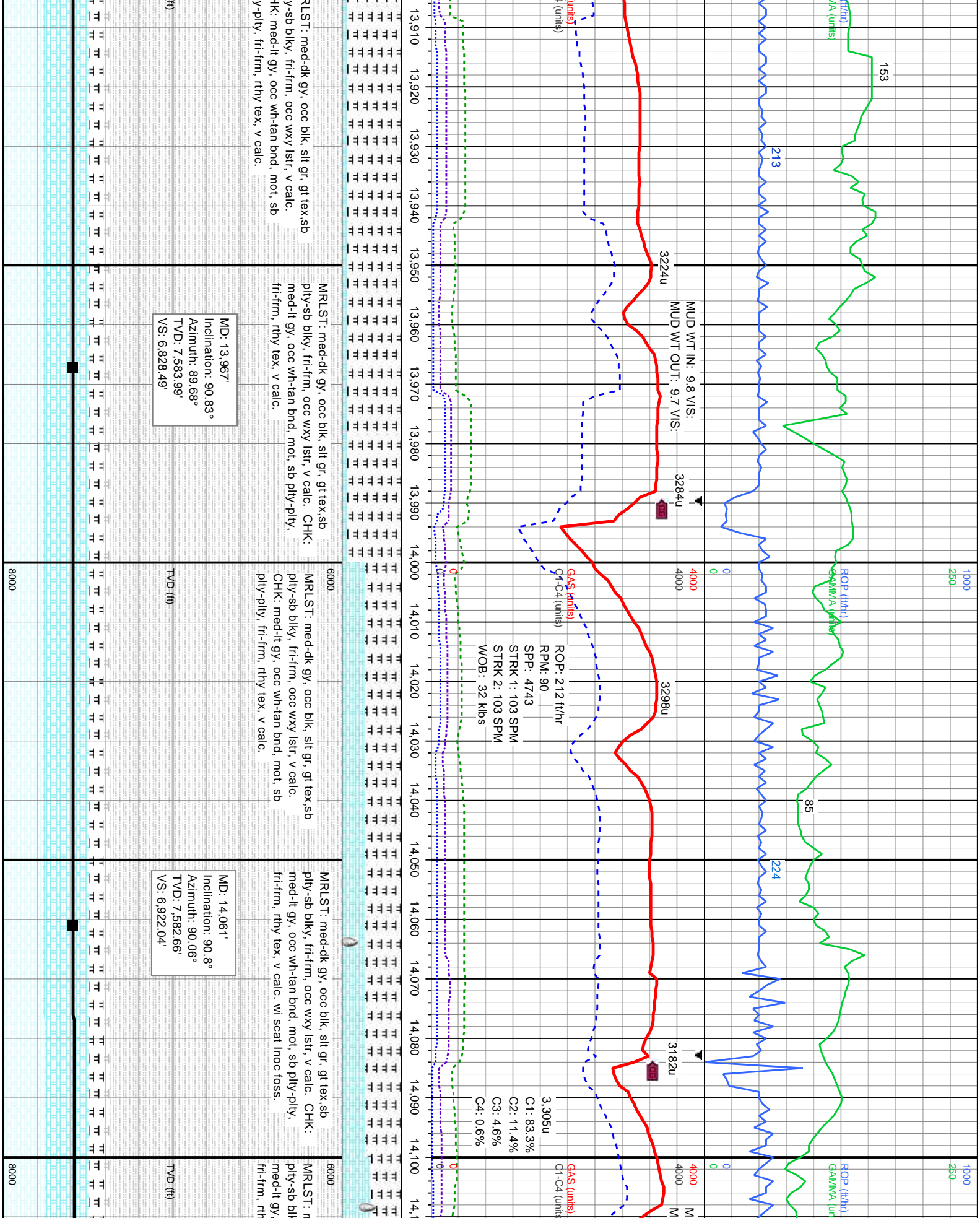


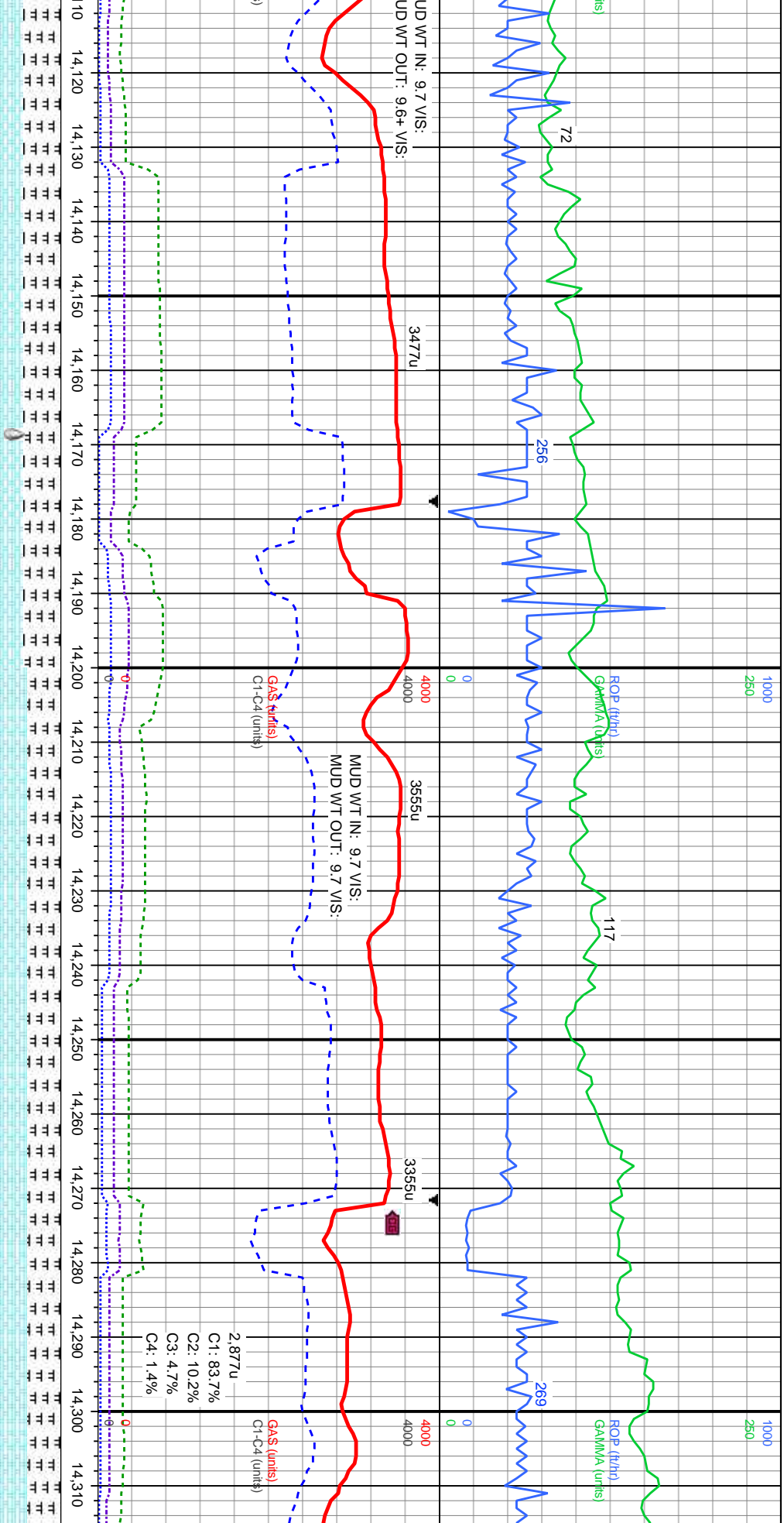












med-dk gy, occ blk, silt gr, gt tex sb
y, fri-frn, occ wxy lstr, v calc. CHK:
occ wh-tan bnd, mot, sb pily-pily,
y tex, v calc. wi scat inoc foss.

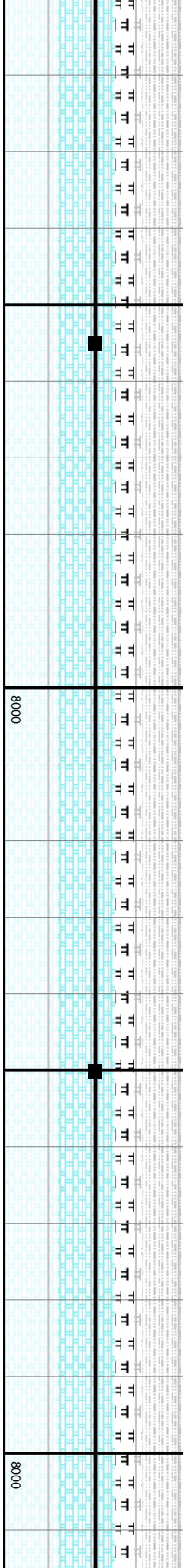
MRLST: med-dk gy, occ blk, silt gr, gt tex, sb
pily-sb blk, fri-frn, occ wxy lstr, v calc. CHK:
med-lt gy, occ wh-tan bnd, mot, sb pily-pily,
fri-frn, rthy tex, v calc. wi scat inoc foss.

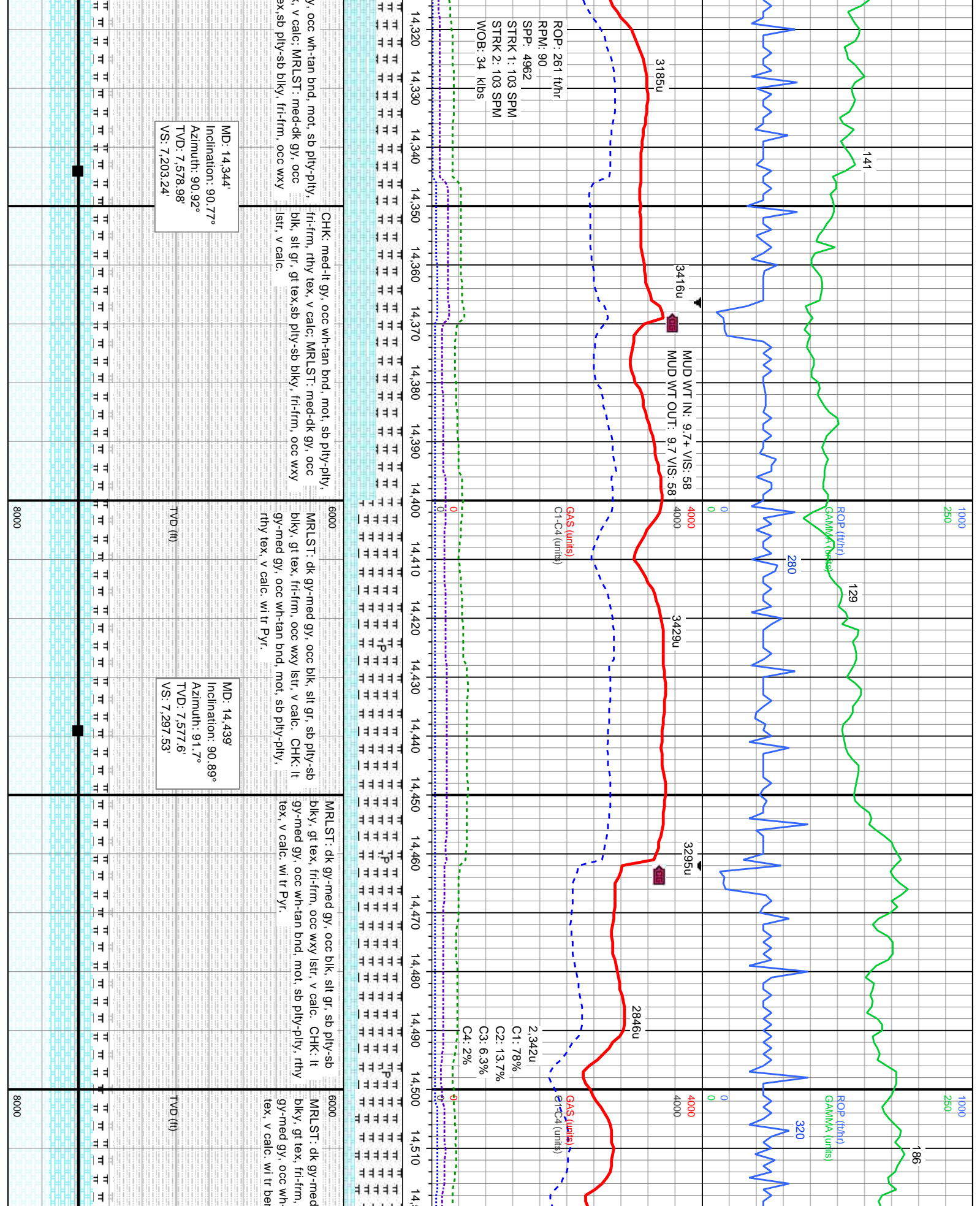
CHK: med-lt gy, occ wh-tan bnd, mot, sb
pily-pily, fri-frn, rthy tex, v calc. MRLST:
med-dk gy, occ blk, silt gr, gt tex, sb pily-sb blk,
fri-frn, occ wxy lstr, v calc.

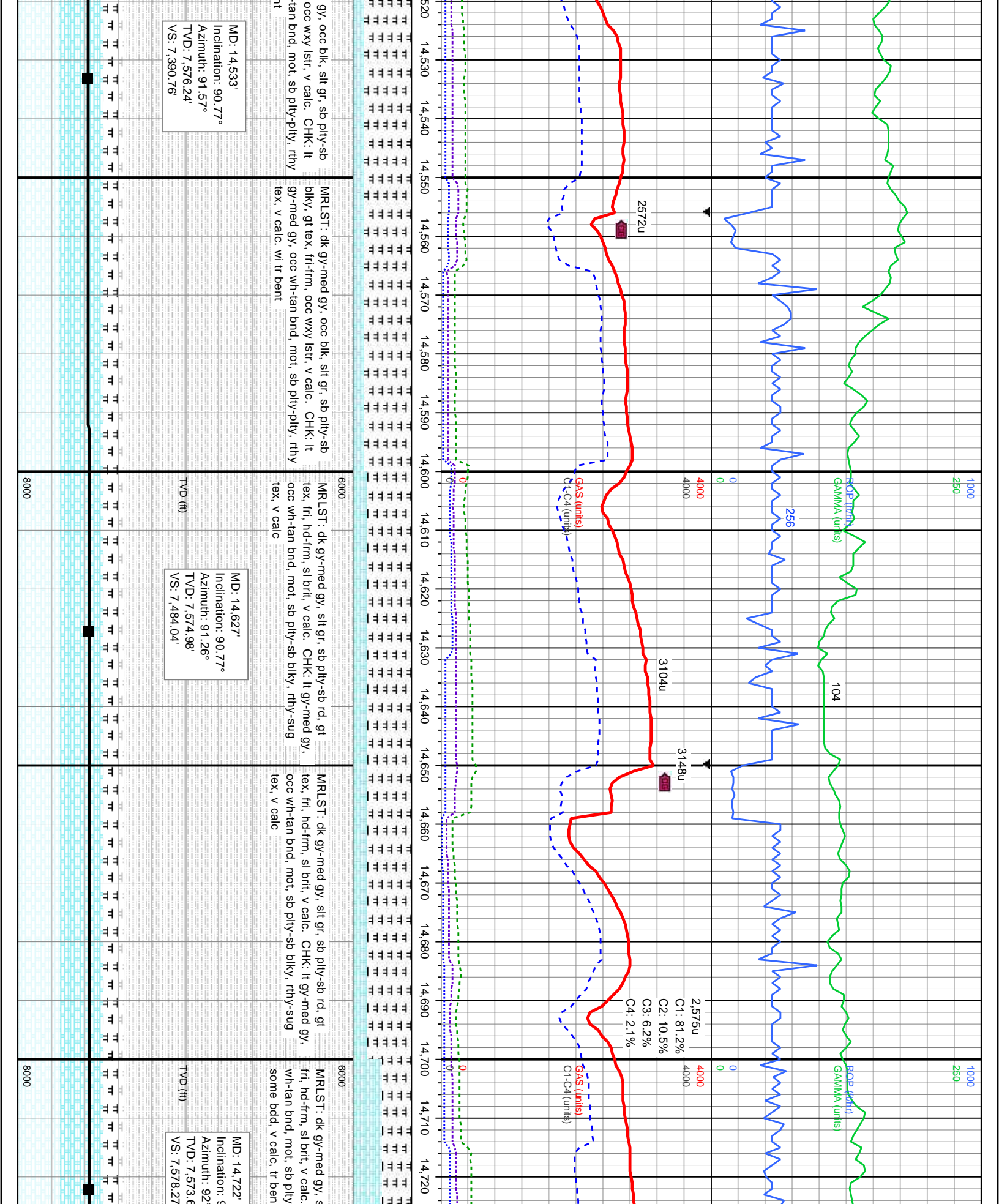
CHK: med-lt gy, occ wh-tan bnd, mot, sb pily-pily,
fri-frn, rthy tex, v calc. MRLST: med-dk gy, occ
blk, silt gr, gt tex, sb pily-sb blk, fri-frn, occ wxy
lstr, v calc.

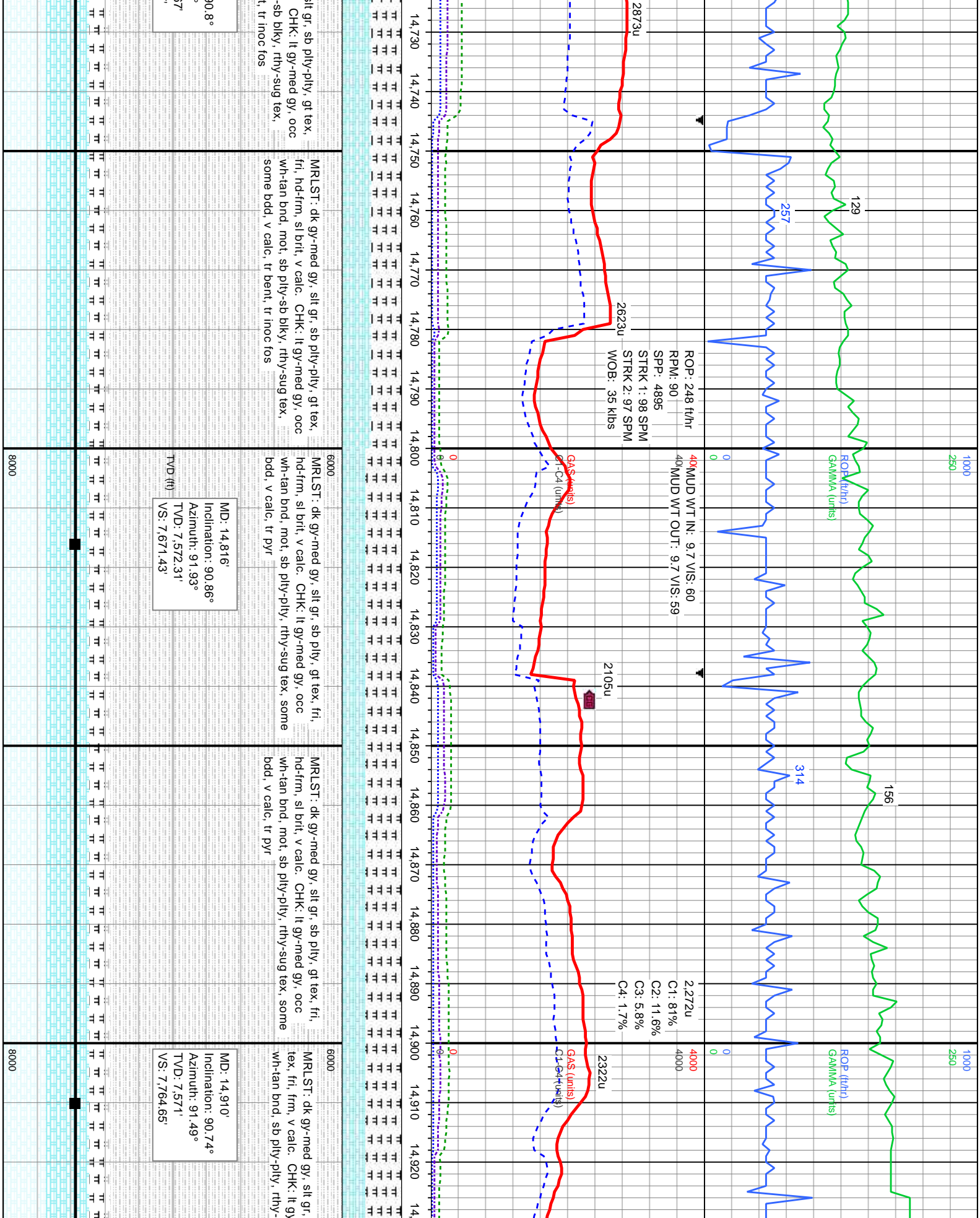
MD: 14,155'
Inclination: 90.74°
Azimuth: 90.87°
TVD: 7,581.39'
VS: 7.015.5'

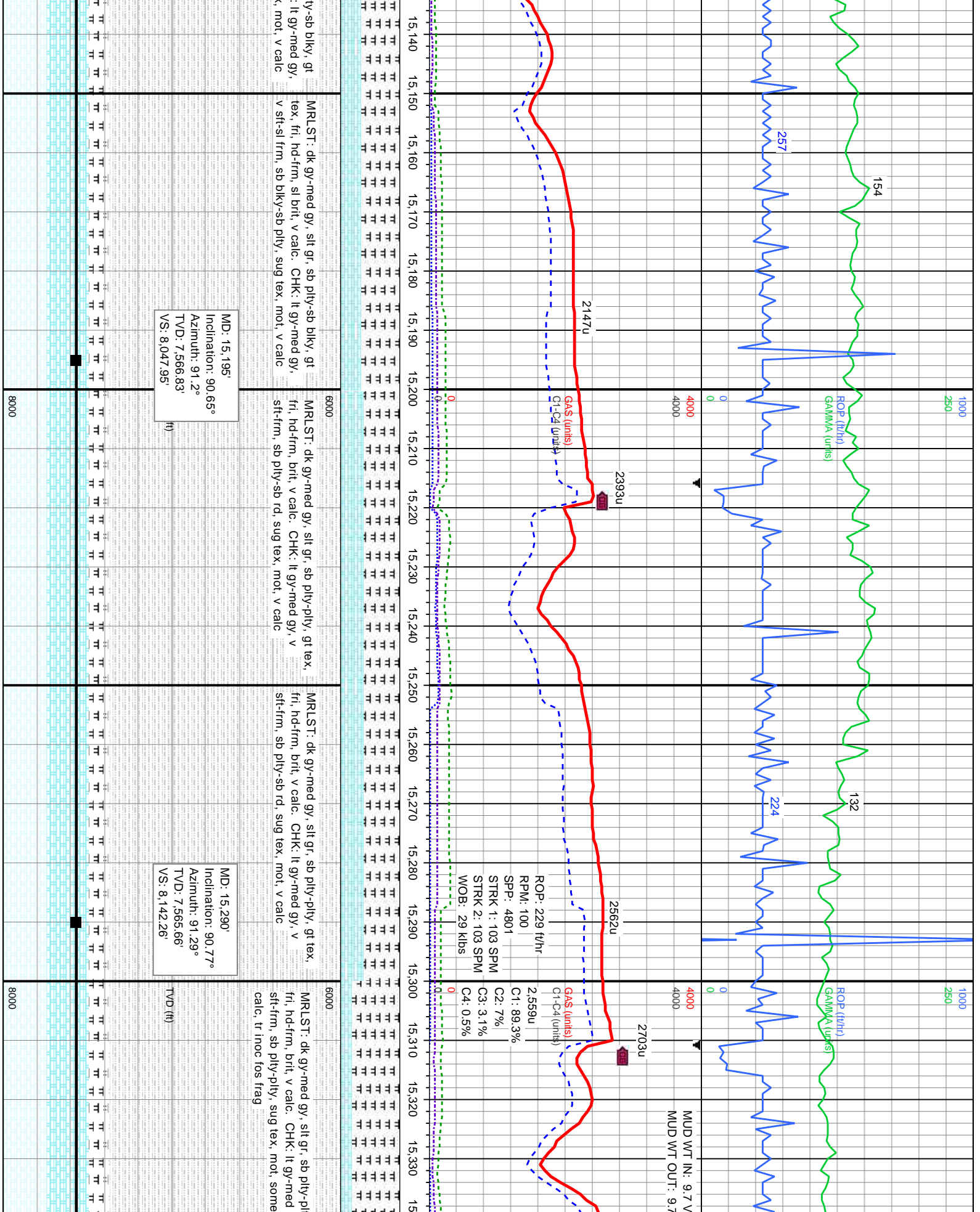
MD: 14,250'
Inclination: 90.71°
Azimuth: 91°
TVD: 7,580.19'
VS: 7.109.87'

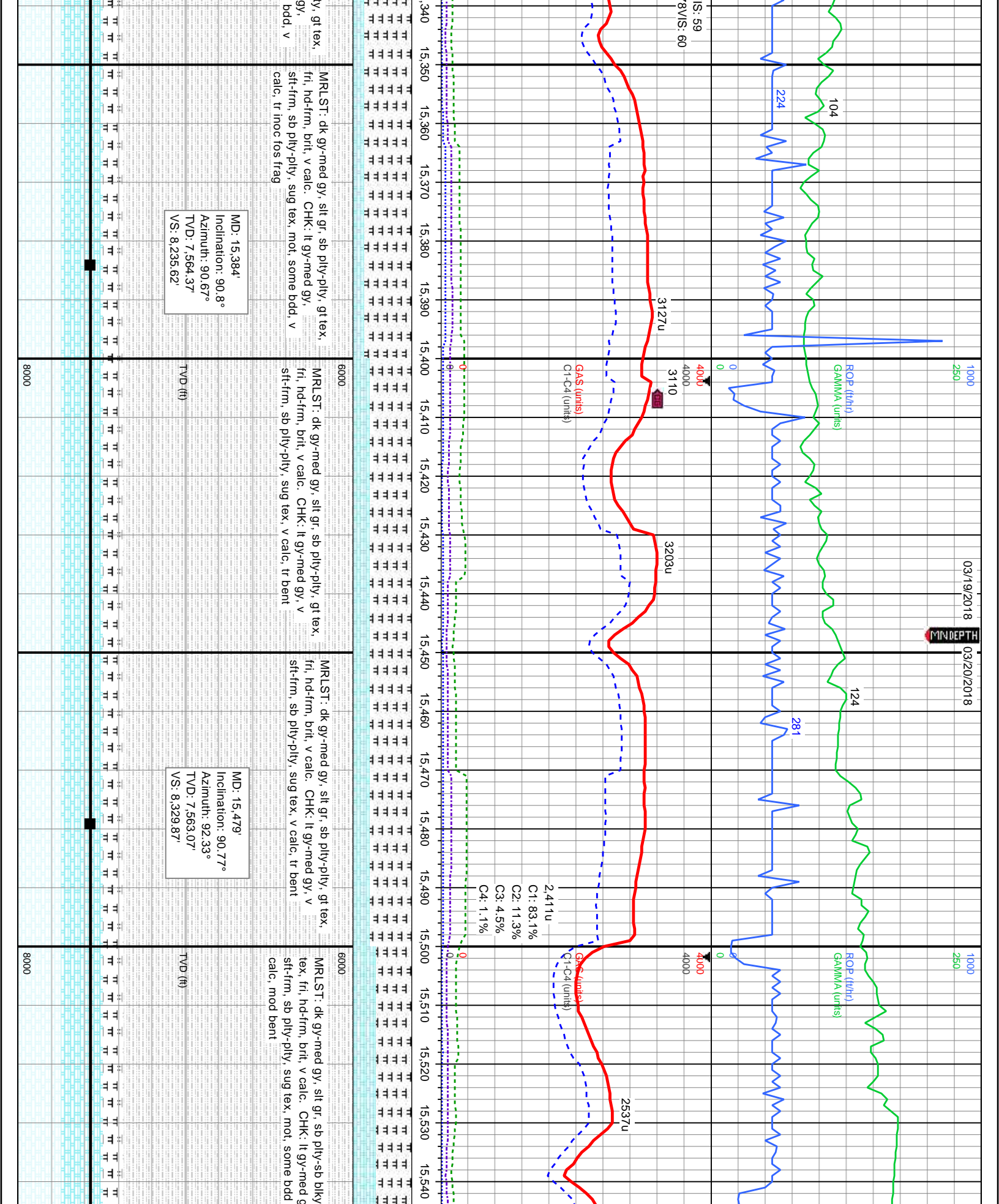


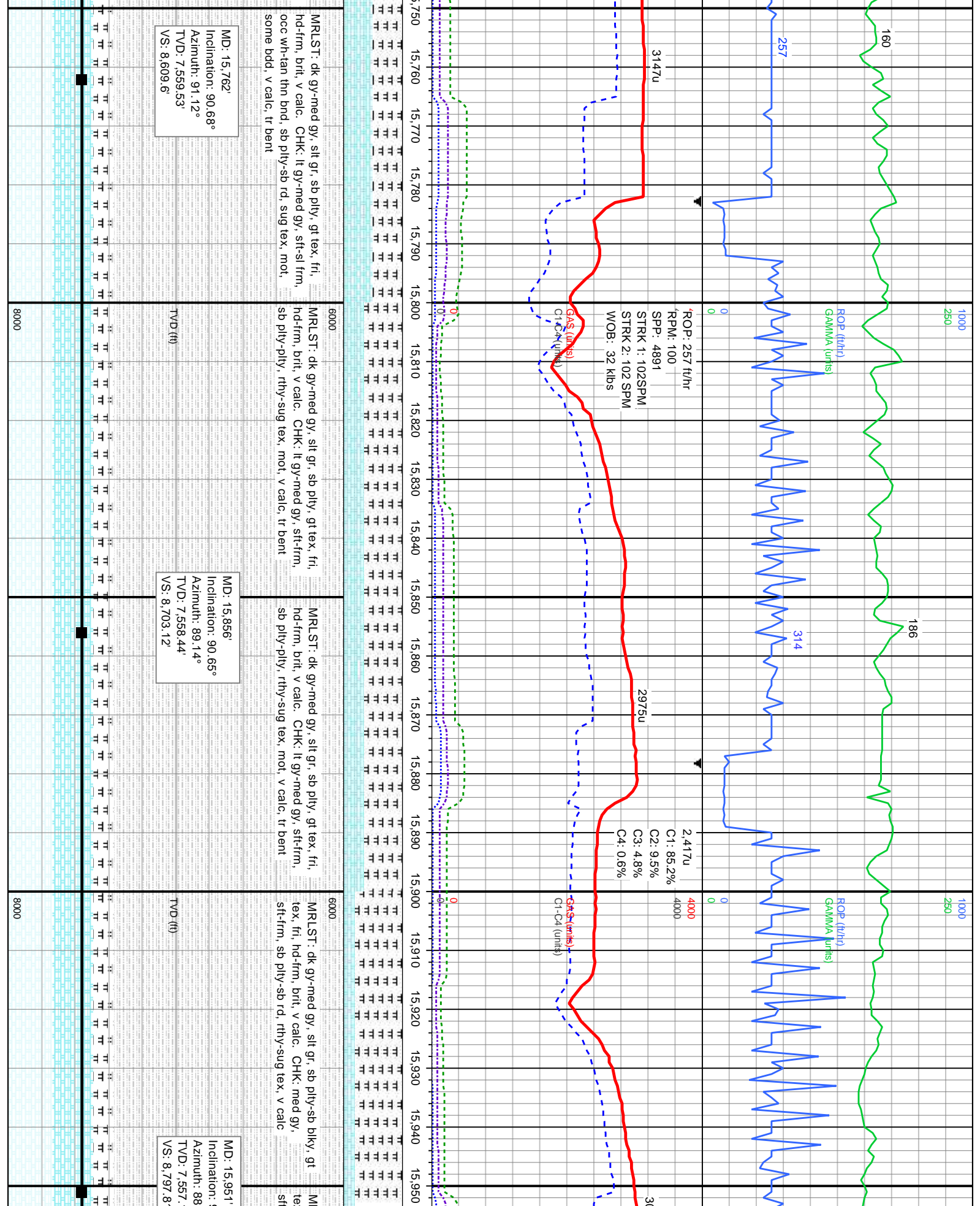


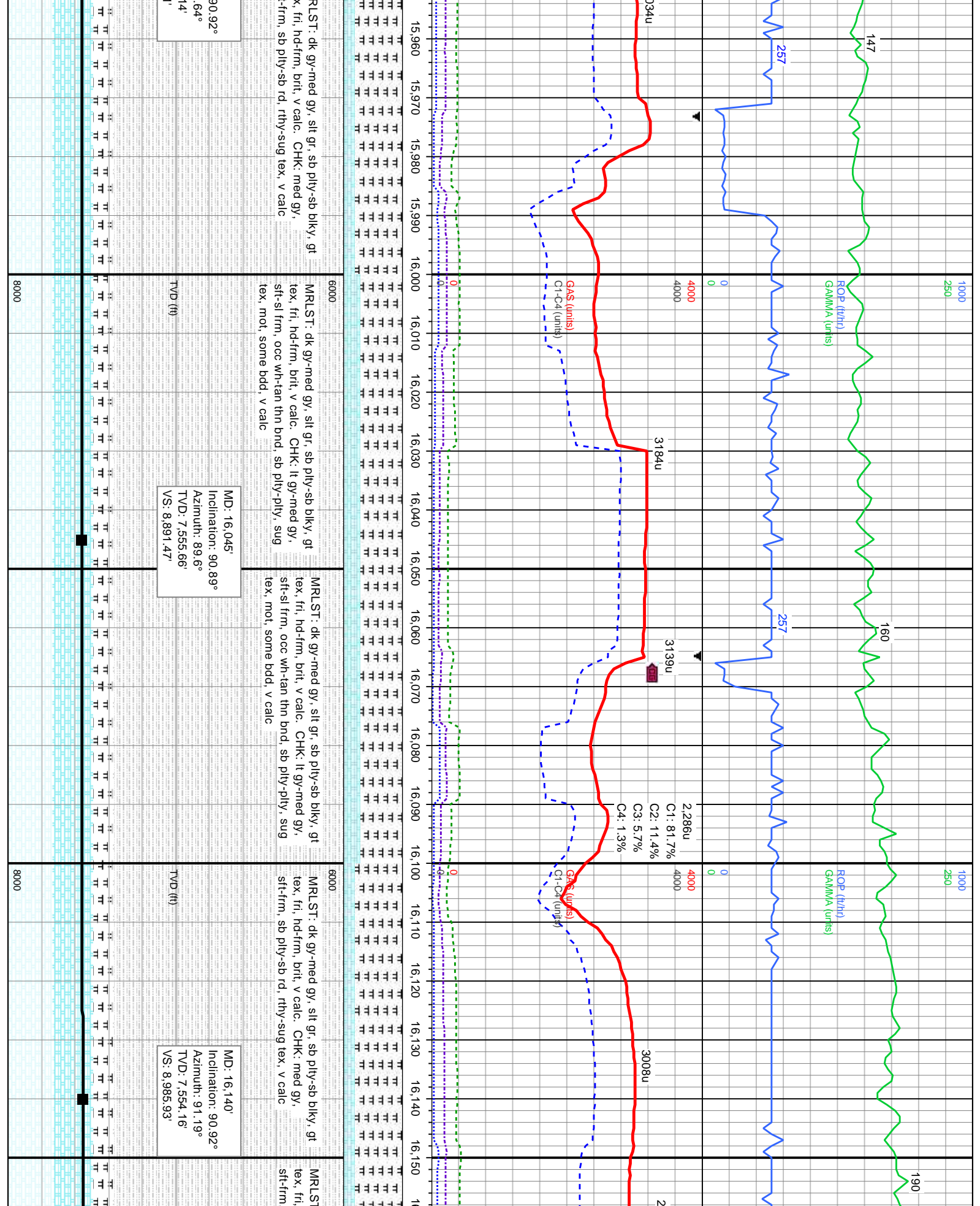


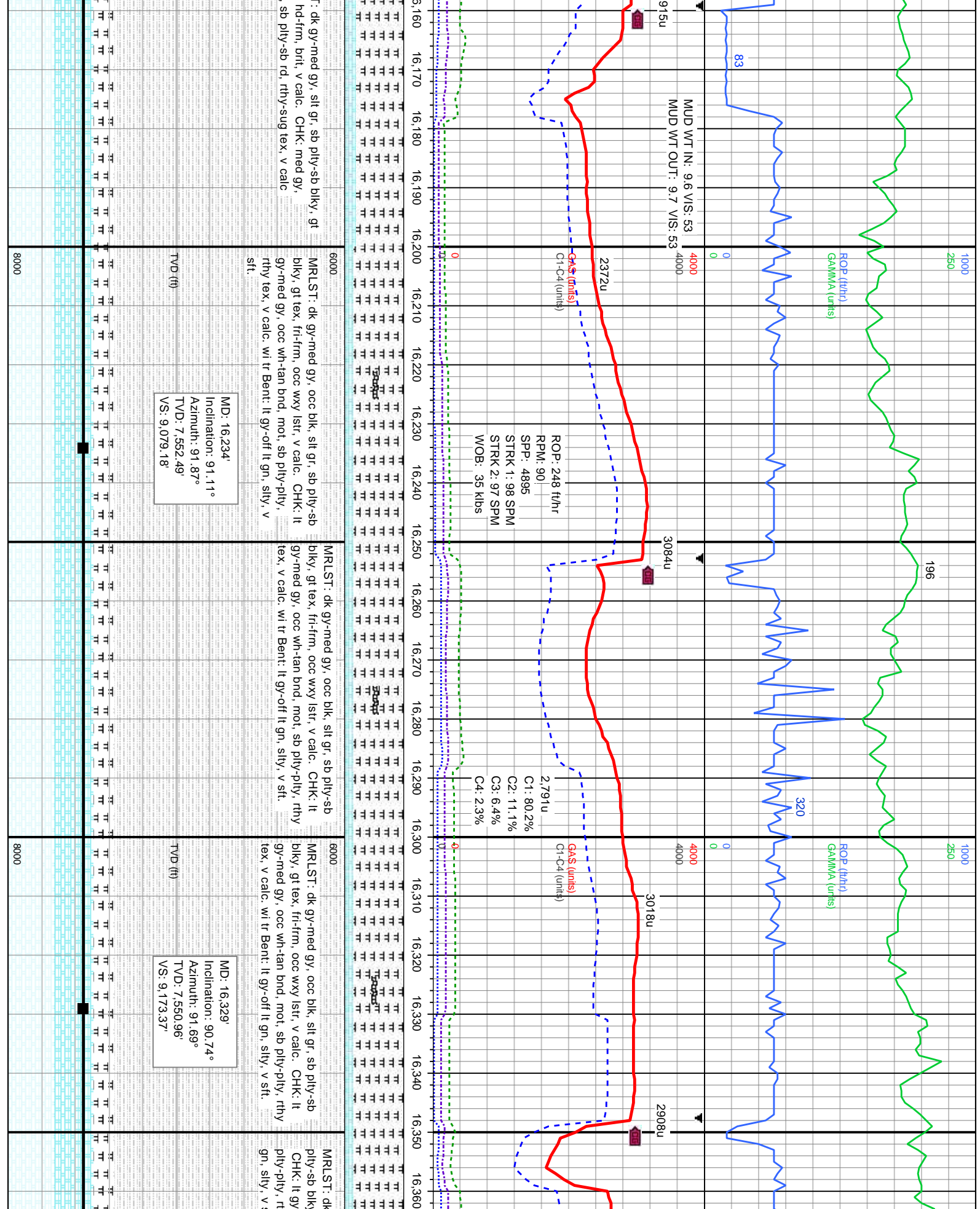


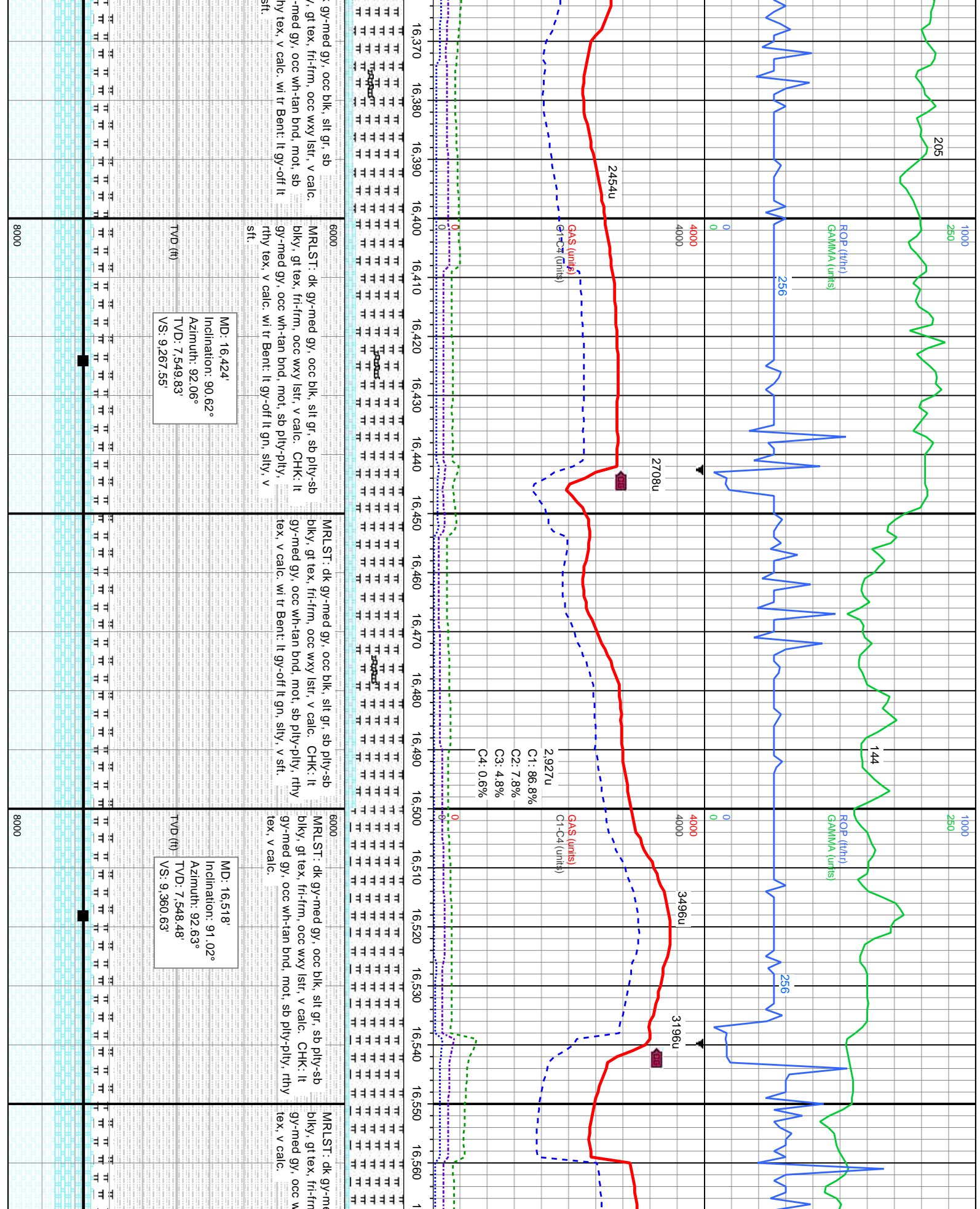


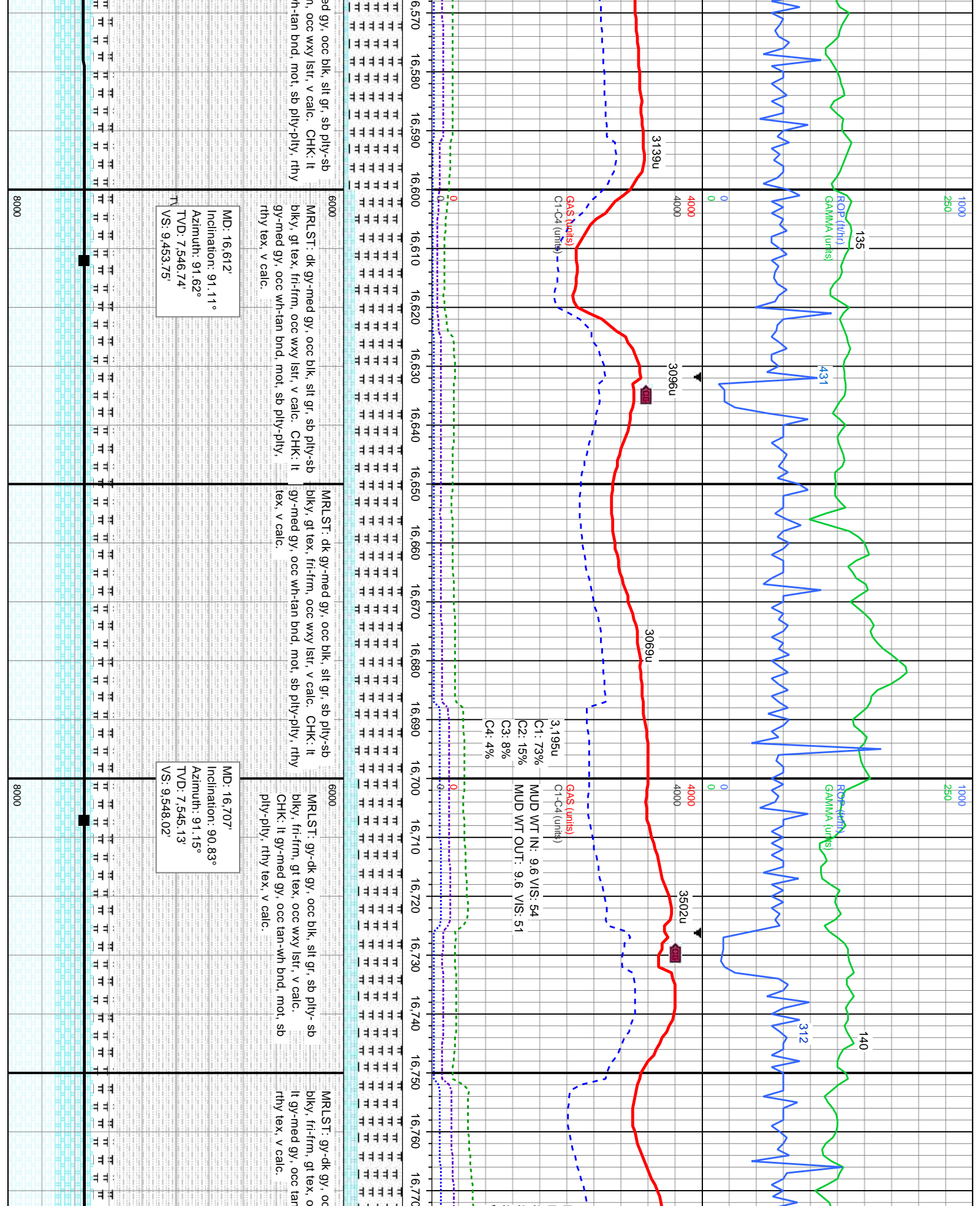


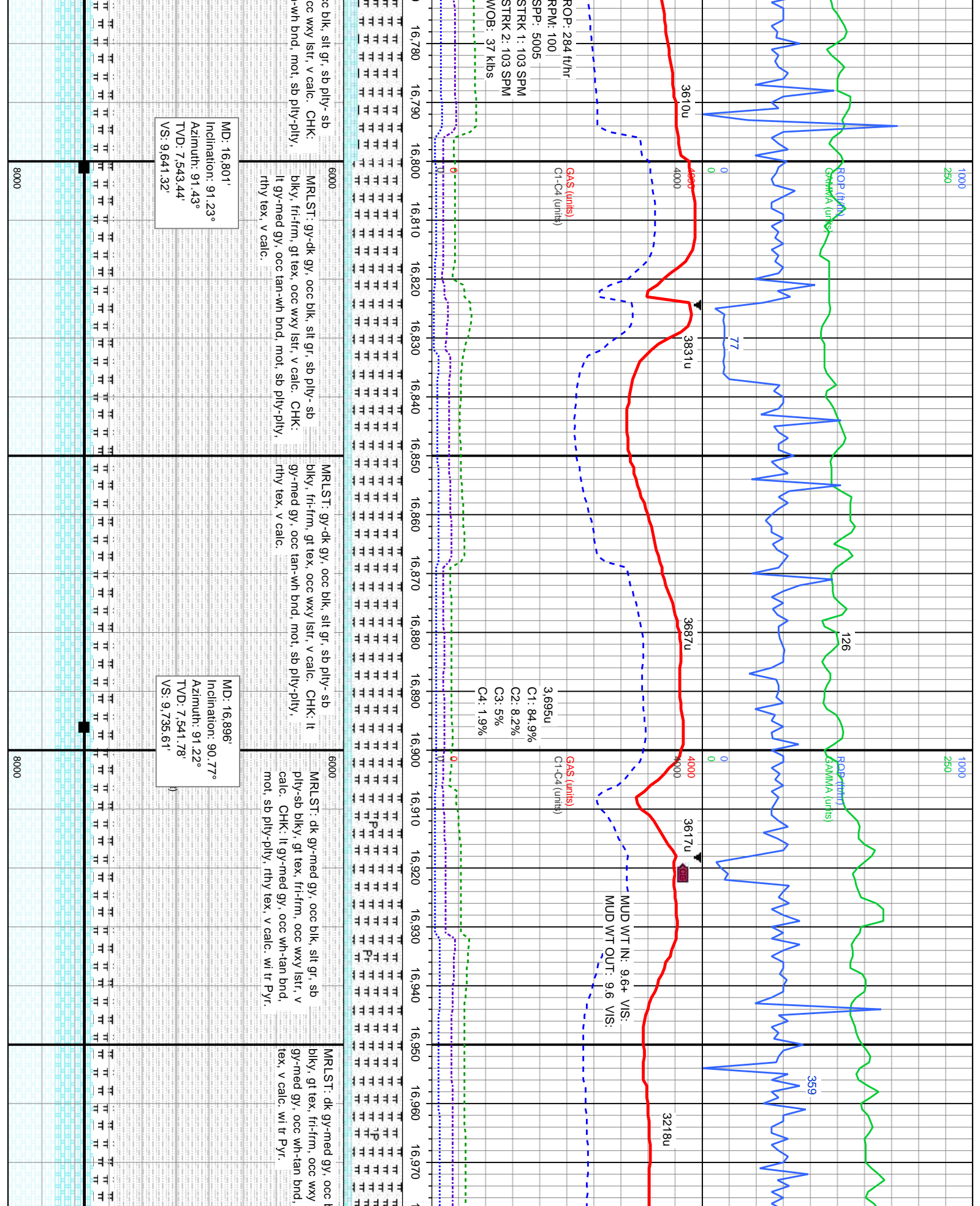


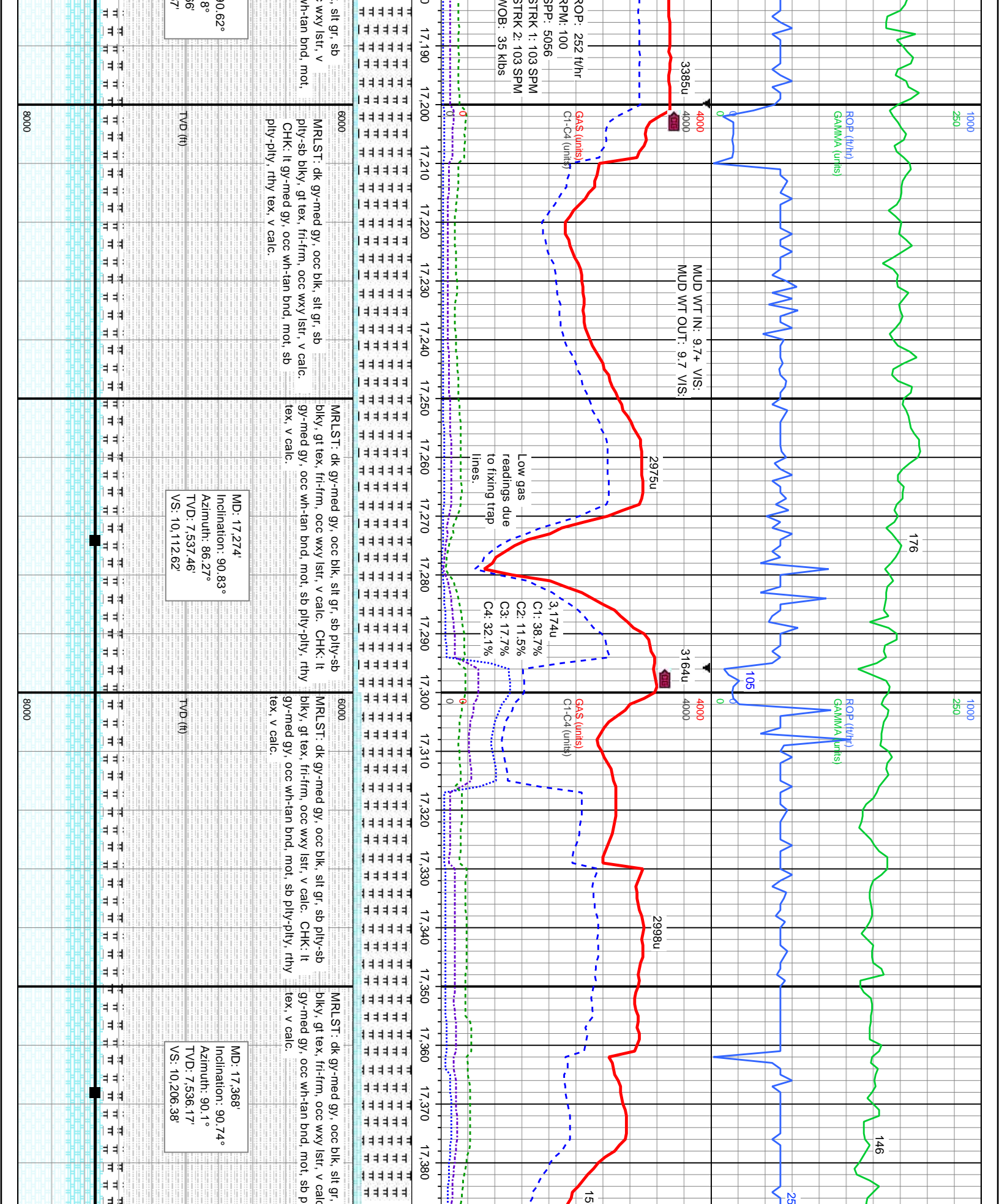


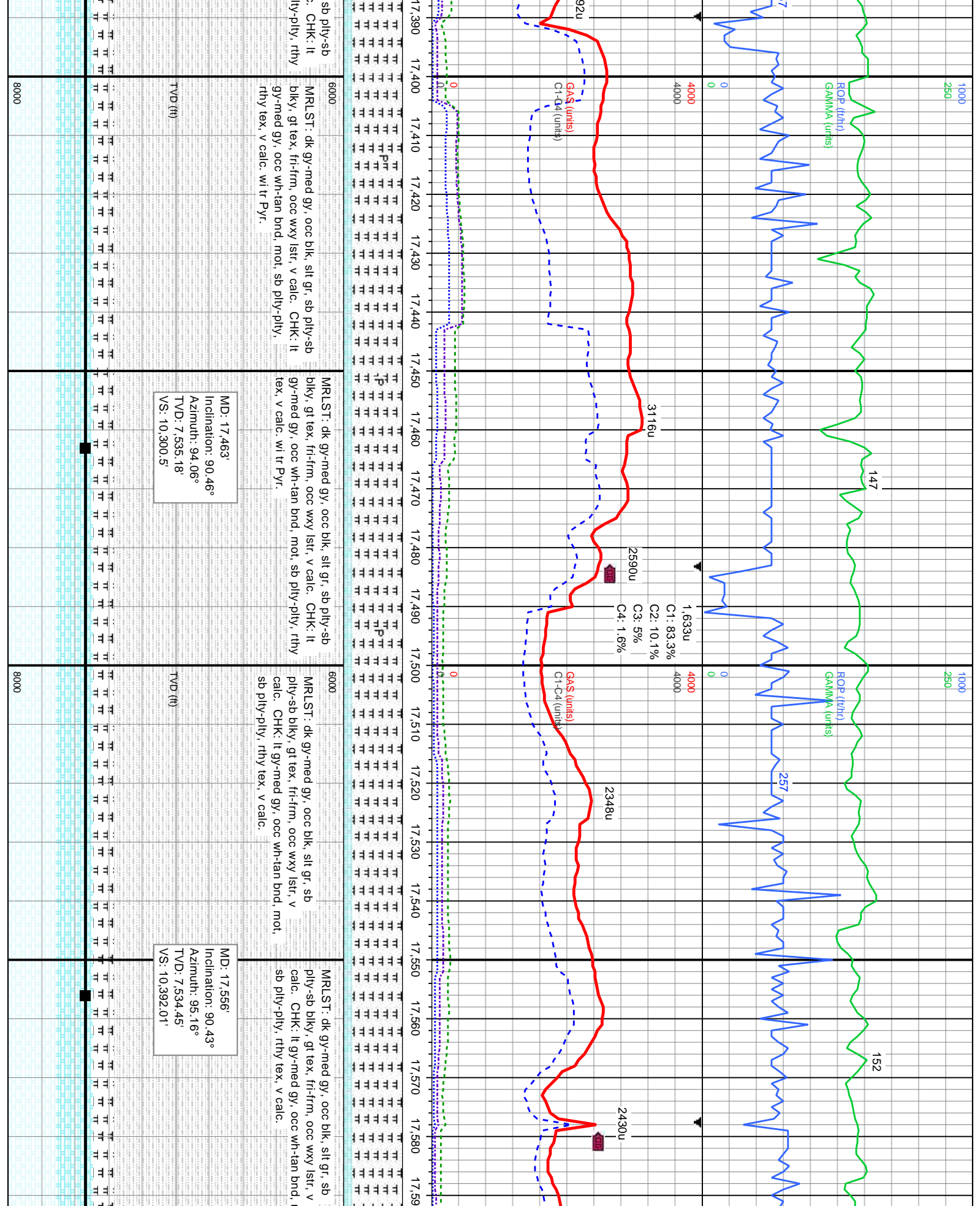


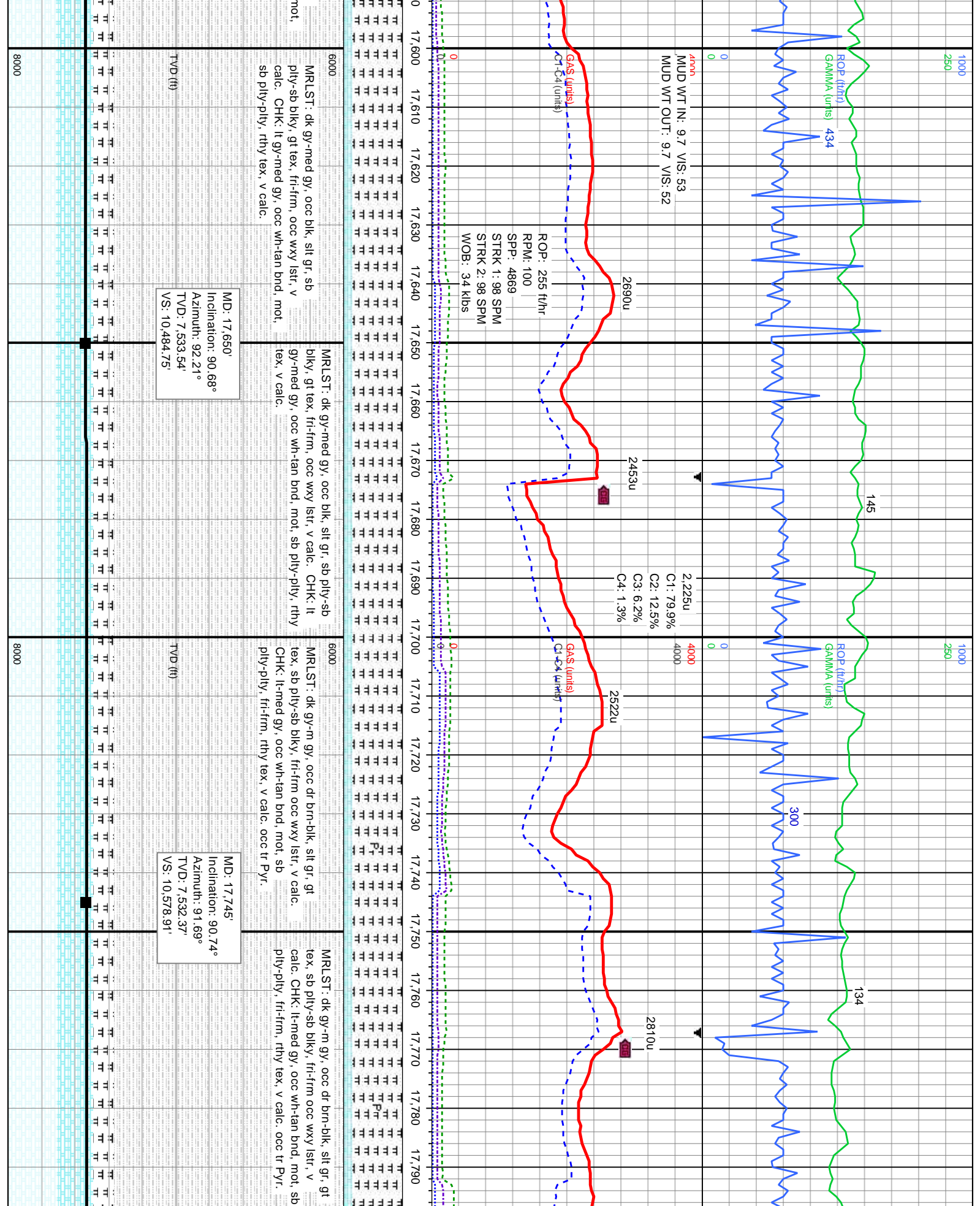


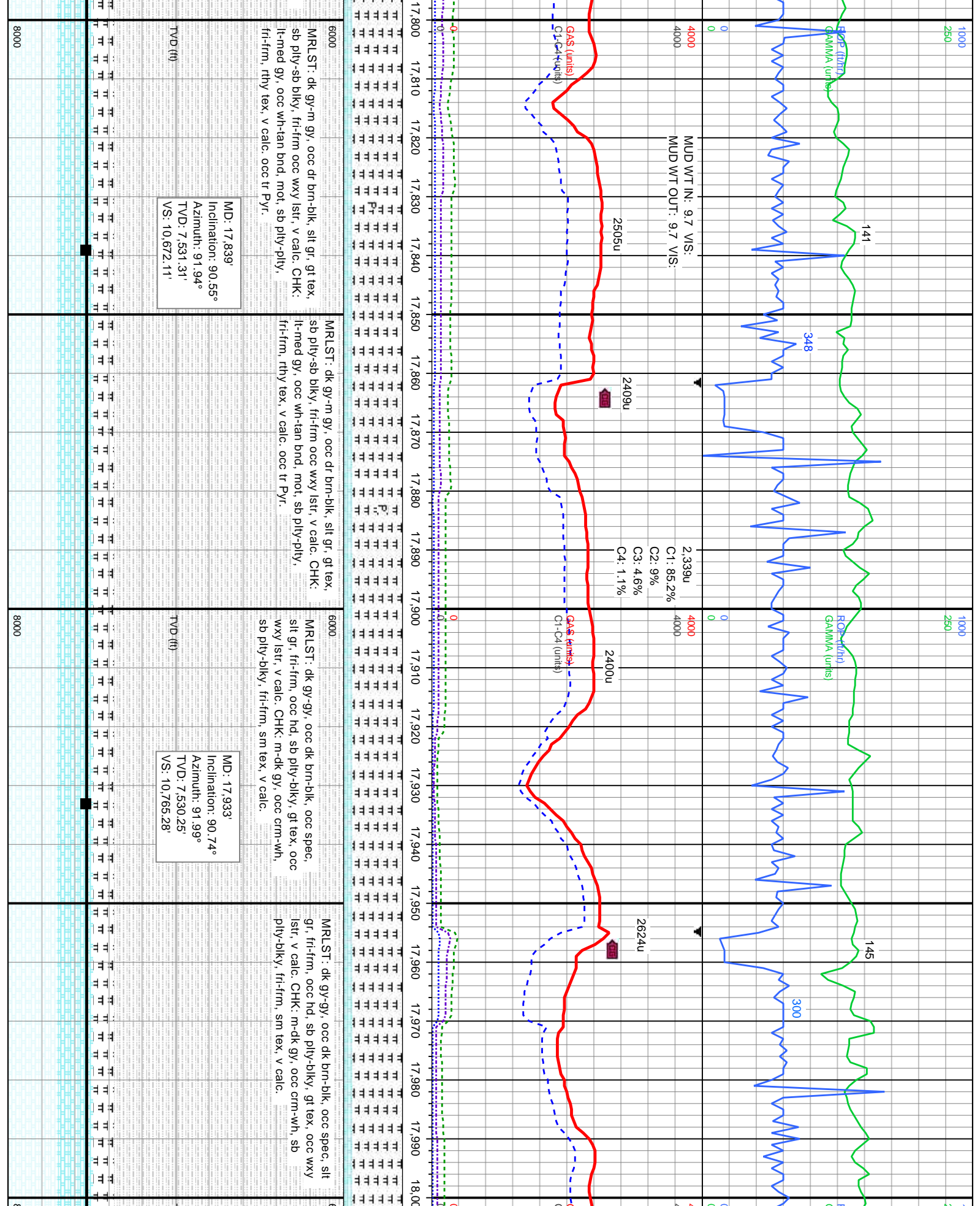


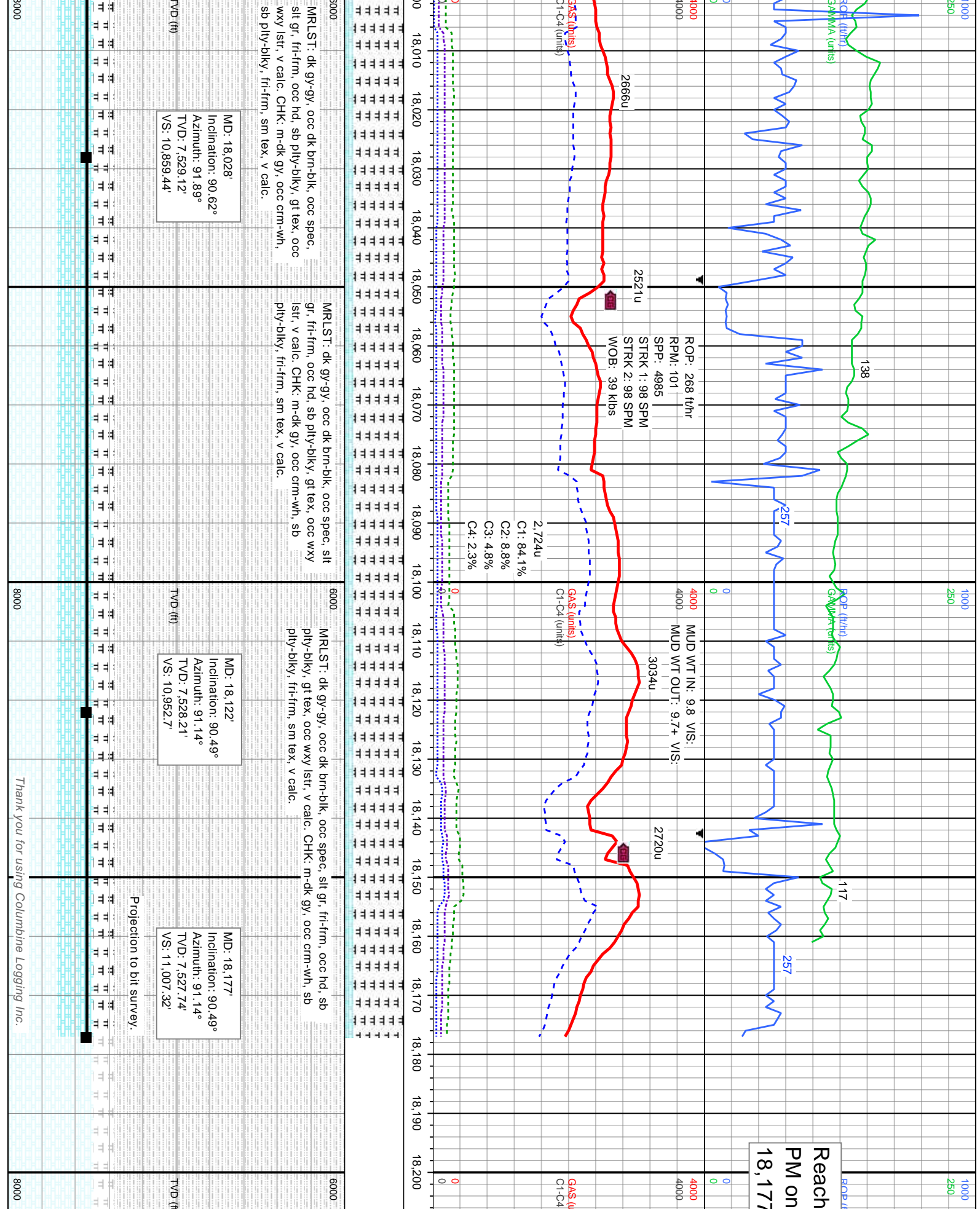












t/hr