

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name Albrighton I-10HN

Location S10 T6N R64W

State Colorado

Country United States

API Number 05-123-42502

Geographic Region DJ Basin

Spud Date 1/29/2016

Surface Coordinates 40.496613/- 104.541421
1170 FSL, 1197 FWL

Bottom Hole Coordinates 470 FFNLL, 1870 FFWLL

County Weld

Rig Number Frontier (Utah) 8

AFE # 42502

Field Wattenberg

Drilling Completed 2/17/2016

Ground Elevation 4807'

K.B. Elevation 4830'

Logged Interval 6000' **To** 11519'

Total Depth 11519'

Formation Niobrara

Type of Drilling Fluid WBM

Operator

Company Bayswater Exploration & Production, LLC.

Address 730 17th St.
Denver, CO 80202



Geologist

Name Mark E. Brown

Company Bayswater Exploration & Production, LLC.

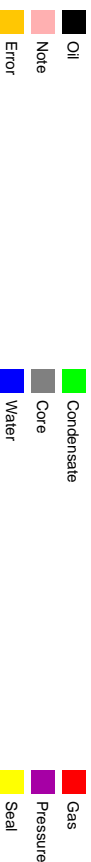
Address 730 17th St.
Denver, CO 80202

Other

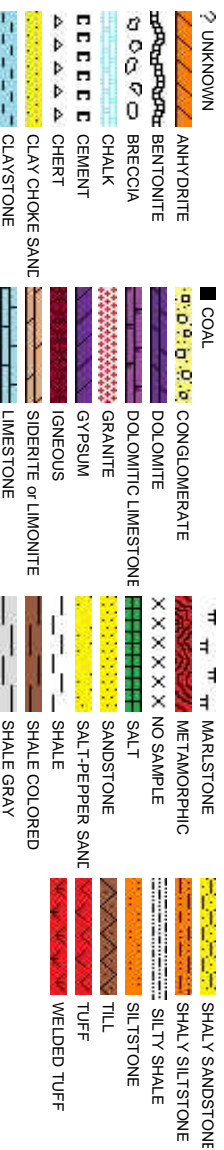
Robert Davis Senior Lead Wellsite Geologist
Andrew Martens Wellsite Geologist

Columbine Logging Computer 148
Bloodhound Unit 331

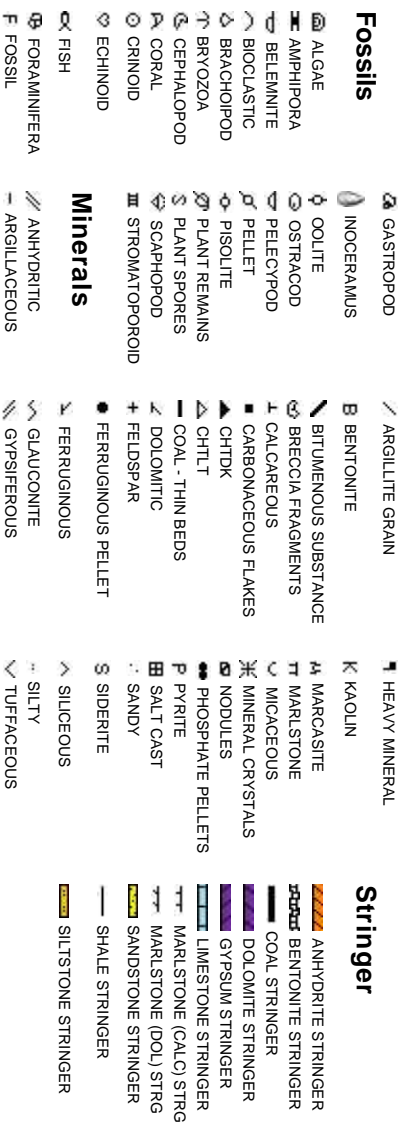
Zone Color Coding



Rock Types



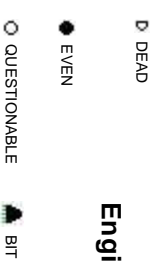
Accessories



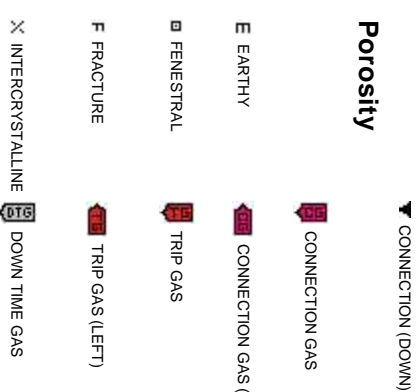
Oil Show



Engineering



Porosity



Stringer



glist

Other Symbols

 DST INTERVAL  WIRELINE TESTED - LEFT **E** EARTHY

 FAULT  WIRELINE TESTED - RT **FX** FINELYXLN

 FORMATION TOP  DRILL STEM TEST **GS** GRAINSTONE

 GAS SHOW  MINDEPTH MN DEPTH **L** LITHOGRAPHIC


 OIL SHOW **MX** MICROXLN


Rounding

 MINDEPTH UP **MIS** MUDSTONE

 MINDEPTH (DOWN) **PS** PACKSTONE

 NORMAL FAULT **R** ROUNDED **WIS** WACKSTONE

(LEFT)  OVERTURNED STRATA **B** SUBANG


 REVERSE FAULT **R** SUBRND

Sorting


 CASING **M** MODERATE

Textures

 SIDEWALL CORE (LEFT) **P** POOR

 SIDEWALL CORE (RIGHT) **BS** BOUNDSTONE **W** WELL

 SLIDE **C** CHALKY

 SURVEY **CX** CRYPTOXLN

Slide/Rotate

ROP
ROP

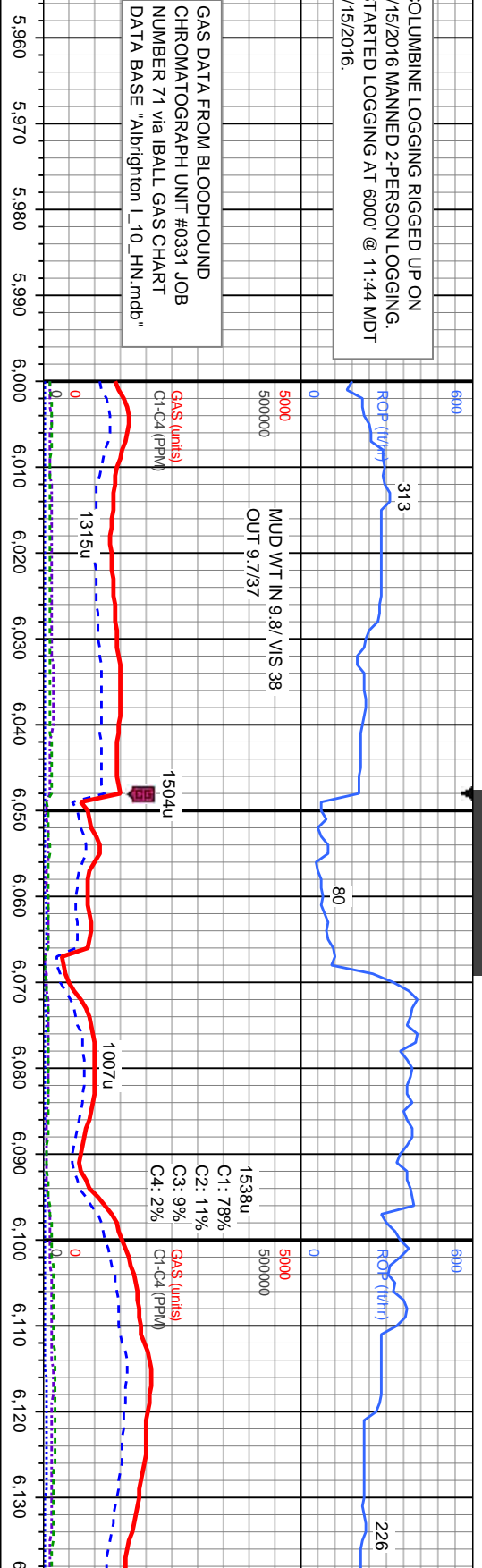
COLUMBINE LOGGING RIGGED UP ON
2/15/2016 MANNED 2-PERSON LOGGING.
STARTED LOGGING AT 6000' @ 11:44 MDT
2/15/2016.

Total Gas & Chromatograph

GAS
C1
C2
C3
C4

GAS DATA FROM BLOODHOUND
CHROMATOGRAPH UNIT #0331 JOB
NUMBER 71 via IBALL GAS CHART
DATA BASE "Albrihghton_L10_HN.mdb"

Depth Labels



% Lith

Gamma
GAMMA



SURVEY, GAMMA, and ROP DATA
PROVIDED BY BAKER HUGHES

Well Bore
TVD

Bit Data
Bit #: 1
Type: SDI 513
Size: 8.75
Depth In: 1,558'
Jets: 7x14
S/N: JK9948

MD: 6.087
Inclination: 2.6°
Azimuth: 133.3°
TVD: 5,919.19'
VS: 2.67



SLTY SH: med-dk gy, sit gr, mod frm, sb pily-pily, rthy-sb rthy tex, SHY SLTST: lk-med gy, slit-vf gr,
sl frm-hd, sb pily-sb blkly, gt tex, arg cnt, sh incl, non calc: mod disse, v sl string, dul bl cut,
yel/orng ring resd

SLTY SH: med-dk gy, sit gr, mod frm
slit-vf gr, sl frm-hd, sb pily-sb blkly,
dul bl cut, orng/brn ring resd

Oil Show

E
G
M
F
T
S

Oil show log table with columns for depth and show type.

Oil show log table with columns for depth and show type.

Oil show log table with columns for depth and show type.

Images



370

ROP (T/H)

167

MUD WT IN 9.8/ VIS 44
OUT 9.8/43

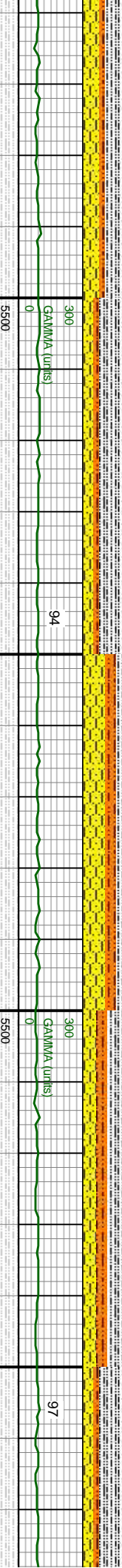
470u
C1: 97%
C2: 2%
C3: 1%
C4: 0%

GAS (units)
C1-C4 (PPM)

1474u

TRUCK PARKED ON
GAS LINE

6,360 6,370 6,380 6,390 6,400 6,410 6,420 6,430 6,440 6,450 6,460 6,470 6,480 6,490 6,500 6,510 6,520 6,530 6,540 6,550 6,560 6,570



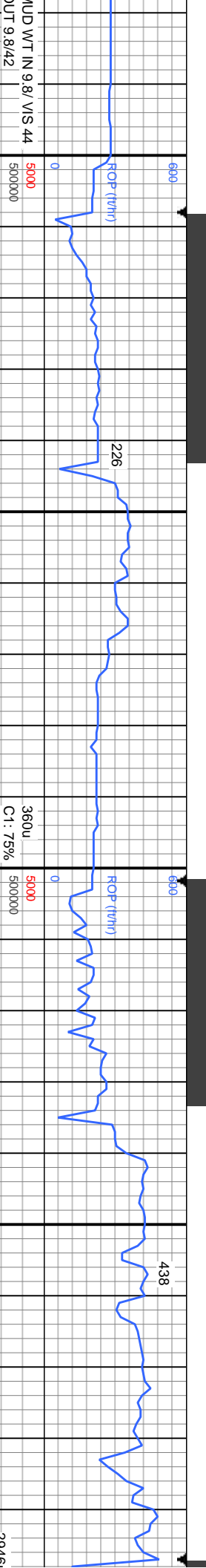
MD: 6.368'
Inclination: 2.6°
Azimuth: 32.9°
TVD: 6.200.09'
VS: 2.51'

MD: 6.462'
Inclination: 14.5°
Azimuth: 5.5°
TVD: 6.292.9'
VS: 13.03'

MD: 6.556'
Inclination: 29.2°
Azimuth: 12.7°
TVD: 6.379.93'
VS: 15.87'

SLTY SH: lt-med gy, mic-sily gr ip, pily-sb pily, sl-mod frm, rthy-sily tex, non calc; SHY SS: lt gy, s&p ip, v/ gr, sb rnd-rnd, mod-w srl, frm-mod frm, arg mtx, tr glau incl, non calc; SHY SLTST: lt-med gy, sily-mic gr, sb pily- sb blkly, mod frm-hd, occ blk flks, gt tex, non calc; mod difse, v sl string, bl cut, yell/gn ring resd





C1: 75%
 C2: 14%
 C3: 8%
 C4: 3%

SLTY SH: lt-med gy, mic-sily gr ip, pily-sb pily, sl-mod frm, rthy-sily tex, non calc. SHY SLTST: lt-med gy, sly-mic gr, sb pily-sb blkly, mod frm-hd, occ blk flks, gt tex, non calc. SHY SS: lt gy, s&gp ip, vf gr, sb rnd-rnd, mod-w str, frm-mod frm, arg mix, tr glau incl, non calc, mod disse, v sl stmg, bl cut, yell/gn ring resd

MD: 6.649'
 Inclination: 34.9°
 Azimuth: 8.1°
 TVD: 6.458.73'
 VS: 6.66'

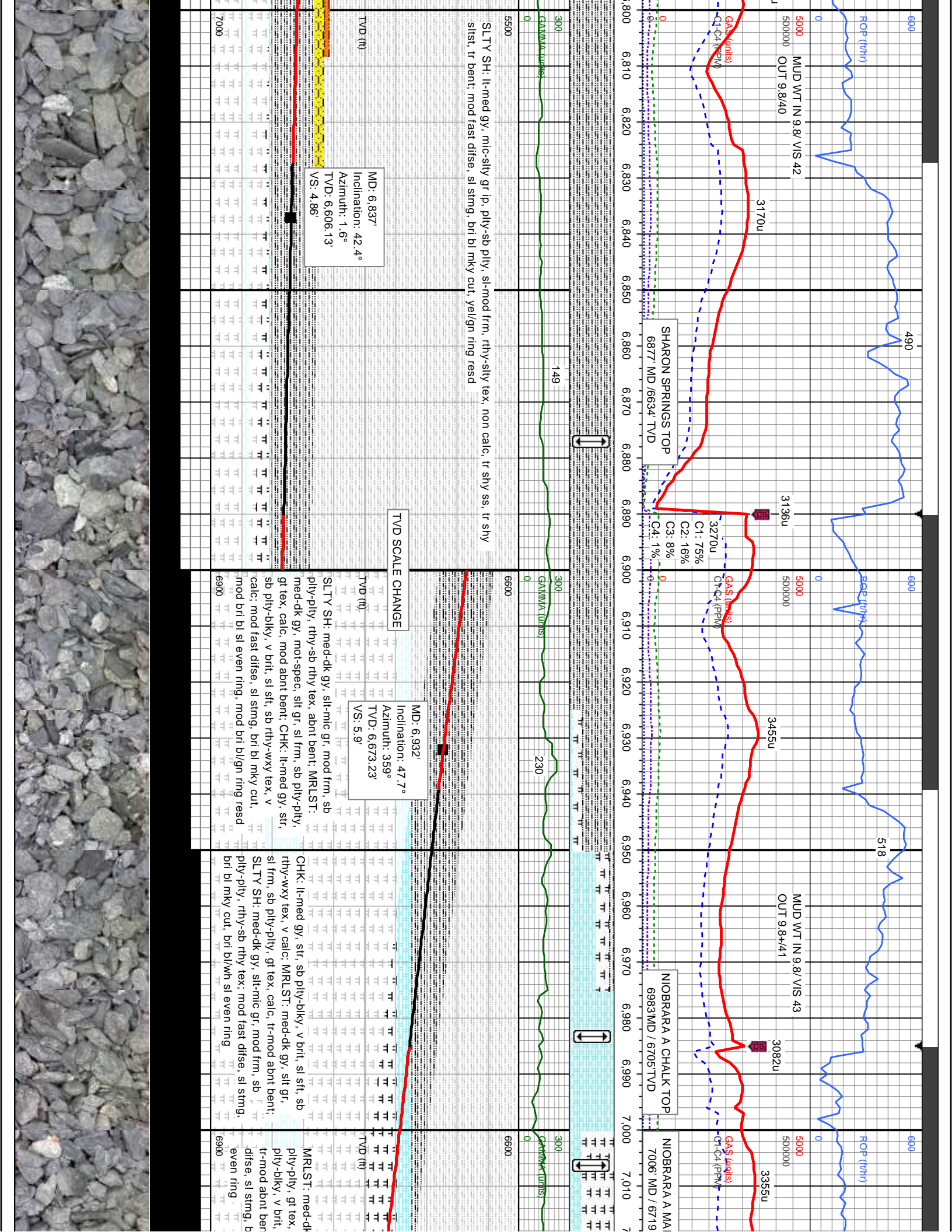
SLTY SH: lt-med gy, mic-sily gr ip, pily-sb pily, sl-mod frm, rthy-sily tex, non calc. tr shy ss, tr shy slist, mod disse, v sl stmg, bl cut, yell ring resd

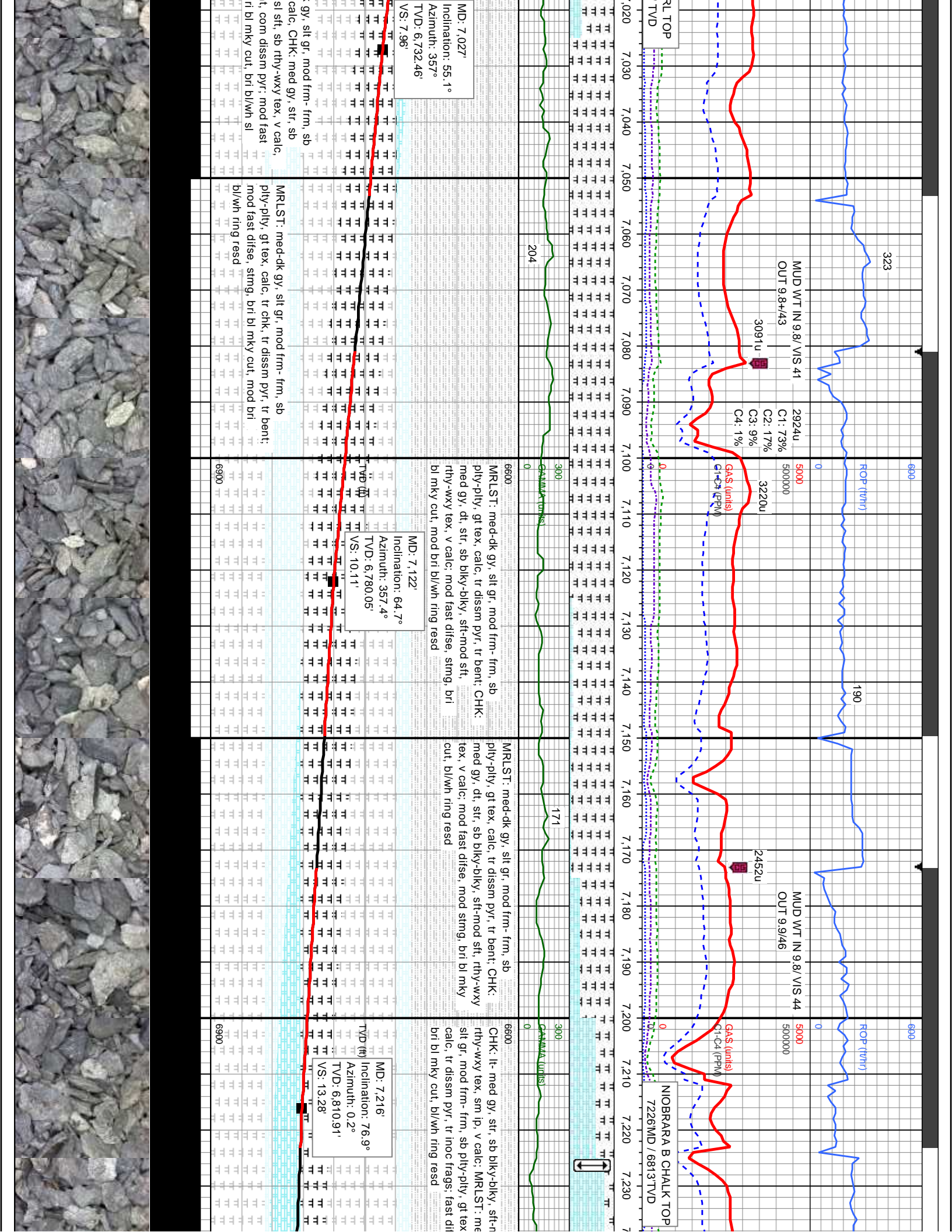
MD: 6.743'
 Inclination: 38°
 Azimuth: 3.5°
 TVD: 6.534.35'
 VS: 4.39'

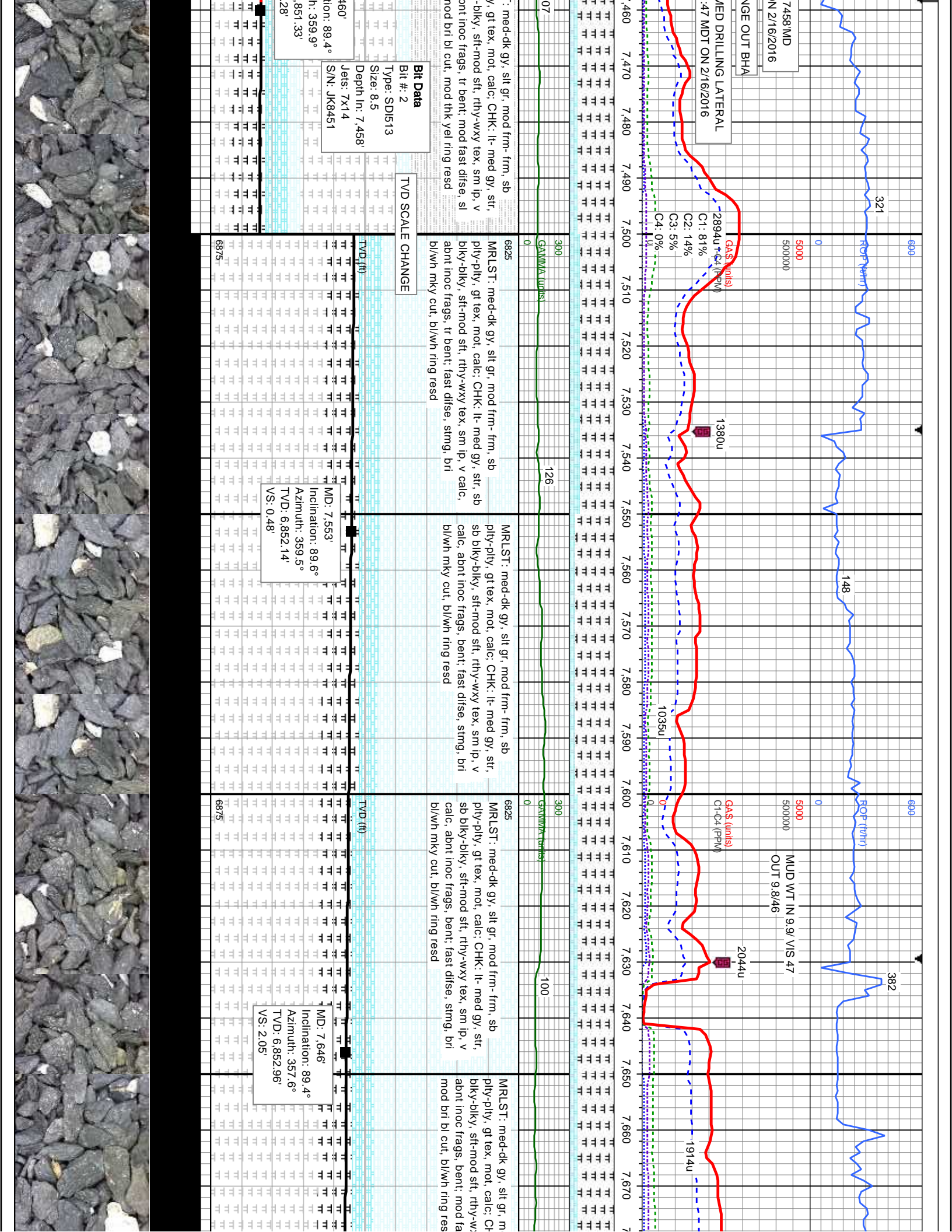
SHY SS: lt gy, s&gp
 SLTST: lt-med gy,
 v sl stmg, bl cut,

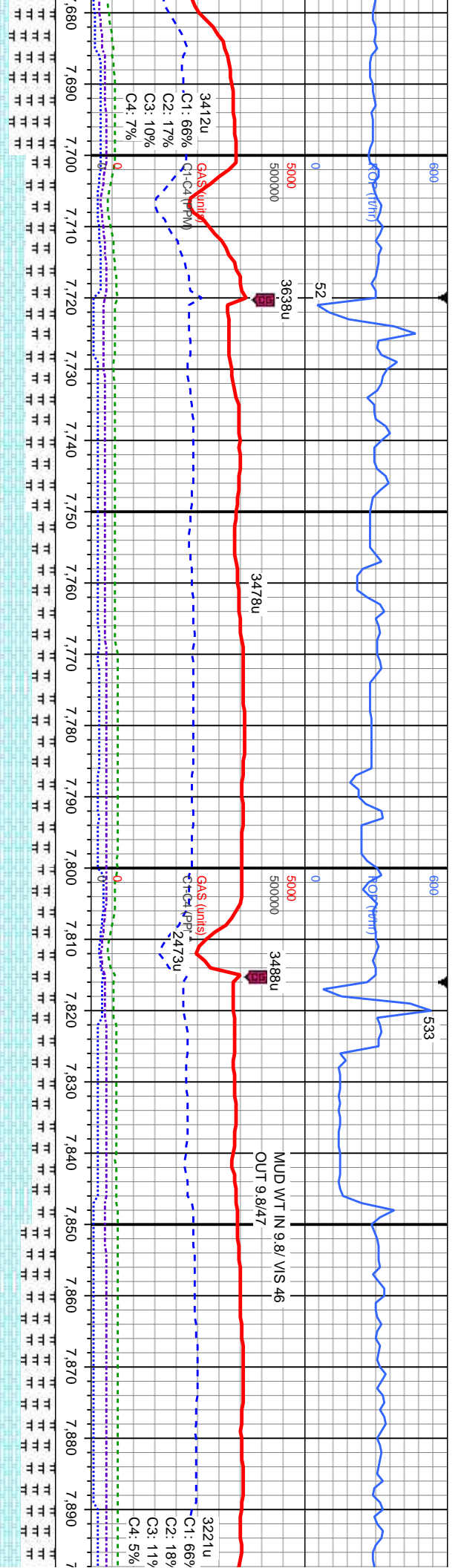
Depth (ft)	ROP (ft/hr)	Gamma (API)	MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	VS (ft)
6580	0	300	6.649	34.9	8.1	6.458.73	6.66
6600	0	300	6.649	34.9	8.1	6.458.73	6.66
6620	0	300	6.649	34.9	8.1	6.458.73	6.66
6640	0	300	6.649	34.9	8.1	6.458.73	6.66
6660	0	300	6.649	34.9	8.1	6.458.73	6.66
6680	0	300	6.649	34.9	8.1	6.458.73	6.66
6700	0	300	6.649	34.9	8.1	6.458.73	6.66
6720	0	300	6.649	34.9	8.1	6.458.73	6.66
6740	0	300	6.649	34.9	8.1	6.458.73	6.66
6760	0	300	6.649	34.9	8.1	6.458.73	6.66
6780	0	300	6.649	34.9	8.1	6.458.73	6.66
6800	0	300	6.649	34.9	8.1	6.458.73	6.66
6820	0	300	6.649	34.9	8.1	6.458.73	6.66
6840	0	300	6.649	34.9	8.1	6.458.73	6.66
6860	0	300	6.649	34.9	8.1	6.458.73	6.66
6880	0	300	6.649	34.9	8.1	6.458.73	6.66
6900	0	300	6.649	34.9	8.1	6.458.73	6.66











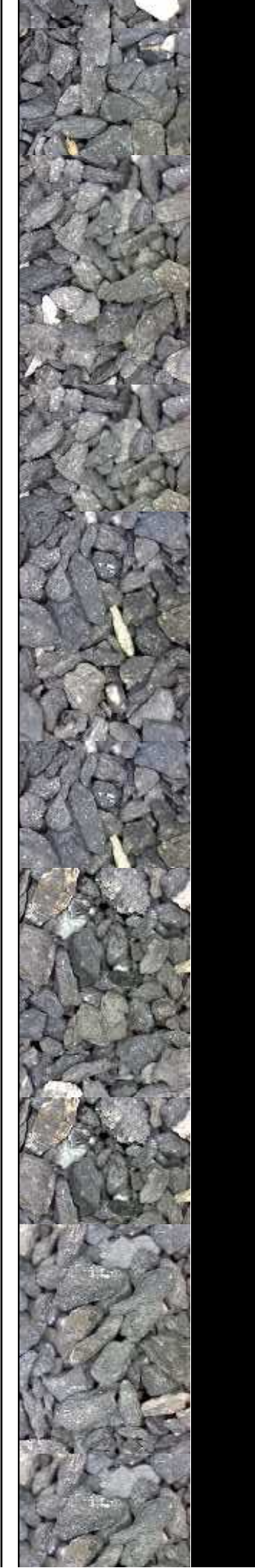
C1: 66%
C2: 17%
C3: 10%
C4: 7%

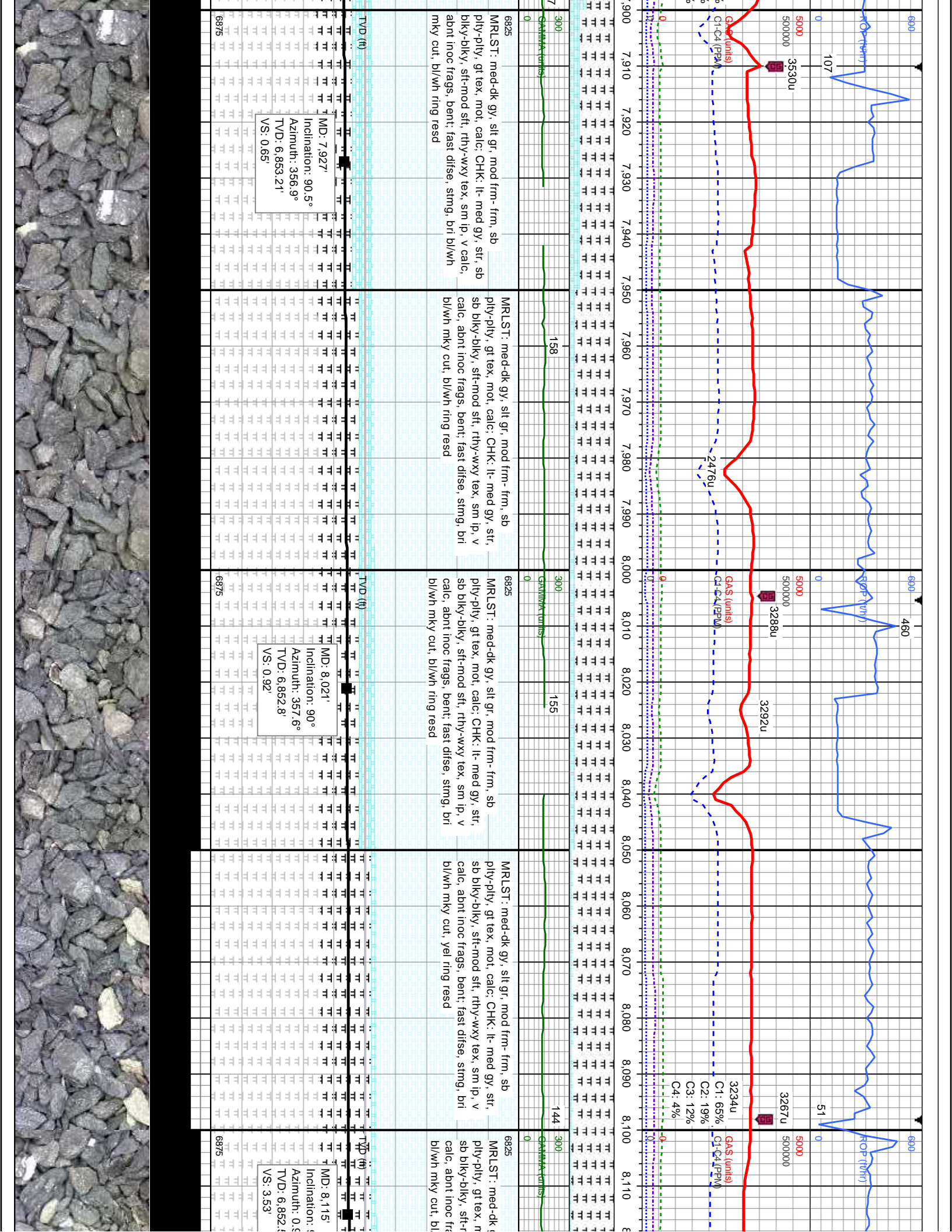
C1: 66%
C2: 18%
C3: 11%
C4: 5%

Depth (ft)	Gamma (units)	Gas (units)	Other
6825	103	3412u	CHK: lt-med gy, str, sb rthy-wxy tex, sm ip, v calc, bent; MRLST: med-dk gy, sft gr, mod frm-frm, sb pty-pty, gt tex, mot, calc, fast difse, stmg, bri bl/wh mky cut, bl/wh ring resd
6875	118	3478u	CHK: lt-med gy, str, sb rthy-wxy tex, sm ip, v calc, bent; MRLST: med-dk gy, sft gr, mod frm-frm, sb pty-pty, gt tex, mot, calc, fast difse, stmg, bri bl/wh mky cut, bl/wh ring resd
6825	116	3488u	CHK: lt-med gy, str, sb rthy-wxy tex, sm ip, v calc, bent; MRLST: med-dk gy, sft gr, mod frm-frm, sb pty-pty, gt tex, mot, calc, fast difse, stmg, bri bl/wh mky cut, bl/wh ring resd
6875	13	3221u	MRLST: med-dk gy, sft gr, mod frm-frm, sb pty-pty, gt tex, mot, calc, fast difse, stmg, bri bl/wh mky cut, bl/wh ring resd

MD: 7.740°
Inclination: 90°
Azimuth: 357.4°
TVD: 6.853.45°
VS: 0.67

MD: 7.834°
Inclination: 89.9°
Azimuth: 356.9°
TVD: 6.853.53°
VS: 0.54





MD: 7.927'
 Inclination: 90.5°
 Azimuth: 356.9°
 TVD: 6,853.21'
 VS: 0.65'

MD: 8.021'
 Inclination: 90°
 Azimuth: 357.6°
 TVD: 6,852.8'
 VS: 0.92'

MD: 8.115'
 Inclination: 90°
 Azimuth: 357.6°
 TVD: 6,852.8'
 VS: 3.53'

6825
 MRLST: med-dk gy, sit gr, mod frm- frm, sb pty-pty, gt tex, mot, calc; CHK: lt- med gy, str, sb blkly-blky, sft-mod sft, rthy-wxy tex, sm ip, v calc, abnt inoc frags, bent; fast difse, stmg, bri bl/wlh mky cut, bl/wlh ring resd

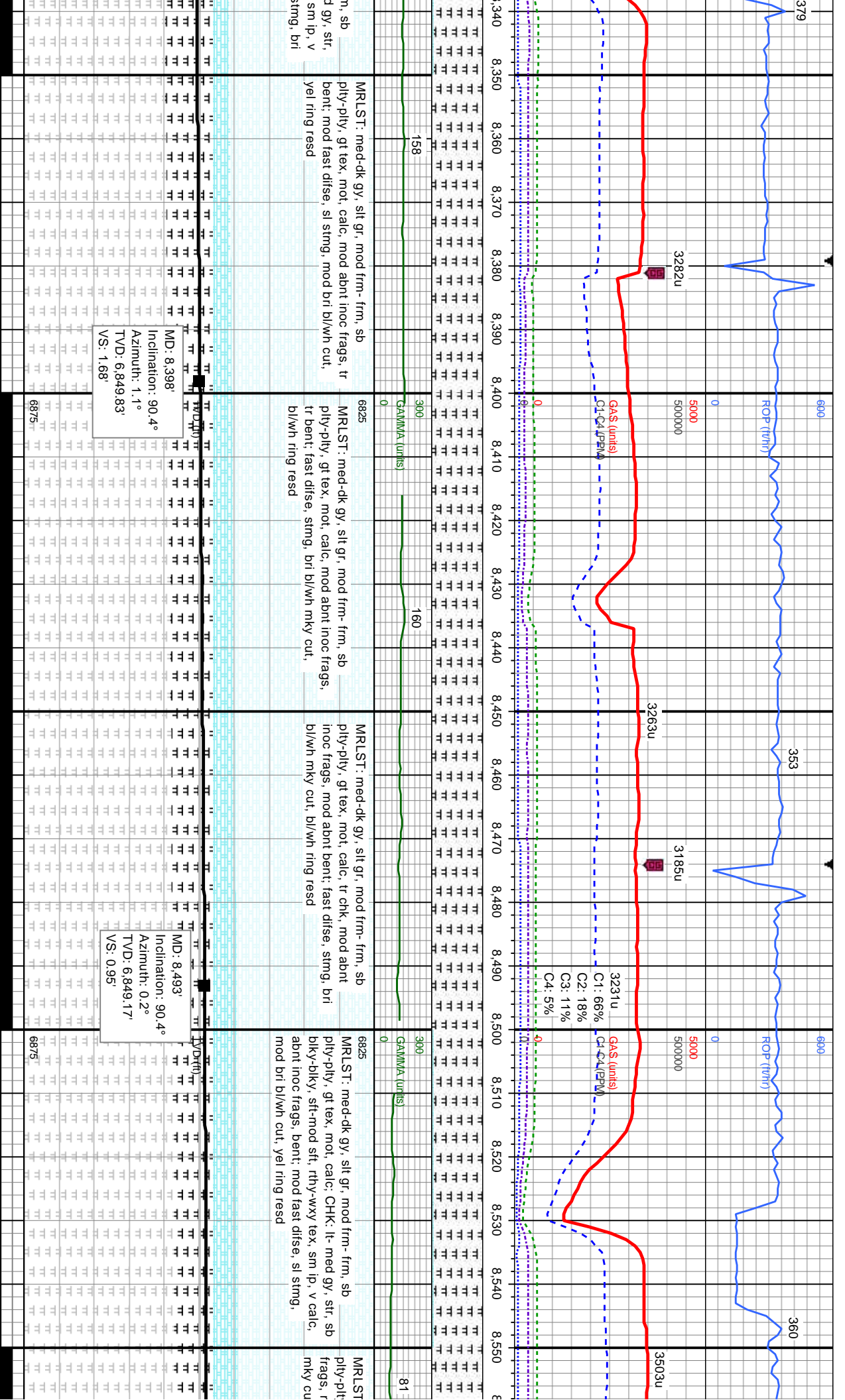
6825
 MRLST: med-dk gy, sit gr, mod frm- frm, sb pty-pty, gt tex, mot, calc; CHK: lt- med gy, str, sb blkly-blky, sft-mod sft, rthy-wxy tex, sm ip, v calc, abnt inoc frags, bent; fast difse, stmg, bri bl/wlh mky cut, bl/wlh ring resd

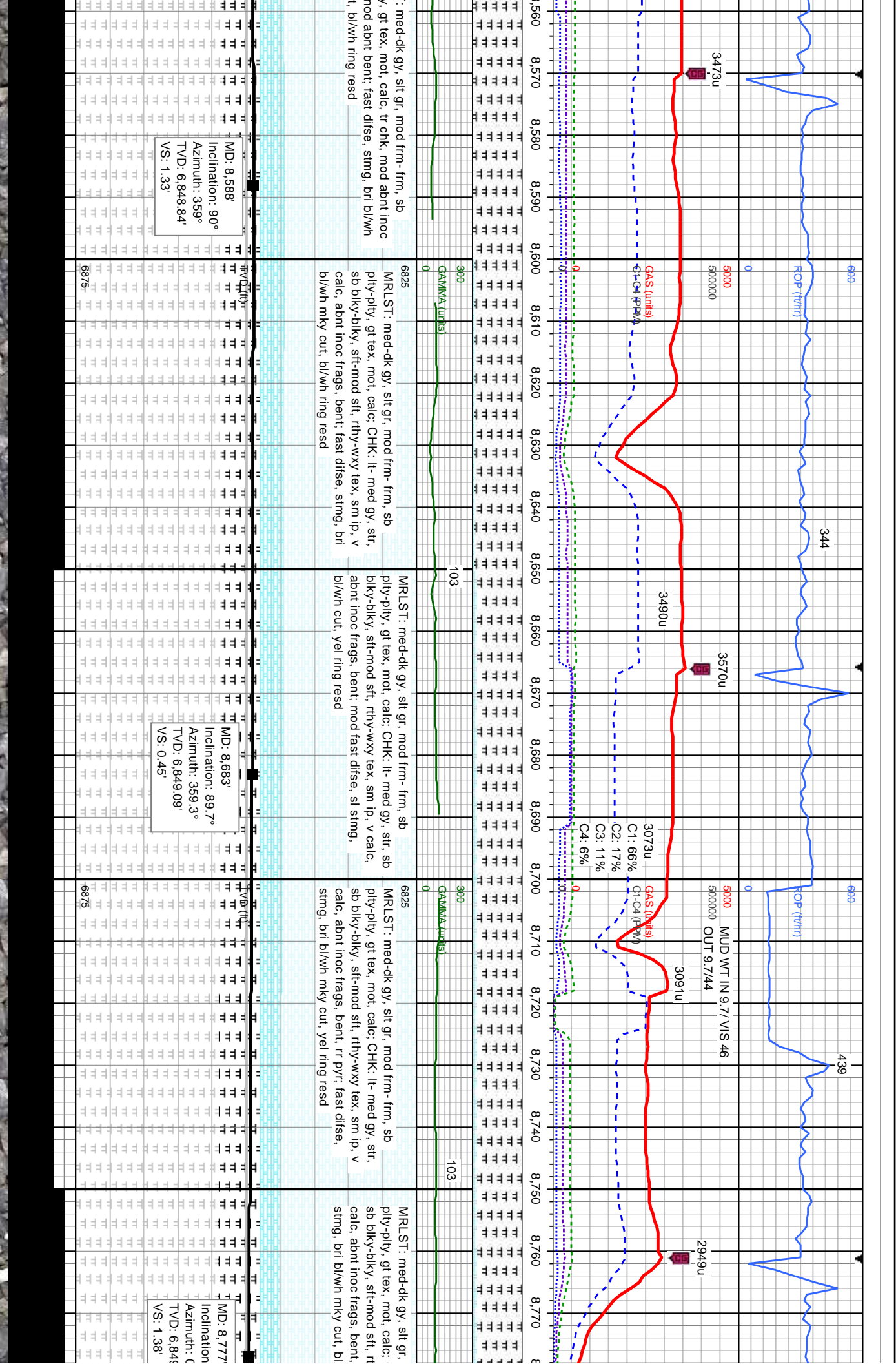
6825
 MRLST: med-dk gy, sit gr, mod frm- frm, sb pty-pty, gt tex, mot, calc; CHK: lt- med gy, str, sb blkly-blky, sft-mod sft, rthy-wxy tex, sm ip, v calc, abnt inoc frags, bent; fast difse, stmg, bri bl/wlh mky cut, bl/wlh ring resd

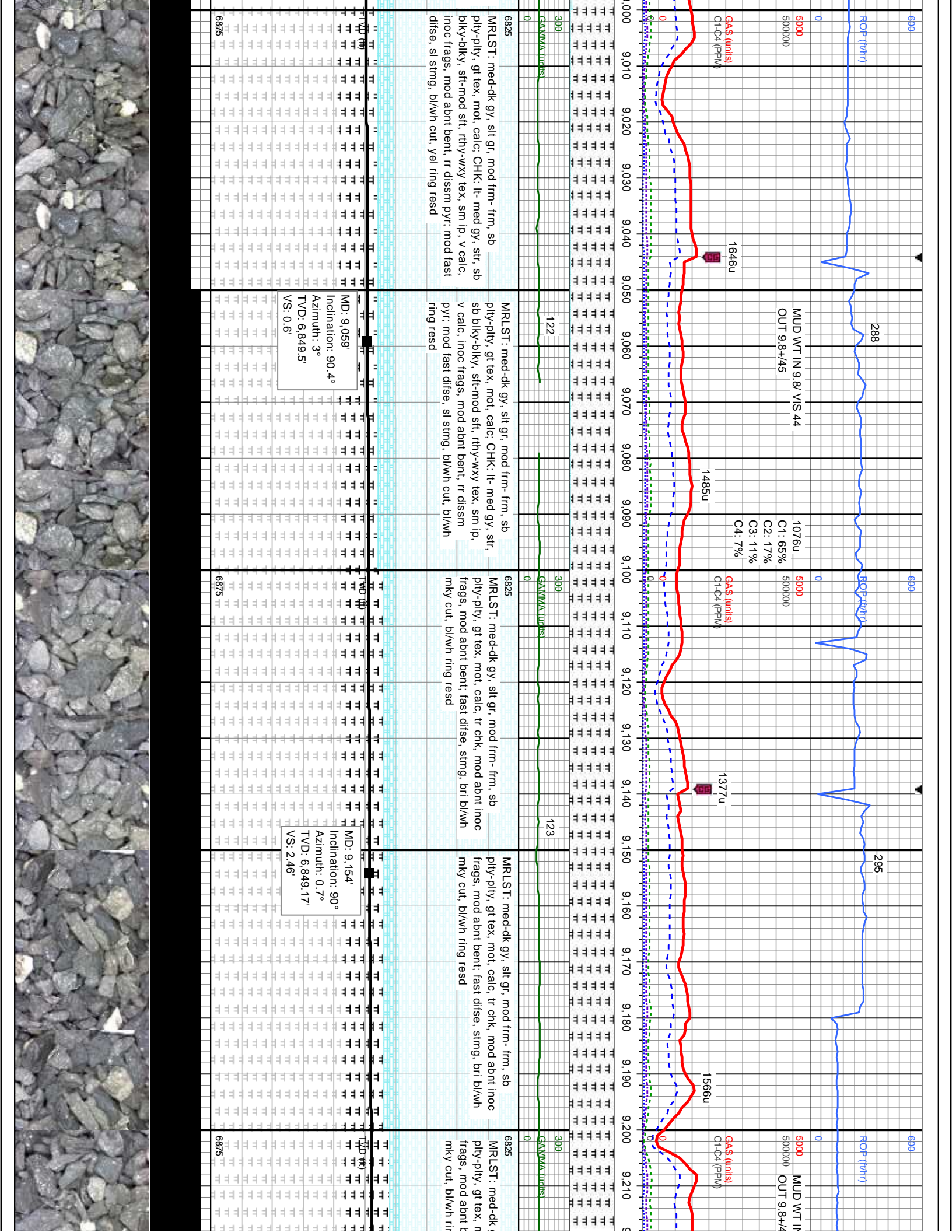
6825
 MRLST: med-dk gy, sit gr, mod frm- frm, sb pty-pty, gt tex, mot, calc; CHK: lt- med gy, str, sb blkly-blky, sft-mod sft, rthy-wxy tex, sm ip, v calc, abnt inoc frags, bent; fast difse, stmg, bri bl/wlh mky cut, bl/wlh ring resd

6825
 MRLST: med-dk gy, sit gr, mod frm- frm, sb pty-pty, gt tex, mot, calc; CHK: lt- med gy, str, sb blkly-blky, sft-mod sft, rthy-wxy tex, sm ip, v calc, abnt inoc frags, bent; fast difse, stmg, bri bl/wlh mky cut, bl/wlh ring resd

3234u
 Gas (units)
 C1: 65%
 C2: 19%
 C3: 12%
 C4: 4%







690 ROP (ft/hr)

288

690 ROP (ft/hr)

295

690 ROP (ft/hr)

5000 MUD WT IN 9.8/ VIS 44

5000000 OUT 9.8+/4.5

1076u C1: 65%

5000000 C2: 17%

5000000 C3: 11%

5000000 C4: 7%

1646u GAS (units)

1485u Cl-C4 (PPM)

1377u GAS (units)

1566u Cl-C4 (PPM)

300 GAMMA (units)

122

300 GAMMA (units)

123

300 GAMMA (units)

6825

6825

6825

6825

MR LST: med-dk gy, sit gr, mod frm- frm, sb
ply-pty, gt tex, mot, calc, CHK: lt- med gy, str, sb
blky-blky, sft-mod sft, rthy-wxy tex, sm ip, v calc,
inoc frags, mod abnt bent, rr dissm pyr, mod fast
difse, sl stmg, bl/wlh cut, yel ring resd

MR LST: med-dk gy, sit gr, mod frm- frm, sb
ply-pty, gt tex, mot, calc, CHK: lt- med gy, str,
sb blky-blky, sft-mod sft, rthy-wxy tex, sm ip,
v calc, inoc frags, mod abnt bent, rr dissm
pyr, mod fast difse, sl stmg, bl/wlh cut, bl/wlh
ring resd

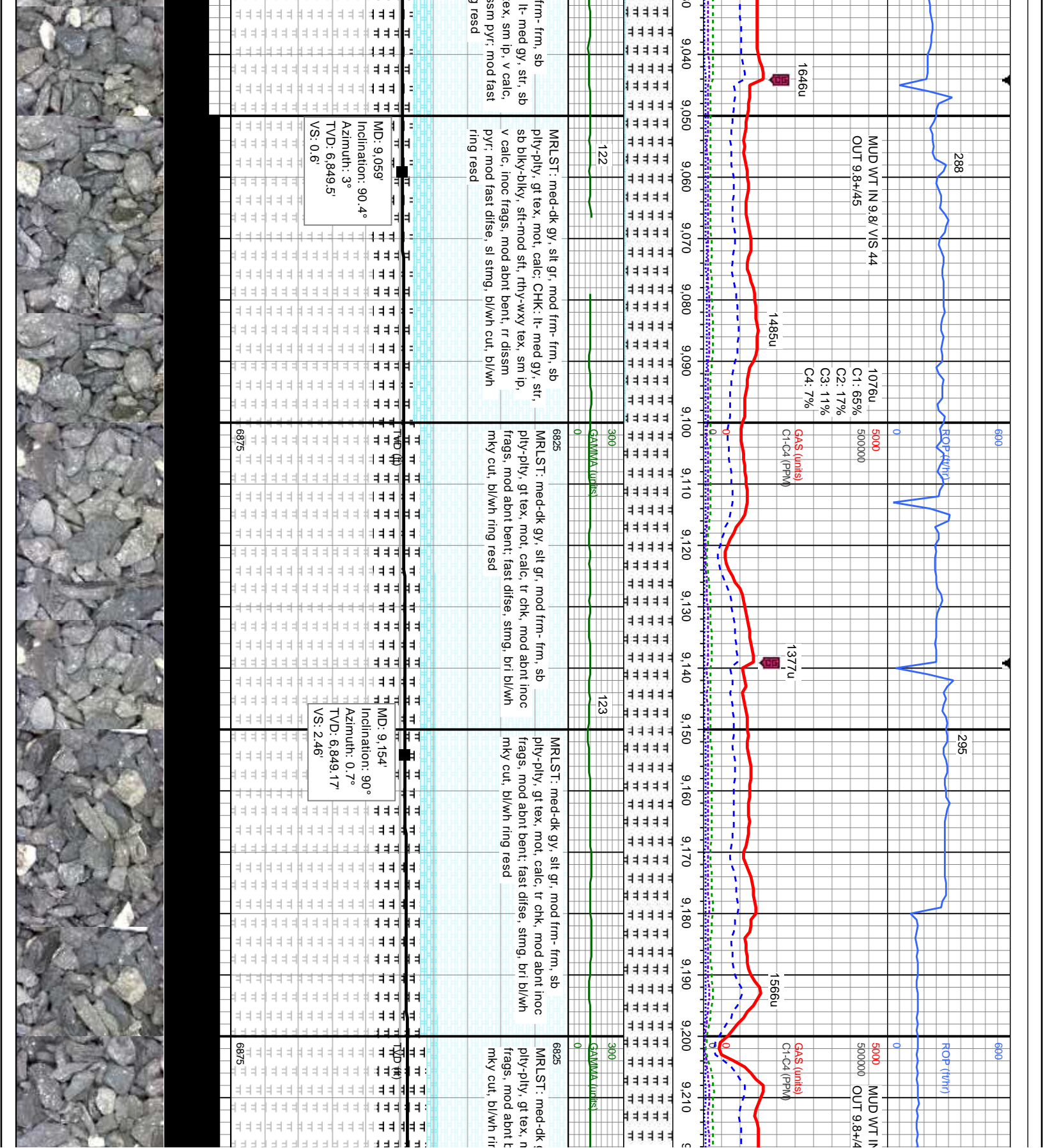
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ply-pty, gt tex, mot, calc, tr chk, mod abnt inoc
frags, mod abnt bent, fast difse, stmg, bri bl/wlh
mky cut, bl/wlh ring resd

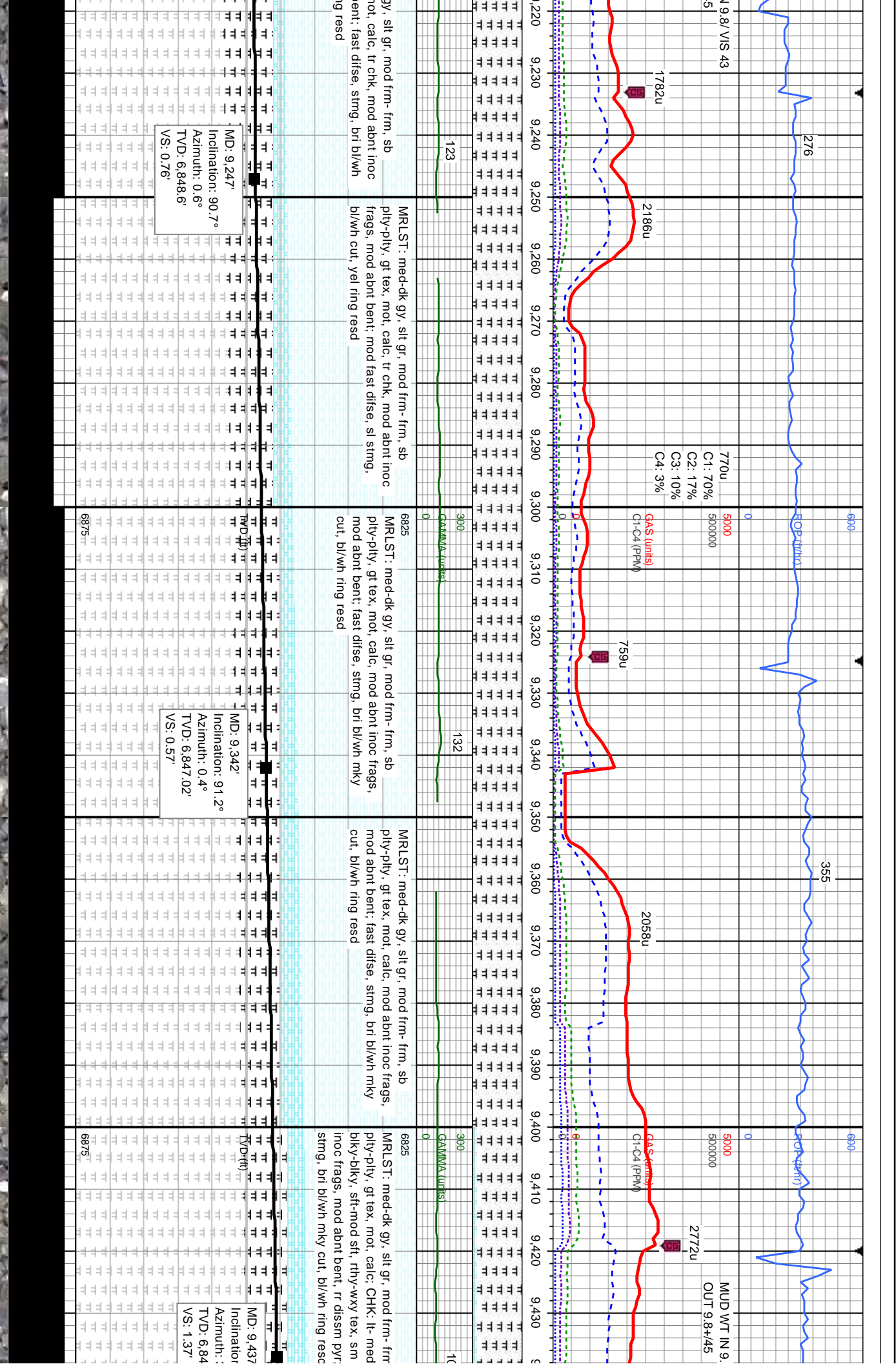
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frags, mod abnt bent, fast difse, stmg, bri bl/wlh
mky cut, bl/wlh ring resd

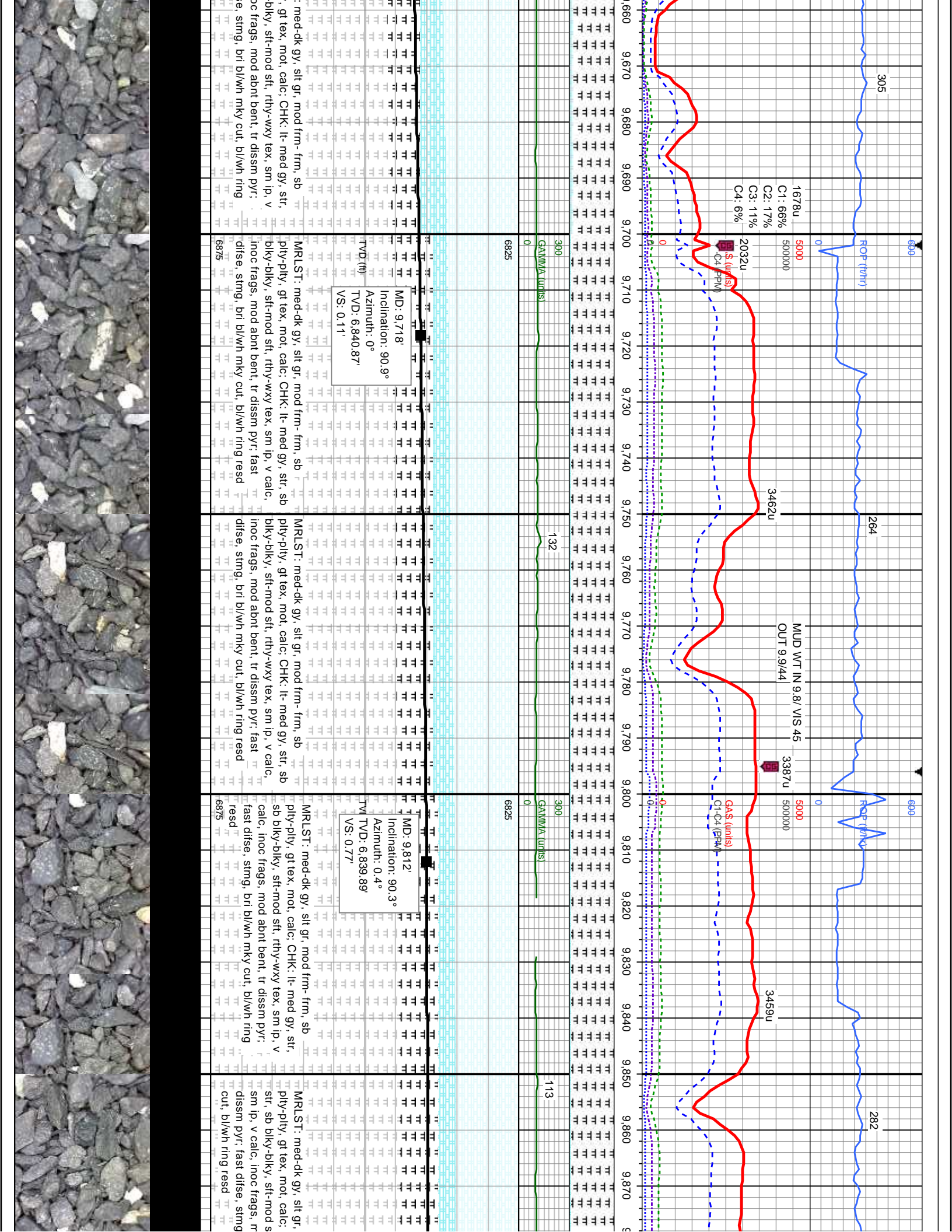
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frags, mod abnt bent, fast difse, stmg, bri bl/wlh
mky cut, bl/wlh ring resd

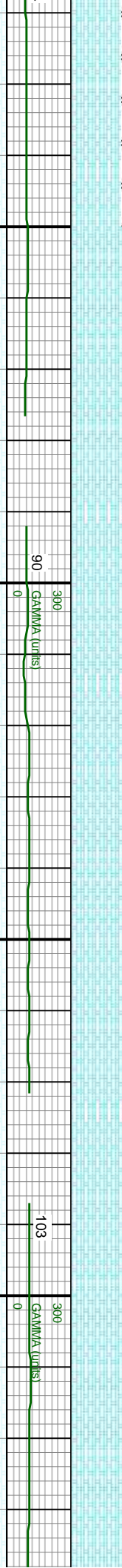
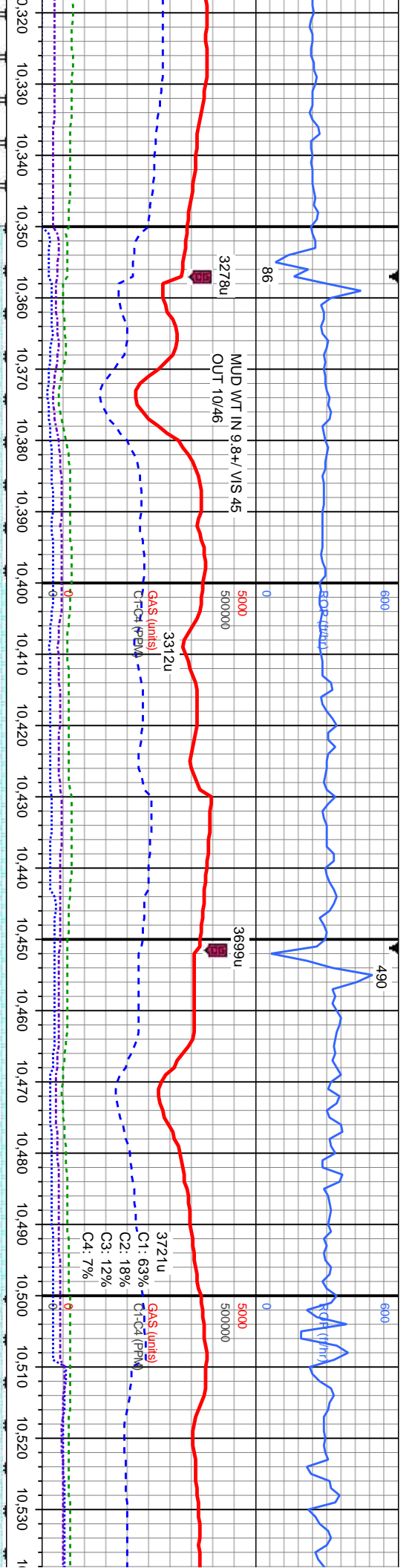
MD: 9.056'
Inclination: 90.4°
Azimuth: 3°
TVD: 6.849.5'
VS: 0.6'

MD: 9.154'
Inclination: 90°
Azimuth: 0.7°
TVD: 6.849.17'
VS: 2.46'



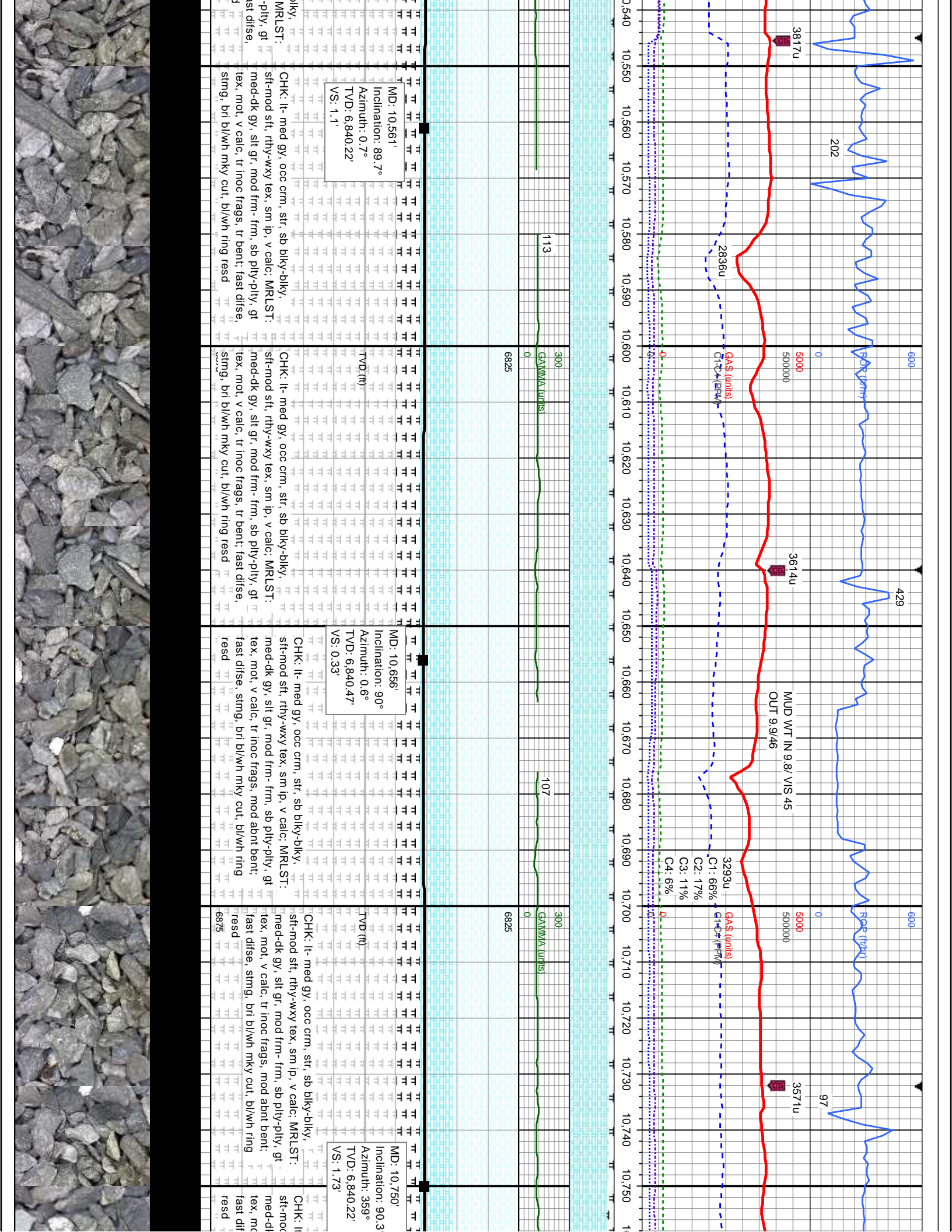


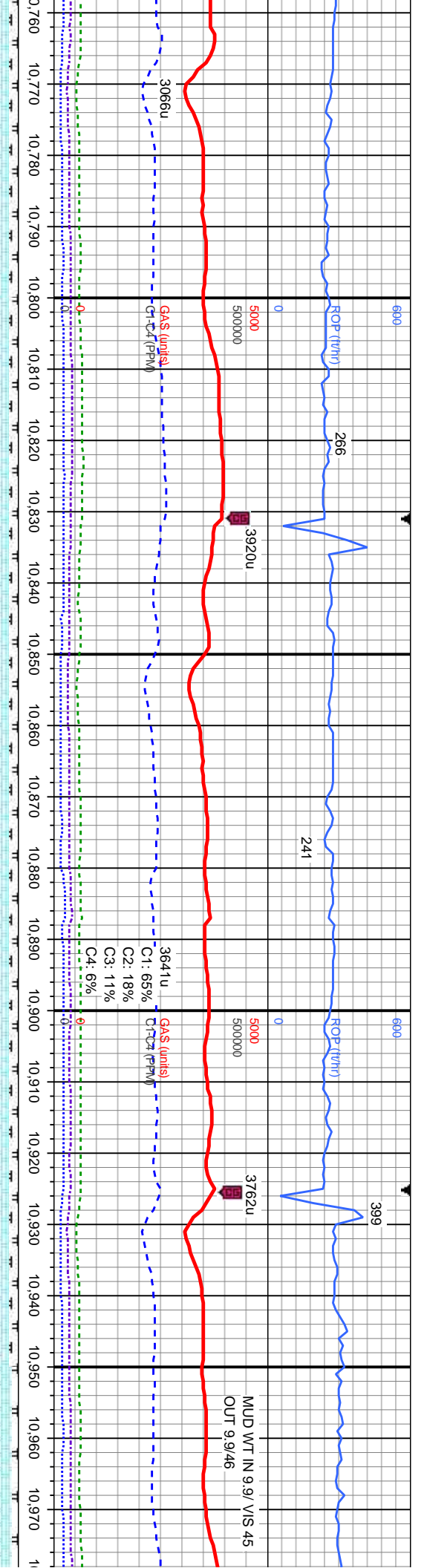




Depth	MD	Inclination	Azimuth	TVD	VS	Log Description
10,320	10,374	90°	358.8°	6,839.97'	0.53'	occ crm, str, sb blkY-blky, xy tex, sm ip, v calc; MRLST: mod frm- frm, sb plty-plty, gt inoc frags, tr bent; fast difse, b/wlh ring resd
10,350	10,374	90°	358.8°	6,839.97'	0.53'	occ crm, str, sb blkY-blky, xy tex, sm ip, v calc; MRLST: mod frm- frm, sb plty-plty, gt inoc frags, tr bent; fast difse, b/wlh ring resd
10,380	10,374	90°	358.8°	6,839.97'	0.53'	occ crm, str, sb blkY-blky, xy tex, sm ip, v calc; MRLST: mod frm- frm, sb plty-plty, gt inoc frags, tr bent; fast difse, b/wlh ring resd
10,410	10,374	90°	358.8°	6,839.97'	0.53'	occ crm, str, sb blkY-blky, xy tex, sm ip, v calc; MRLST: mod frm- frm, sb plty-plty, gt inoc frags, tr bent; fast difse, b/wlh ring resd
10,440	10,374	90°	358.8°	6,839.97'	0.53'	occ crm, str, sb blkY-blky, xy tex, sm ip, v calc; MRLST: mod frm- frm, sb plty-plty, gt inoc frags, tr bent; fast difse, b/wlh ring resd
10,470	10,466	90°	359.7°	6,839.97'	0.98'	occ crm, str, sb blkY-blky, xy tex, sm ip, v calc; MRLST: mod frm- frm, sb plty-plty, gt inoc frags, tr bent; fast difse, b/wlh ring resd
10,500	10,466	90°	359.7°	6,839.97'	0.98'	occ crm, str, sb blkY-blky, xy tex, sm ip, v calc; MRLST: mod frm- frm, sb plty-plty, gt inoc frags, tr bent; fast difse, b/wlh ring resd
10,530	10,466	90°	359.7°	6,839.97'	0.98'	occ crm, str, sb blkY-blky, xy tex, sm ip, v calc; MRLST: mod frm- frm, sb plty-plty, gt inoc frags, tr bent; fast difse, b/wlh ring resd

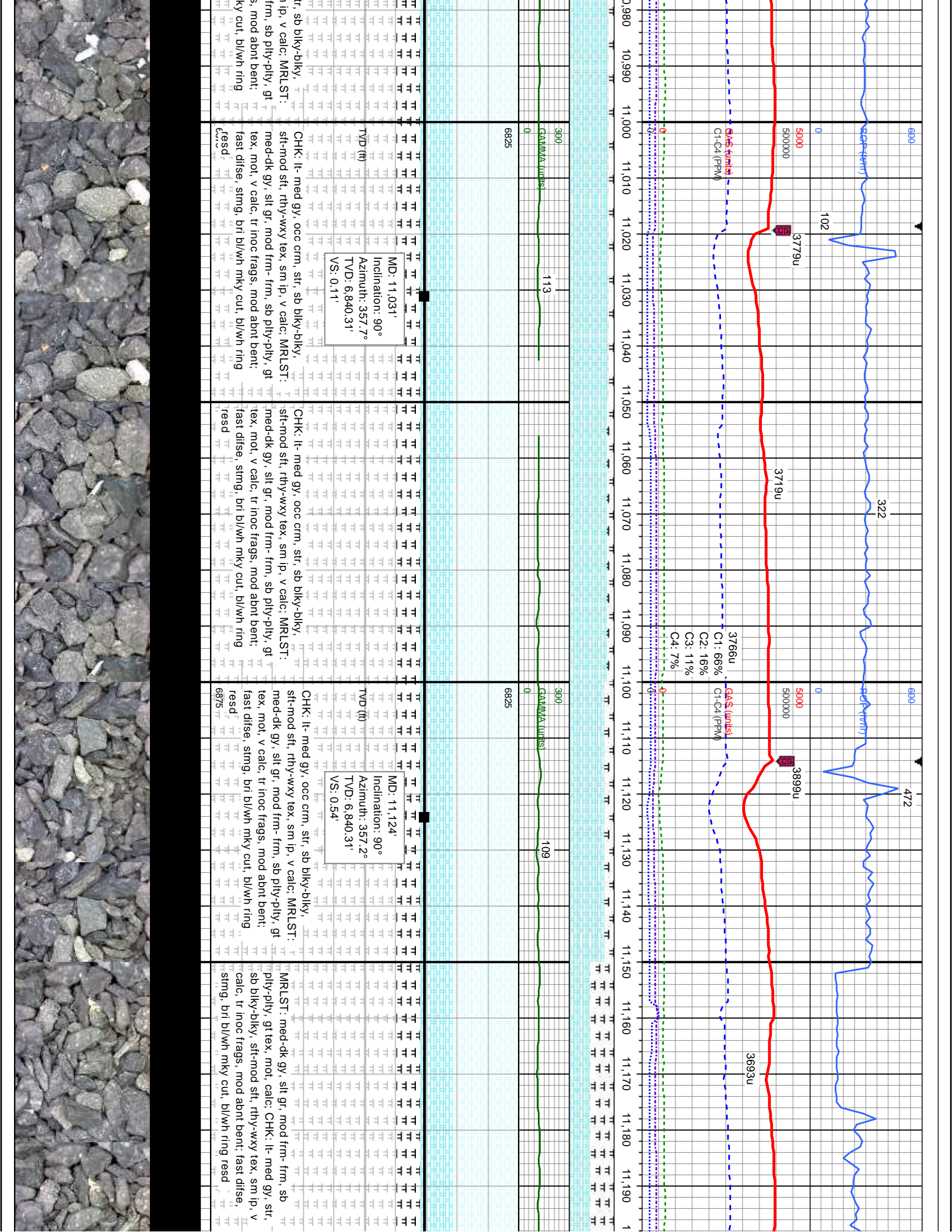


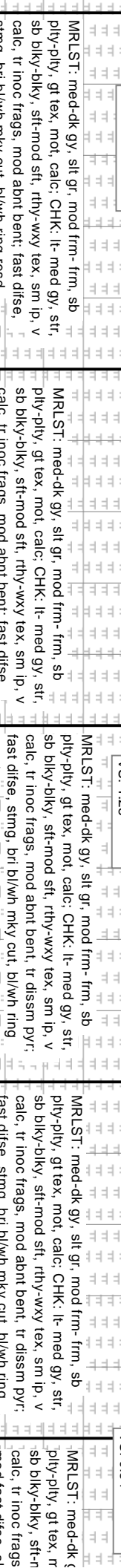
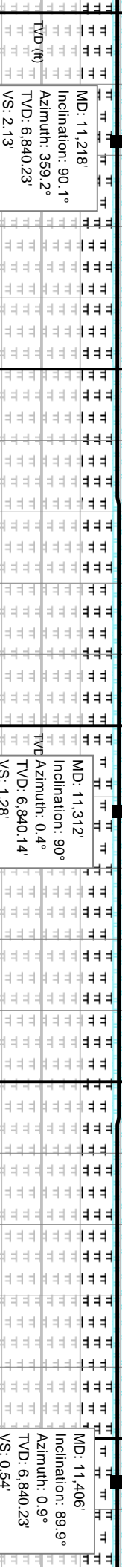
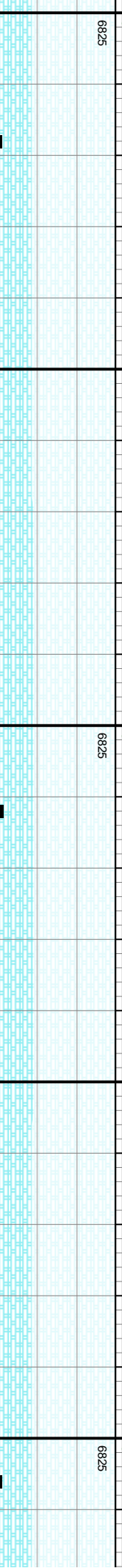
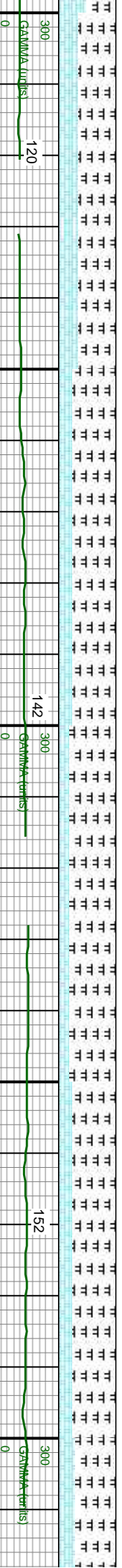
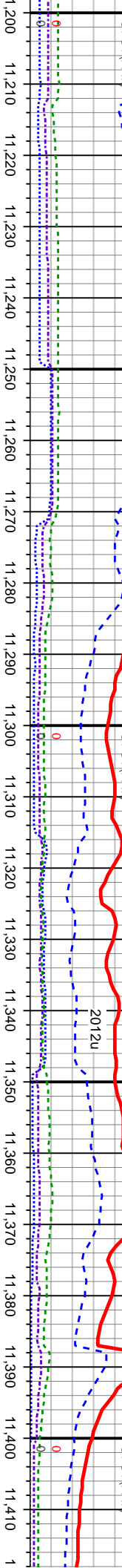
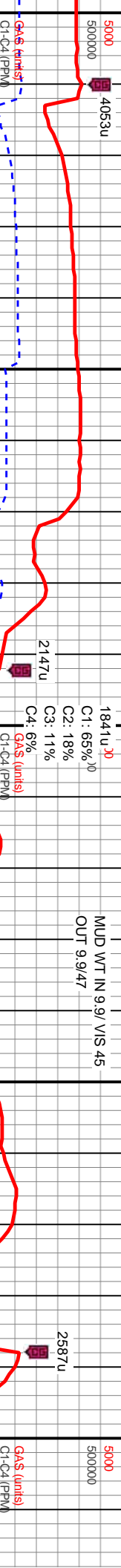
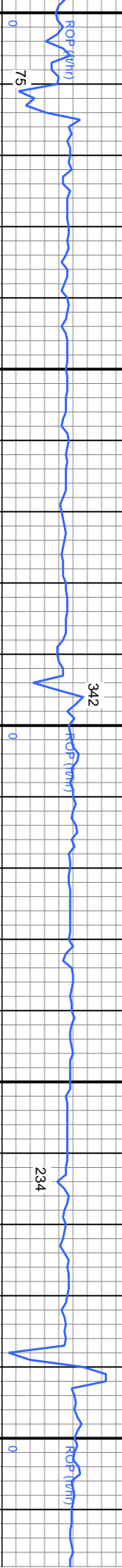




Depth (ft)	ROP (ft/hr)	GAS (links)	Gamma (PPM)	MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	VS (ft)	Log Description
10,760	3066u	65%	300	10,842'	89.8°	357.9°	6,840.14'	1.31'	CHK: lt-med gy, occ crm, str, sb blk-y-blky, sft-mod sft, rthy-wxy tex, sm ip, v calc: MRLST: med-dk gy, silt gr, mod frm-frm, sb pily-pily, gt tex, mot, v calc, tr inoc frags, mod abnt bent; fast disse, stmg, bri bl/wh mky cut, bl/wh ring resd
10,770		18%	0						
10,780		11%	0						
10,790		6%	0						
10,800			300						
10,810	266		0						
10,820			0						
10,830	3920u		0						
10,840			0						
10,850			0						
10,860			0						
10,870			0						
10,880	241		0						
10,890			0						
10,900			0						
10,910			0						
10,920			0						
10,930	3762u		0						
10,940			0						
10,950			0						
10,960			0						
10,970			0						







1841u
C1: 65%
C2: 18%
C3: 11%
C4: 6%GAS (units)
C1-C4 (PPM)

MUD WT IN 9.9/ VIS 45
OUT 9.9/47

MD: 11,218'
Inclination: 90.1°
Azimuth: 359.2°
TVD: 6,840.23'
VS: 2.13'

MD: 11,312'
Inclination: 90°
Azimuth: 0.4°
TVD: 6,840.14'
VS: 1.28'

MD: 11,406'
Inclination: 89.9°
Azimuth: 0.9°
TVD: 6,840.23'
VS: 0.54'

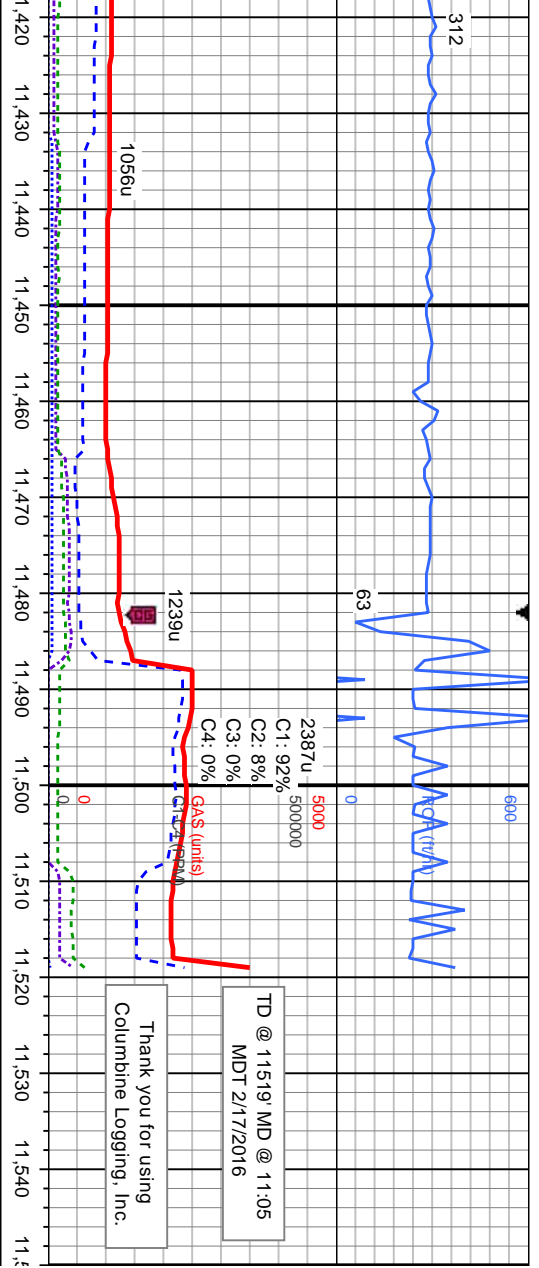
MR.LST: med-dk gy, sit gr, mod frm- frm, sb
ply-ply, gt tex, mot, calc; CHK: lt- med gy, str,
sb blkly-blky, sft-mod sft, rthy-wxy tex, sm ip, v
calc, tr inoc frags, mod abnt bent; fast difse,
stmg, bri bl/wk mky cut, bl/wk ring resd

MR.LST: med-dk gy, sit gr, mod frm- frm, sb
ply-ply, gt tex, mot, calc; CHK: lt- med gy, str,
sb blkly-blky, sft-mod sft, rthy-wxy tex, sm ip, v
calc, tr inoc frags, mod abnt bent; fast difse,
stmg, bri bl/wk mky cut, bl/wk ring resd

MR.LST: med-dk gy, sit gr, mod frm- frm, sb
ply-ply, gt tex, mot, calc; CHK: lt- med gy, str,
sb blkly-blky, sft-mod sft, rthy-wxy tex, sm ip, v
calc, tr inoc frags, mod abnt bent; tr dissn pyr,
fast difse, stmg, bri bl/wk mky cut, bl/wk ring
resd

MR.LST: med-dk gy, sit gr, mod frm- frm, sb
ply-ply, gt tex, mot, calc; CHK: lt- med gy, str,
sb blkly-blky, sft-mod sft, rthy-wxy tex, sm ip, v
calc, tr inoc frags, mod abnt bent; tr dissn pyr,
fast difse, stmg, bri bl/wk mky cut, bl/wk ring
resd

MR.LST: med-dk gy, sit gr, mod frm- frm, sb
ply-ply, gt tex, mot, calc; CHK: lt- med gy, str,
sb blkly-blky, sft-mod sft, rthy-wxy tex, sm ip, v
calc, tr inoc frags, mod abnt bent; fast difse, stmg,
bri bl/wk mky cut, bl/wk ring resd



TD @ 11519 MD @ 11-05
MDT 2/17/2016

Thank you for using
Columbine Logging, Inc.

MD: 11,443'
Inclination: 90°
Azimuth: 0.4°
TVD: 6,840.26'
VS: 1.38'

MD: 11,519'
Inclination: 90°
Azimuth: 0.4°
TVD: 6,840.26'
VS: 0'

j), silt gr, mod frm, frm, sb
 ot, calc: CHK: li- med gy, str
 mod sft, rhy-wxy tex, sm ip, v
 mod abnt bent, tr dissn pyr,
 sting, bl/wt cut, yel ring resd
 MRLST: med-dk gy, silt gr, mod frm, frm, sb pily-pily, gt tex, mot
 calc: CHK: li- med gy, str, sb blk-y-blk/y, sft-mod sft, rhy-wxy tex,
 sm ip, v calc, tr inoc frags, mod abnt bent, tr dissn pyr; mod
 fast dtise, sl sting, bl/wt cut, yel ring resd
 6875

PTB

