

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name Wells Ranch A36-655

Location NESE 31 6N 63W

State COLORADO

County WELD

Country USA

Rig Number H&P #273

API Number 05-123-41516

AFE # 201409

Region DJ BASIN

Field WATTENBERG

Spud Date 6/20/2015

Drilling Completed 6/29/2015

Surface Coordinates LAT: 40.4421

LONG: -104.47162

2323' FSL

390' FEL

Bottom Hole Coordinates PROJECTED:

2310' FNL

50' FWL

Ground Elevation 4656'

K.B. Elevation 4680'

Logged Interval 1000' To 16730'

Total Depth 16730'

Formation NIOBRARA B CHALK

Type of Drilling Fluid H2O, LSND

Operator

Company Noble Energy Inc.

Address 1625 BROADWAY
DENVER, CO 80202
(303) 228-4000

Geologists

Name MICHAEL ANDERSON, SHANNA GILBERT

Company COLUMBINE LOGGING, INC.

Address 602 S. LIPAN ST
DENVER, COLORADO 80223
(303) 289-7764

Zone Color C

Oil
Note
Error

Condensate
Core
Water

Rock Type

UNKNOWN
ANHYDRITE
BENTONITE
BRECCIA
CHALK
CEMENT
CHERT
CLAY CHOKE SA...
CLAYSTONE
COAL
CONGLOMERATE
DOLOMITE
DOLOMITIC LIMESTO...
GYP SUM
IGNEOUS
SIDERITE or LIMONITE
LIMESTONE

Accessories

Fossils	GASTROPOD	ARGILLITE GRAIN	HEAVY MINERAL	Stringer
INOCERAMUS	B BENTONITE	K KAOLIN		ANHYDRITE STRINGER
ALGAE	O OOLITE	M MARCASITE		BENTONITE STRINGER
AMPHIPORA	O OSTRACOD	BRECCIA FRAGMENTS		COAL STRINGER
BELEMNITE	P PELECYPOD	C CALCAREOUS		DOLOMITE STRINGER
BIOCLASTIC	P PELLET	CARBONACEOUS FLAKES	MINERAL CRYSTALS	GYPSUM STRINGER
BRACHIOPOD	P PISOLITE	CHRTD	N NODULES	LIMESTONE STRINGER
BRYOZOA	P PLANT REMAINS	COAL - THIN BEDS	P PHOSPHATE PELLETS	MARLSTONE (CALC) STRG
CEPHALOPOD	P PLANT SPORES	D DOLOMITIC	P PYRITE	MARLSTONE (DOL) STRG
CORAL	S SCAPHOPOD	F FELDSPAR	S SALT CAST	SANDSTONE STRINGER
CRINOID	S STROMATOPOROID		S SANDY	
ECHINOID		F FERRUGINOUS PELLET	S SIDERITE	SHALE STRINGER
Minerals	F FISH	F FERRUGINOUS	S SILICEOUS	SILTSTONE STRINGER
F FORAMINIFERA	A ANHYDRITIC	G GLAUCONITE	S SILTY	
F FOSSIL	A ARGILLACEOUS	G GYPSIFEROUS	T TUFFACEOUS	

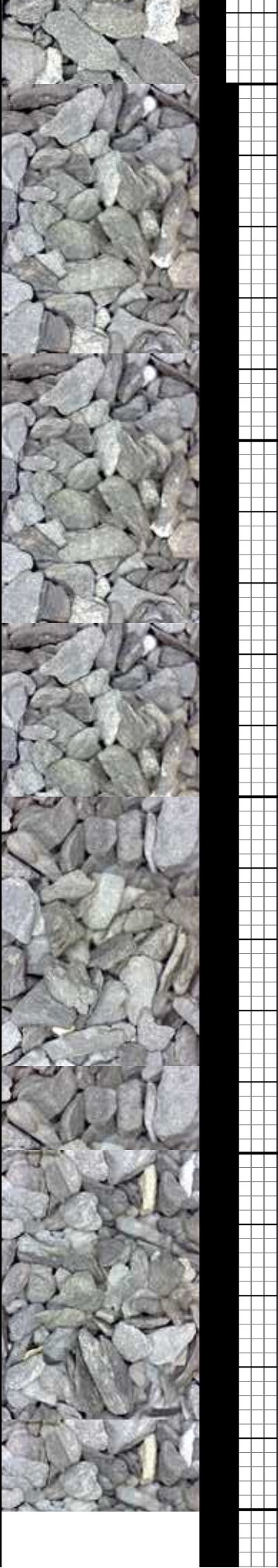
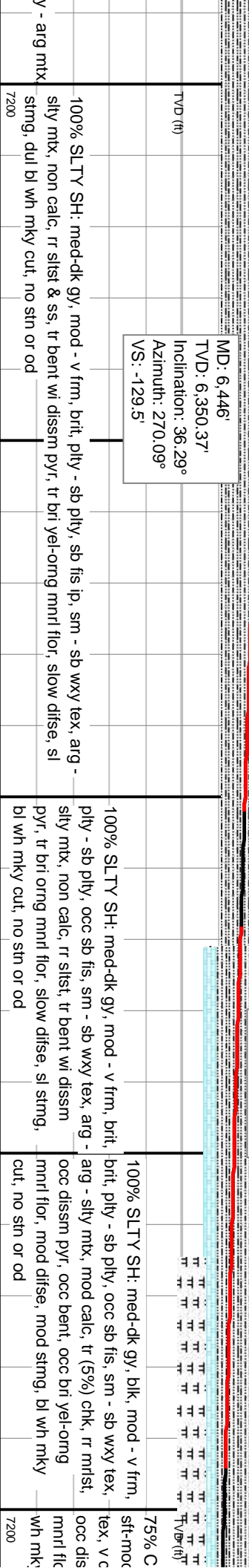
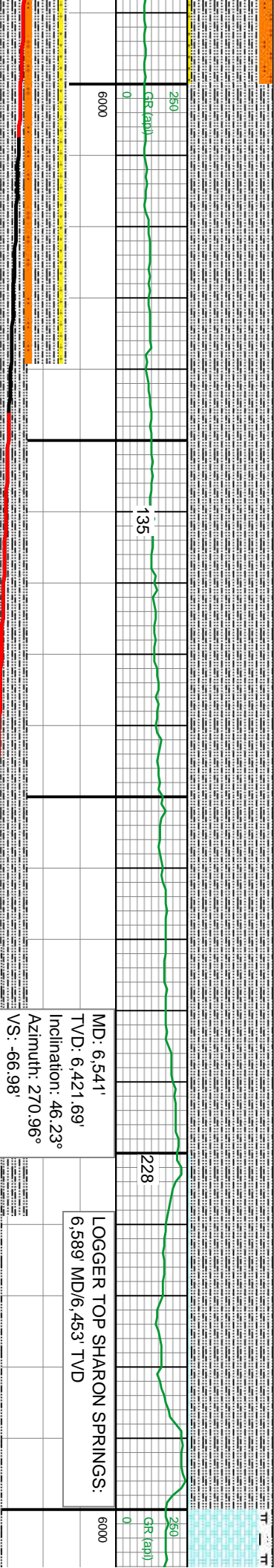
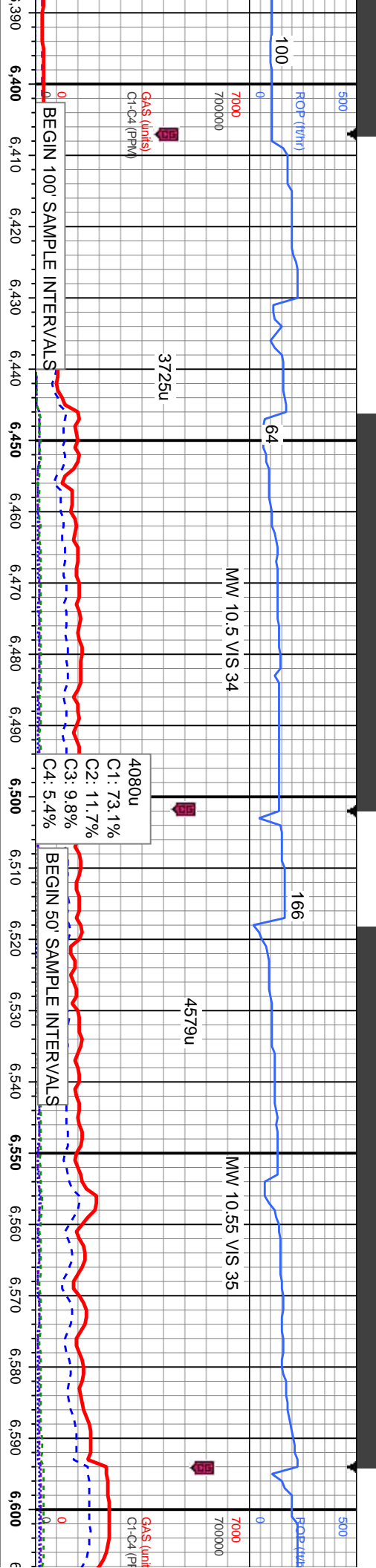
Other Symbols

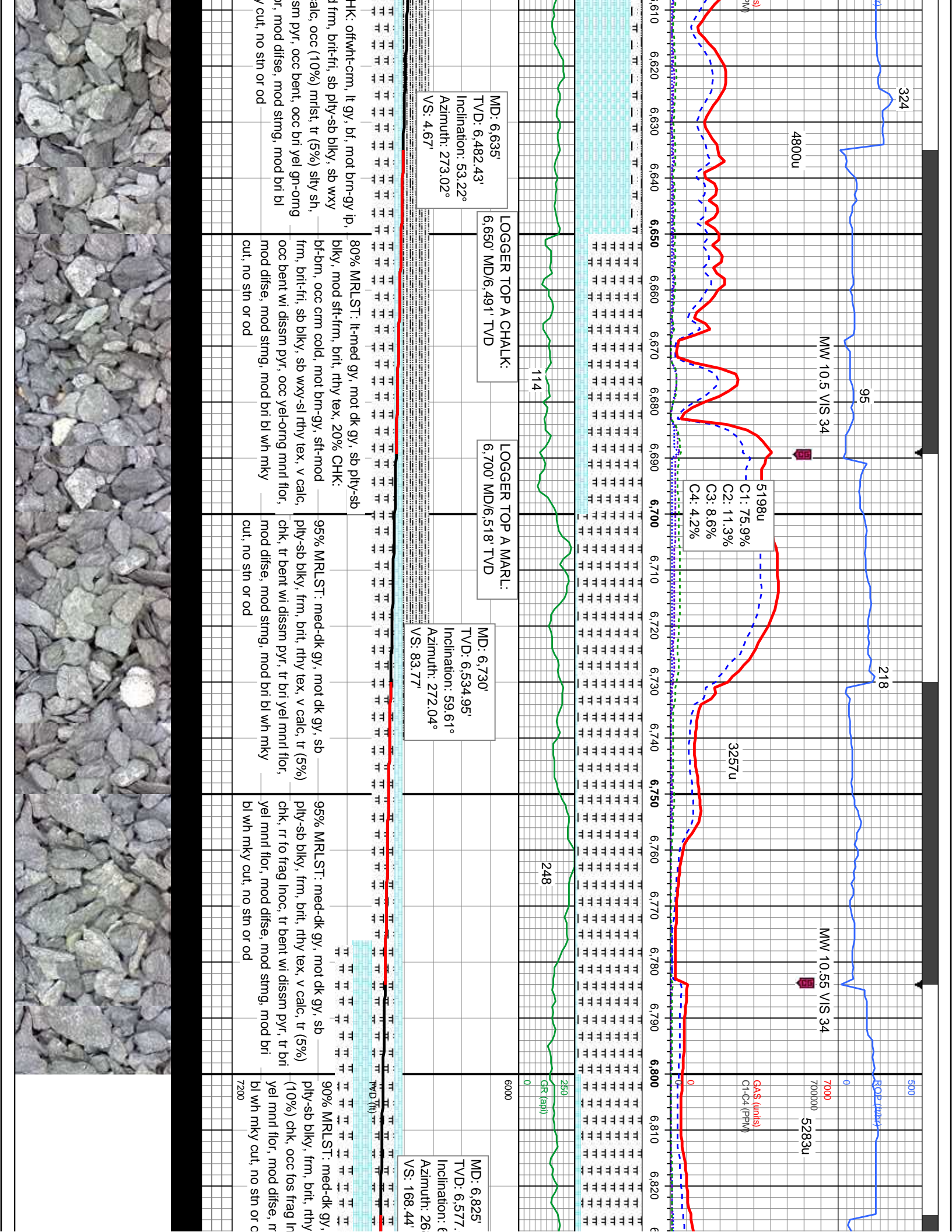
Oil Show	P PINPOINT	WIRELINE TESTED - LE...	E EARTHY
V VUGGY	WIRELINE TESTED - RT	FX FINELYXLN	
Engineering	FORMATION TOP	DRILL STEM TEST	GS GRAINSTONE
D DEAD	GAS SHOW	MN DEPTH	L LITHOGRAPHIC
E EVEN	OIL SHOW		MX MICROXLN
Q QUESTIONABLE	BIT		
SPOTTED STAINL...	CONNECTION (UP)	MN DEPTH UP	MS MUDSTONE
Rounding			
CONNECTION (DOWN)	A ANGULAR	PS PACKSTONE	
Porosity	CONNECTION GAS	NORMAL FAULT	R ROUNDED
E EARTHY	CONNECTION GAS (LEF..	OVERTURNED STRATA	S SUBANG
F FENESTRAL	TRIP GAS	REVERSE FAULT	S SUBRAND
F FRACTURE	TRIP GAS (LEFT)	CASING	
Textures	INTERCRYSTALL...	SIDEWALL CORE (LEFT)	M MODERATE
INTEROOLITIC	DOWN TIME GAS	SIDEWALL CORE (RIGH..	P POOR
M MOLDIC	CORE - LOST	SLIDE	W WELL
O ORGANIC	CORE - RECOVERED	SURVEY	CX CRYPTOXLN

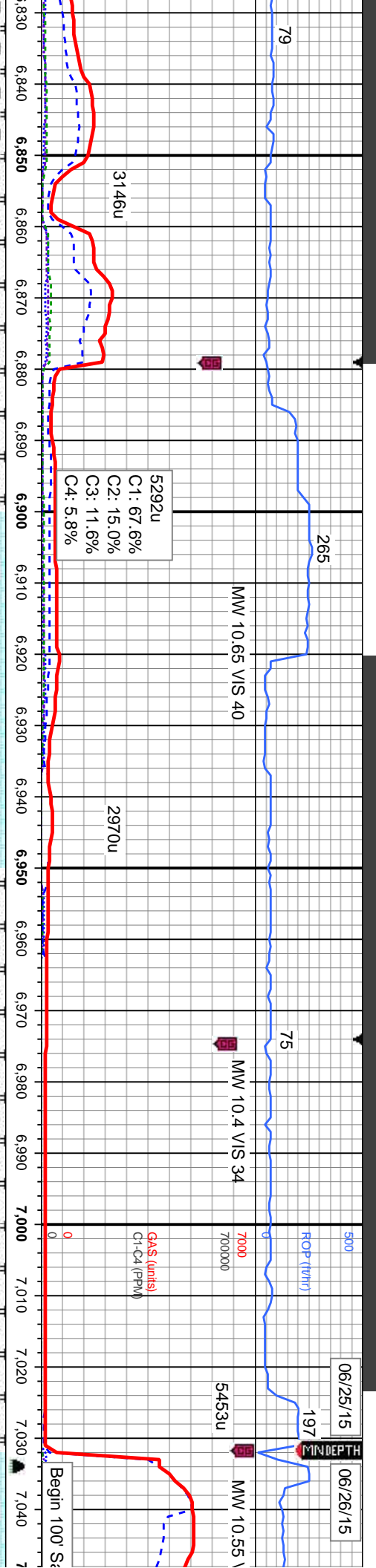
ooding



MARLSTONE	SHALY SANDSTO...
METAMORPHIC	SHALY SILTSTONE
NO SAMPLE	SILTY SHALE
SANDSTONE	SILTSTONE
SALT-PEPPER SA...	TUFF
SHALE	WELDED TUFF
SHALE COLORED	
SHALE GRAY	







LOGGER TOP B CHALK:
6,850' MD/6,586' TVD

MD: 6,920'
TVD: 6,609.79'
Inclination: 73.6°
Azimuth: 266.58°
VS: 257.41'

LOGGER TOP B MARL:
6,987' MD/6,625' TVD

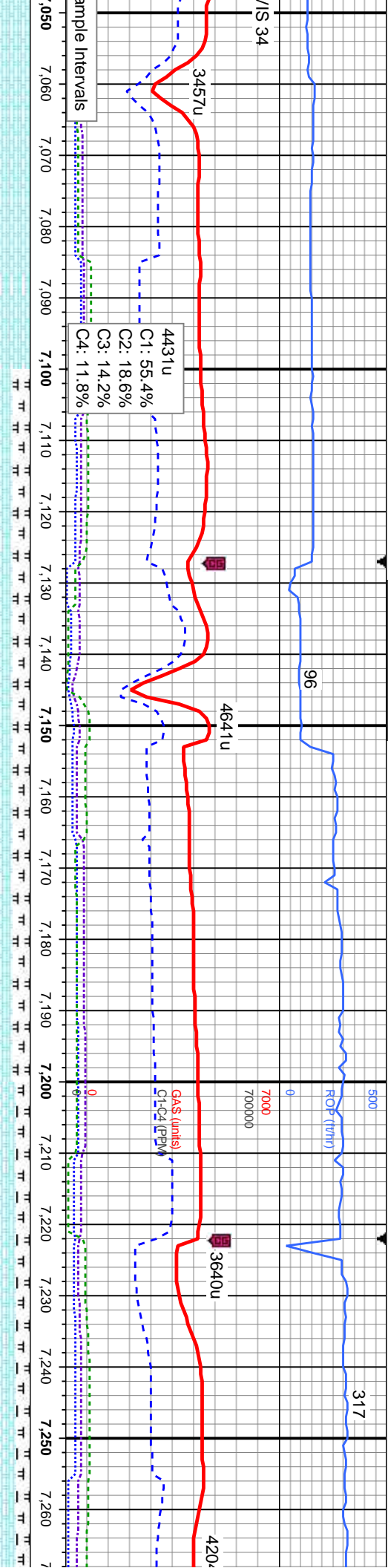
MD: 6,978'
TVD: 6,622.59'
Inclination: 80.88°
Azimuth: 266.5°
VS: 313.6'

TD Intermediate @ 7032' MD
@ 12:41 hrs on 06/25/15

Resume Drilling @
04:14 hrs on 06/26/15

mot dk gy, sb	90% CHK: offwht-frm, lt gy, bf - brn, mot dk	100% CHK: offwht-frm, lt gy, mot brn-dk gy,	90% CHK: offwht-frm, lt-med gy, mot brn-dk	90% CHK: crm-bl, lt-med gy, mot brn-dk
tex, v calc, occ	gy, mod sft-frm, brit-fri lp, sb blk, sb wxy tex,	mod frm, brit-fri lp, sb blk, sb wxy tex, v calc,	gy, sft-mod frm, brit-fri, sb blk, sb wxy tex, v	sft-frm, brit-fri, sb blk, sb wxy-rthy tex, v
oc, tr pyr, tr bent, tr	v calc, occ (10%) mrlst, tr fos frag lnc, mod	occ fos frag lnc, tr bent w/ dissim pyr, tr yel	calc, occ (10%) mrlst, occ fos frag lnc, mod	calc, occ (10%) mrlst, tr fos frag lnc, tr
mod sting, mod bri	dlse, mod sting, mod bri bl wh mky cut, no	mnrl flr, mod dlse, mod sting, mod bri bl	dlse, mod sting, mod bri bl wh mky cut, no	bent, tr bri yel mnrl flr, fast dlse, sting,
	flr sh or od	wh mky cut, no sh or od	flr sh or od	mod bri bl wh mky cut, no sh or od

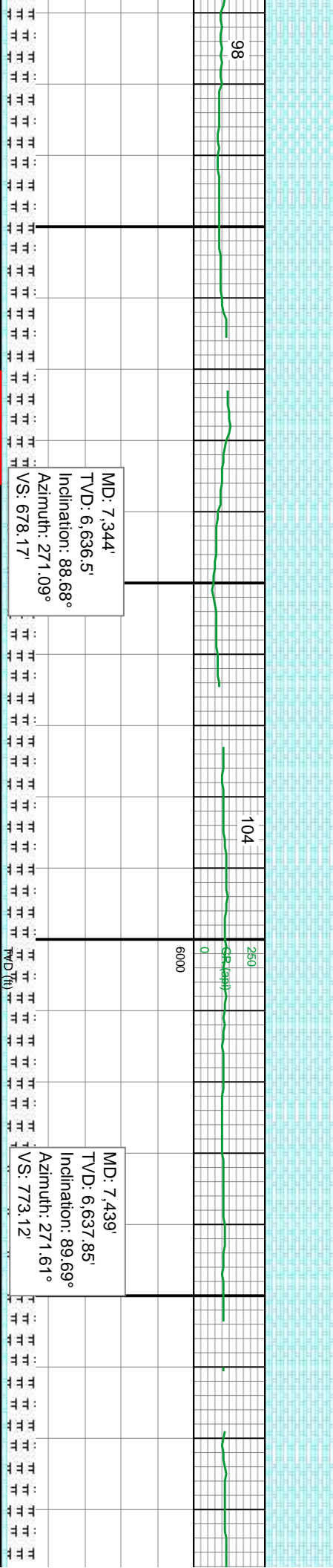
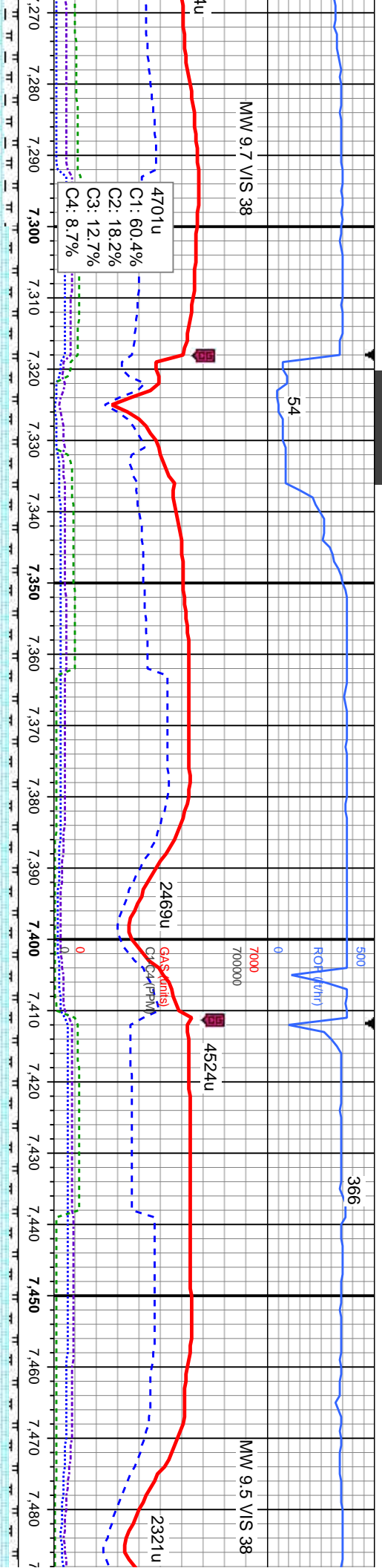




Bit Data		MD: 7,060'	
Bit #: 3		TVD: 6,631.83'	
Type: HDBS MM54		Inclination: 86.18°	
Size: 6.12		Azimuth: 268.45°	
Depth In: 7,032'		VS: 394.68'	
Jets: 5x14			
S/N: 12578973			
		MD: 7,155'	
		TVD: 6,635.51'	
		Inclination: 89.38°	
		Azimuth: 270.06°	
		VS: 489.4'	
		MD: 7,250'	
		TVD: 6,635.72'	
		Inclination: 90.37°	
		Azimuth: 269.66°	
		VS: 584.27'	

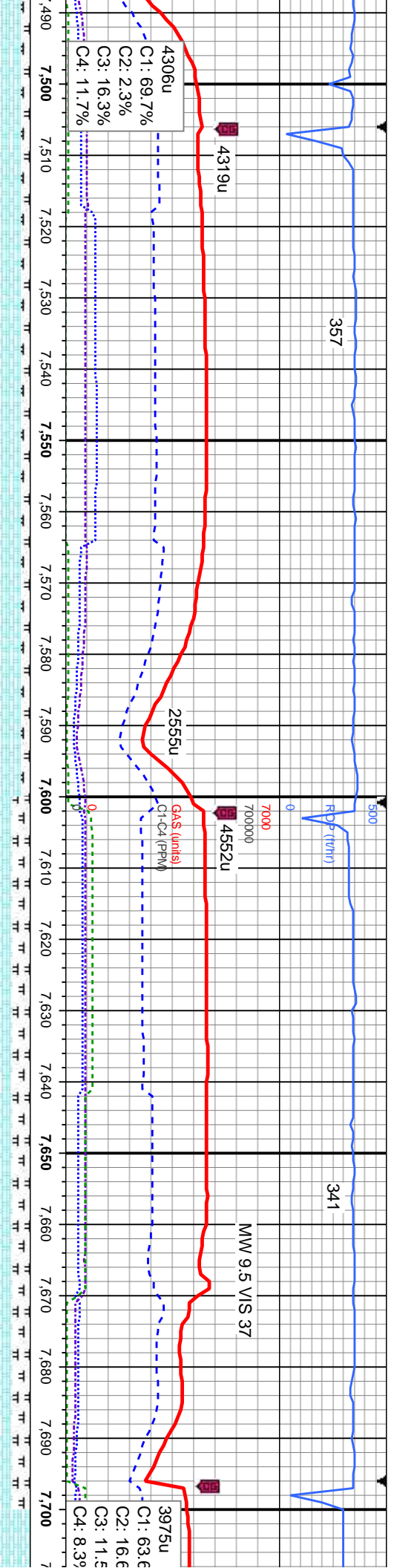
100% CHK: crm-bf, lt-med gy, mot brn-dk gy, sft-firm, brit-fri, sb blk, sb wxy-rthy tex, v calc, tr mlst, tr bri yel mnrl flr, fast difse, stmg, mod br bl wh mky cut, no stn or od	80% CHK: crm-bf, lt-med gy, mot brn-dk gy, sft-firm, brit-fri, sb blk, sb wxy-rthy tex, v calc, 20% MRLST: med-dk gy, mot dk gy, sb ply-sb blk, frm, brit, rthy tex, v calc, tr bent, frt bl wh mky cut, mod difse, mod stmg, mod br bl wh mky cut, no stn or od	80% CHK: crm-bf, lt-med gy, mot brn-dk gy, sft-firm, brit-fri, sb blk, sb wxy-rthy tex, v calc, 20% MRLST: med-dk gy, occ blk, sb ply-sb blk, frm, brit, rthy bent, frt bl wh mky cut, fast difse, mod stmg, mod br bl wh mky
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98	104	250	6000	7200
sb wxy-rthy tex, v calc, tex, sl silver lstr, v calc, tr v cut, no sin or od	90% CHK: crm-bf, lt-med gy, mot brn-dk gy, sft-frm, brit-fri, sb blk, sb wxy-rthy tex, v calc, occ (10%) mlst, tr fos frag inoc, frnt bl wh mlky cut, mod difse, mod sting, mod bri mlky cut, no sin or od	90% CHK: crm-bf, lt-med gy, mot brn-dk gy, sft-frm, brit-fri, sb blk, sb wxy-rthy tex, v calc, occ (10%) mlst, tr fos frag inoc, frnt bl wh mlky cut, mod difse, mod sting, mod bri mlky cut, no sin or od	90% CHK: crm-bf, lt-med gy, mot brn-dk gy, sft-frm, brit-fri, sb blk, sb wxy-rthy tex, v calc, occ (10%) mlst, tr fos frag inoc, frnt bl wh mlky cut, mod difse, mod sting, mod bri mlky cut, no sin or od	90% CHK: crm-bf, lt-med gy, mot brn-dk gy, sft-frm, brit-fri, sb blk, sb wxy-rthy tex, v calc, occ (10%) mlst, tr fos frag inoc, frnt bl wh mlky cut, mod difse, mod sting, mod bri mlky cut, no sin or od





MD: 7,534'
TVD: 6,638.16'
Inclination: 89.94°
Azimuth: 271.22°
VS: 868.09'

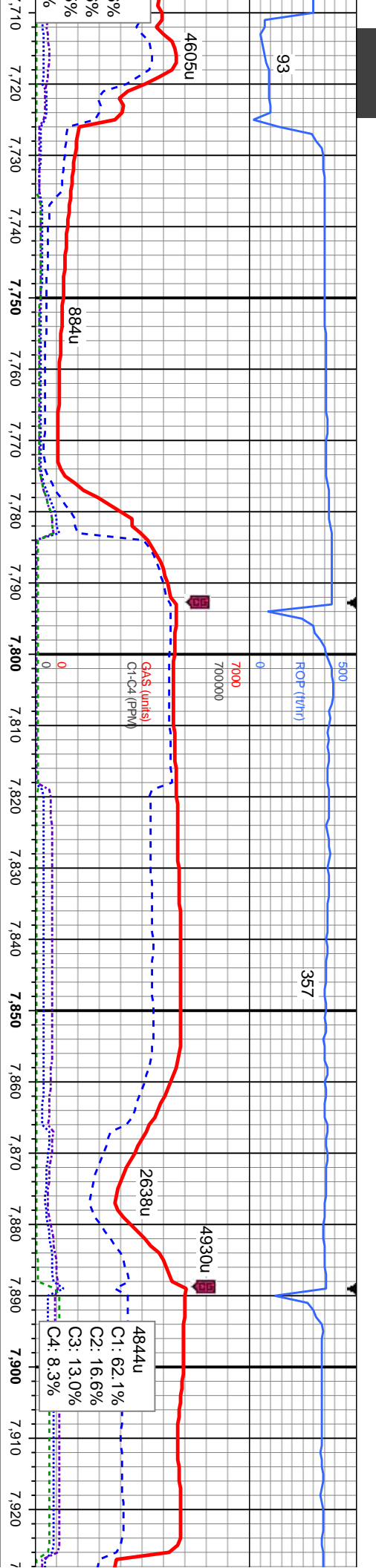
MD: 7,629'
TVD: 6,637.59'
Inclination: 90.74°
Azimuth: 271.22°
VS: 963.05'

90% CHK: crm-bf, lt-med gy, mot brn-dk gy, sft-fm, brit-fri, sb blk, sb wxy-rthy tex, v calc, occ (10%) mlst, tr fos frag Inoc, tr bent, fnt bl wh mky cut, mod difse, mod stm, mod bri bl wh mky cut, no stn or od

80% CHK: crm-bf, lt-med gy, mot brn-dk gy, sft-fm, brit-fri, sb blk, sb wxy-rthy tex, v calc, 20% MRLST: med-dk gy, occ blk, sb ply-sb blk, frm, brit, rthy tex, sl silver lstr, v calc, tr bent, fnt bl wh mky cut, mod difse, mod stm, mod br bl wh mky cut, no stn or od

100% tr mls





MD: 7,723'
TVD: 6,637.47'
Inclination: 89.41°
Azimuth: 271.13°
VS: 1,057.01'

MD: 7,818'
TVD: 6,637.73'
Inclination: 90.28°
Azimuth: 271.94°
VS: 1,151.98'

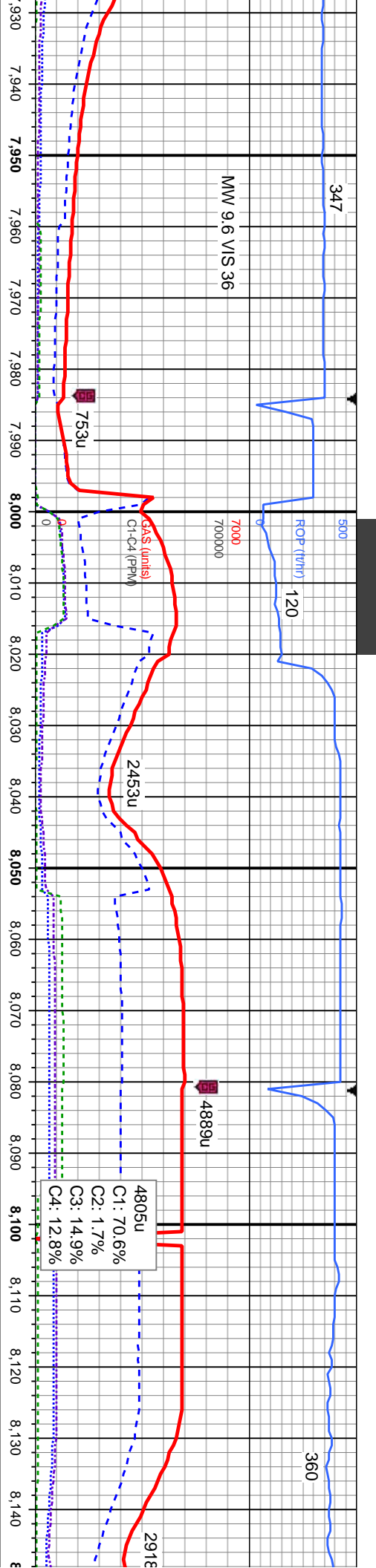
MD: 7,913'
TVD: 6,637.04'
Inclination: 90.55°
Azimuth: 271.53°
VS: 1,246.96'

CHK: crm-bl, lt-med gy, mot brn-dk gy, sft-frn, brit-fri, sb blk, sb wxy-rthy tex, v calc, tr mst, tr bent, fnt bl wh mky cut, mod difse, si stmg, mod bri bl wh mky cut, no sh or od

100% CHK: crm-bl, lt-med gy, mot brn-dk gy, sft-frn, brit-fri, sb blk, sb wxy-rthy tex, v calc, tr mst, tr bent, tr foss frag inoc, fnt bl wh mky cut, mod difse, si stmg, mod bri bl wh mky cut, no sh or od

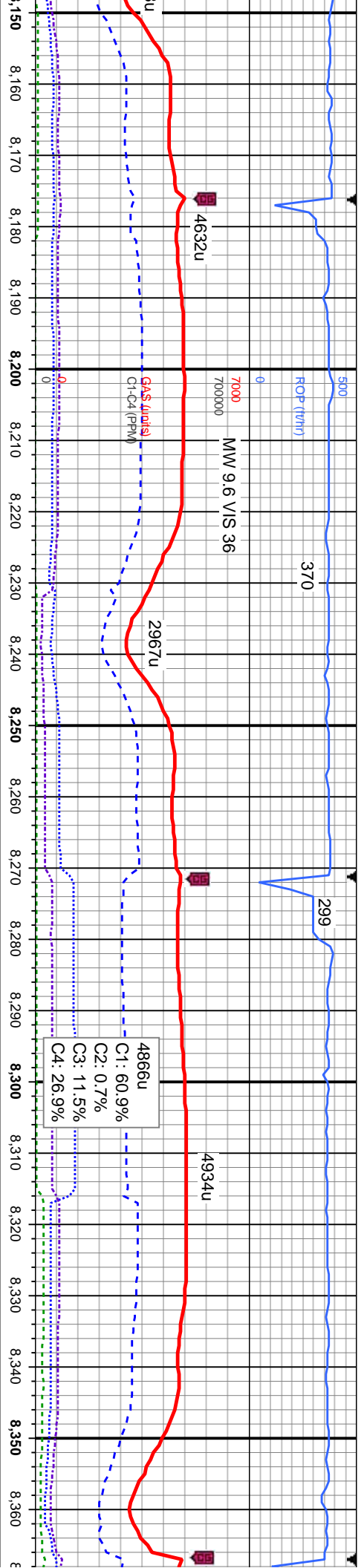
100% CHK: crm-bl, lt-med gy, mot brn-dk gy, sft-frn, brit-fri, sb blk, sb wxy-rthy tex, v calc, tr mst, tr bent, tr fos frag cut, no sh or od



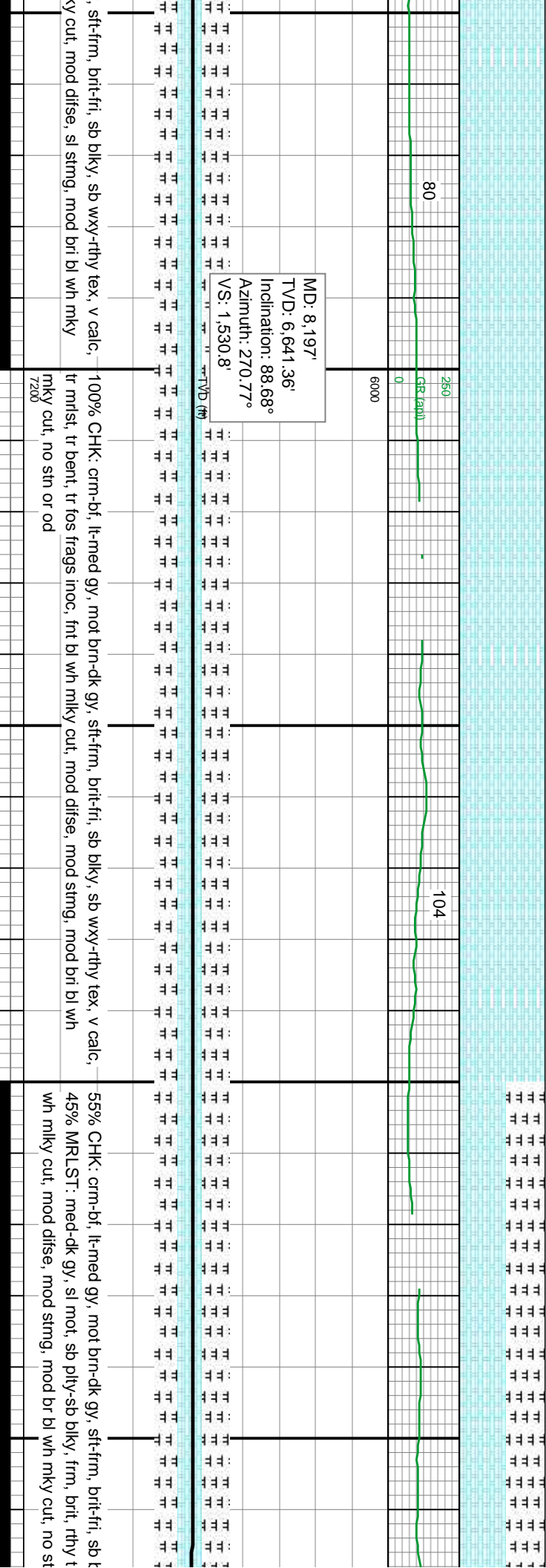


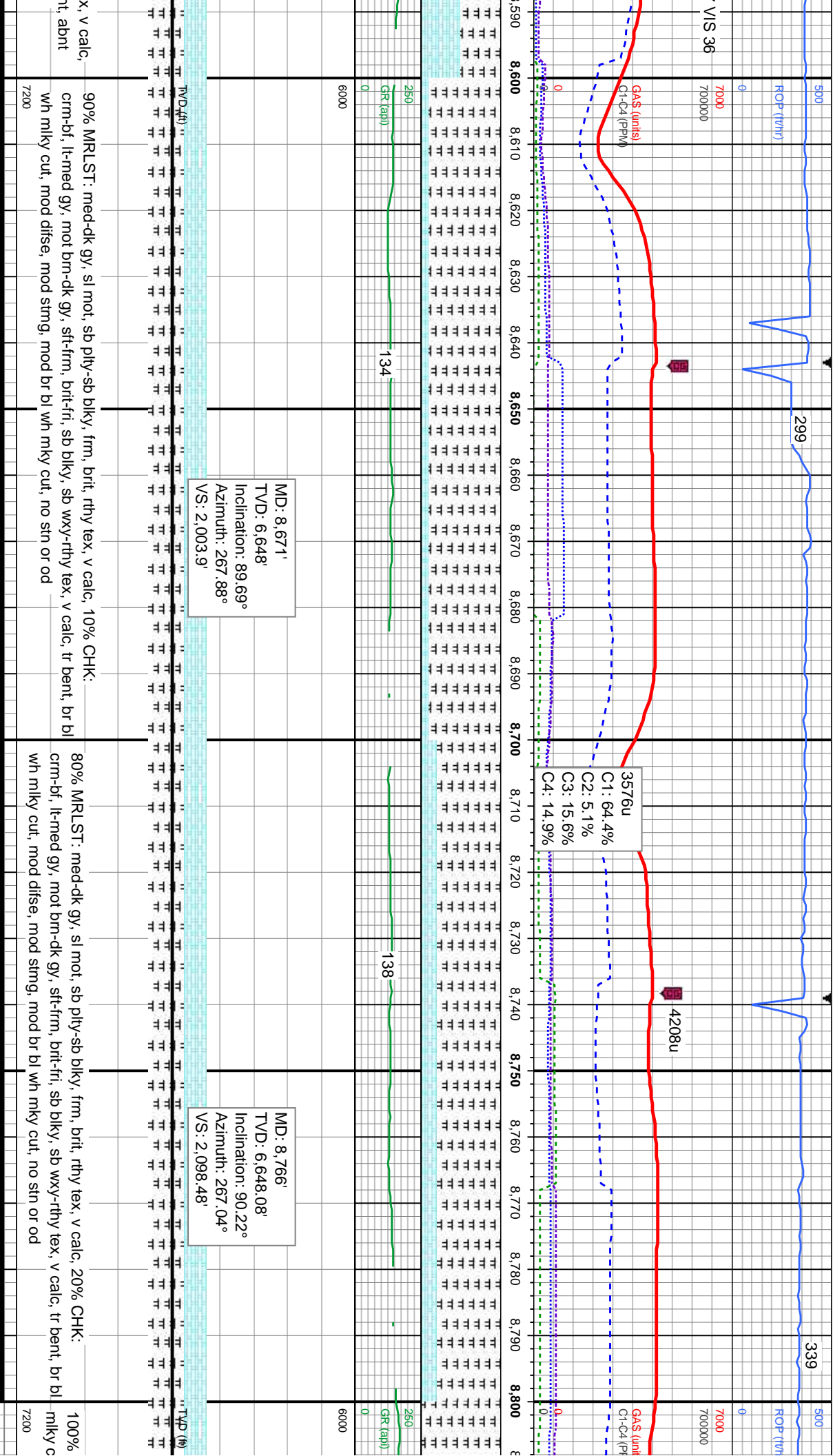
7,930	7,940	7,950	7,960	7,970	7,980	7,990	8,000	8,010	8,020	8,030	8,040	8,050	8,060	8,070	8,080	8,090	8,100	8,110	8,120	8,130	8,140
MW 9.6 VIS 36																					
FOP (ft/hr) 120																					
347																					
753u																					
2453u																					
4889u																					
4805u																					
2918																					
7000																					
MD: 8,008'																					
TVD: 6,637.04'																					
Inclination: 89.45°																					
Azimuth: 271.89°																					
VS: 1,341.94'																					
TVD (ft)																					
MD: 8,103'																					
TVD: 6,638.9'																					
Inclination: 88.31°																					
Azimuth: 271.02°																					
VS: 1,436.89'																					
TVD (ft)																					
100% CHK: crm-bf, lt-med gy, mot brn-dk gy, sft-frn, brt-fri, sb blk, sb wxy-rthy tex, v calc, tr mlst, tr bent, tr fos frags inoc, fnt bl wh mky cut, mod difse, sl stmg, mod bri bl wh mky cut, no stn or od																					
100% CHK: crm-bf, lt-med gy, mot brn-dk gy, sft-frn, brt-fri, sb blk, sb wxy-rthy tex, v calc, tr mlst, tr bent, tr fos frags inoc, fnt bl wh mky cut, no stn or od																					

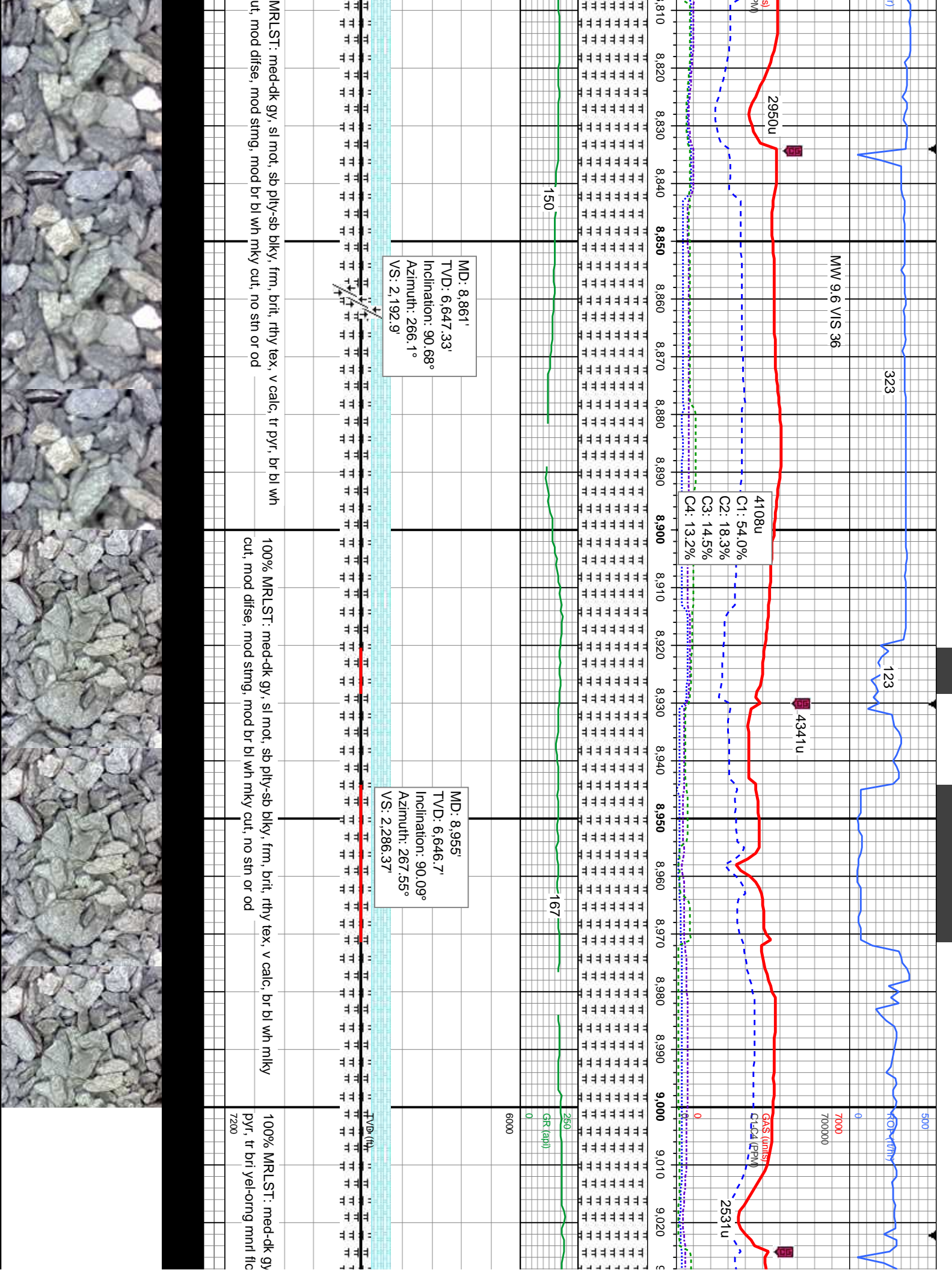


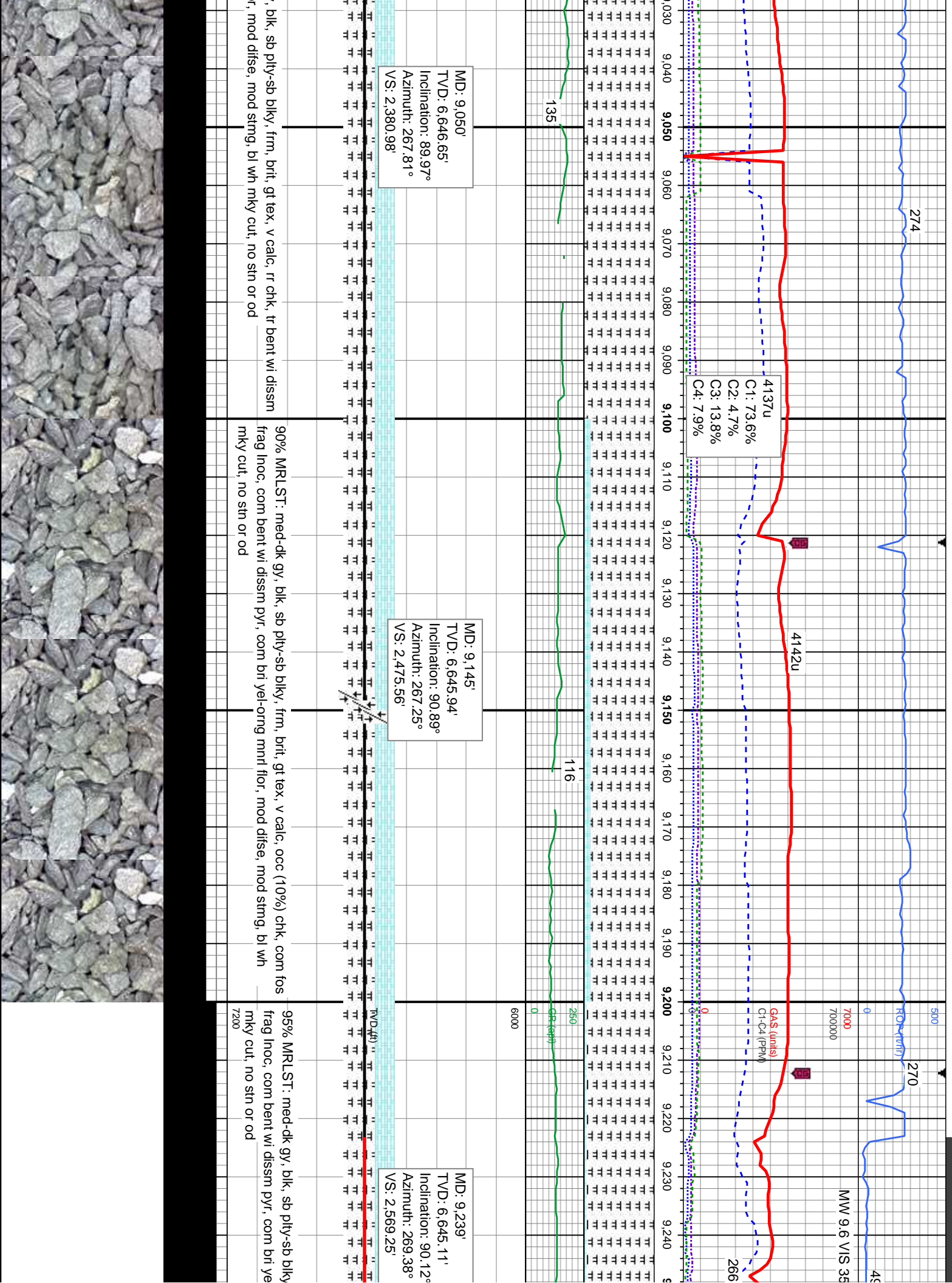


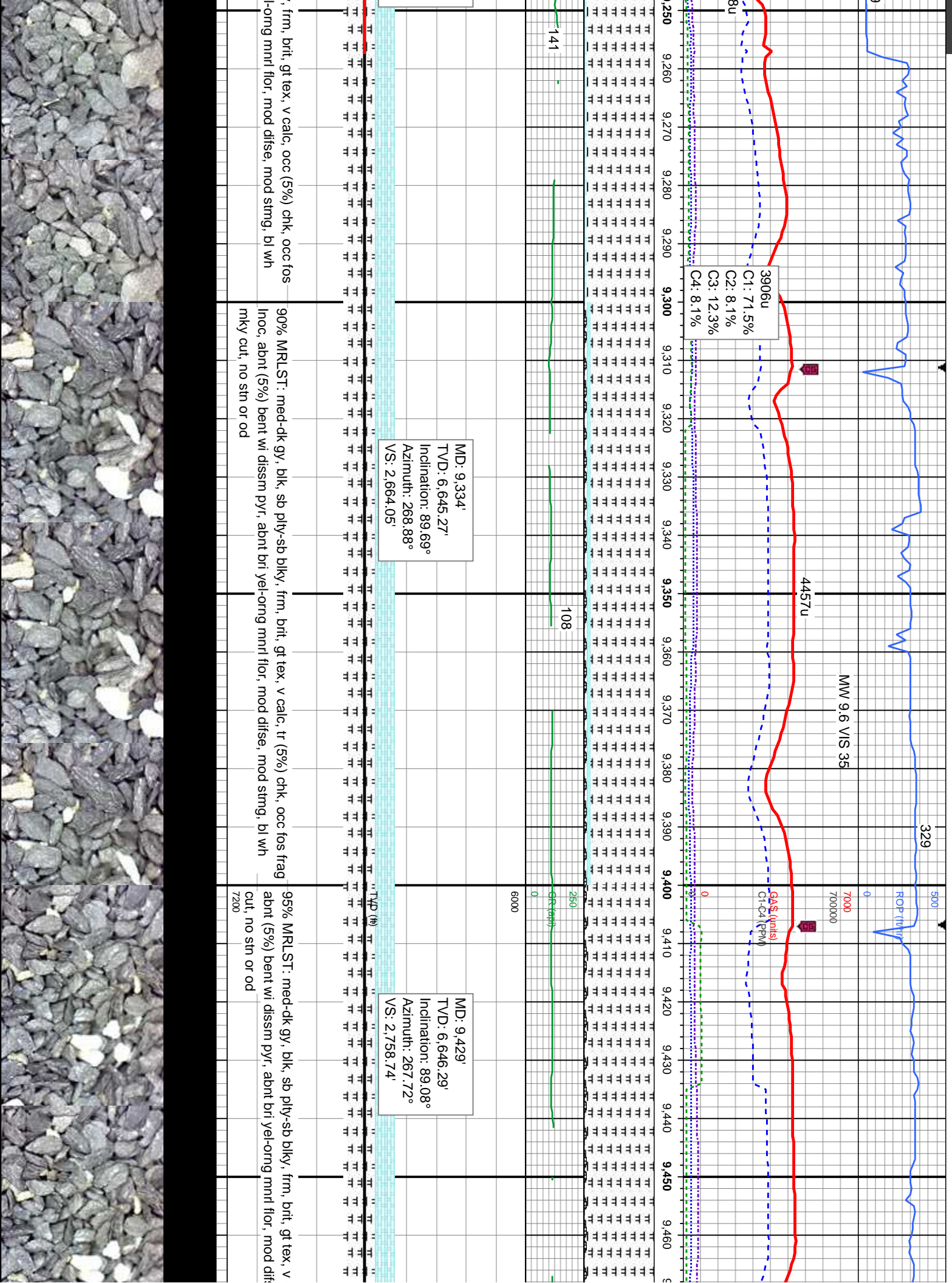
MD: 8,197'
TVD: 6,641.36'
Inclination: 88.68°
Azimuth: 270.77°
VS: 1,530.8'

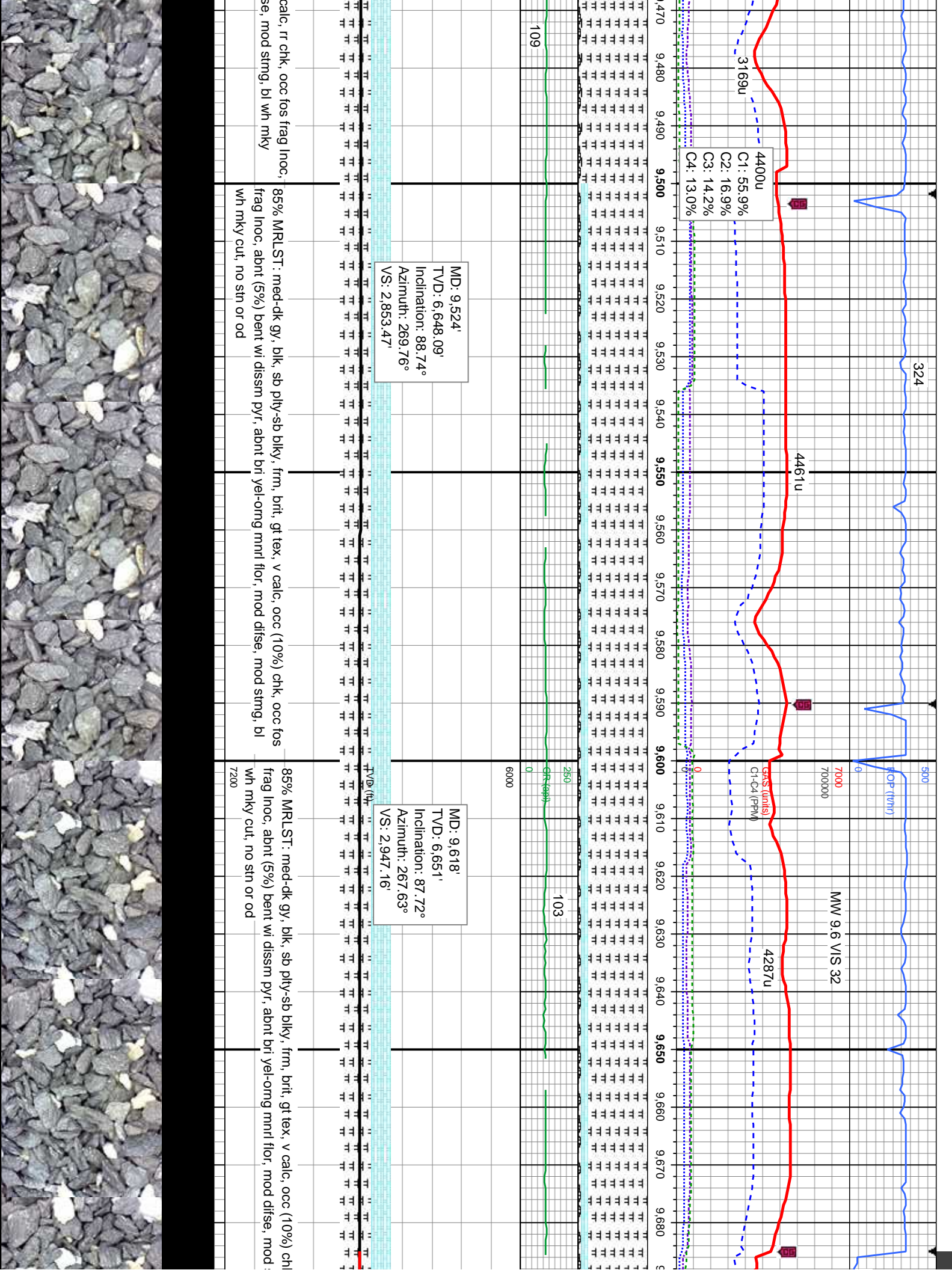


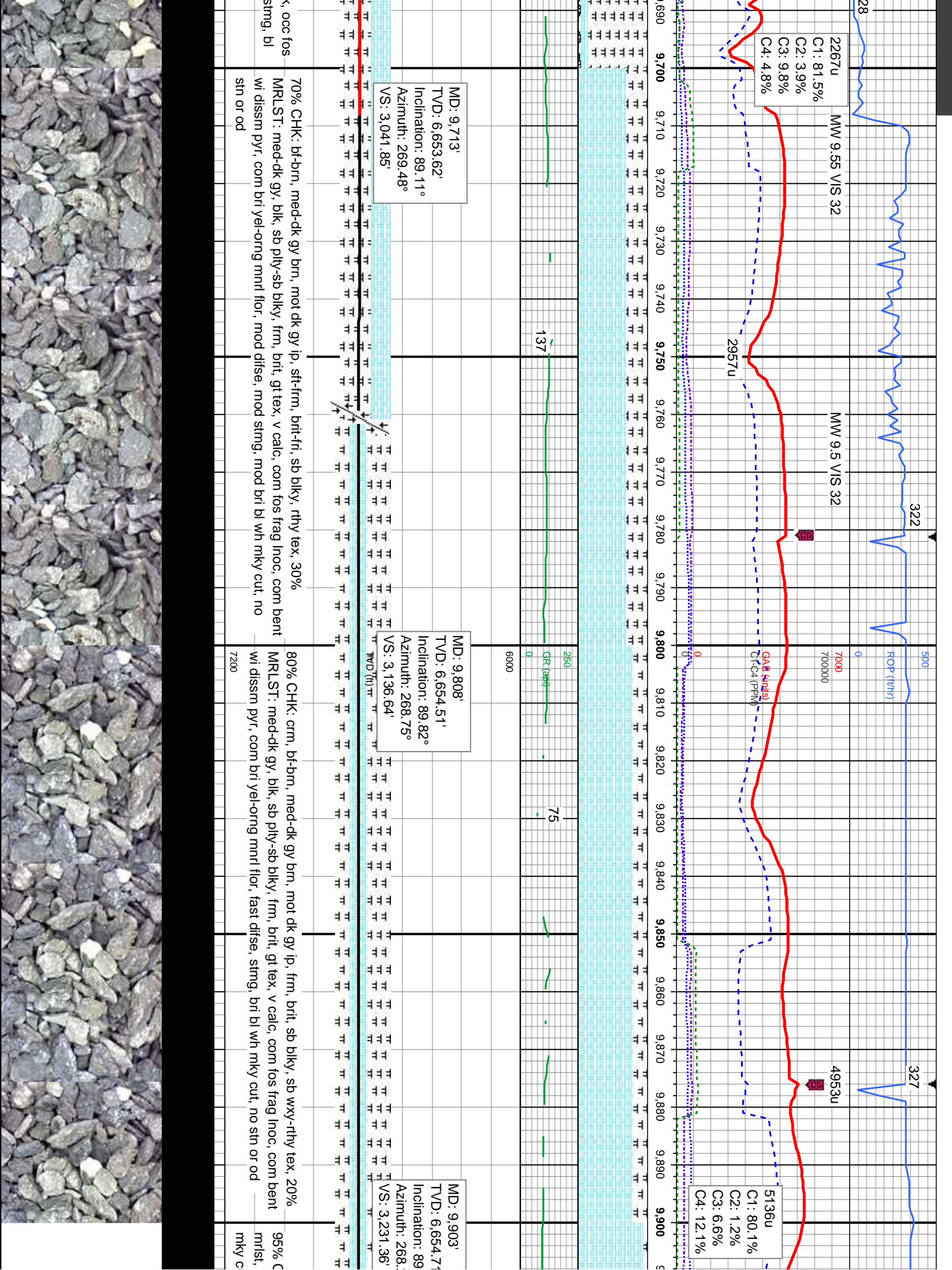


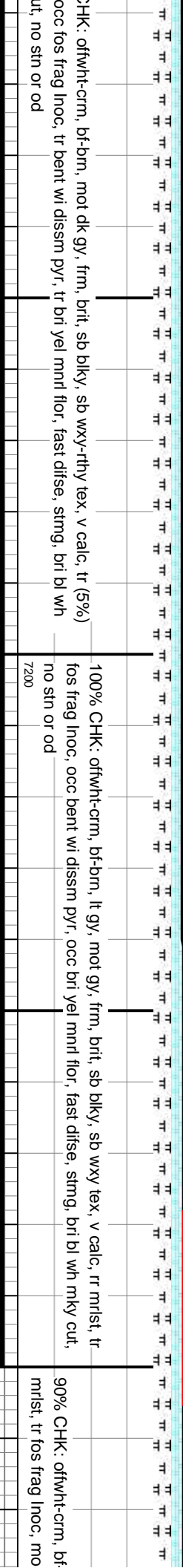
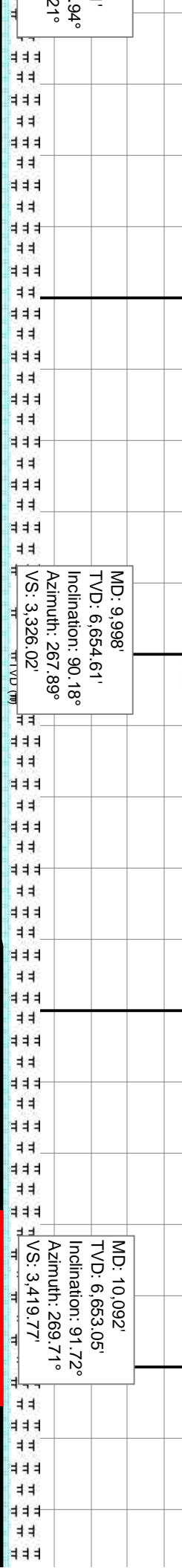
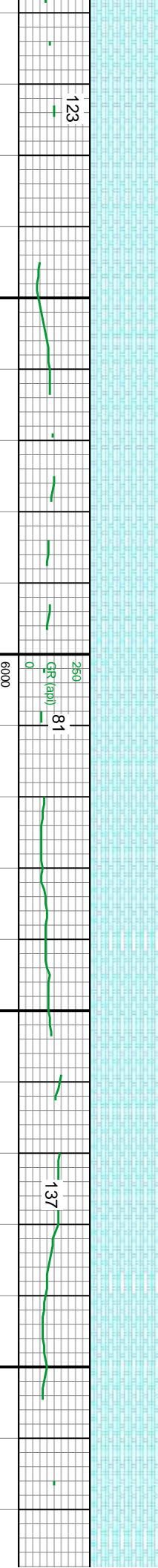
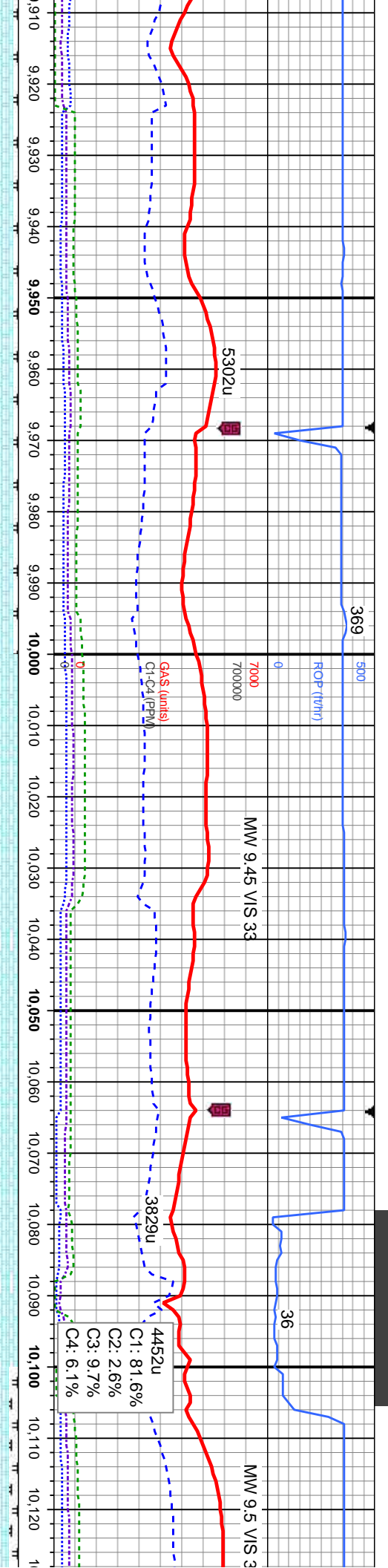


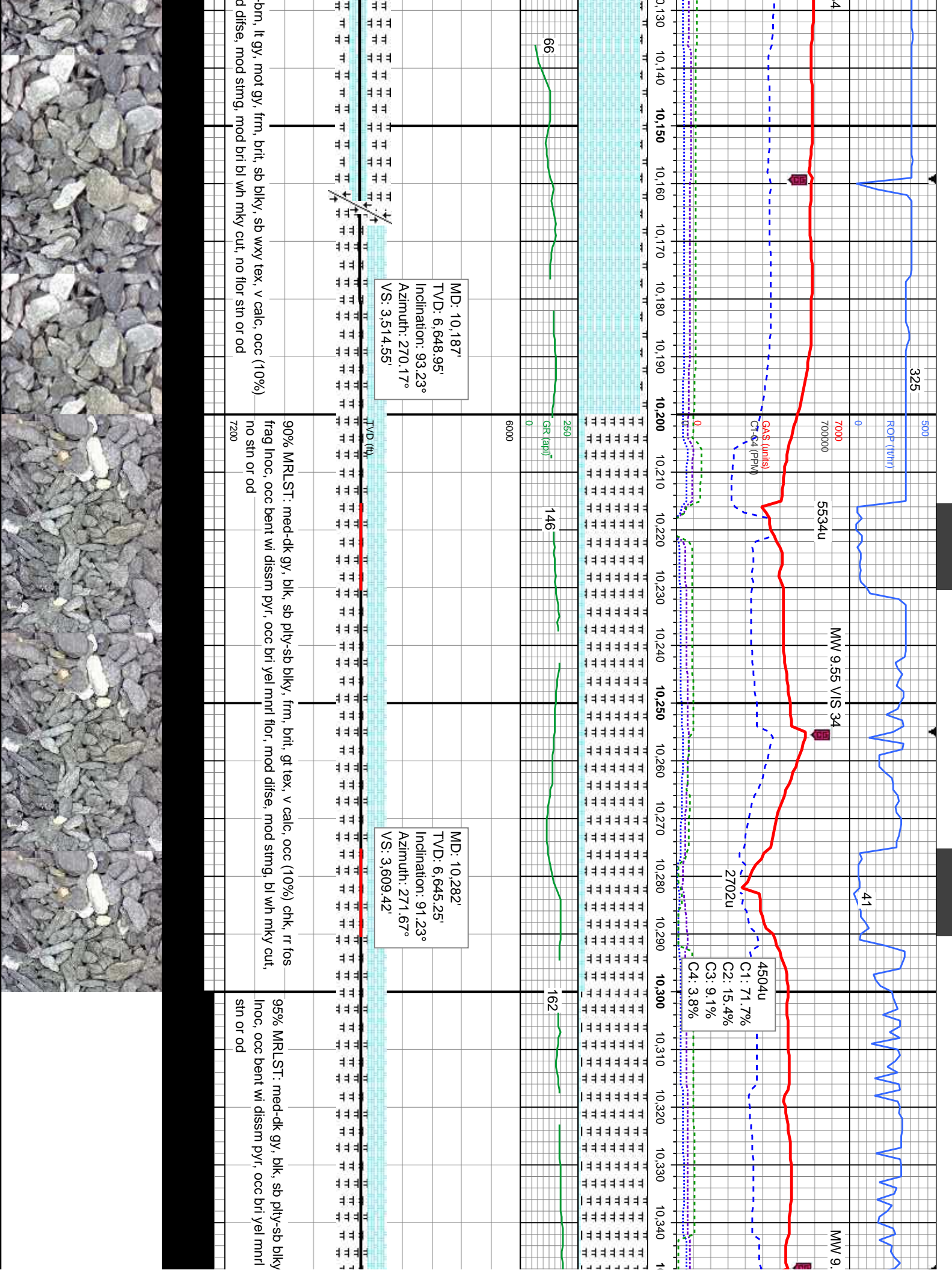


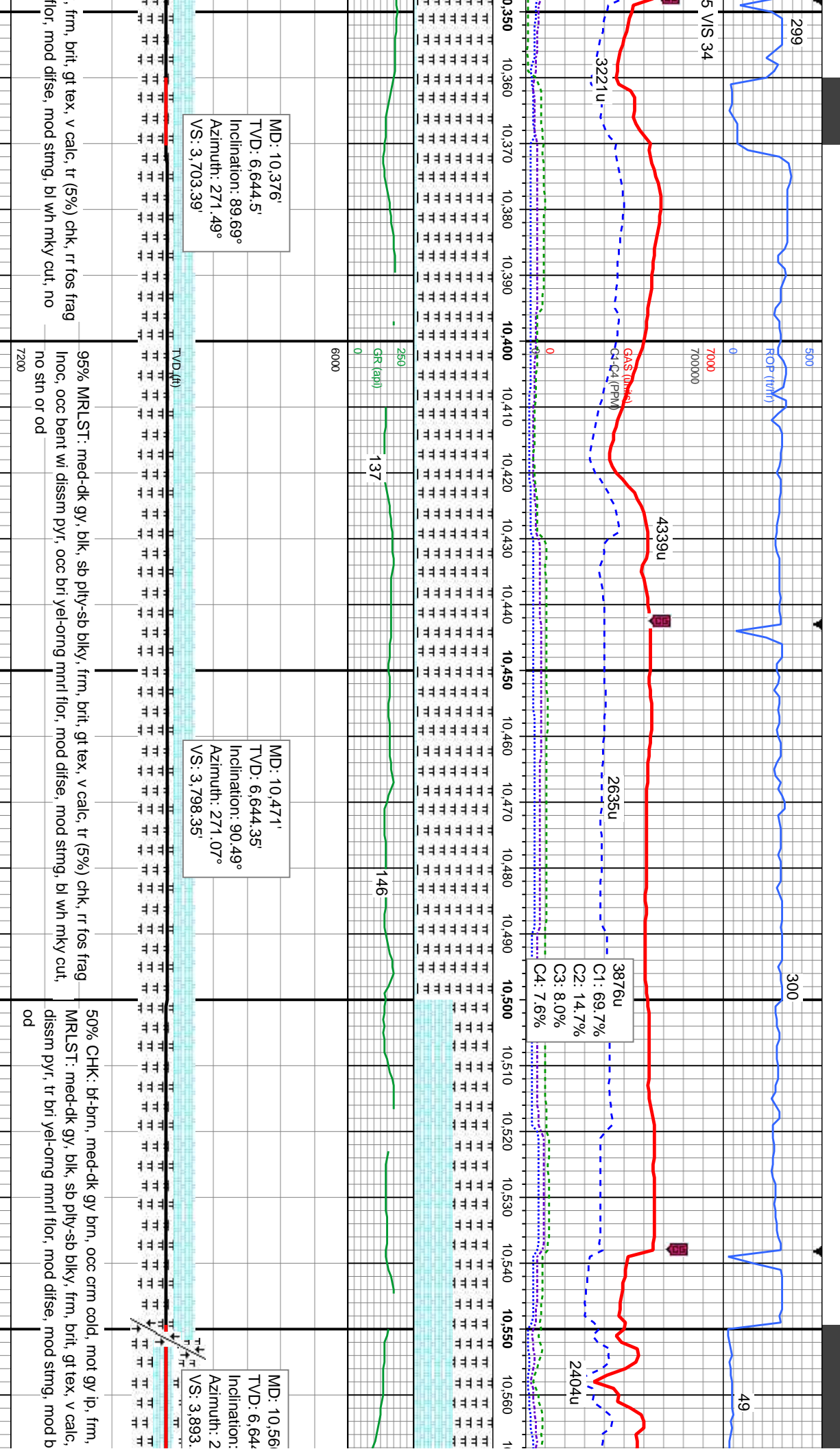


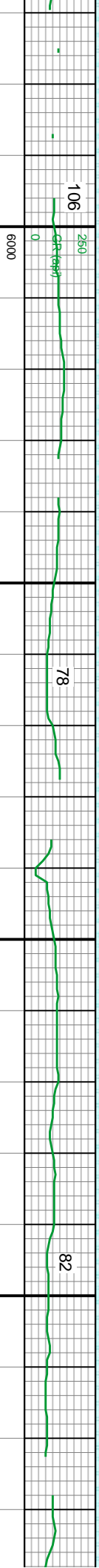
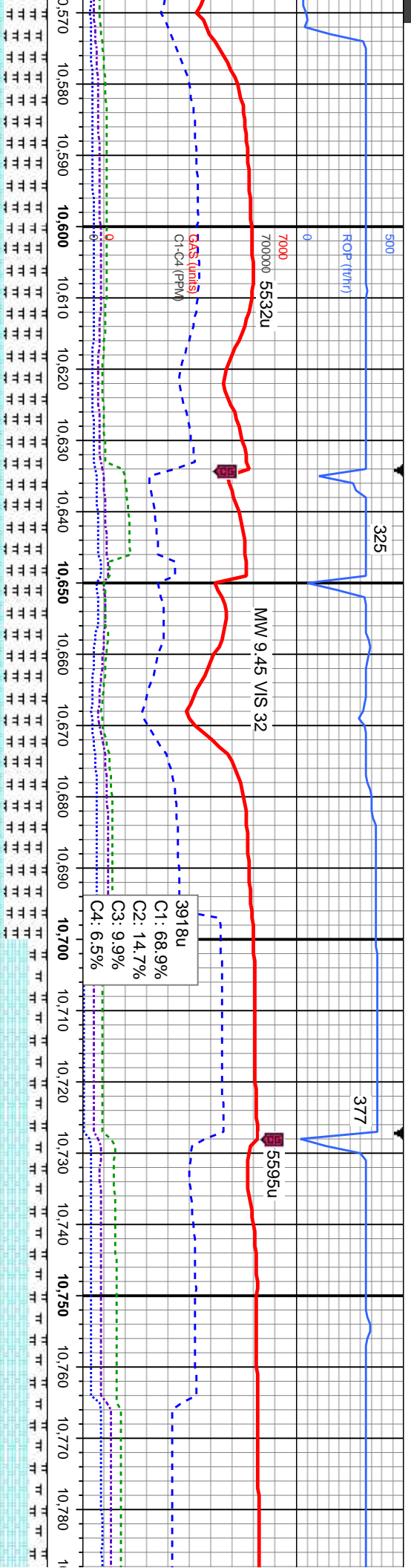












4.94'
88.8°
70.33°
27'

MD: 10,661'
TVD: 6,646.55'
Inclination: 89.26°
Azimuth: 269.3°
VS: 3,988.12'

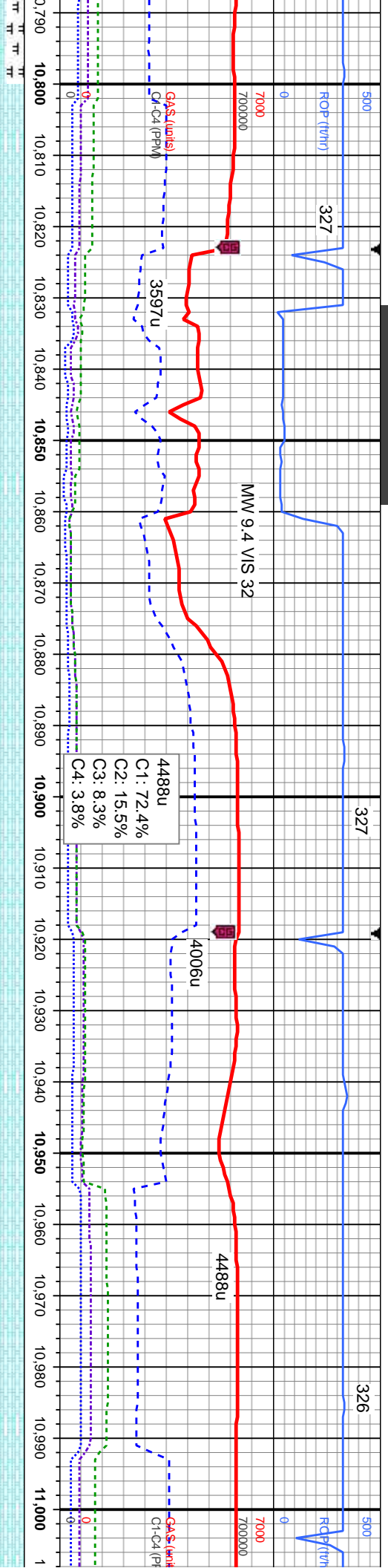
MD: 10,755'
TVD: 6,646.52'
Inclination: 90.77°
Azimuth: 268.87°
VS: 4,081.91'

brit, sb blkly, rthy tex, 50%
com fos frag lno, tr bent w
ribl wh mky cut, no stn or

50% CHK: bf-bm, med-dk gy bm, occ crm cold, mot gy ip, frm, brit, sb blkly, tthy tex, 50% MRAST: med-dk gy, blk, sb ply-sb blkly, frm, brit, gt tex, v calc, com fos frag lloc, tr bent wi dissim pyr, tr bri yel-ormg mnrl flor, mod dlse, mod string, mod bri bl wh mky cut, no str or od

80% CHK: br-brn, med-dk gy brn, occ crm cold, mot gy ip, frm, brit, sb blkly, rthy te
MRLST: med-dk gy, blk, sl silver lstr, sb ply-sb blkly, frm, brit, gt tex, v calc, com fr
lnoc, occ bent, tr pyr, tr bri yel-ormg mnrl flor, mod difse, mod string, mod bri bl wh
no sin or od





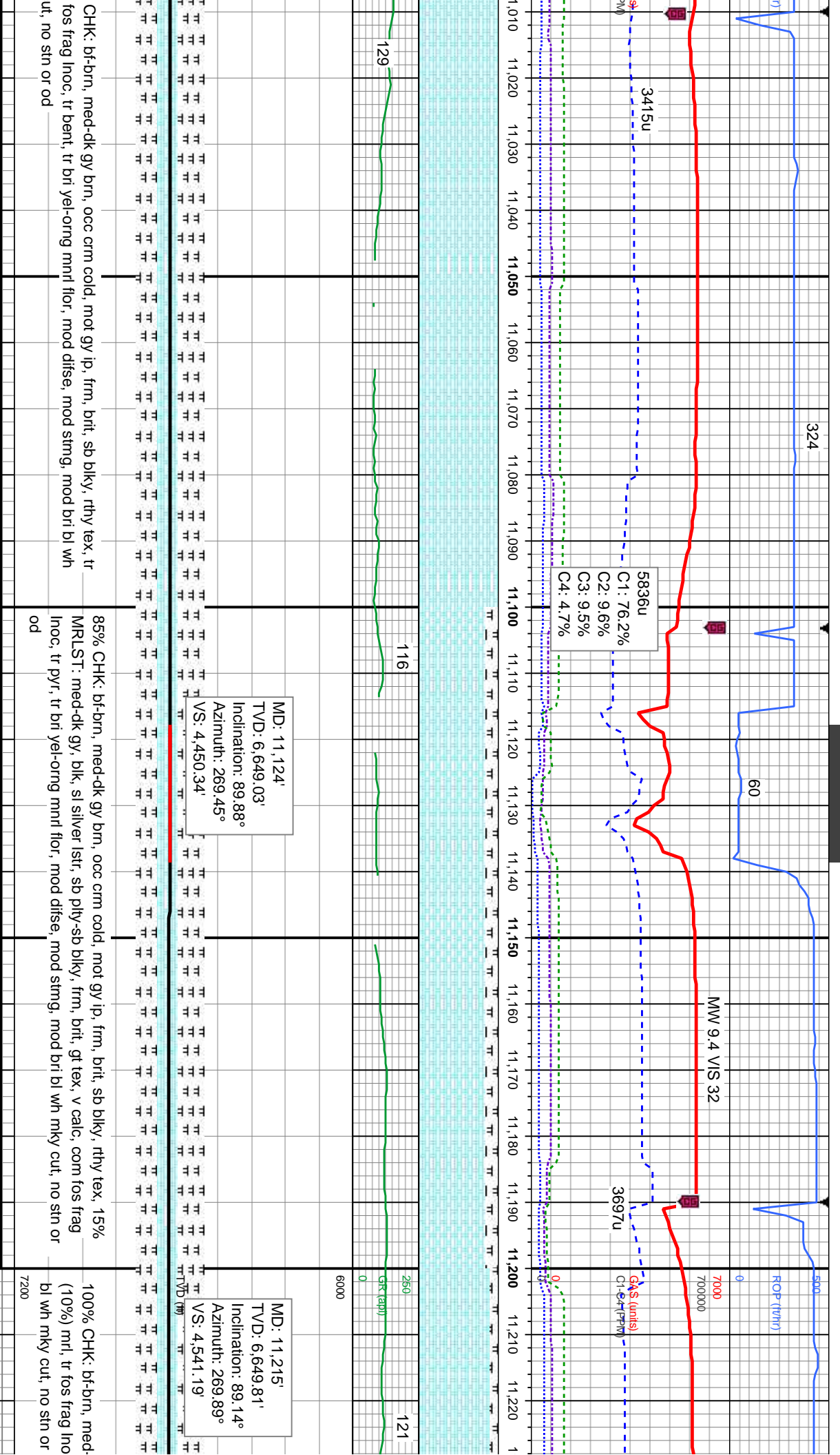
MD: 10,850'
TVD: 6,646.67'
Inclination: 89.05°
Azimuth: 269.84°
VS: 4,176.73'

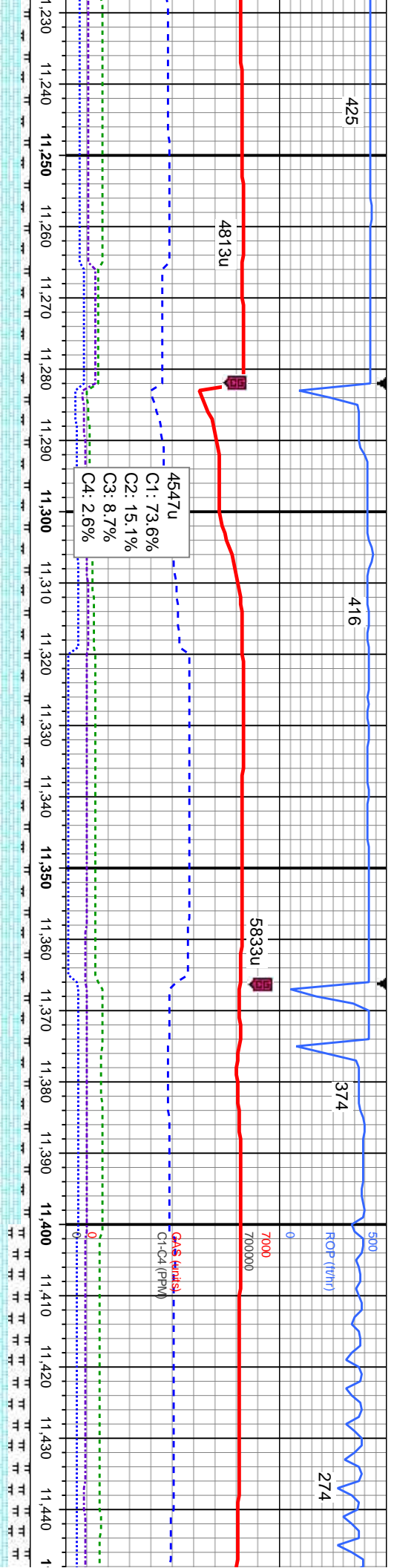
4488u
C1: 72.4%
C2: 15.5%
C3: 8.3%
C4: 3.8%

MD: 10,941'
TVD: 6,647.89'
Inclination: 89.41°
Azimuth: 270.2°
VS: 4,267.61'

100% CHK: bf-brn, med-dk gy brn, occ crm cold, mot gy ip, frm, brit, sb blk, rthy tex, tr mrl, tr fos frag lnoc, tr bent, tr bri yel-oring mnrl flr, mod difse, mod stmg, mod bri bl wh mky cut, no stn or od	7200
100% CHK: bf-brn, med-dk gy brn, occ crm cold, mot gy ip, frm, brit, sb blk, rthy tex, tr mrl, tr fos frag lnoc, tr bent, tr bri yel-oring mnrl flr, mod difse, mod stmg, mod bri bl wh mky cut, no stn or od	7200





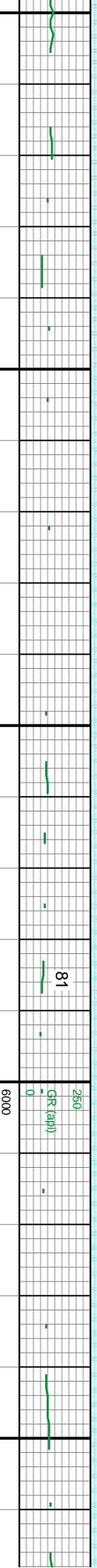
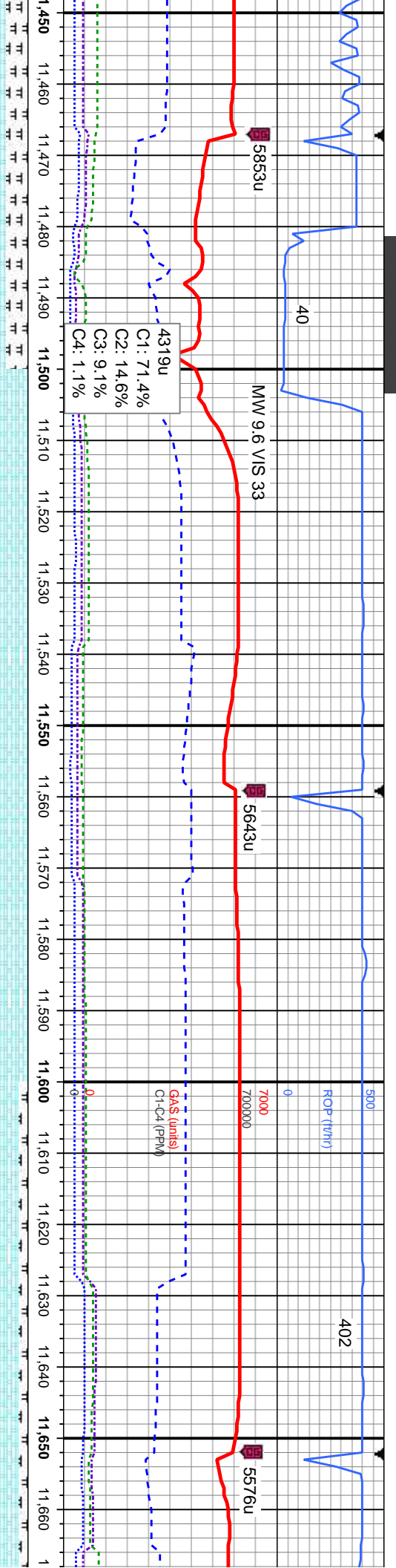


MD: 11,306'
TVD: 6,650.58'
Inclination: 89.88°
Azimuth: 270.3°
VS: 4,632.08'

MD: 11,398'
TVD: 6,650.24'
Inclination: 90.55°
Azimuth: 270.43°
VS: 4,723.99'

dk gy brn, occ crm cold, mot gy ip, frm, brit, sb blk, rthy tex, occ	100% CHK: bf-brn, med-lt gy brn, occ crm cold, mot gy ip, frm, brit, sb blk, rthy tex, occ
c, tr bent, tr bri yel-ormg mnrl flr, mod difse, mod stmg, mod bri	(10%) mnrl, tr fos frag lnoc, tr bent, tr bri yel-ormg mnrl flr, mod difse, mod stmg, mod bri
od	bl wh mky cut, no stn or od





MD: 11,490'
TVD: 6,649.89'
Inclination: 89.88°
Azimuth: 269.13°
VS: 4,815.85'

MD: 11,582'
TVD: 6,650.13'
Inclination: 89.82°
Azimuth: 268.25°
VS: 4,907.61'

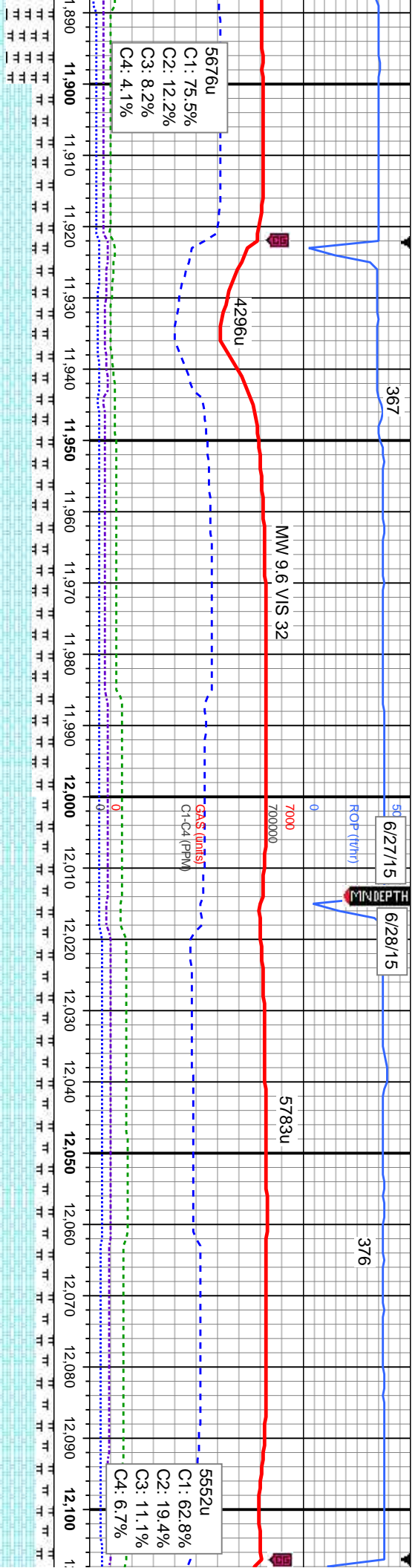
MD:	
TVD	
Inclir	
Azir	
VS:	

bid, mot gy ip, frm, brit, sb blyk, rthy tex, 25%
sb blyk, frm, brit, gt tex, v calc, com fos frag
t, mod difse, mod string, mod bri bl wh mky

100% CHK: bi-brn, med-dk gy brn, occ crm cold, mot gy ip, frm, brit, sb blk, rthy lex, tr mrl, tr fos frag inoc, tr bent, tr pyr, tr bri yel-oring mml flwr, mod dlse, mod string, mod bri bl wh mky cut, no stn or od

100% CHK: bf-brn, med-lt gy brn, occ crm cold, mot gy ip, frm,
(10%) ml, tr fos frag lnc, rr bent, tr bri yel-oring mml flr, mod
bl wh mky cut, no str or od



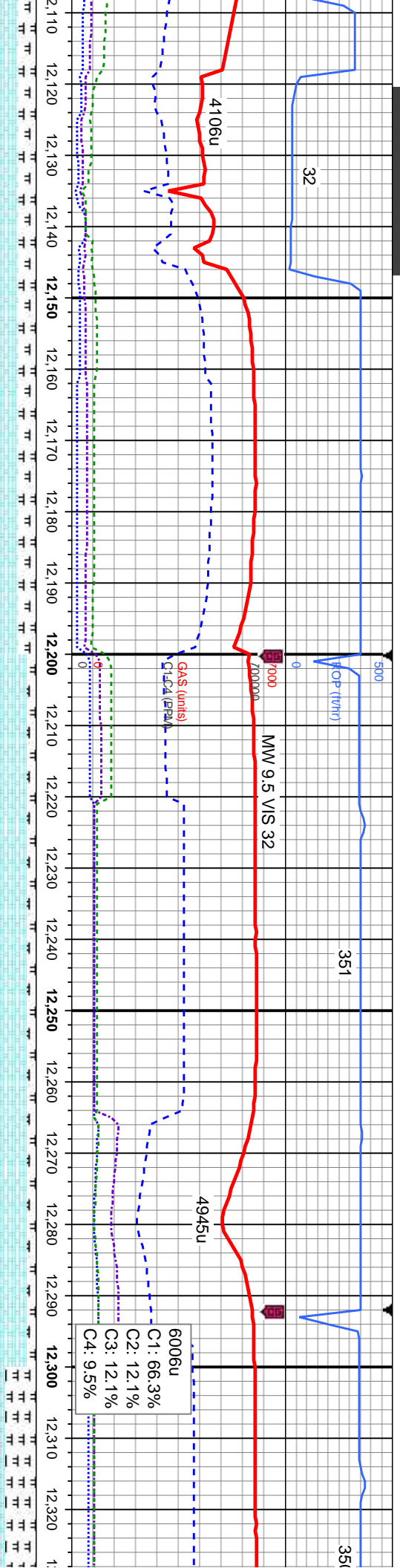


MD: 11,948'
TVD: 6,648.74'
Inclination: 89.54°
Azimuth: 268.52°
VS: 5,272.29'

MD: 12,040'
TVD: 6,648.71'
Inclination: 90.49°
Azimuth: 267.73°
VS: 5,363.97'

45%	75% CHK: bf-brn, med-dk gy brn, occ crm cold, mot gy ip, frm, brit, sb blk, rthy tex, 25% MRLST: med-dk gy, blk, sl silver lstr, sb ply-sb blk, frm, brit, gt tex, v calc, com fos frag Inoc, tr bri yel-oring mnrl flor, mod difse, mod stmg, mod bri bl wh mky cut, no stn or od	80% CHK: bf-brn, med-dk gy brn, occ crm cold, mot gy ip, frm, brit, sb blk, rthy tex, 20% MRLST: med-dk gy, blk, sl silver lstr, sb ply-sb blk, frm, brit, gt tex, v calc, com fos frag Inoc, tr bent, tr bri yel-oring mnrl flor, mod difse, mod stmg, mod bri bl wh mky cut, no stn or od	80% C med-c bent, l
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MD: 12,132'
TVD: 6,648.84'
Inclination: 89.35°
Azimuth: 268.87°
VS: 5,455.67'

MD: 12,224'
TVD: 6,650.7'
Inclination: 88.34°
Azimuth: 268.57°
VS: 5,547.41'

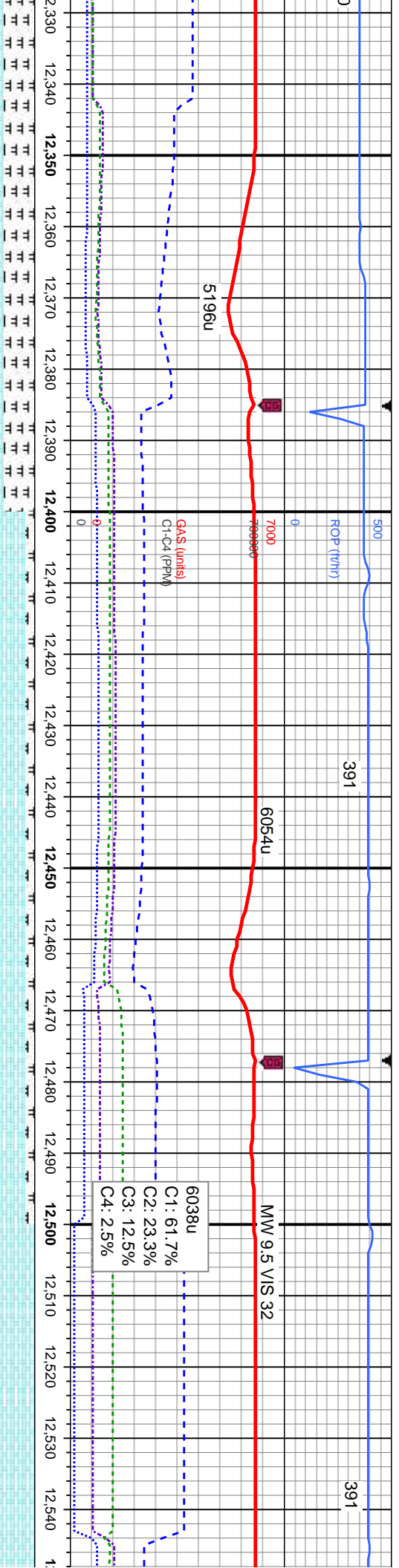
MD: 12,315'
TVD: 6,652.82'
Inclination: 88.98°
Azimuth: 268.54°
VS: 5,638.12'

CHK: off-wh-crm, occ gry brn, mot gy ip, frm, brit, sb blk, rthy tex, 20% MRLST: blk gy, blk, sl silver lstr, sb ply-sb blk, frm, brit, gt tex, v calc, com fos frag inoc, tr r bri yel-org mml flr, mod difse, mod stmg, mod bri bl wh mky cut, no stn or od

90% CHK: off-wh-crm, occ gry brn, mot gy ip, frm, brit, sb blk, rthy tex, occ (10%) mml, tr fos frag inoc, rr bent, tr bri yel-org mml flr, mod difse, mod stmg, mod bri bl wh mky cut, no stn or od

65% CHK: off-wh-crm, occ med-dk gy, blk, sl silver lstr, tr bri yel-org mml flr, mod





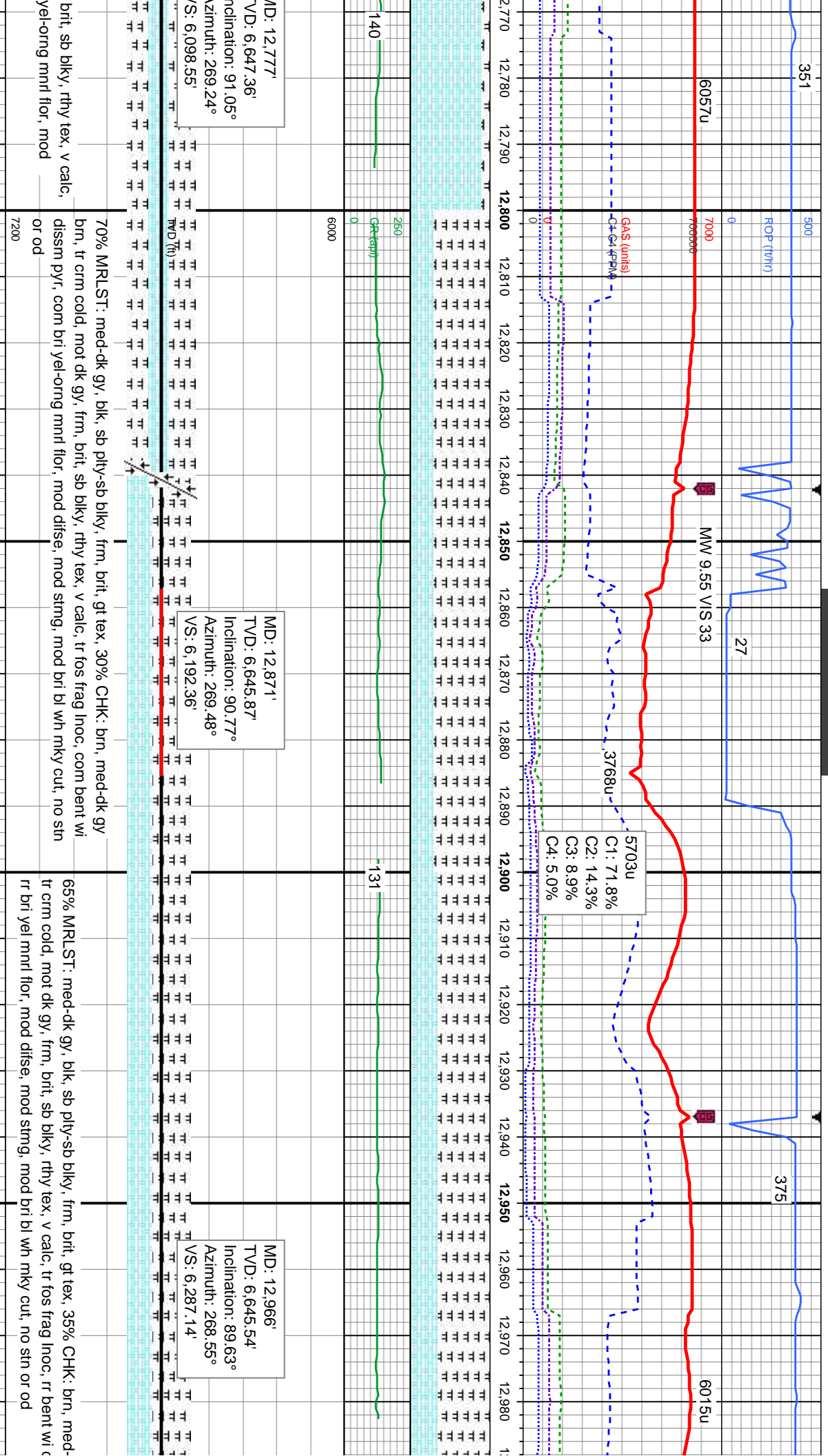
MD: 12,407'
TVD: 6,653.57'
Inclination: 90.09°
Azimuth: 268.37°
VS: 5,729.85'

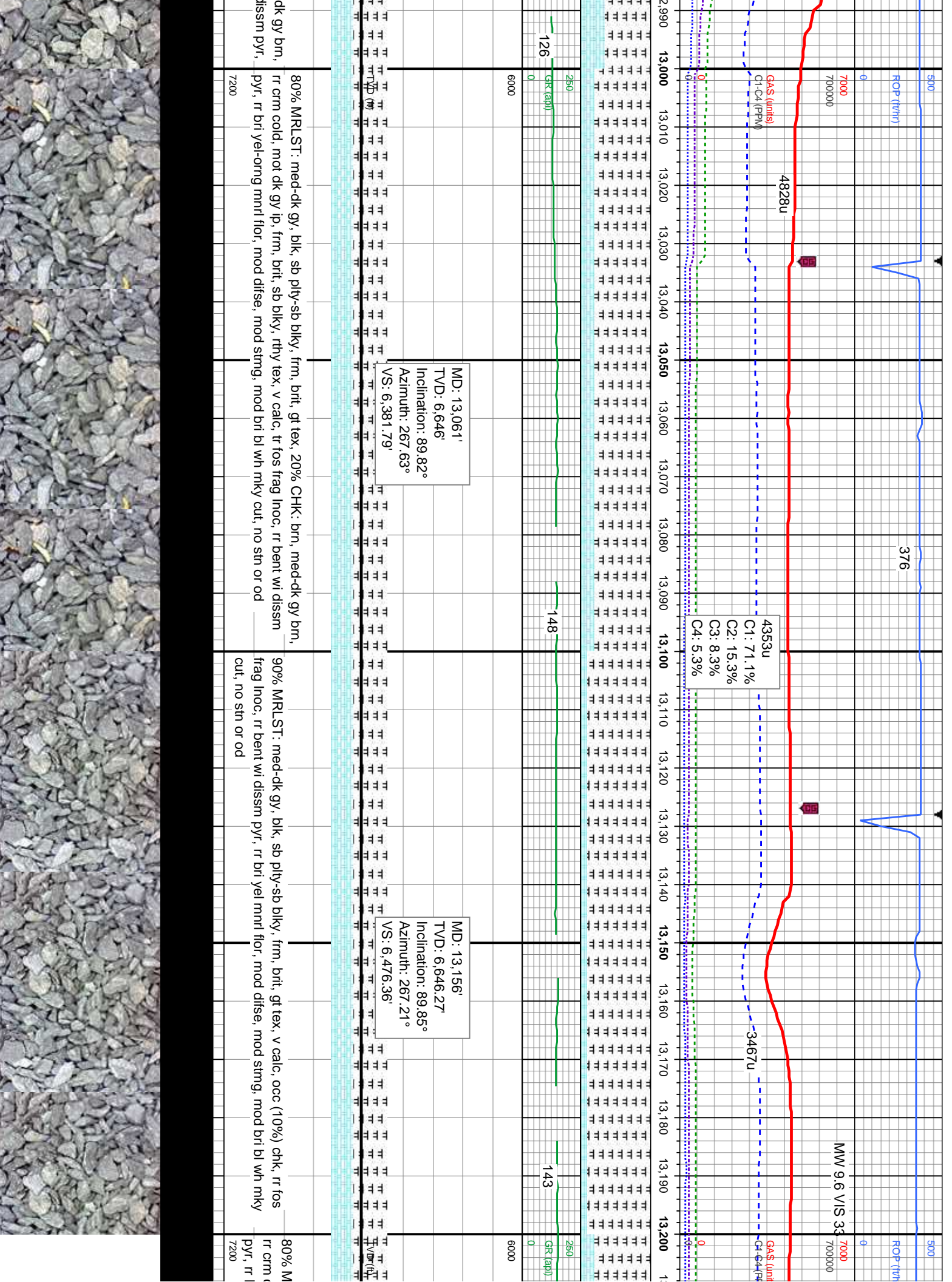
MD: 12,498'
TVD: 6,653.13'
Inclination: 90.46°
Azimuth: 268.03°
VS: 5,820.54'

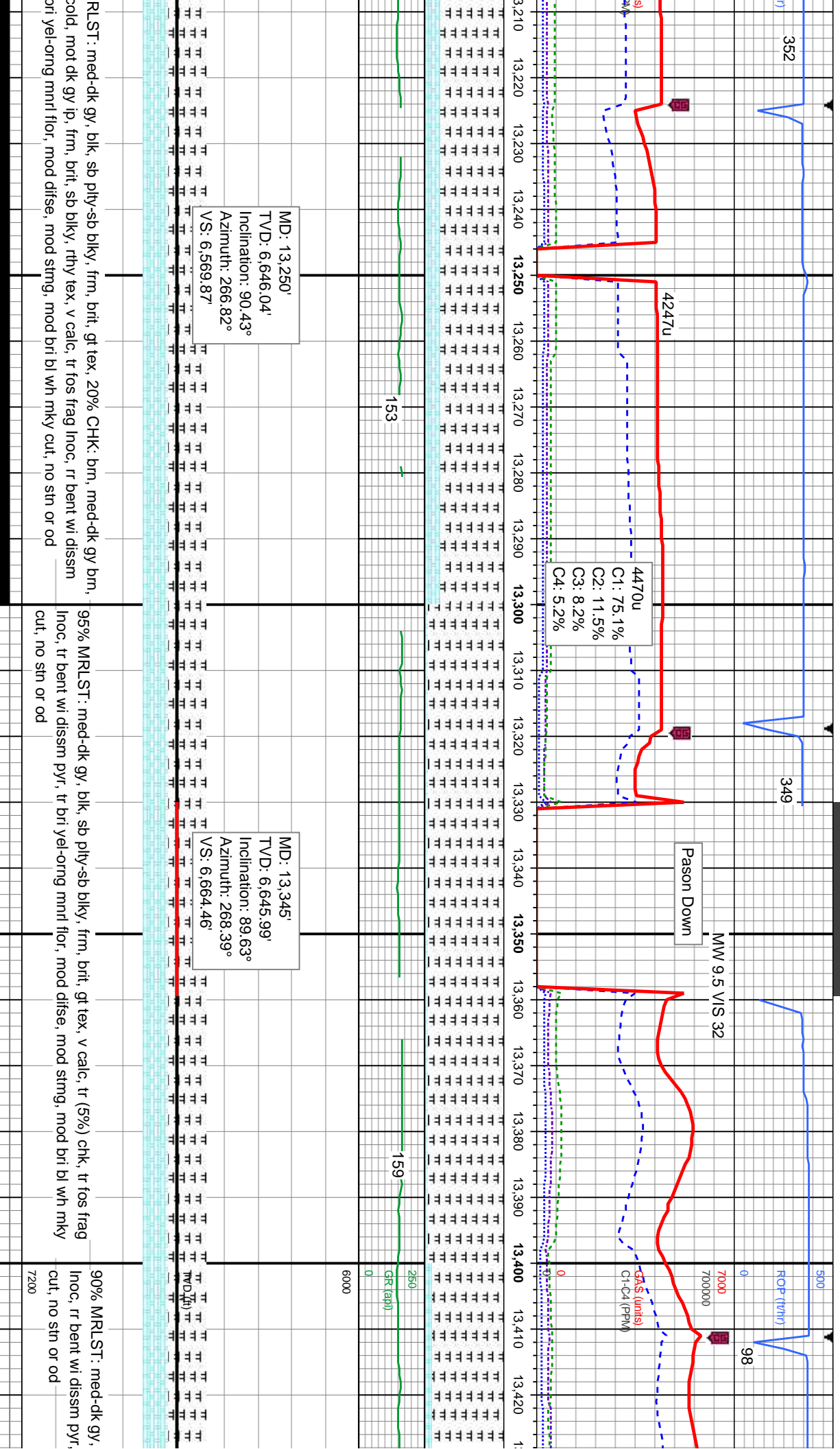
c gray brn, mod gy ip, frm, brit, sb blkly, rthy tex. 35% MRLEST: tr, sb ply-sb blkly, frm, brit, gt tex, v calc, com fos frag inoc, tr bent, mod disse, mod stmg, mod bri bl wh mky cut, no stn or od

90% CHK:	off-wh-crm,	occ gry brn,	mot gy ip,	frrm, brrl,	sb blk,	rthy tex,	occ (10%) mrl,	tr fos
frag inoc,	rr bent,	t' bri yel-ormg	mml flr,	mod dlse,	mod stmg,	mod bri bl wh	mky cut,	no
stin or od								
7200								

100% CHK: oftwht-crm, bf-brn, lt gy, mot dk
fos frag lnc, mod-fast difse, stmg, bri bl wh



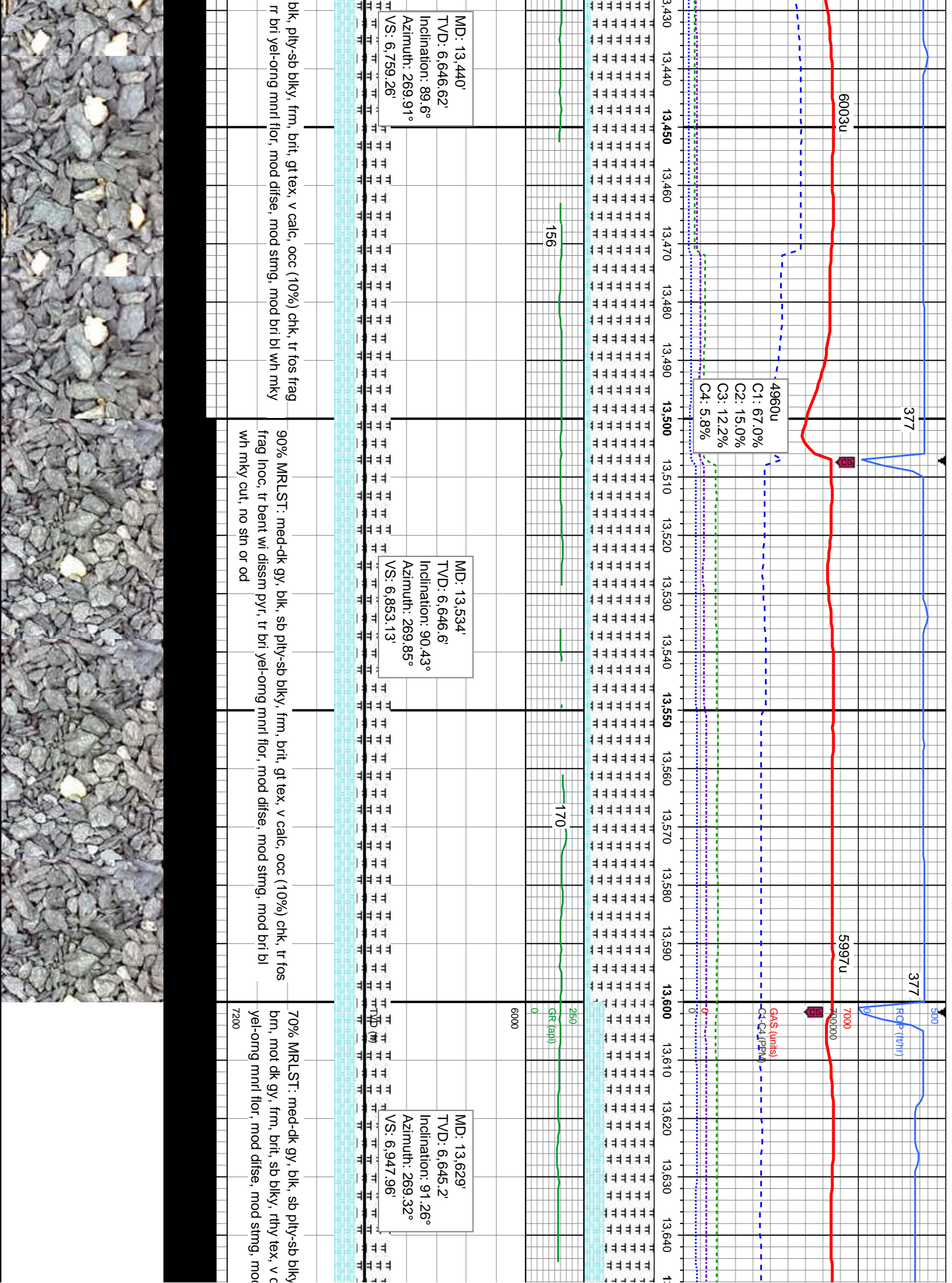


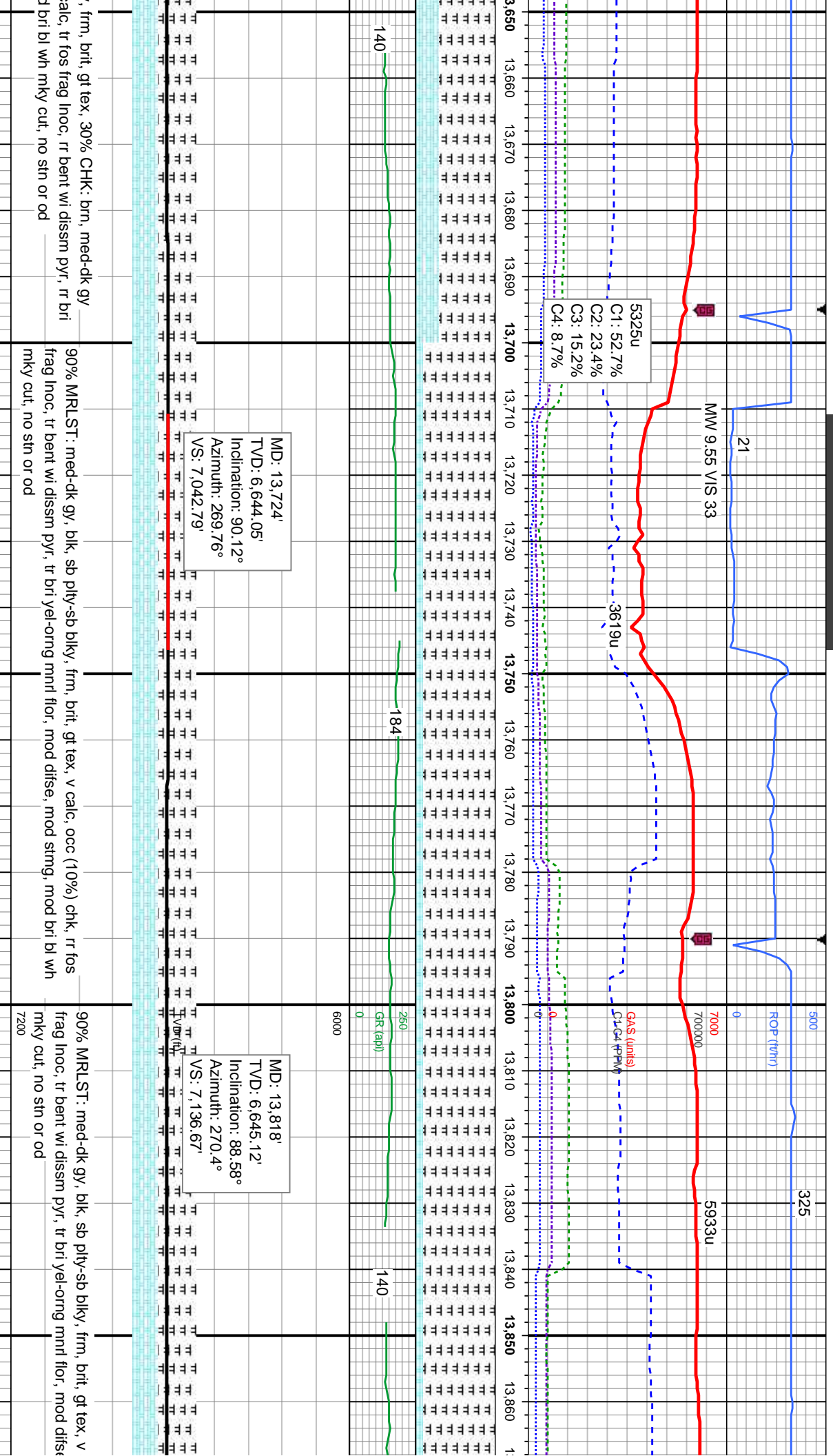


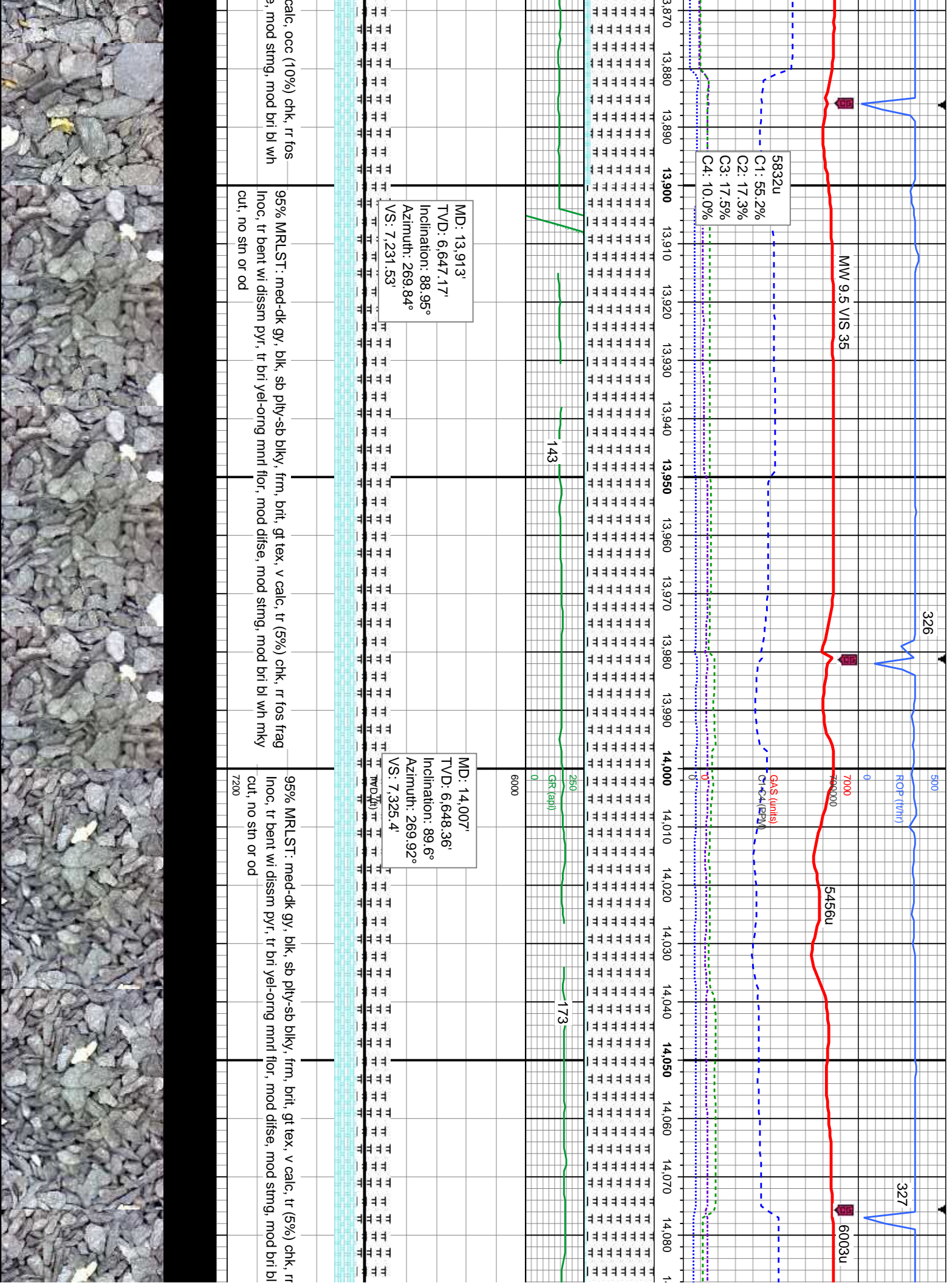
RLST.: med-ck gy, blk, sb ply-sb biky, frm, brit, gt tex, 20% CHK, brn, med-ck gy brn, cold, mot dk gy ip, frm, brit, sb biky, rthy tex, v calc, tr fos frag inoc, rr bent wí dissim pñ yel-oring mnrí flór, mod disse, mod stng, mod bri bl wh mky cut, no stñ or od

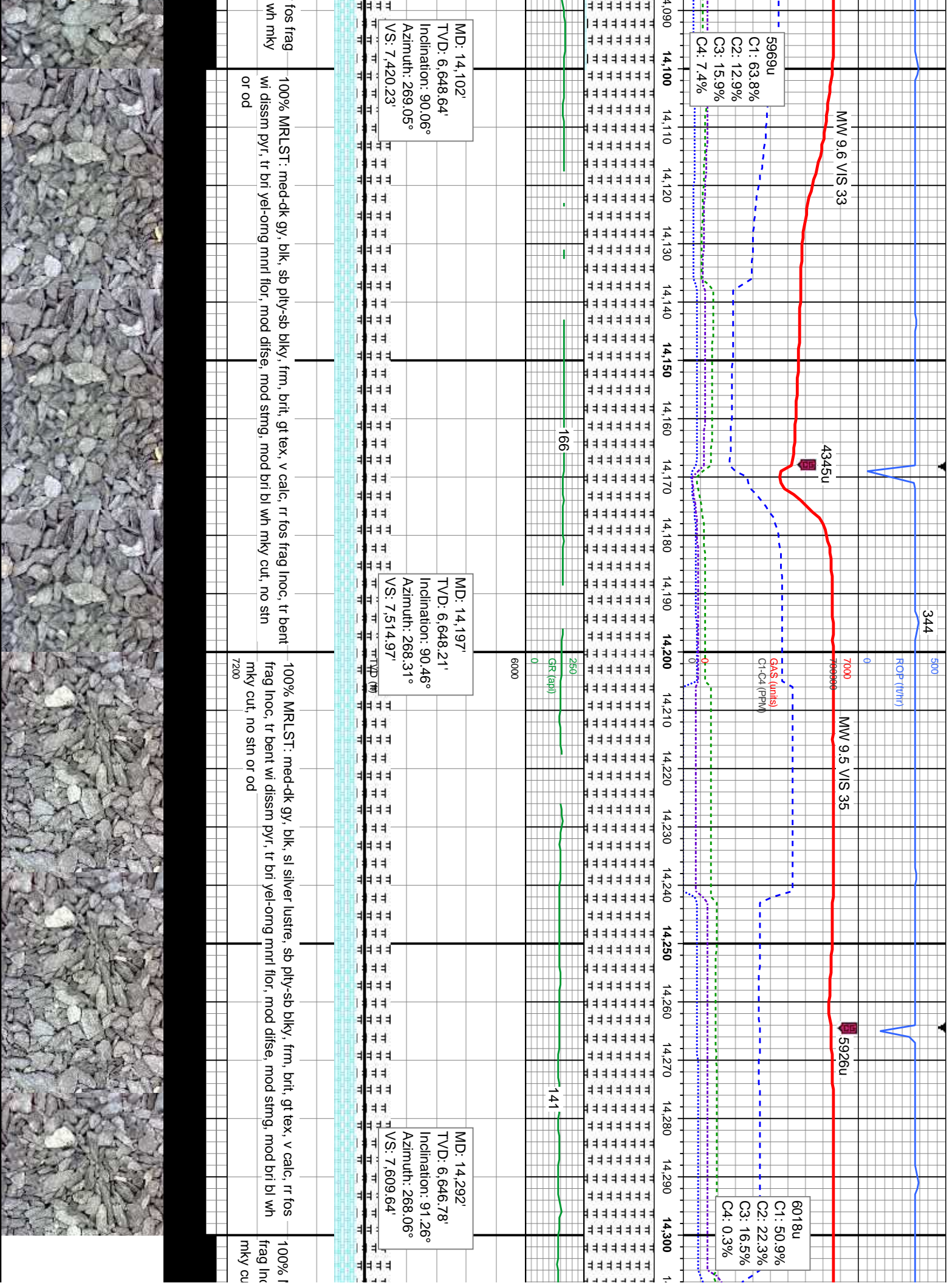
95% MRLST: med-dk gy, blk, sb pily-sb biky, frm, brit, gt tex, v calc, tr (5%) chk, tr fos frag
linoc, tr bent wi dissm pyr, tr bri yel-oring mnrl flwr, mod disse, mod stng, mod bri bl wh mky
cut, no stn or od

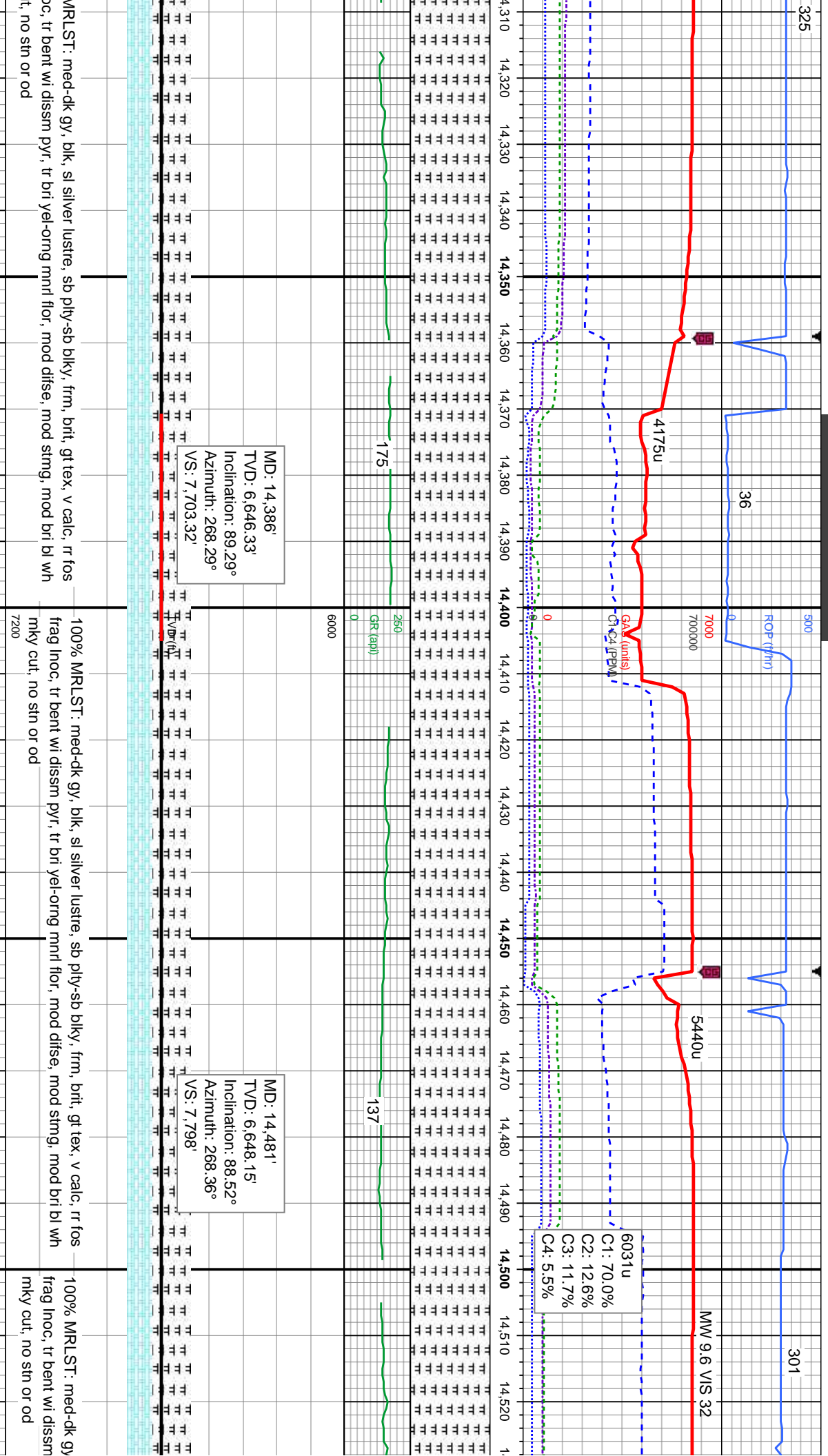
90% MRLST: med-dk gy, Inoc, rr bent wi dissm pyr, cut, no str or od	7200
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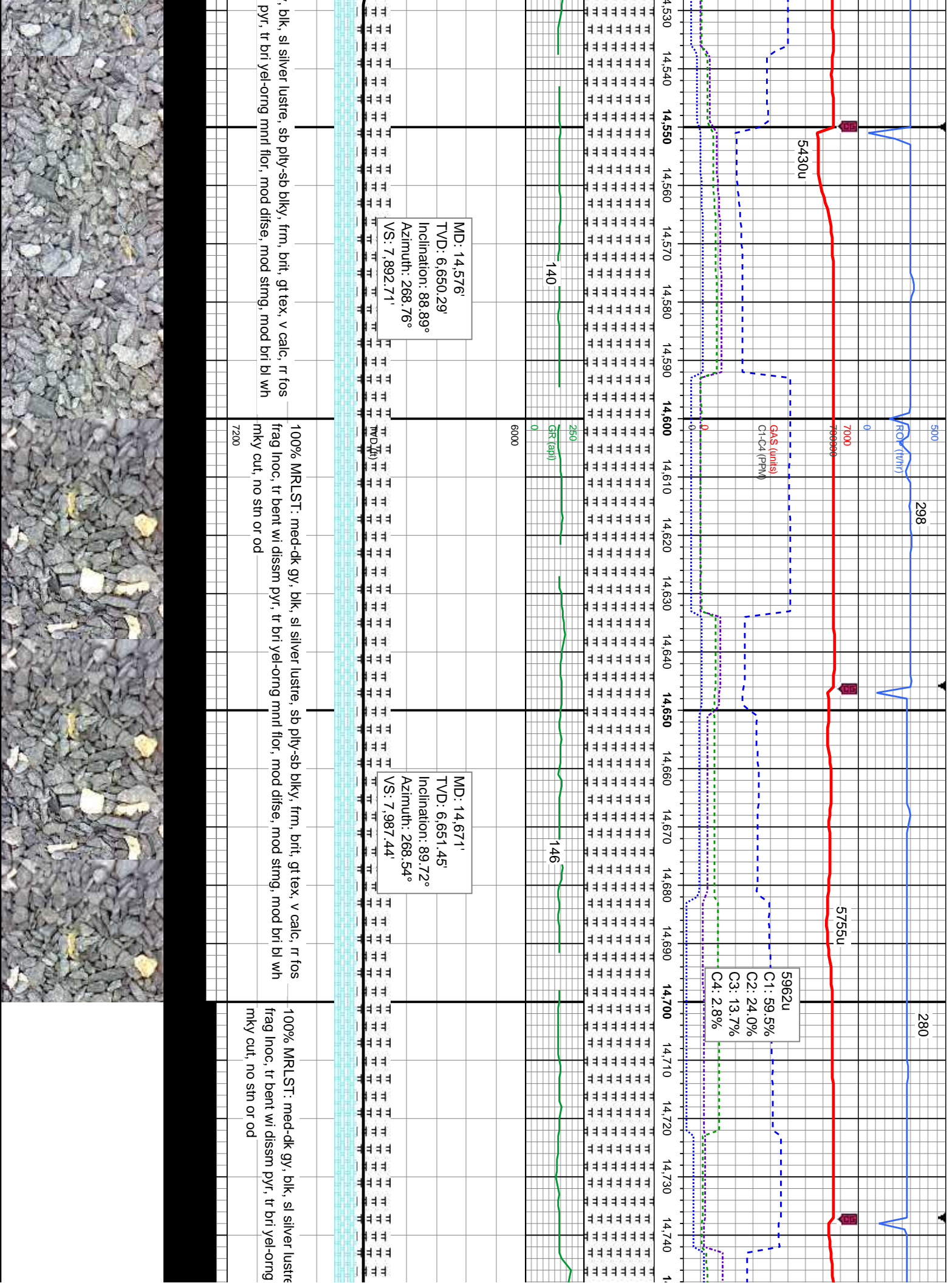


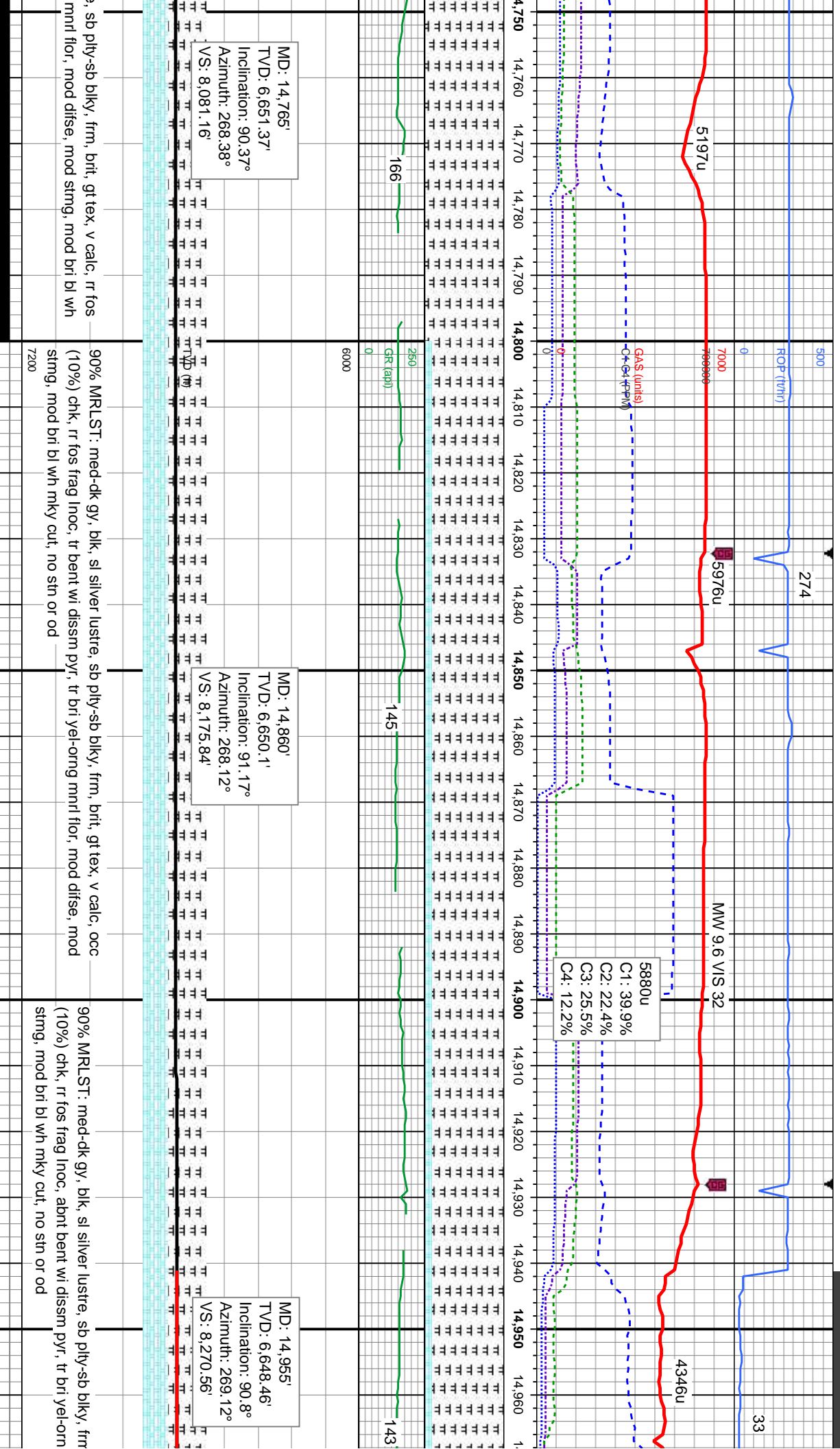
100% MRLST: med-dk gy, blk, sl silver lustre, sb pily-sb blk, frm, brit, gt tex, v calc, rr fos frag inoc, tr bent wi dissim pyr, tr bri yel-oring mnrl flor, mod difse, mod stmg, mod bri bl wh mky cut, no stn or od

100% MRLST: med-dk gy, blk, sl silver lustre, sb pily-sb blk, frm, brit, gt tex, v calc, rr fos frag inoc, tr bent wi dissim pyr, tr bri yel-oring mnrl flor, mod difse, mod stmg, mod bri bl wh mky cut, no stn or od

100% MRLST: med-dk gy frag inoc, tr bent wi dissim mky cut, no stn or od







6/28/2015 6/29/2015

MINDEPTH 150

250

ROP (mm)

5470u

MW 9.6 V/S 33

4612u

5570u
C1: 54.5%
C2: 17.2%
C3: 17.8%
C4: 10.5%

Gas (units)
C1-C4 (PPM)

7000

700000

0

14,970 14,980 14,990 15,000 15,010 15,020 15,030 15,040 15,050 15,060 15,070 15,080 15,090 15,100 15,110 15,120 15,130 15,140 15,150 15,160 15,170 15,180

250

GR (ppm)

0

6000

129

181

MD: 15,050'
TVD: 6,648.06'
Inclination: 89.69°
Azimuth: 269.98°
VS: 8,365.4'

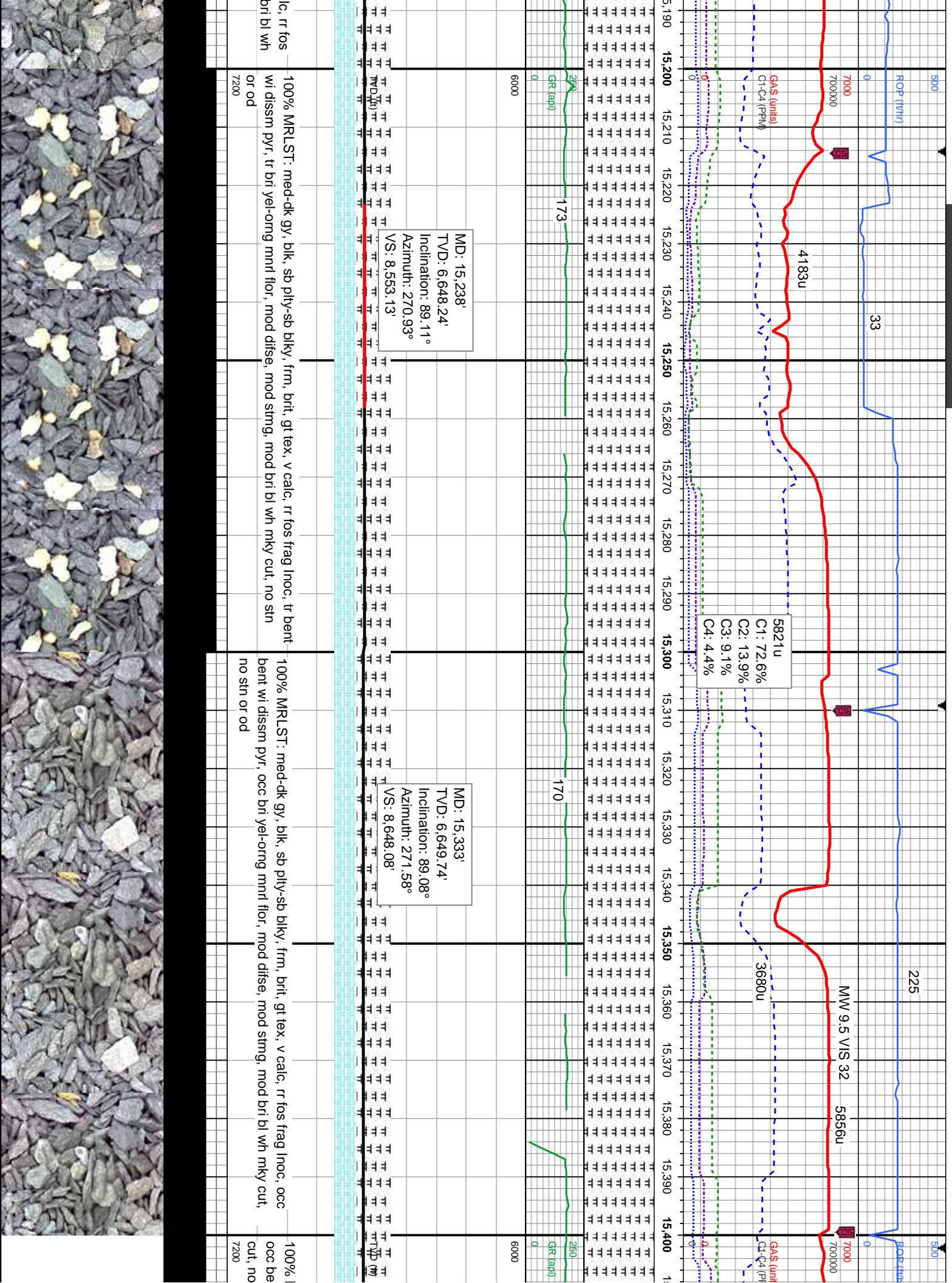
MD: 15,143'
TVD: 6,647.91'
Inclination: 90.49°
Azimuth: 269.22°
VS: 8,458.25'

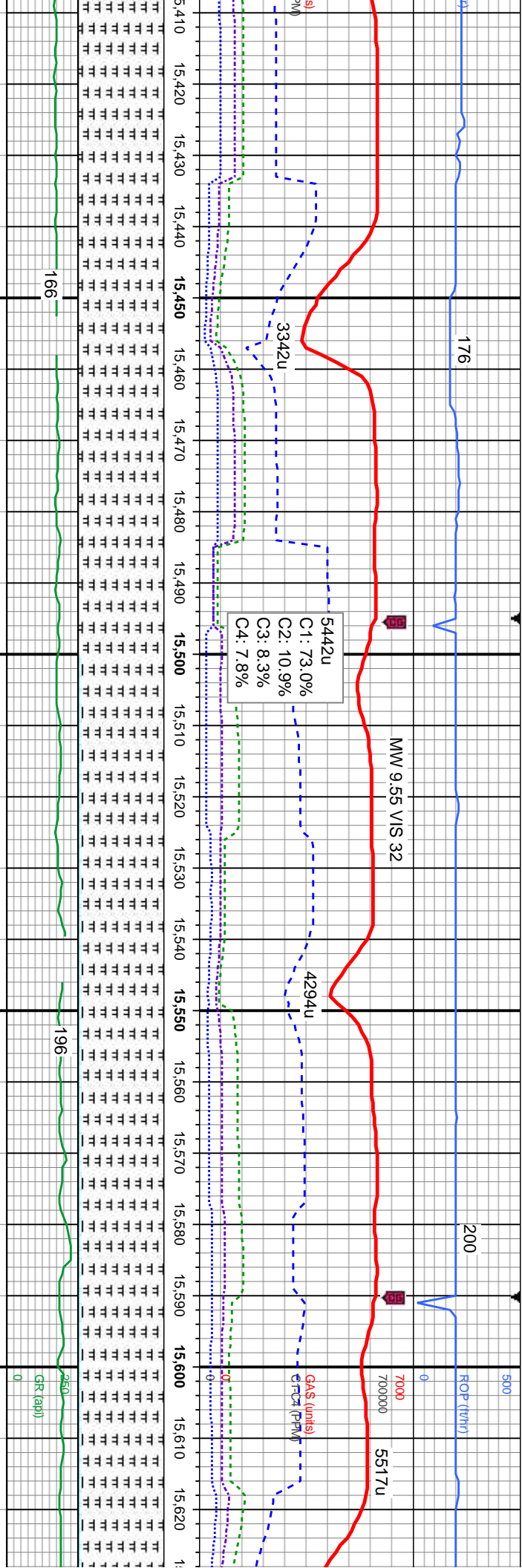
90% MRLST: med-dk gy, blk, sl silver lustre, sb pty-sb blk, frm, brit, gt tex, v calc, occ (10%) chk, rr fos frag inoc, abnt bent wi dissim pyr, tr bri yel-ornng mnrl flor, mod difse, mod stmg, mod bri bl wh mky cut, no stn or od

100% MRLST: med-dk gy, blk, sl silver lustre, sb pty-sb blk, frm, brit, gt tex, v calc frag inoc, tr bent wi dissim pyr, tr bri yel-ornng mnrl flor, mod difse, mod stmg, mod mky cut, no stn or od

7200







MD: 15,428'
TVD: 6,651.02'
Inclination: 89.38°
Azimuth: 270.96°
VS: 8,743.03'

MD: 15,522'
TVD: 6,651.78'
Inclination: 89.69°
Azimuth: 270.44°
VS: 8,836.96'

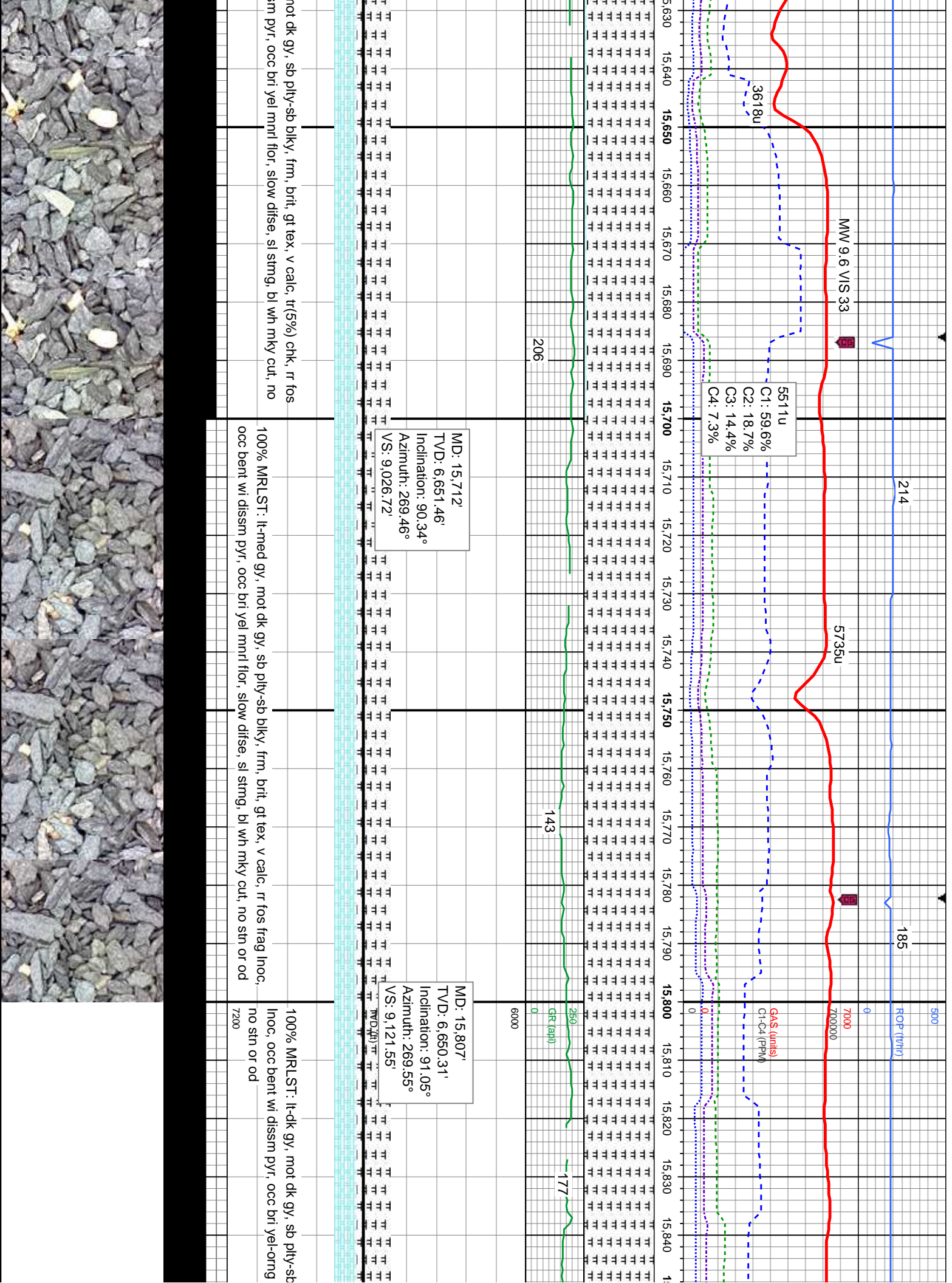
MD: 15,617'
TVD: 6,651.89'
Inclination: 90.18°
Azimuth: 270.18°
VS: 8,931.86'

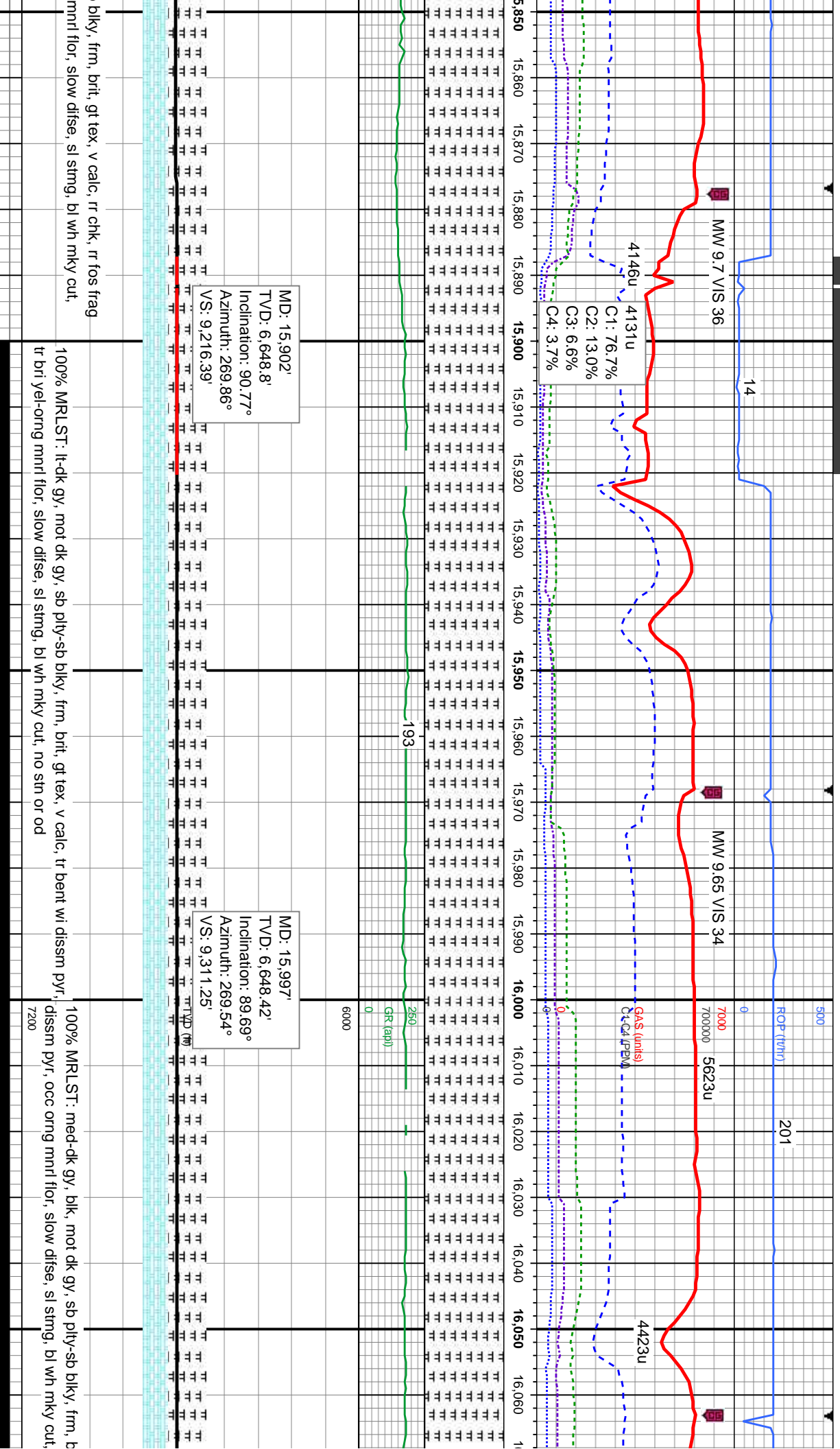
MRLST: lt-med gy, mot dk gy, sb pty-sb blk, frm, brit, gt tex, v calc, r fos frag lnc, nt wi dissim pyr, occ bri yel-oring mnrl flr, mod dfse, mod sting, mod bri bl wh mky stn or od

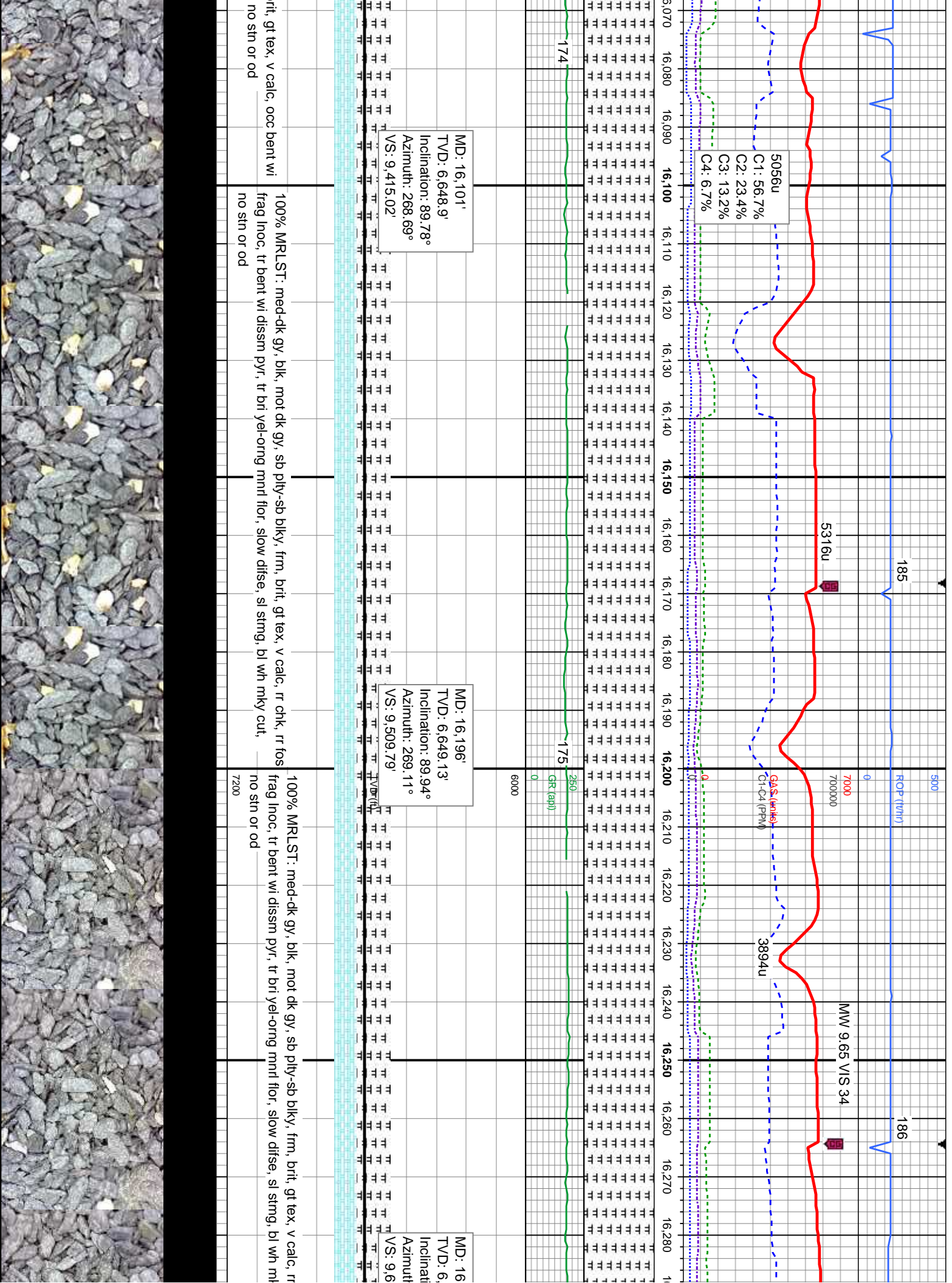
95% MRLST: lt-med gy, mot dk gy, sb pty-sb blk, frm, brit, gt tex, v calc, tr(5%) chk, r fos frag lnc, tr bent wi dissim pyr, tr br yel mnrl flr, slow dfse, sl sting, bl wh mky cut, no stn or od

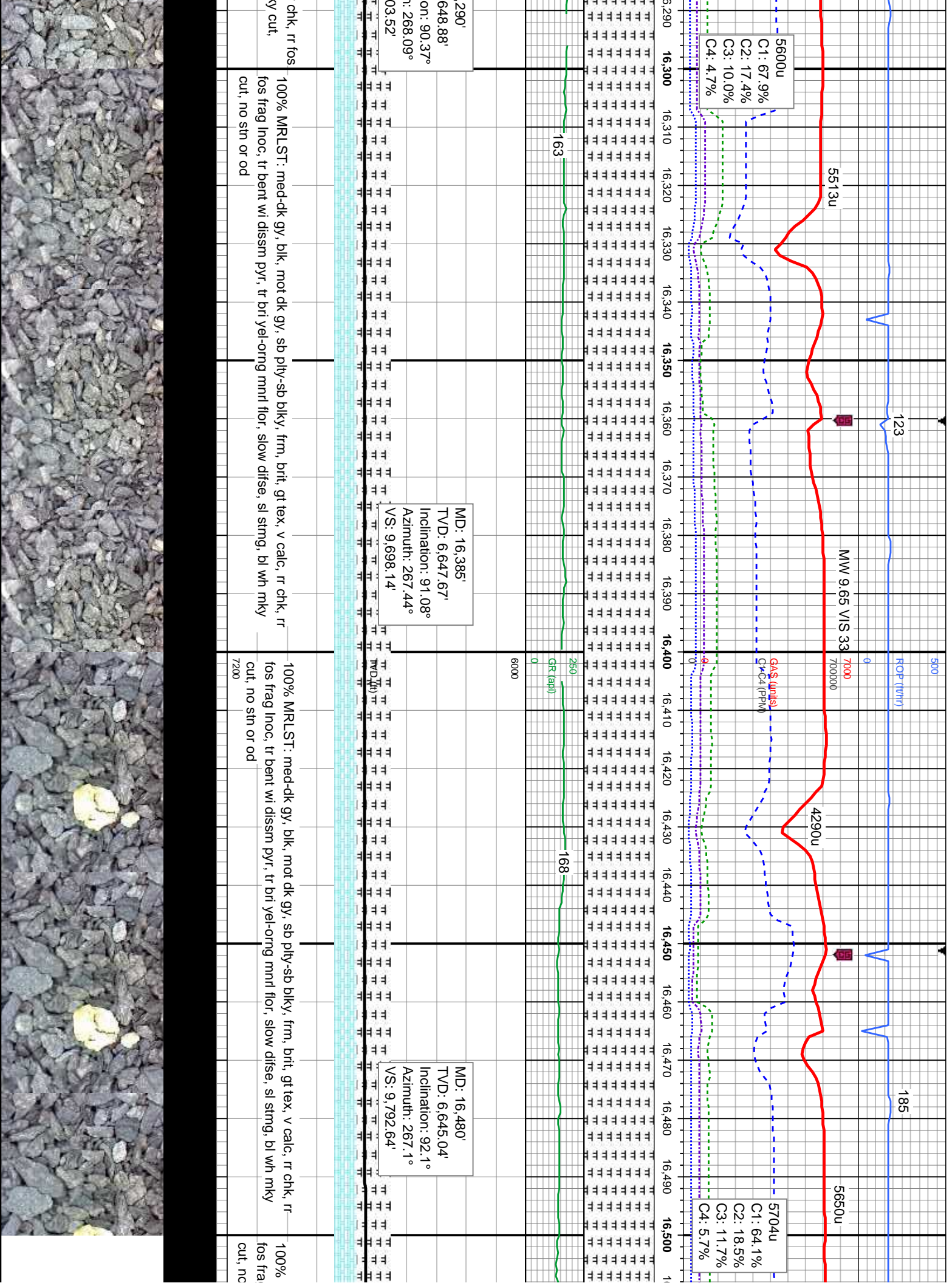
95% MRLST: lt-med gy, r frag lnc, occ bent wi dissim pyr, no stn or od











Thank you for using
Columbine Logging Inc.

Wells Ranch A36-655 Wellbore TD @
16730' MD @ 3:50 hrs on 06/29/15

16,730 16,740 16,750 16,760 16,770 16,780

SECTION TO BIT

730'
632.46'
on: 93.23°
i: 266.57°
040.88'

y, blk, mot dk gy, sb ply-sb blk, y,
chk, rr fos frag lnoc, tr bent wi
mmrl flor, slow difse, sl stmg, bl