



Scale: 5" / 100'
Measured Depth Log

Well Name Berry Farms 31N-8HZ

Location SEC 8 T3N R67W

State COLORADO

Country UNITED STATES OF AMERICA

API Number 051233889500

Region DJ BASIN

Spud Date 5/23/2014

Surface Coordinates 1,367'FNL & 300' FEL

Bottom Hole Coordinates 1,520' FNL & 50' FWL

County WELD

Rig Number ENSIGN 145

Field WATTENBERG

Drilling Completed 5/28/2014

Ground Elevation	4,821'	K.B. Elevation	4,833'
Logged Interval	6,850'	To	11,758'
		Total Depth	11,758'

Formation NIOBRARA B CHALK

Type of Drilling Fluid FW LSND

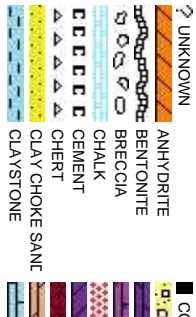
Company Anadarko

Address 1099 18TH ST.
Denver, CO 80202

Name LACEY LITTLE

Company COLUMBINE LOGGING

Address 2385 S LIPAN ST.
Denver, CO 80202



Operator

202

Geologist

LOGGING, INC.

ST.
223

Rock Types

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

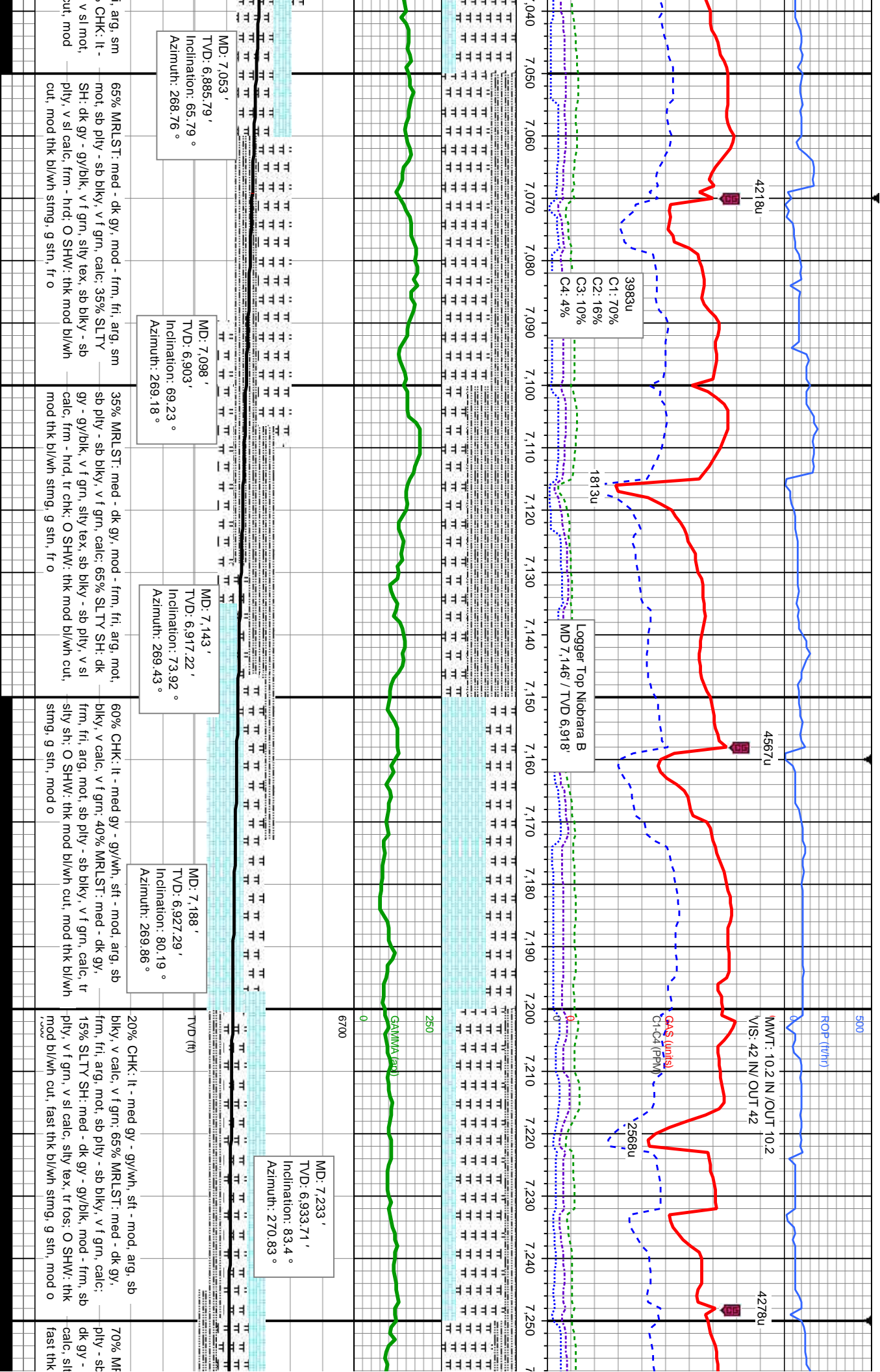
Accessories

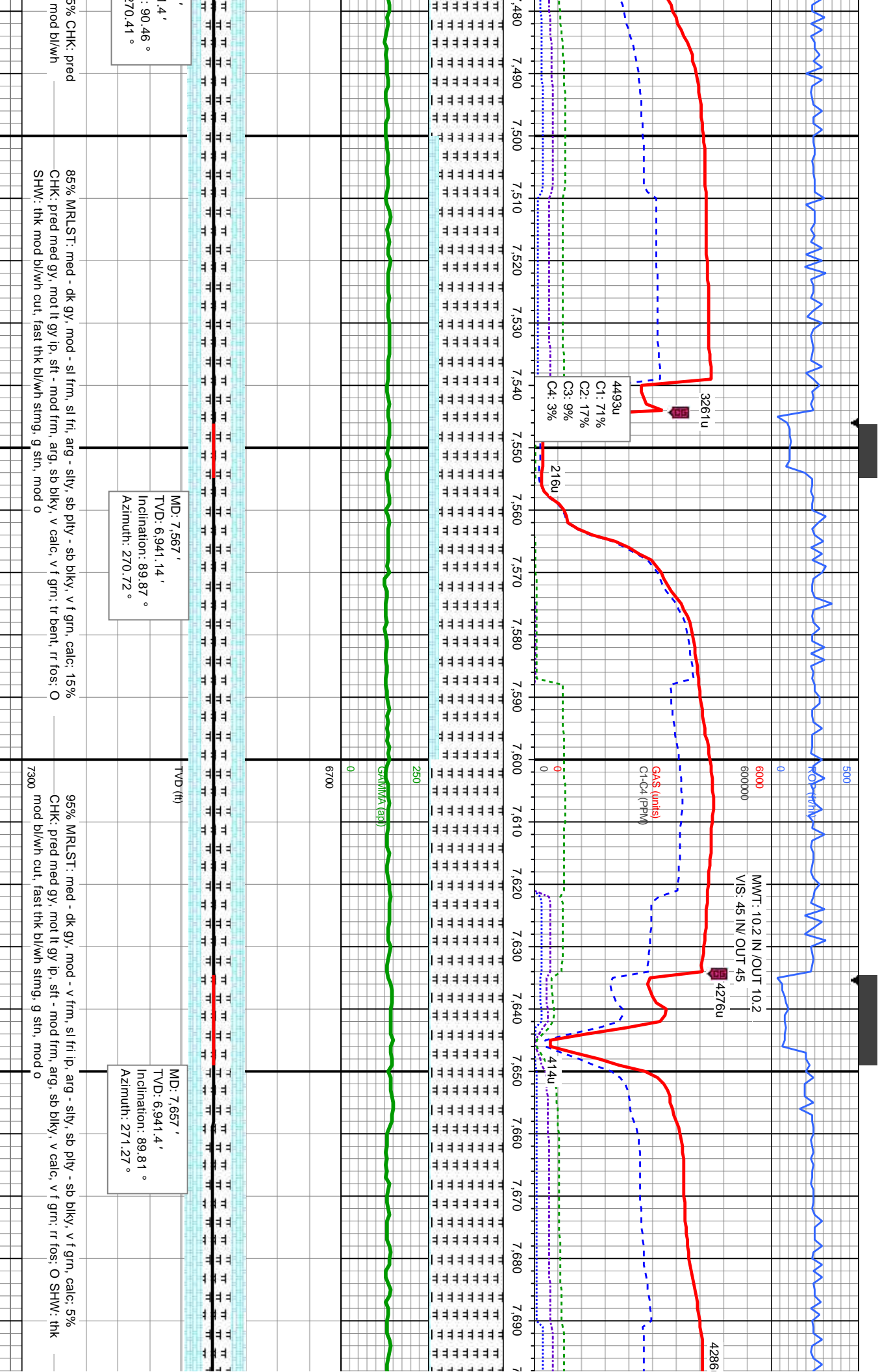
Fossils	GASTROPOD	ARGILLITE GRAIN	HEAVY MINERAL
INOCERAMUS	B BENTONITE	K KAOLIN	ANHYDRITE STRINGER
ALGAE	O OOLITE	BITUMINOUS SUBSTANCE	BENTONITE STRINGER
AMPHIPORA	O OSTRACOD	BRECCIA FRAGMENTS	COAL STRINGER
BELEMNITE	P PELECYPOD	C CALCAREOUS	DOLOMITE STRINGER
BIOCLASTIC	P PELLET	CARBONACEOUS FLAKES	GYPSUM STRINGER
B BRACHIOPOD	P PISOLITE	C CHTD	LIMESTONE STRINGER
B BRYOZOA	P PLANT REMAINS	C CHTL	MARLSTONE (CALC) STRG
C CEPHALOPOD	P PLANT SPORES	C COAL - THIN BEDS	MARLSTONE (DOL) STRG
C CORAL	S SCAPHOPOD	D DOLOMITIC	SANDSTONE STRINGER
C CRINOID	S STROMATOPOROID	F FELDSPAR	SHALE STRINGER
E ECHINOID	F FERRUGINOUS PELLET	F FERRUGINOUS	S SILTY
F FISH	Minerals	T TUFFACEOUS	
F FORAMINIFERA	A ANHYDRITIC	G GLAUCONITE	
F FOSSIL	A ARGILLACEOUS	G GYPSIFEROUS	Stringer

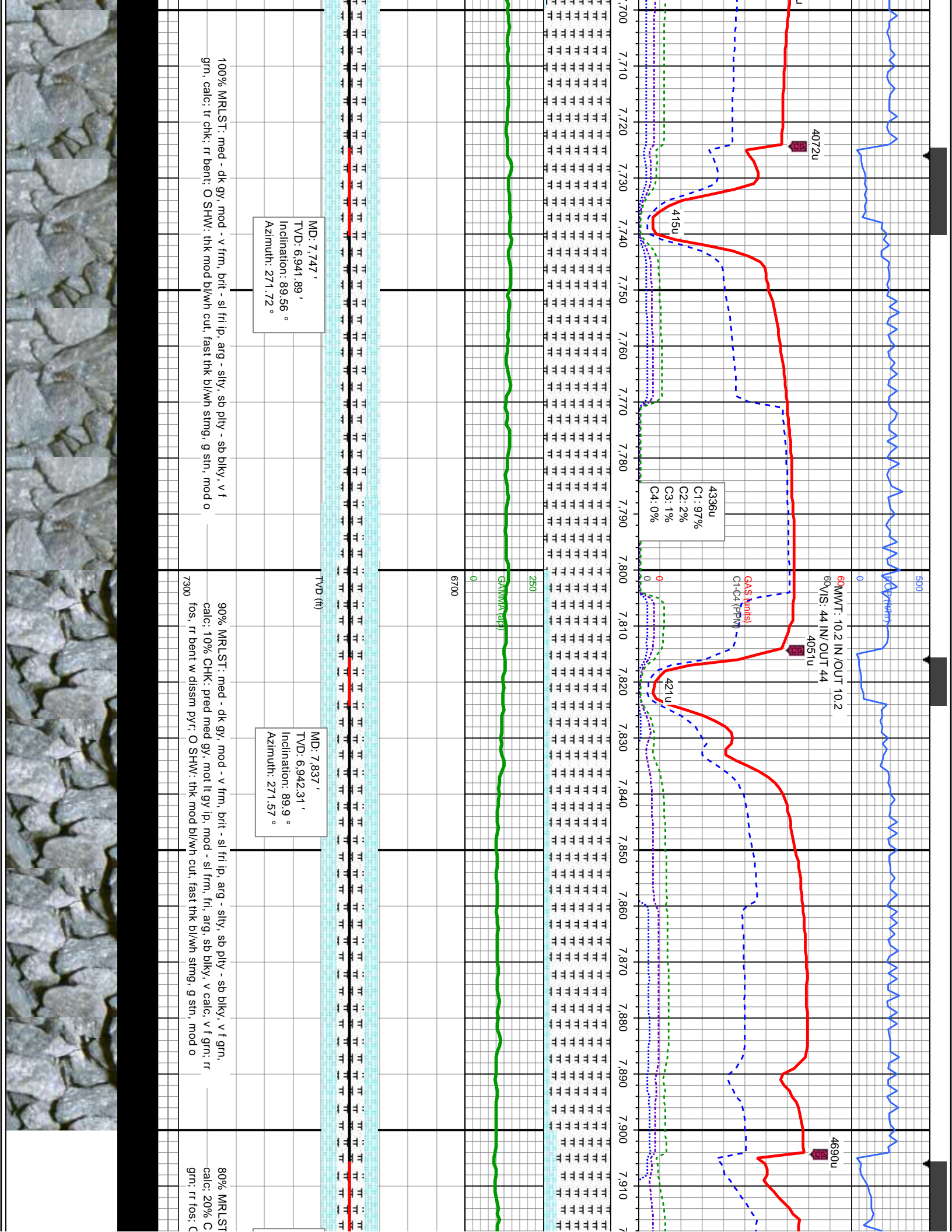
Other Symbols

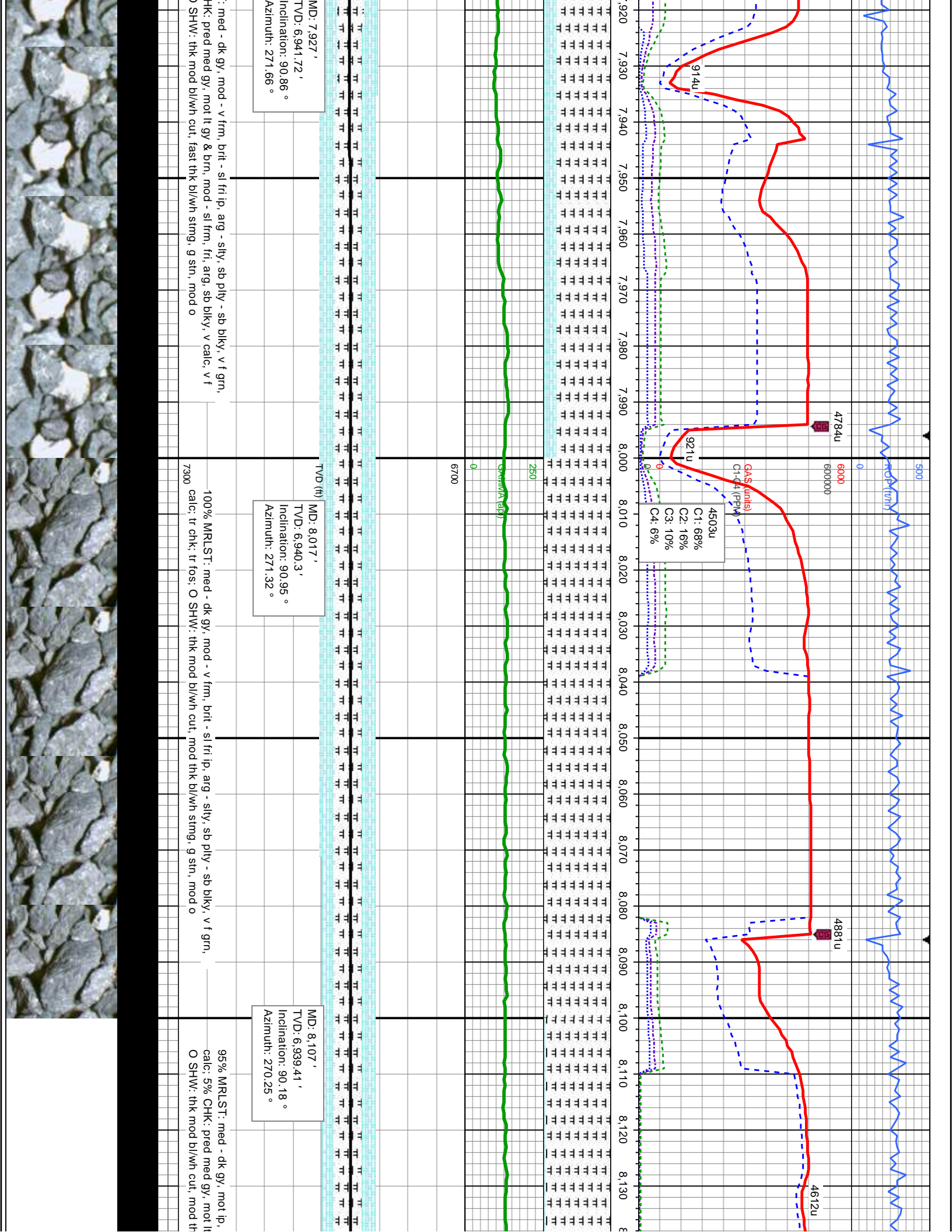
Oil Show	P PINPOINT	DST INTERVAL	WIRELINE TESTED - LEFT	E EARTHY
V VUGGY	F FAULT	WIRELINE TESTED - RT	F FINELY XLN	
Engineering	FORMATION TOP	DRILL STEM TEST	G GRAINSTONE	
D DEAD	GAS SHOW	MN DEPTH	L LITHOGRAPHIC	
E EVEN	OIL SHOW	MN DEPTH	M MICROXLN	
Q QUESTIONABLE	B BIT	Rounding	M MUDSTONE	
S SPOTTED STAINING	C CONNECTION (UP)	A ANGULAR	P PACKSTONE	
Porosity	C CONNECTION (DOWN)	S SUBANG	W WACKESTONE	
E EARTHY	N NORMAL FAULT	R ROUNDED		
F FENESTRAL	O OVERTURNED STRATA	S SUBANG		
F FRACTURE	R REVERSE FAULT	S SUBANG	Sorting	
T TRIP GAS (LEFT)	C CASING	S SUBANG	P POOR	
I INTERCRYSTALLINE	D DOWN TIME GAS	S SIDEWALL CORE (LEFT)	M MODERATE	
I INTERCRYSTALLINE	D DOWN TIME GAS (LEFT)	S SIDEWALL CORE (RIGHT)		
M MOLDIC	C CORE - LOST	S SLIDE	W WELL	
O ORGANIC	C CORE - RECOVERED	S SURVEY	C CRYPTOXLN	

Slide/Rotate	
ROP	ROP (ft/h)
ROF	ROF (ft/h)
Total Gas & Chromatograph GAS ——— C1 ——— C2 ——— C3 ——— C4 ———	
Depth Labels	500 6000 6000000 4392u 4233u MW: 10.2 IN/OUT 10.2 V/S: 42 IN/OUT 42 4862u 500
% Lith	6.860 6.870 6.880 6.890 6.900 6.910 6.920 6.930 6.940 6.950 6.960 6.970 6.980 6.990 7.000 7.010 7.020 7.030 6.860 6.870 6.880 6.890 6.900 6.910 6.920 6.930 6.940 6.950 6.960 6.970 6.980 6.990 7.000 7.010 7.020 7.030
Curves	250 GAMMA 0 250 GAMMA
Well Bore TVD ——— COLUMBINE LOGGING 05/24/14 1-MANLOGGING - CURVE 2-MAN LOGGING - LATERAL WITH BLOODHOUND GAS CHROMATOGRAPH UNIT #314 BIT 8.75 SMITH SD611 5 X 15 & 3 X 16 JETS DEPTH IN: 840' MD: 6.873 ' TVD: 6.785.93 ' Inclination: 46.94 ° Azimuth: 268.43 ° MD: 6.918 ' TVD: 6.815.38 ' Inclination: 51.29 ° Azimuth: 270.79 ° MD: 6.963 ' TVD: 6.842.03 ' Inclination: 56.04 ° Azimuth: 269.93 ° MD: 7.008 ' TVD: 6.865.58 ' Inclination: 60.83 ° Azimuth: 268.73 °	
Oil Show	100% SLTY SH: lt - dk gy/brn, sb ply - ply, sily tex, v f grn, sft - mod frm, v sl calc, abnt bent; O SHW: thk mod bl/wh cut, slow thk bl/wh string, mod stn, fr o 85% SLTY SH: lt - dk gy/brn, sb ply - ply, sily tex, v f grn, sft - mod frm, v sl calc; 15% MRLST: med - dk gy/brn, sily tex, arg, fri, sl mot, sft - mod, calc, sb ply - sb rnd, tr bent; O SHW: thk mod bl/wh cut, mod thk bl/wh string, g stn, fr o 60% MRLST: med - dk gy - gy brn, mod - frm, fri, arg, sm mot, sb ply - sb blk, v f grn, calc; 30% CHK: lt - med gy - gy/wh, sft - mod, arg, sb blk, v sl mot, v calc, v f grn; 10% SLTY SH: med - dk gy/brn, mod - frm, sb ply - ply, v f grn, v sl calc, sily tex, tr pyr; O SHW: thk mod bl/wh cut, mod thk bl/wh string, g stn, mod o 80% MRLST: med - dk gy, mod - frm, fr mot, sb ply - sb blk, v f grn, calc; 20% med gy - gy/wh, sft - mod, arg, sb blk, v calc, v f grn; O SHW: thk mod bl/wh cut, mod thk bl/wh string, g stn, mod o
Images	









05/27/14

MINDEPTH

SFB

ROCK (ft/lb)

4792u

6000

MMWT: 10.2 IN/OUT 10.2
VIS: 44 IN/ OUT 44

4823u

4836u

GAS (units)
C1-C4 (PPM)

3542u

4922u

C1: 65%
C2: 18%
C3: 11%
C4: 6%

1260u

GAMMA (api)

250

6700

MD: 8,197'

TVD: 6,939.13'

Inclination: 90.18°

Azimuth: 270.38°

MD: 8,287'

TVD: 6,938.11'

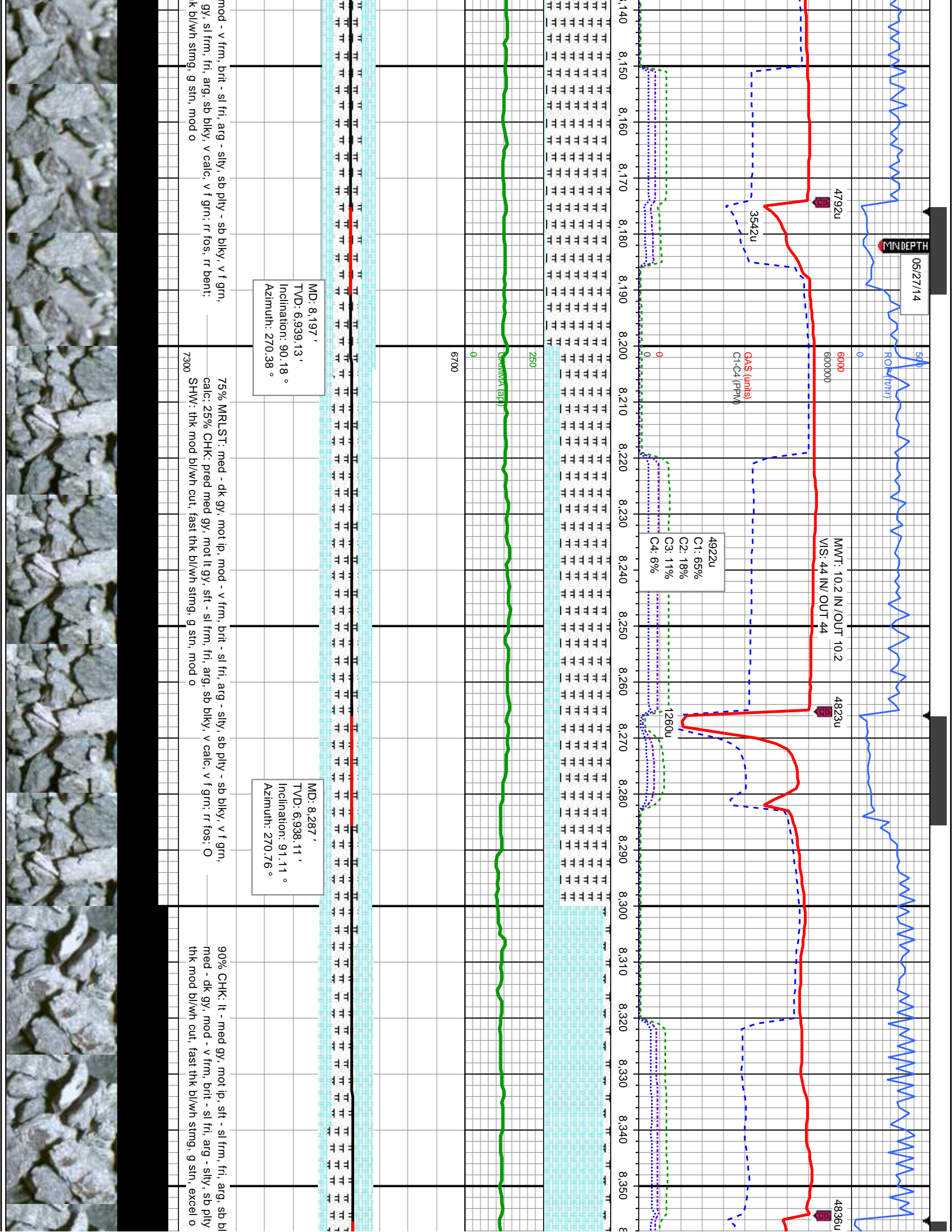
Inclination: 91.11°

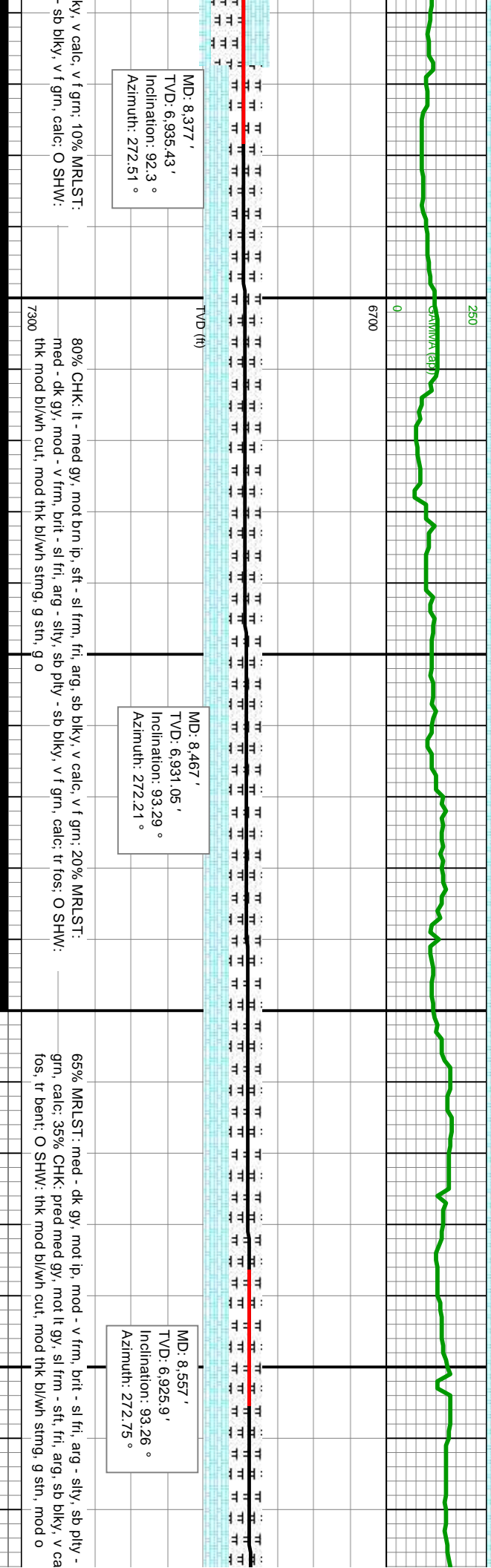
Azimuth: 270.76°

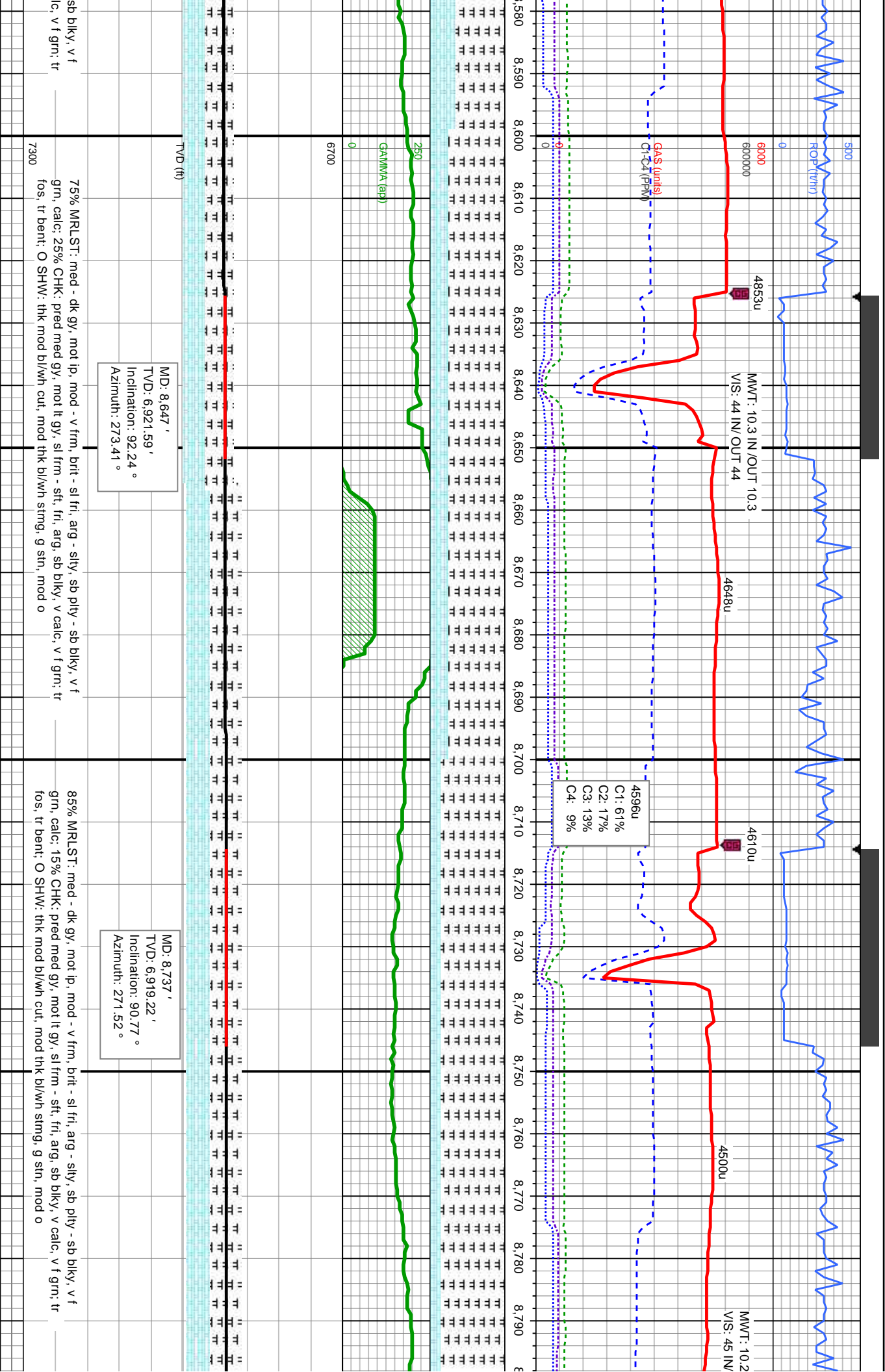
mod - v frm, brit - sl fri, arg - silty, sb pty - sb blk, v f gm,
gy, sl frm, fri, arg, sb blk, v calc, v f gm; rr fos, rr bent;
k bl/wh string, g stn, mod o

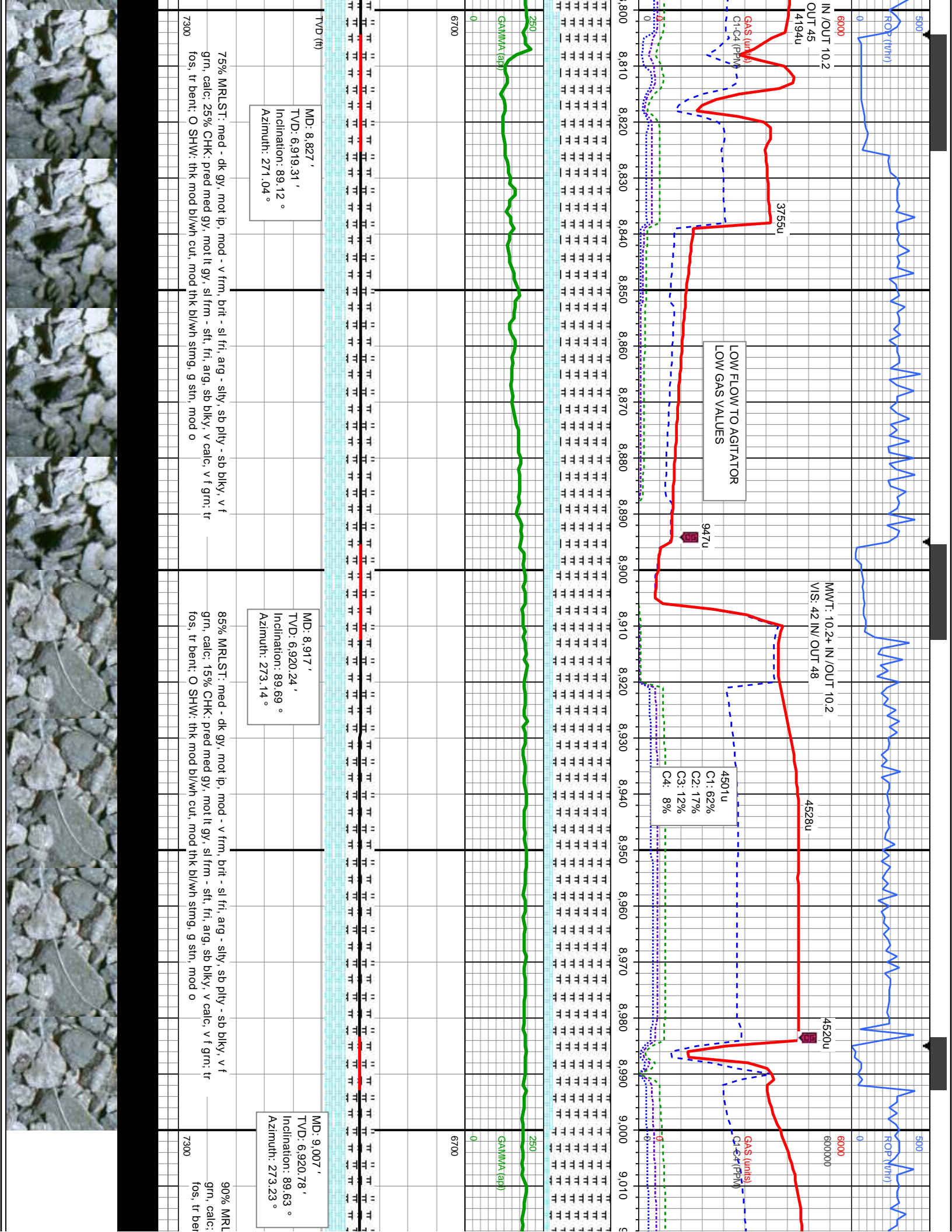
75% MRLST: med - dk gy, mot ip, mod - v frm, brit - sl fri, arg - silty, sb pty - sb blk, v f gm,
calc, 25% CHK: pred med gy, mot lt gy, sft - sl frm, fri, arg, sb blk, v calc, v f gm; rr fos, O
SHW: thk mod bl/w cut, fast thk bl/w string, g stn, mod o

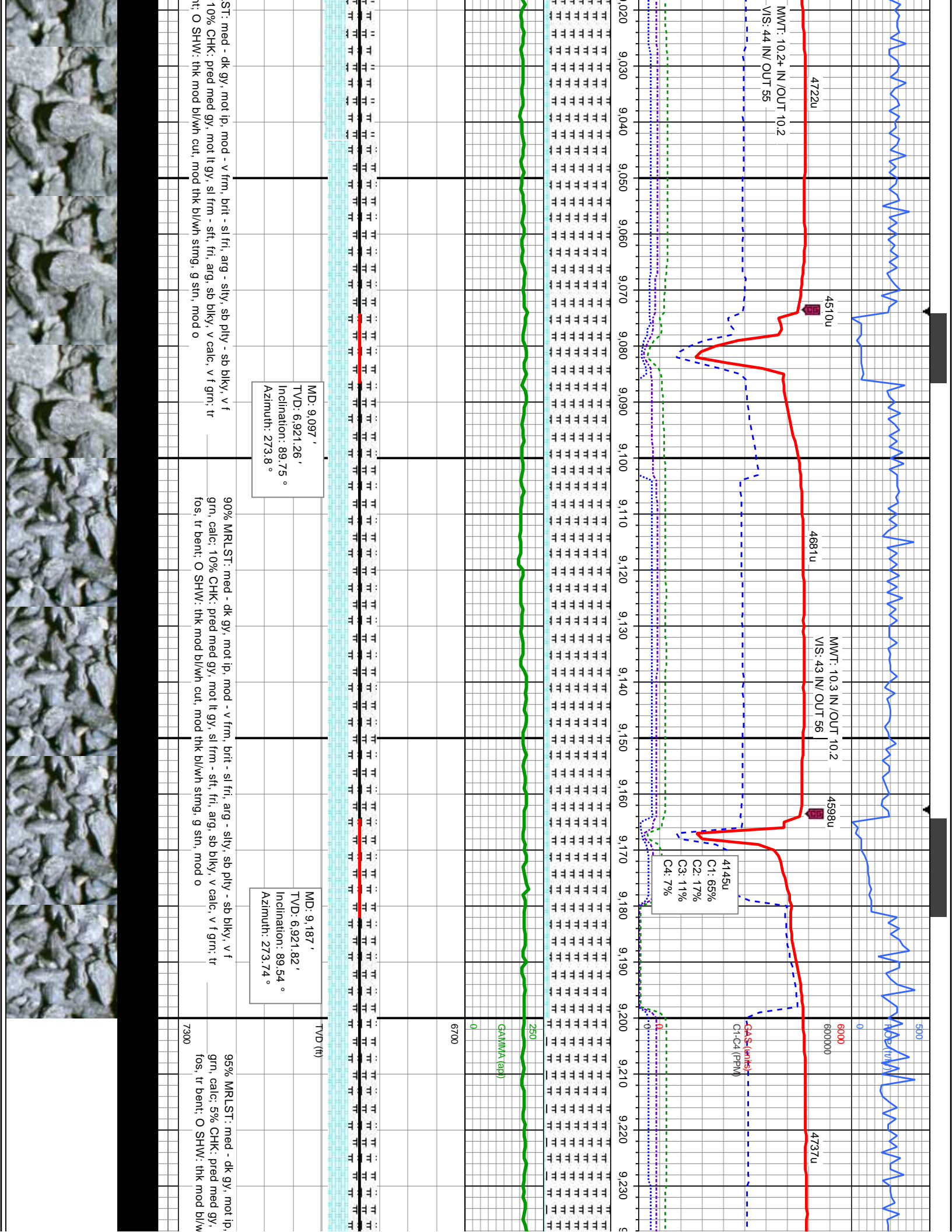
90% CHK: lt - med gy, mot ip, sft - sl frm, fri, arg, sb blk
med - dk gy, mod - v frm, brit - sl fri, arg - silty, sb pty
thk mod bl/w cut, fast thk bl/w string, g stn, excel o

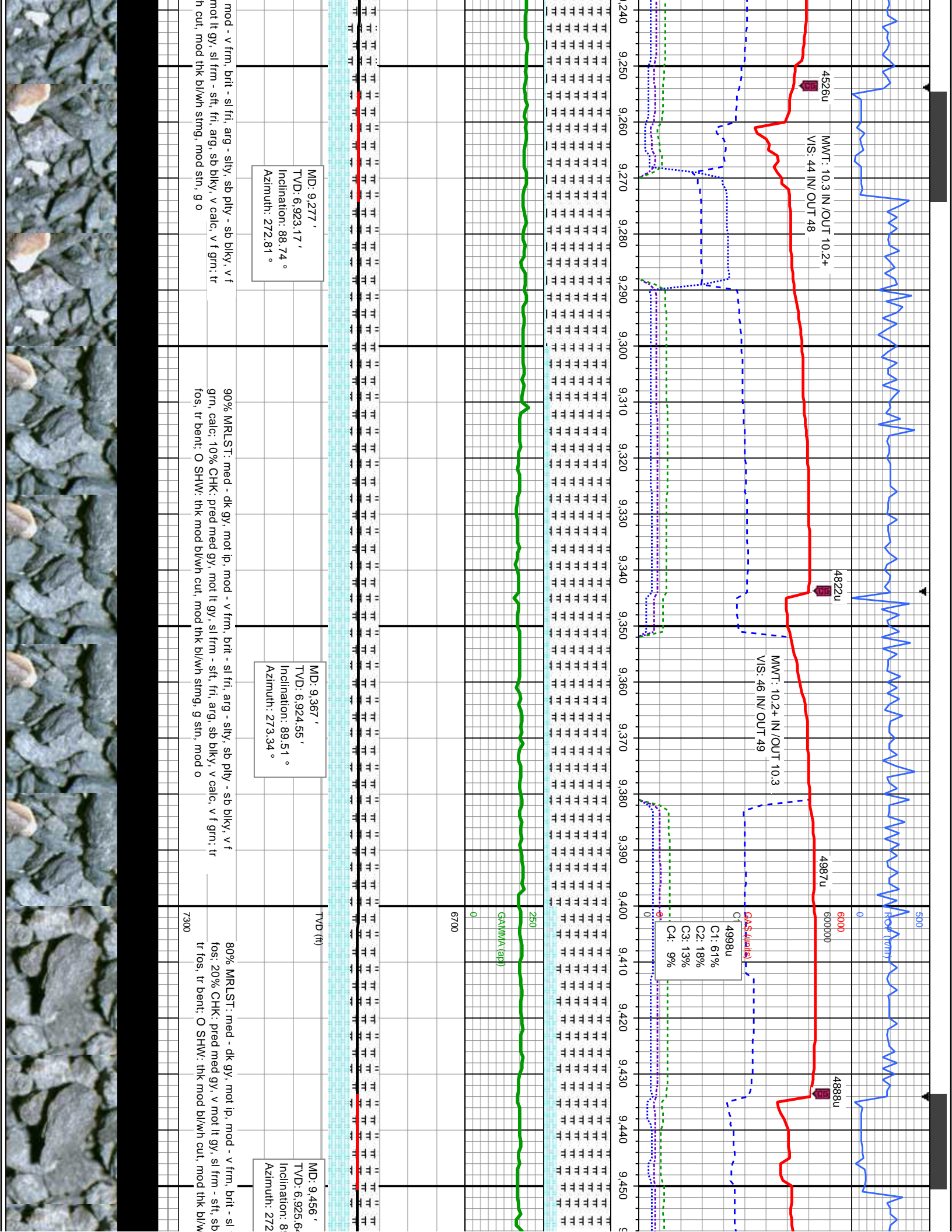


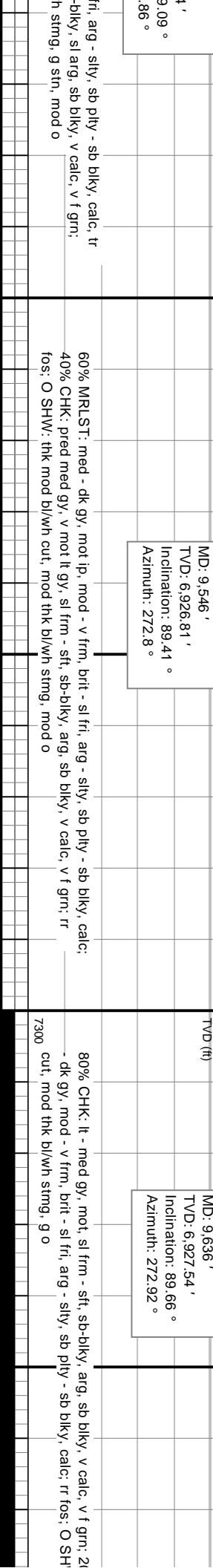
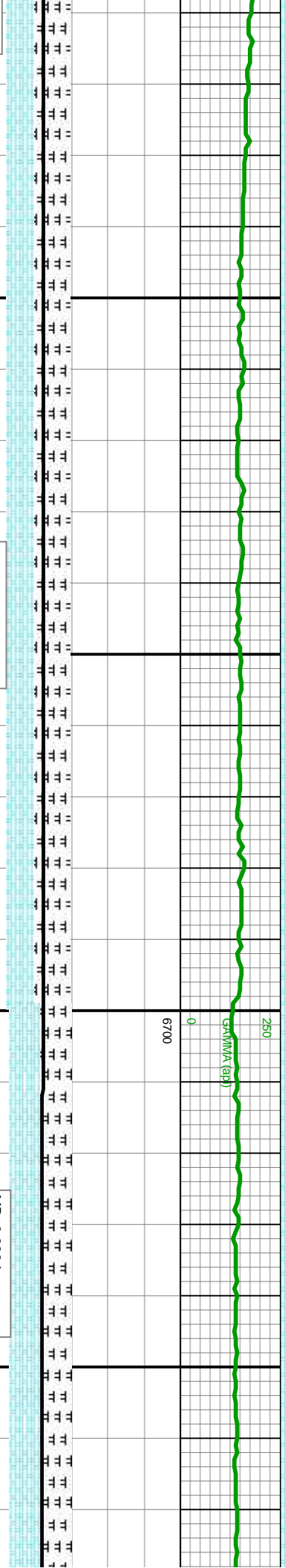
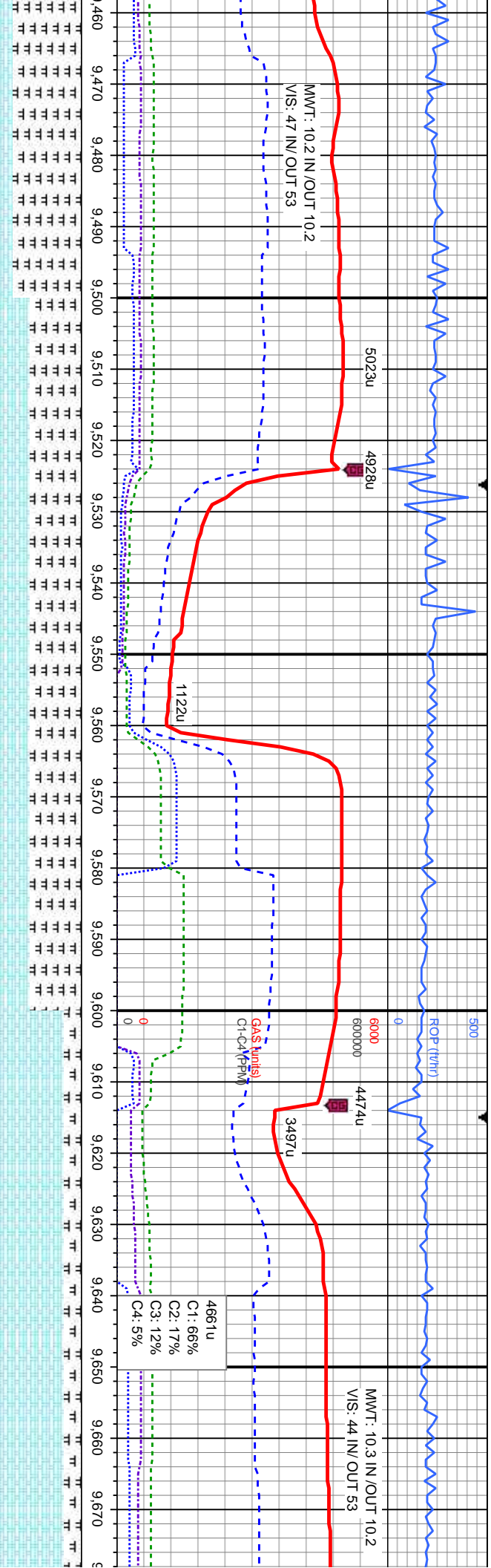


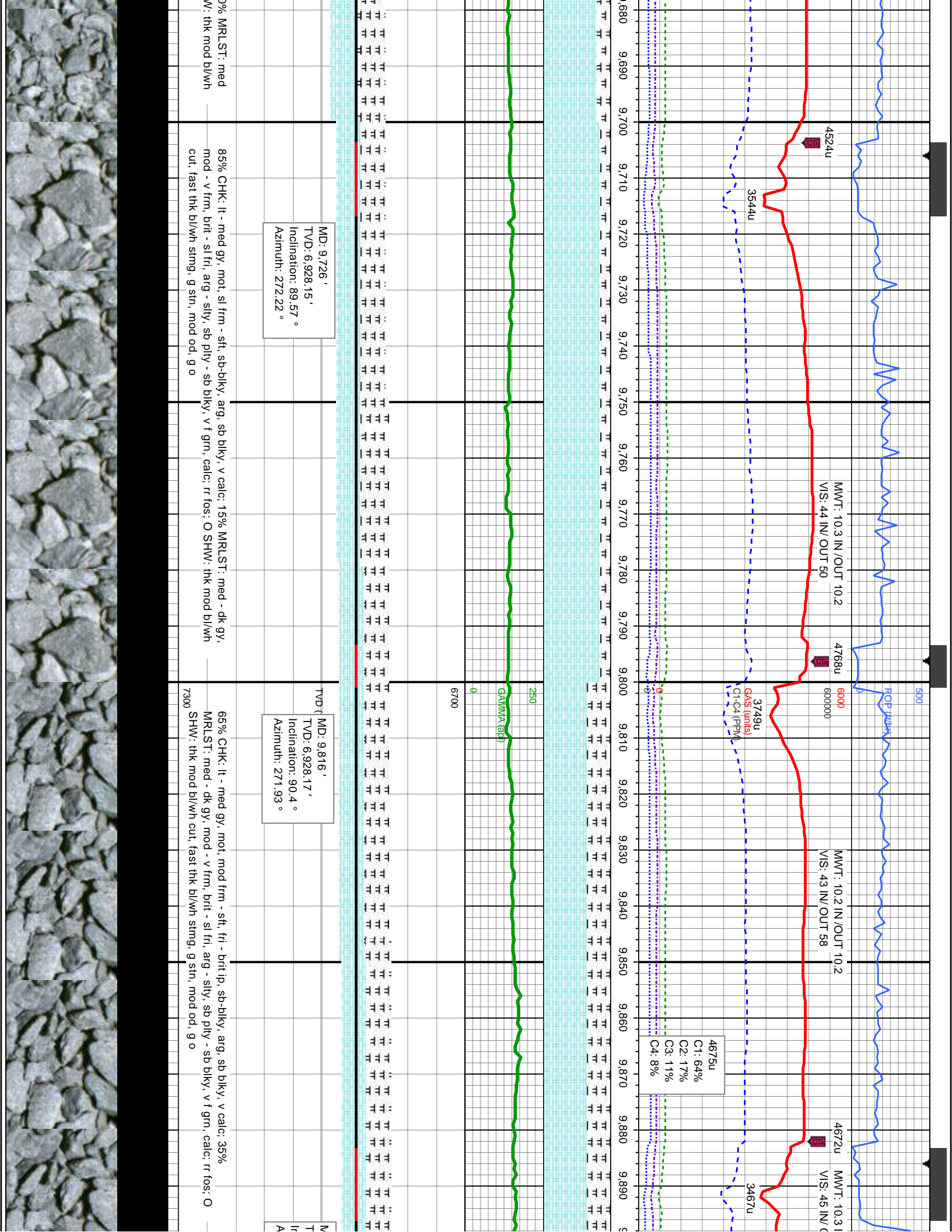


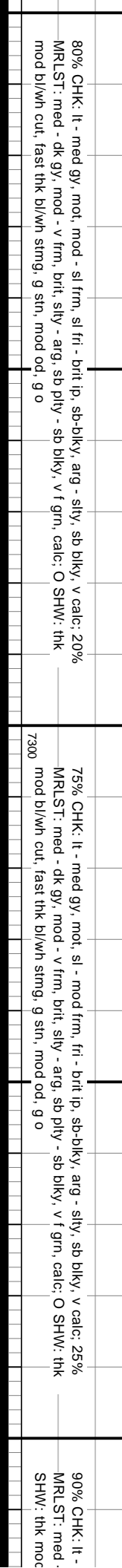
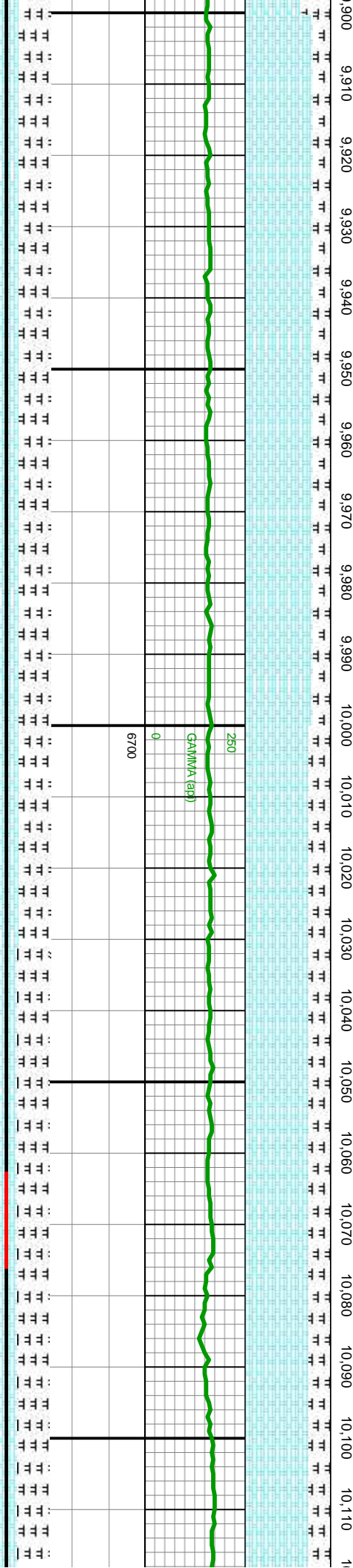
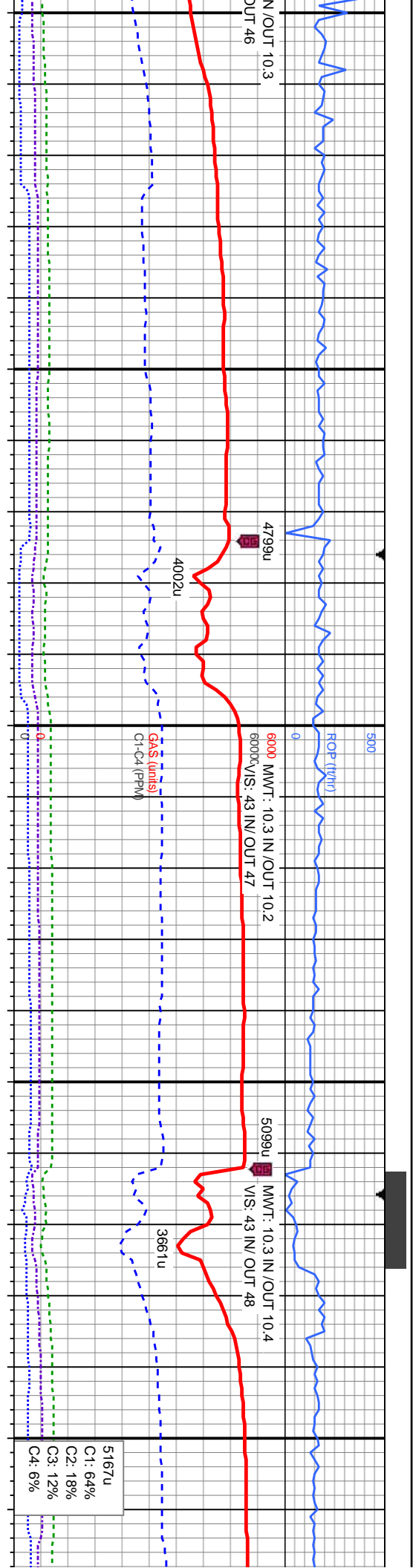


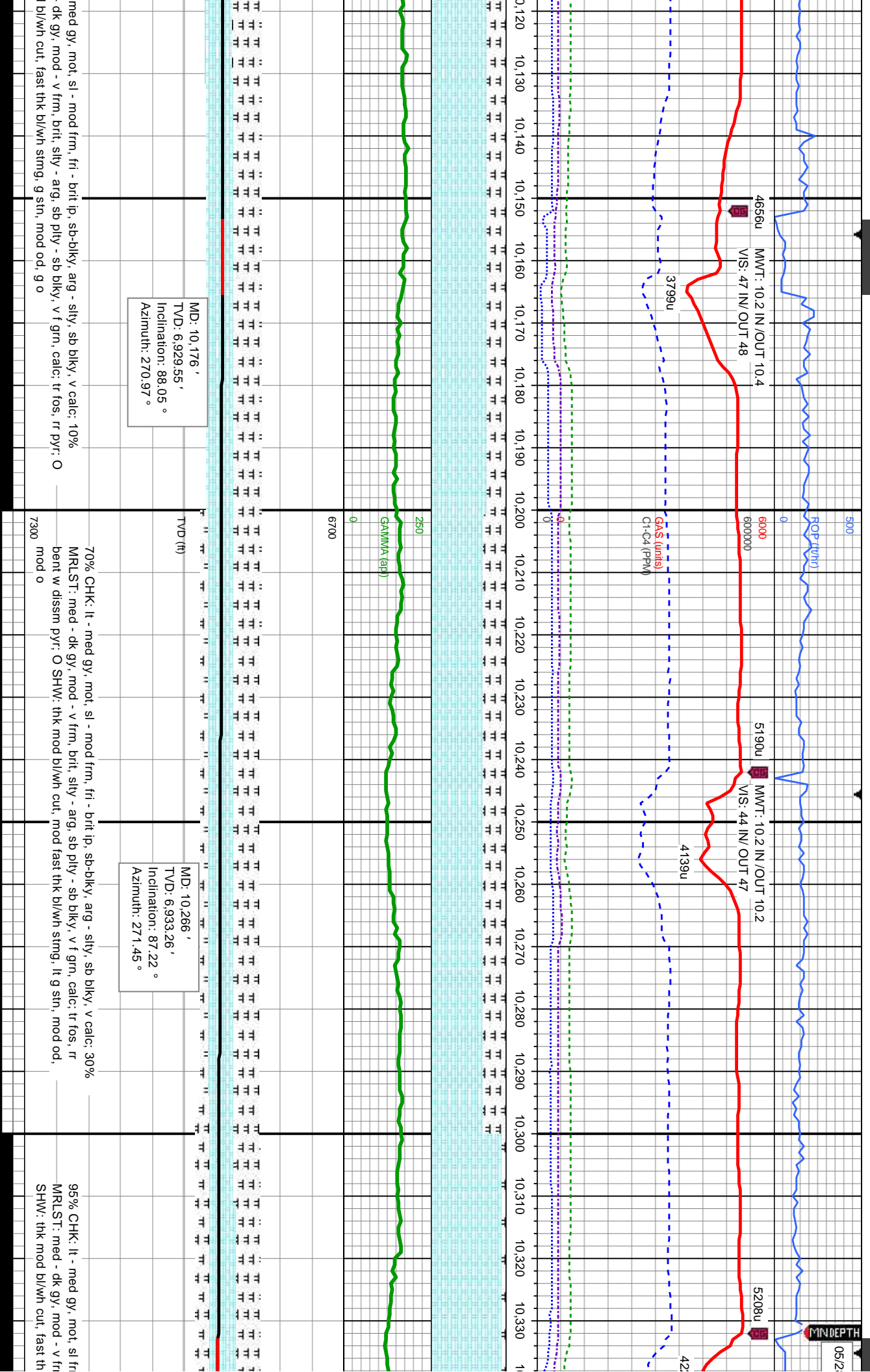


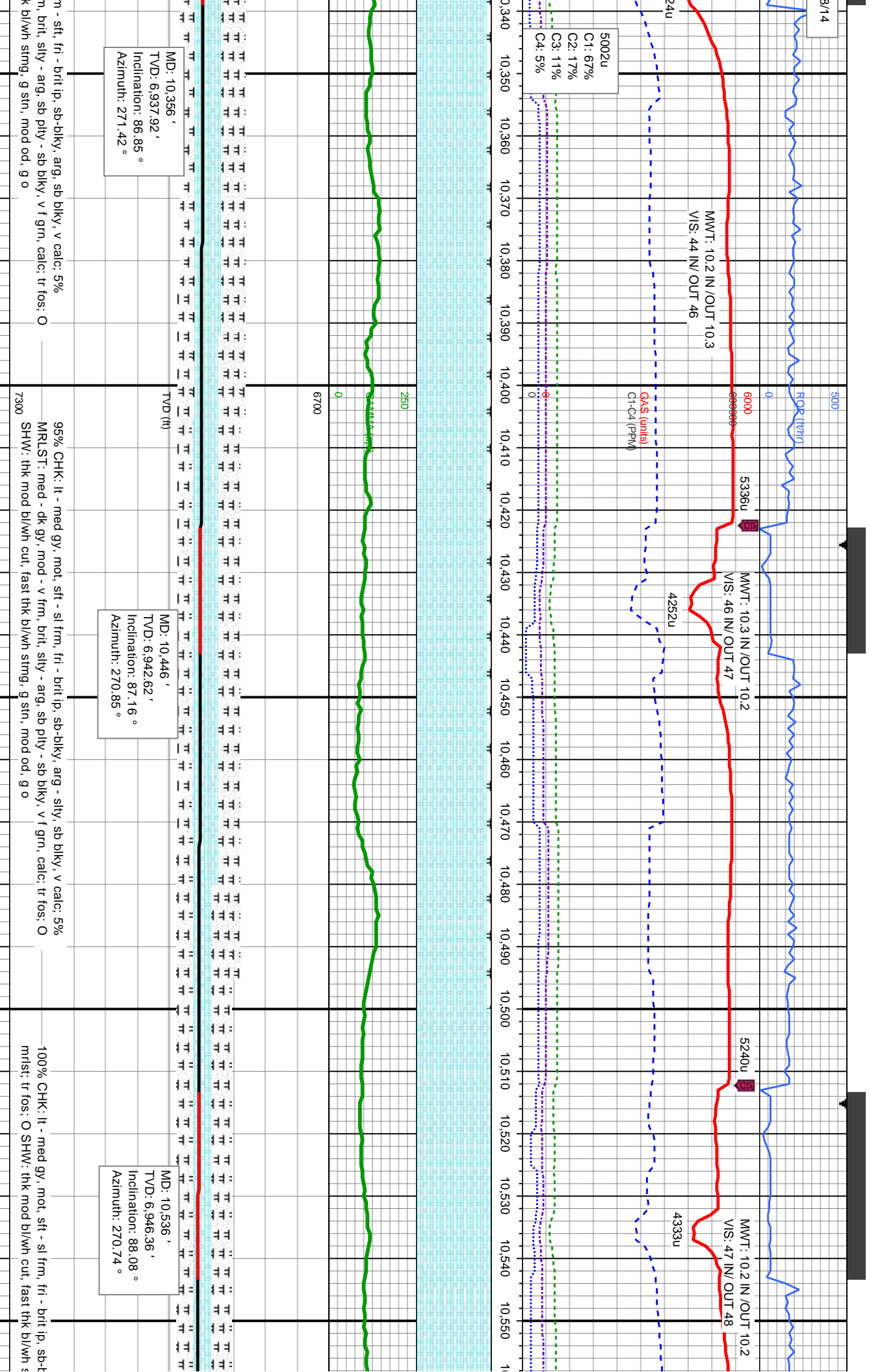


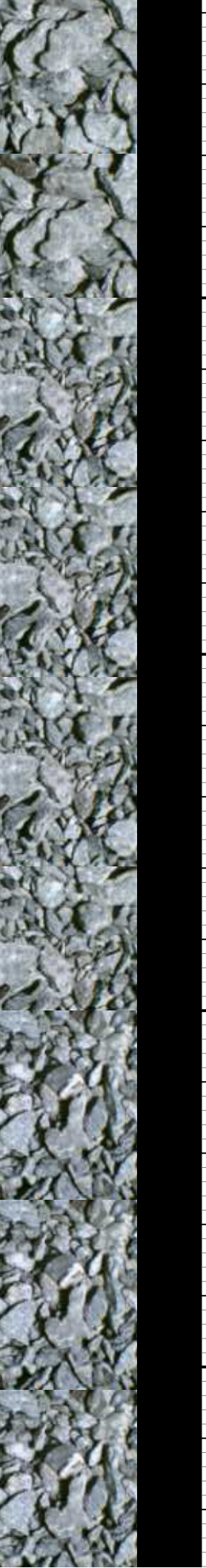
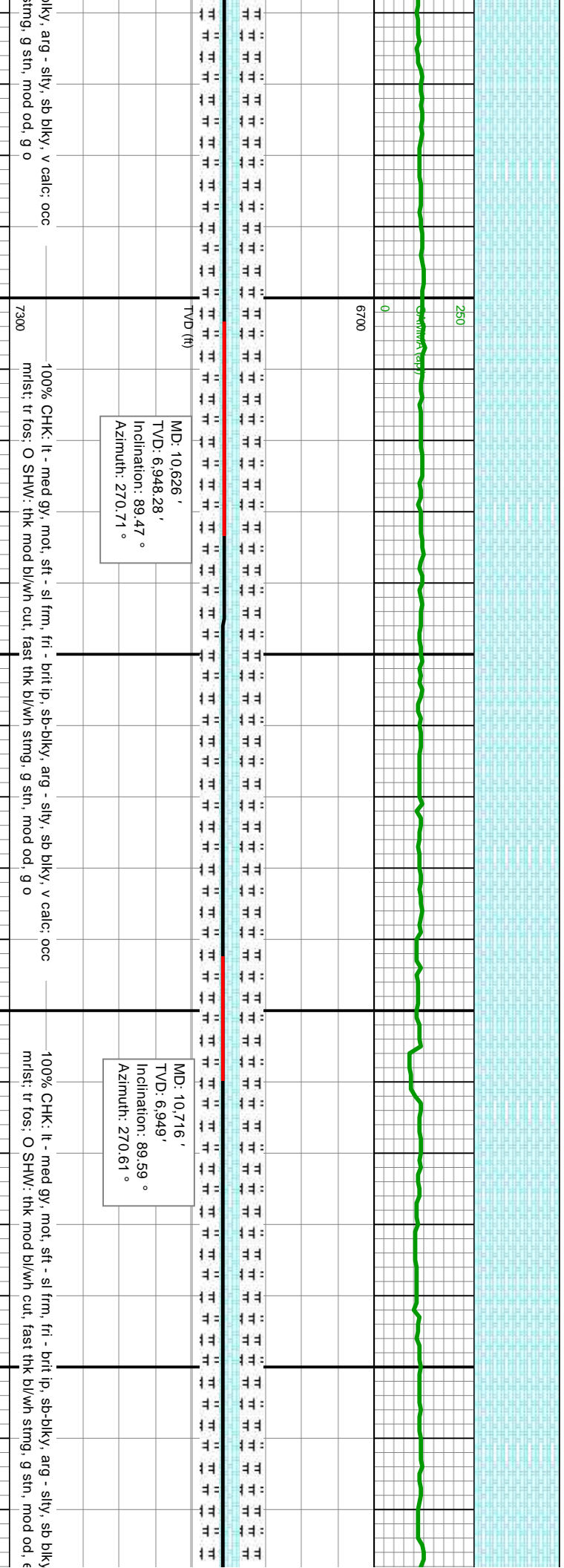
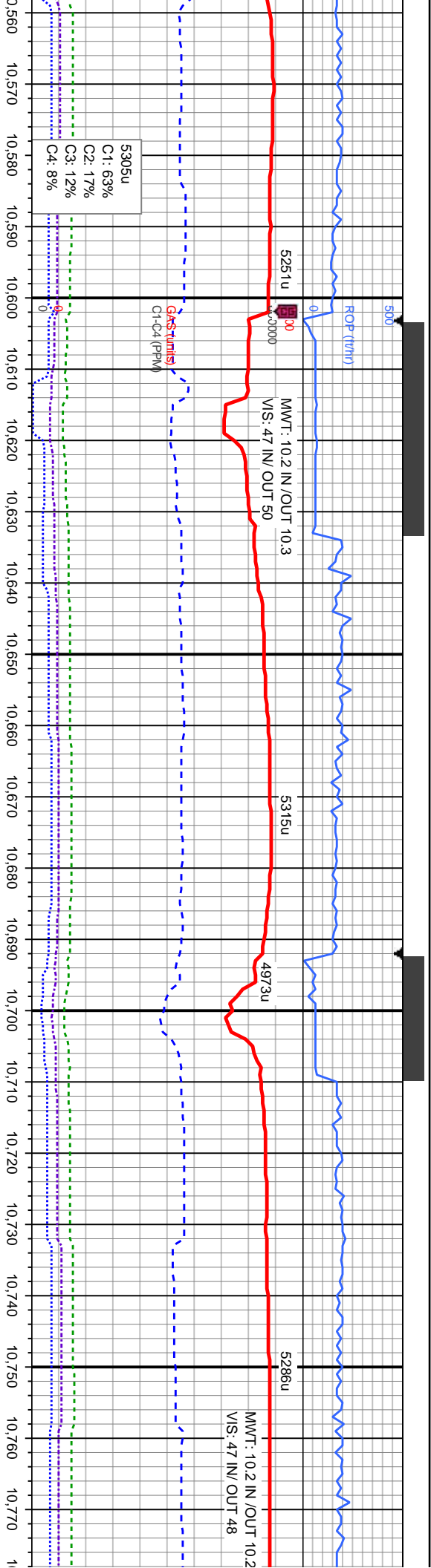


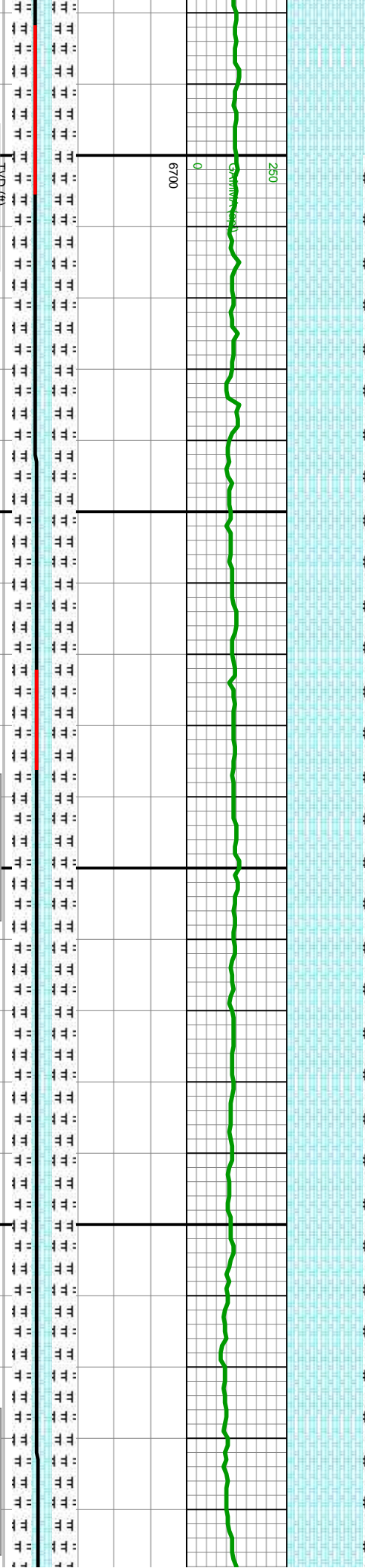
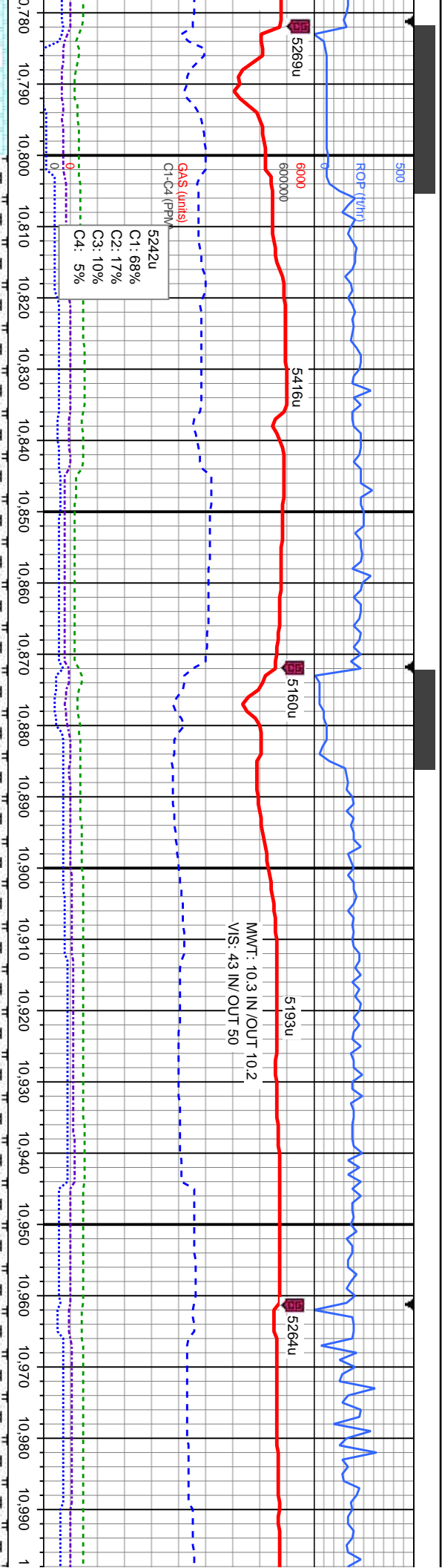






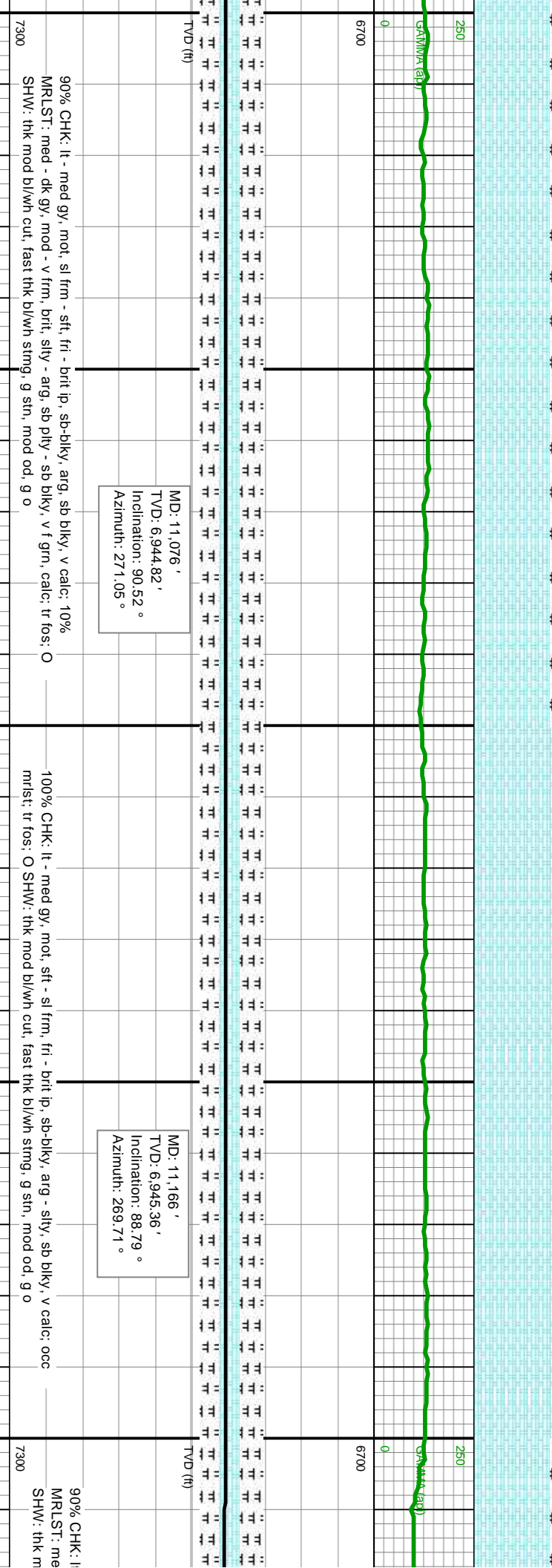
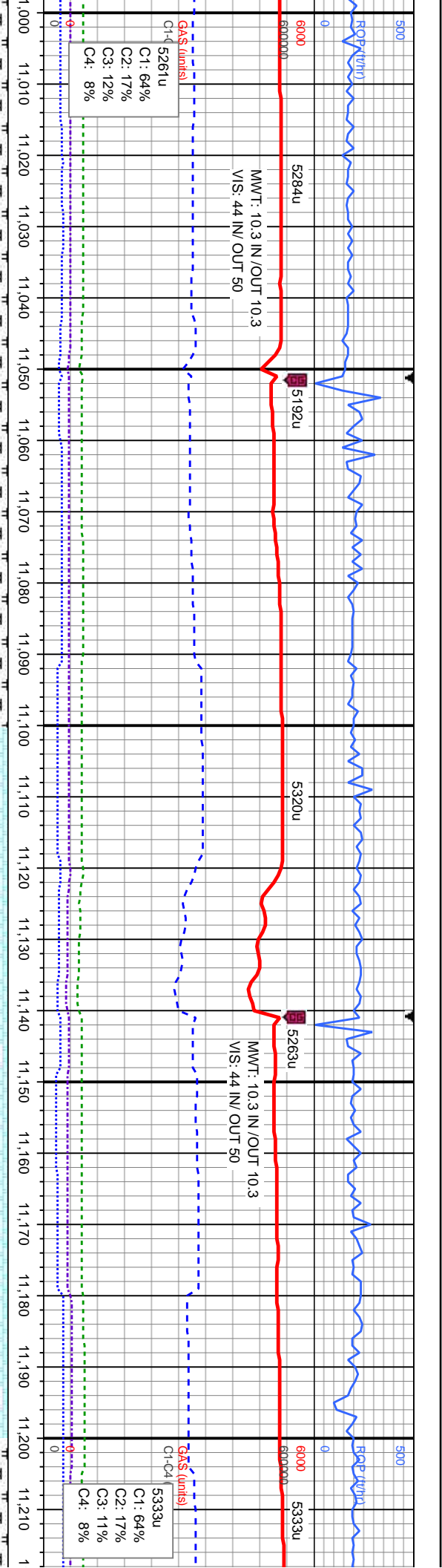


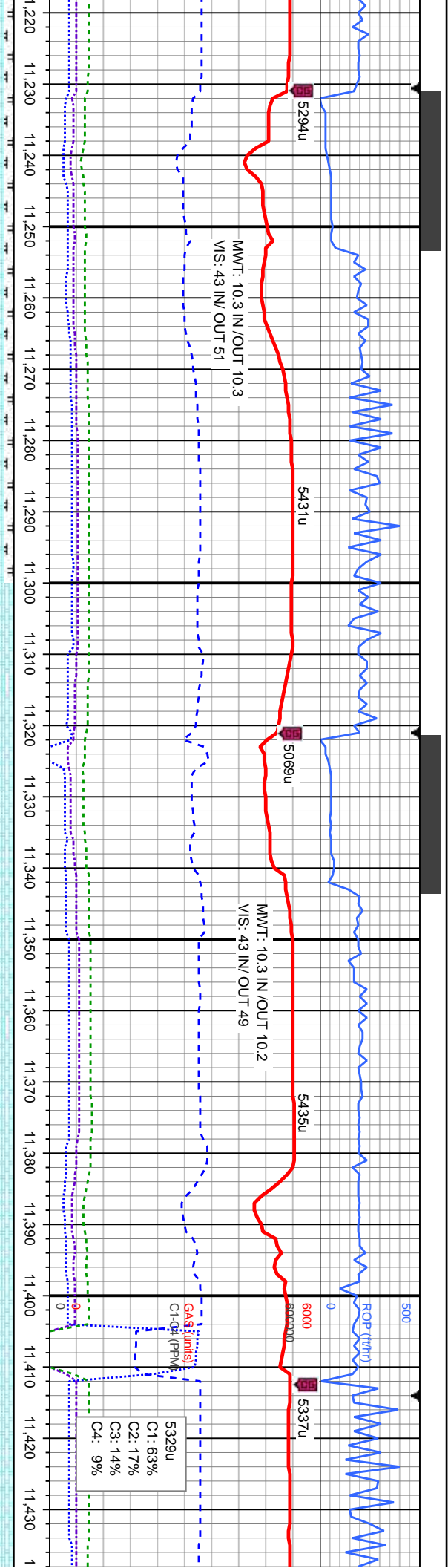




MD: 10,806'	MD: 10,896'	MD: 10,986'
TVD: 6,948.95'	TVD: 6,947.7'	TVD: 6,946.03'
Inclination: 90.49°	Inclination: 91.11°	Inclination: 91.02°
Azimuth: 270.92°	Azimuth: 271.01°	Azimuth: 271.17°
90% CHK: lt - med gy, mot, sl frm - sft, fri - brit ip, sb-biky, arg, sb biky, v calc: 10%	90% CHK: lt - med gy, mot, sl frm - sft, fri - brit ip, sb-biky, arg, sb biky, v calc: 10%	90% CHK: lt - med gy, mot, sl frm - sft, fri - brit ip, sb-biky, arg, sb biky, v calc: 10%
MRLST: med - dk gy, mod - v frm, brit, slty - arg, sb ply - sb biky, v f grn, calc: tr fos: O	MRLST: med - dk gy, mod - v frm, brit, slty - arg, sb ply - sb biky, v f grn, calc: tr fos: O	MRLST: med - dk gy, mod - v frm, brit, slty - arg, sb ply - sb biky, v f grn, calc: tr fos: O
SHW: thk mod bl/wh cut, fast thk bl/wh string, g sin, mod od, g o	SHW: thk mod bl/wh cut, fast thk bl/wh string, g sin, mod od, g o	SHW: thk mod bl/wh cut, fast thk bl/wh string, g sin, mod od, g o







MD: 11,256 '
TVD: 6,946.87 '
Inclination: 89.29 °
Azimuth: 269.79 °

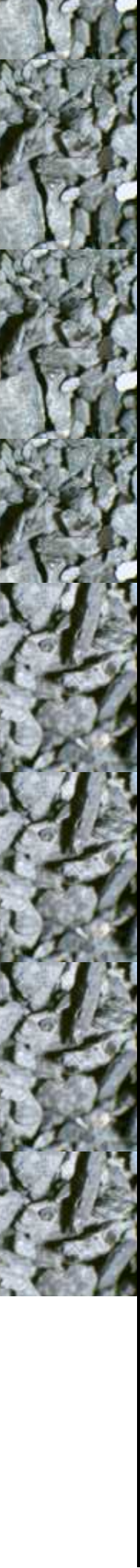
MD: 11,365 '
TVD: 6,947.16 '
Inclination: 90.34 °
Azimuth: 271.11 °

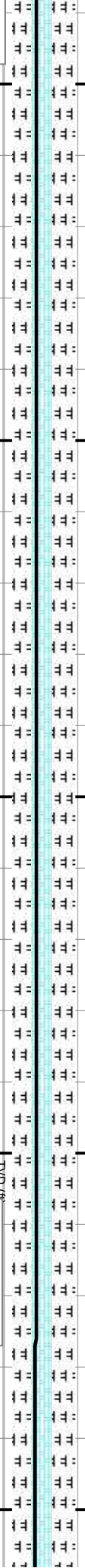
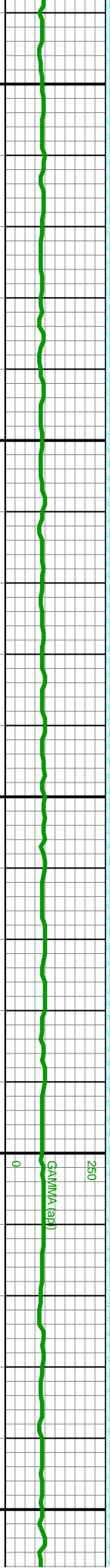
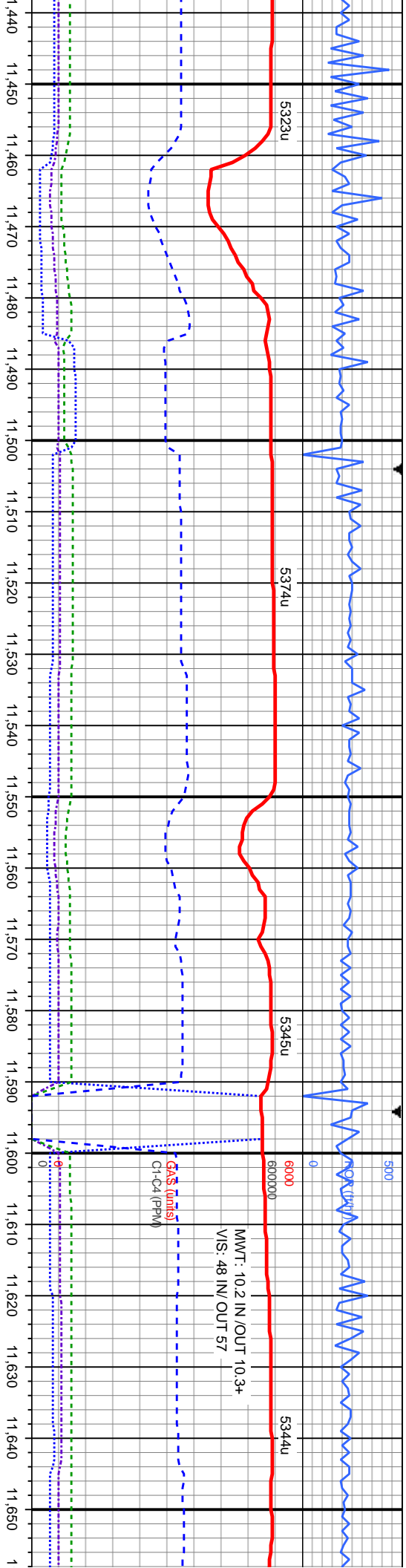
MD: 11,436 '
TVD: 6,946 '
Inclination: 27 °
Azimuth: 27 °

- med gy, mot, sl frm - sft, fri - brit ip, sb-bkly, arg, sb bkly, v calc; 10%
d - dk gy, mod - v frm, brit, silty - arg, sb ply - sb bkly, v f grn, calc; tr fos; O
od bl/wh cut, fast thk bl/wh string, g str, mod od, g o

100% CHK: lt - med gy, mot w/ lt gy str, sft - sl frm, fri - brit ip, sb-bkly, arg - silty, sb bkly, v
calc; occ mlst; tr fos; O SHW: thk mod bl/wh cut, fast thk bl/wh string, g str, mod od, good
o

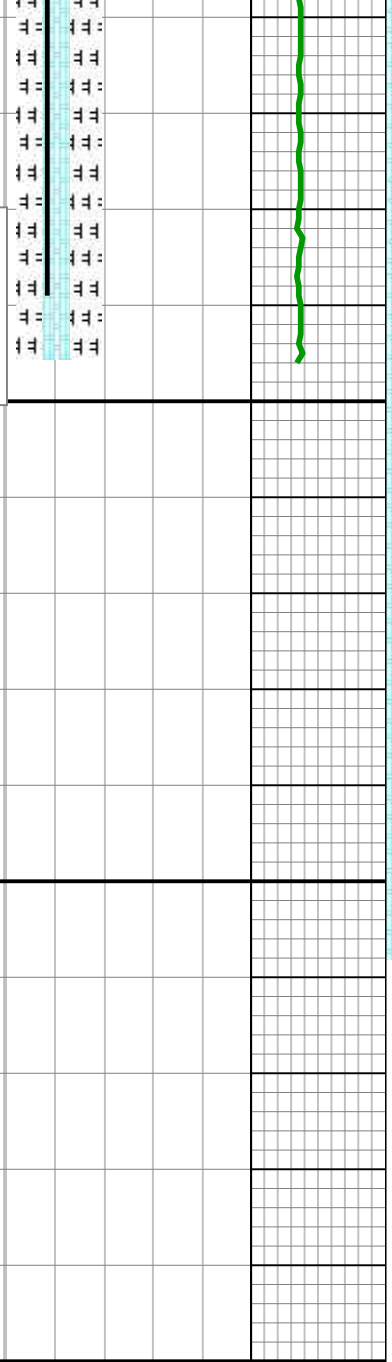
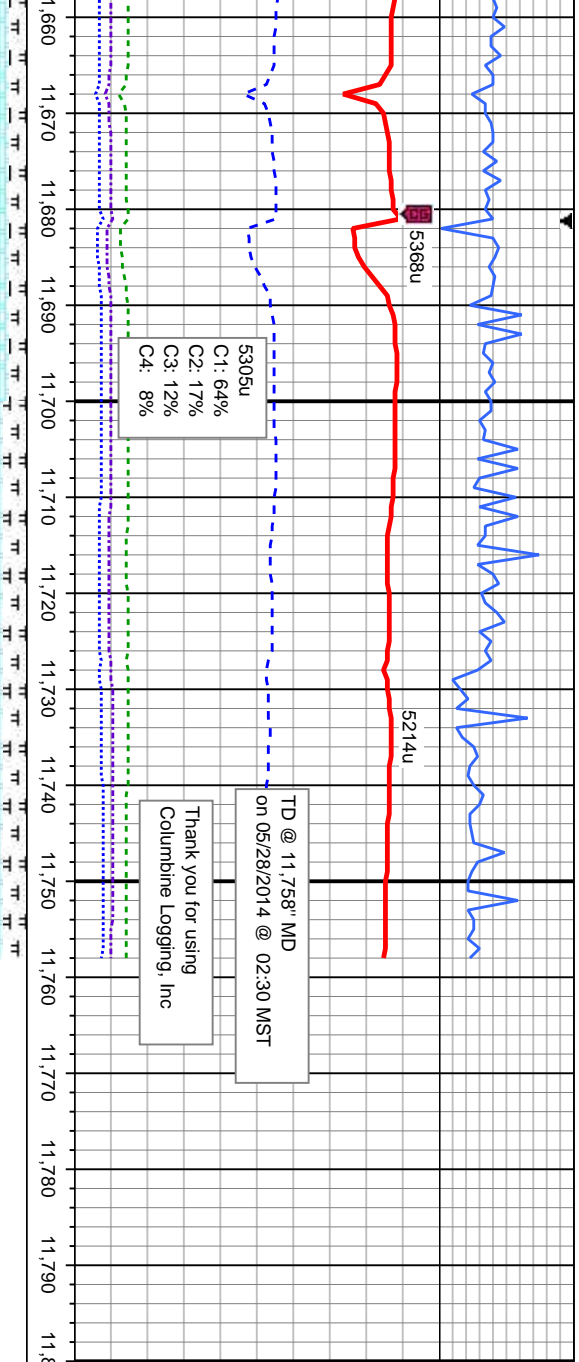
100% CHK: lt - med gy, mot w/ lt
calc; occ mlst; tr fos; O SHW: th





	TVD (ft)
92' 89.96° 1.46°	MD: 11,616' TVD: 6,948.3' Inclination: 89.16° Azimuth: 272.39°
gy, str, sft - sl frm, fri - brit ip, sb-blky, arg - stly, sb blky, v — k mod bl/w cut, fast thk bl/w string, g sin, mod od, good SHW: thk mod bl/w cut, fast thk bl/w string, g sin, mod od, g o	90% CHK: It - med gy, mot, sl frm - sft, fri - brit ip, sb-blky, arg, sb blky, v calc: 10% MR.LST: med - dk gy, mod - v frm, brit, stly - arg, sb ply - sb blky, v f grn, calc: tr fos: O SHW: thk mod bl/w cut, fast thk bl/w string, g sin, mod od, g o
7300	85% CHK: It - med gy, mot, sl frm - sft, fri - brit ip, sb — MR.LST: med - dk gy, mod - v frm, brit, stly - arg, sb SHW: thk mod bl/w cu, fast thk bl/w string, g sin,





MD: 11,689'	
TVD: 6,949.27'	
Inclination: 89.32°	
Azimuth: 273.06°	
85% CHK: lt - med gy, mot, sl frm - sft, fri - brit ip, sb-bkly, arg, sb bkly, v calc; 5% MRLST: med - dk gy, mod - v frm, brit, slty - arg, sb ply - sb bkly, v f grn, calc; tr fos; O SHW: thk mod bl/wh cut, fast thk bl/wh string, g sin, mod od, g o	
sb-bkly, arg, sb bkly, v calc; 5%	
ply - sb bkly, v f grn, calc; tr fos; O	
mod od, mod o	

