



Scale: 5" / 100'  
Measured Depth Log

Well Name Pronghorn J24-15-10XRLLNC

Location SESW SECTION 15, T5N, R61W

State COLORADO County WELD

Country USA Rig Number CADE 25

API Number 05-123-41161 AFE # 15108

Region DJ BASIN Field WATTENBERG

Spud Date 3/24/2015 Drilling Completed 4/5/2015

Surface Coordinates 260' FSL x 1416' FWL

Bottom Hole Coordinates 358' FNL x 1767' FWL

Ground Elevation 4669' K.B. Elevation 4686'

Logged Interval 5950' To 16162' Total Depth 16162'

Formation NIOBRARA C CHALK

Type of Drilling Fluid FW LSND

## Operator

Company Bonanza Creek Energy Inc.

Address 410 17th STREET, SUITE 1500  
DENVER, CO 80202

## Geologist

Name BRANT LOGAN

Company BONANZA CREEK ENERGY INC.

Address 410 17th STREET, SUITE 1500  
DENVER, CO 80202

## Other

COLUMBINE LOGGING, INC. 602 S. LIPAN STREET  
DENVER, COLORADO 80202  
WELL SITE GEOLOGISTS JOEY LUCE  
JEFF LACY

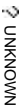

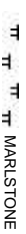
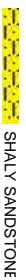

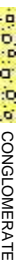

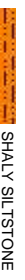



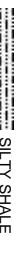

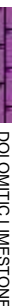








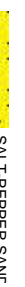





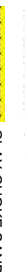





## Zone Color Coding

Oil  
Note  
Error

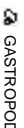

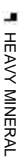
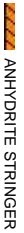
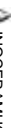
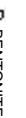

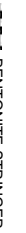
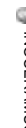


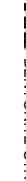
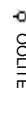
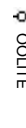
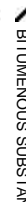
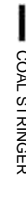
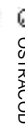
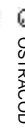

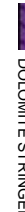


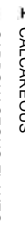
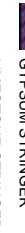
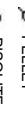
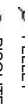

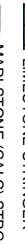
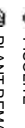
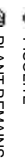

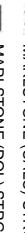
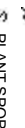
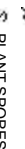




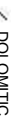
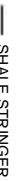
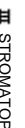
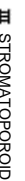







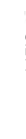

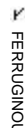




Condensate  
Core  
Water

Gas  
Pres  
Sea

Rock Types

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

Accessories

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

Stringer

Oil Show

- P PINPOINT
- V VUGGY






































Engineering

- D DEAD
- E EVEN
- Q QUESTIONABLE
- BIT
- SPOTTED STAINING
- CONNECTION (UP)

Porosity

- CONNECTION GAS
- CONNECTION GAS
- CONNECTION GAS
- TRIP GAS
- TRIP GAS (LEFT)
- FRACTURE
- INTERCRYSTALLINE
- DOWN TIME GAS
- INTEROOLITIC
- DOWN TIME GAS
- MOLDIC
- CORE - LOST
- CORE - RECOVERED

Other Symbols

	DST INTERVAL		WIRELINE TESTED - LEFT		E EARTHY
	FAULT		WIRELINE TESTED - RT		FX FINELYXLN
	FORMATION TOP		DRILL STEM TEST		BS GRAINSTONE
	GAS SHOW		MN DEPTH		L LITHOGRAPHIC
	OIL SHOW				MX MICROXLN
	MN DEPTH UP	<b>Rounding</b>			
					MX MUDSTONE
	MN DEPTH (DOWN)		A ANGULAR		PS PACKSTONE
	NORMAL FAULT		R ROUNDED		WX WACKSTONE
	OVERTURNED STRATA		B SUBANG		
	REVERSE FAULT		N SUBRND	<b>Sorting</b>	
	CASING				M MODERATE
<b>Textures</b>					
	SIDEWALL CORE (LEFT)				P POOR
	SIDEWALL CORE (RIGHT)		BS BOUNDSTONE		W WELL
	SLIDE		C CHALKY		
	SURVEY		CX CRYPTOXLN		

Slide/Rotate

ROP  
ROP

ROP Limit  
0 to 500 ft/hr

269

302

Total Gas Limit  
0 to 7000 units

No Gas Data: Late call out for rig up

Gas (units)  
C1-C4 (PPM)  
H2S (PPM)

4834u  
MW 9.7 / V/S 36

Total Gas & Chromatograph

GAS  
C1  
C2  
C3  
C4  
H2S

H2S Scale  
0 to 100 ppm

Sharon Springs Top  
MD 5968' / TVD 5925'

Depth Labels

% Lith

Curves  
GAMMA

Gamma Limit  
0 to 200 API

30 Samples

TVD Scale  
5900' to 6250'

Bit Data

Bit #: 2

Type: SD1513

Size: 8.75"

Depth In: 455'

Depth Out: 6,638'

Jets: 8x14

S/N: JJ1750

Well Bore  
TVD

COLUMBINE LOGGING 03/26/2015

MANNEED 2-PERSON LOGGING

WITH BLOODHOUND GAS

CHROMATOGRAPH UNIT #311

KICKED OFF @ 19:12 MST

ON 03/26/2015

100% SLTY SH: lt-medgy, brn, occ spd blk, sb ply-blky, occ ply, stf-fm, rthy-gritty, grdg-silst ip, arg-sily, aren, tr shy ss, O SHOW: slow stmg, bl cut, frt yel-gn ring, sl tr stn, no od

100% SLTY SH: lt-medgy, brn, occ spd blk, sb ply-blky, occ ply, stf-fm, rthy-gritty, grdg-silst ip, arg-sily, aren, tr shy ss, occ scat bent, O SHOW: slow stmg, bl cut, frt yel-gn ring, sl tr stn, no od

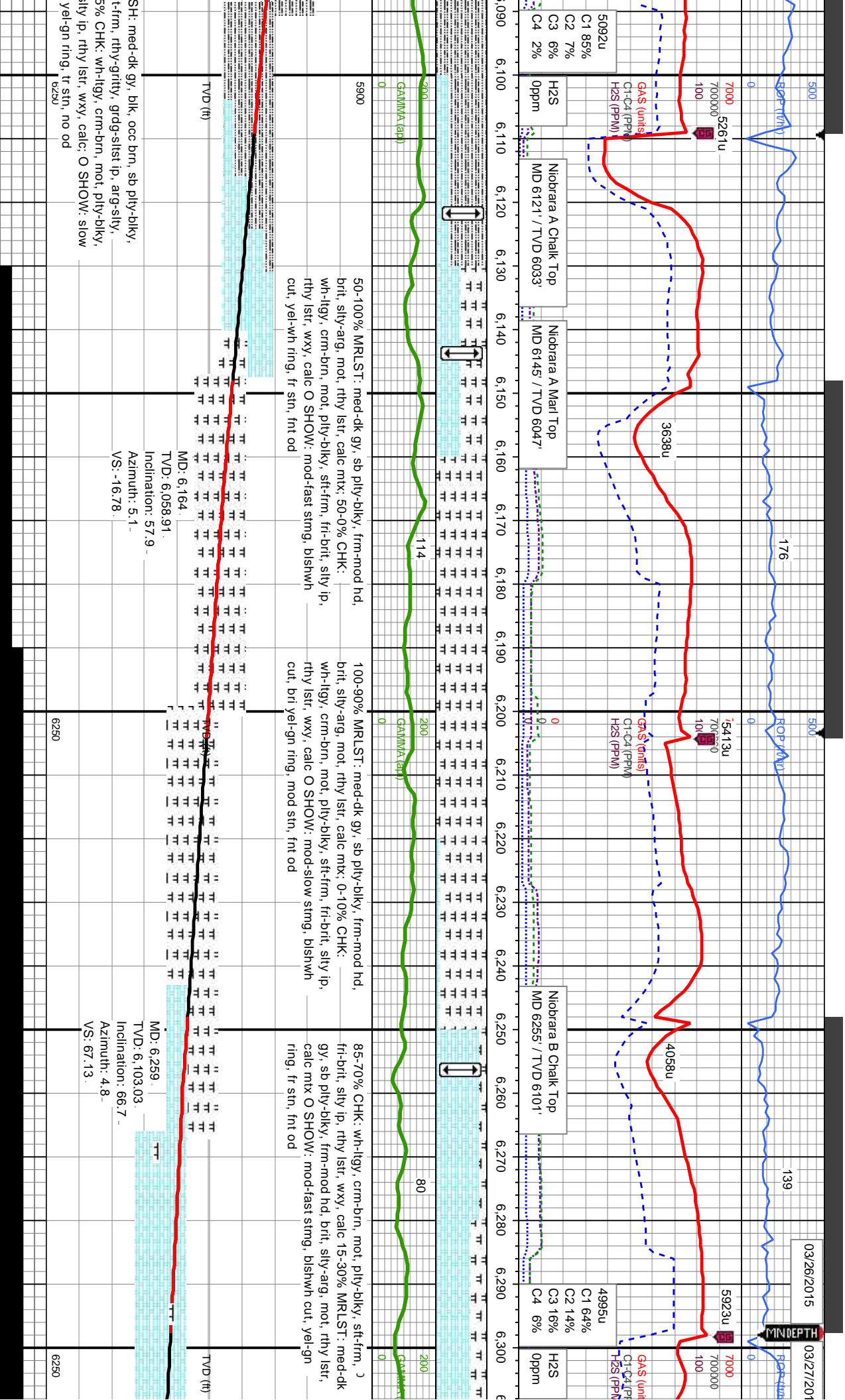
100-75% SLTY  
occ ply, mod stf  
abnt-tr bent 0-2' s  
stf-fm, frt-brlt, s  
stmg, bl cut, frt

Oil Show

E  
G  
M  
F  
TR  
SL

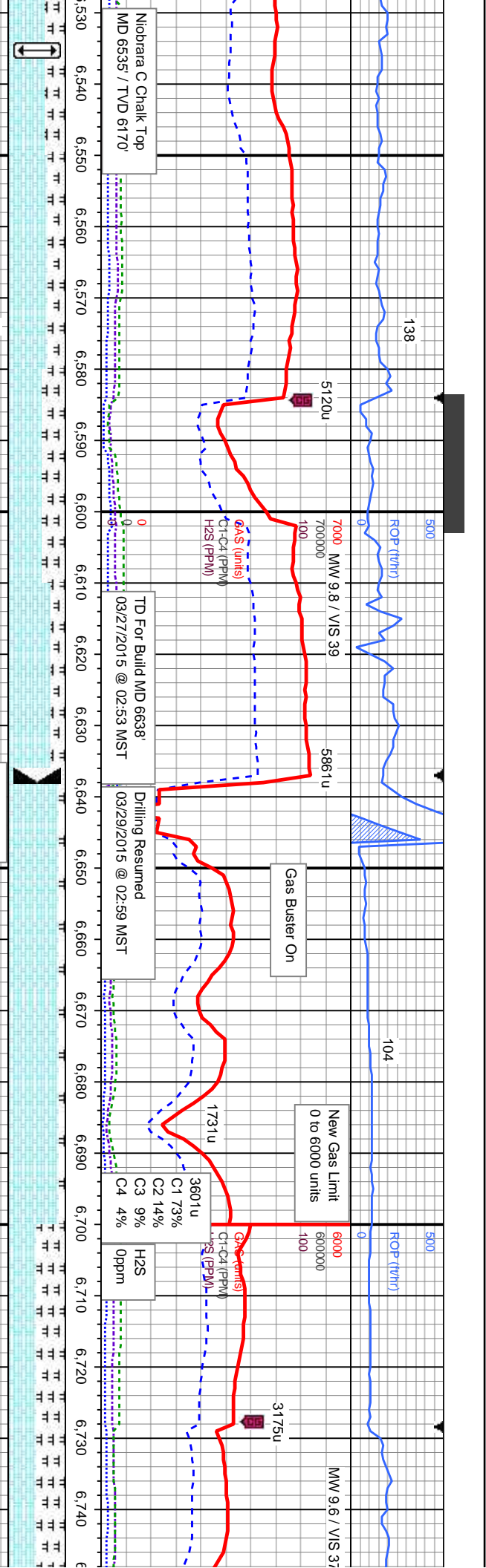
Images











Niobrara C Chalk Top  
MD 6535' / TVD 6170'

88

50 Samples

111

200

firm-mod hd, brit, 70-60% CHK: wh-llgy, crm-brn, mot, pily-blky, sft-frm, 00 fri-brit, sily ip, rthy lstr, wxy, calc 30-40% MRLST: med-dk gy, sb pily-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx : O SHOW: mod-fast stmg, blshwh cut, bri yel-gn ring, mod str, fnt od

75% CHK: wh-llgy, crm-brn, mot, pily-blky, sft-frm, fri-brit, sily ip, rthy lstr, wxy, calc 25% MRLST: med-dk gy, sb pily-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx : O SHOW: mod-fast stmg, blshwh cut, bri yel-gn ring, mod str, fnt od

90% CHK: wh-llgy, crm-brn, mot, pily-blky, sft-frm, fri-brit, sily ip, rthy lstr, wxy, calc 10% MRLST: med-dk gy, sb pily-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx : O SHOW: mod stmg, blshwh cut, bri yel-gn ring, mod str, fnt od

50% CHK: wh-llgy, medgy, crm-brn, mot, pily-blky, sft-frm, fri-brit, sily ip, rthy lstr, wxy ip, calc 50% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: mod stmg, blshwh cut, bri yel-gn ring, mod str, fnt od

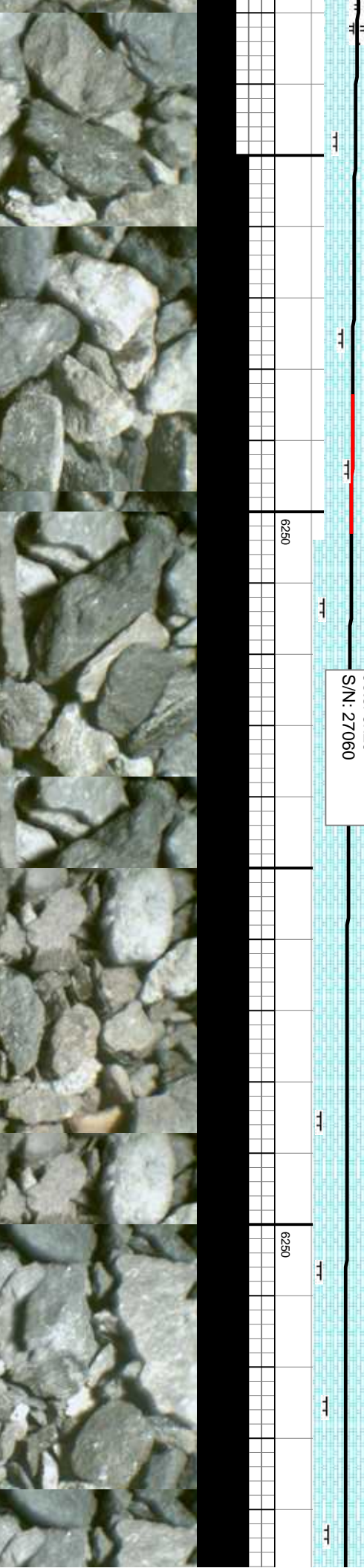
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TVD: 6.172.24  
Inclination: 83.7  
Azimuth: 359.4  
VS: 343.5

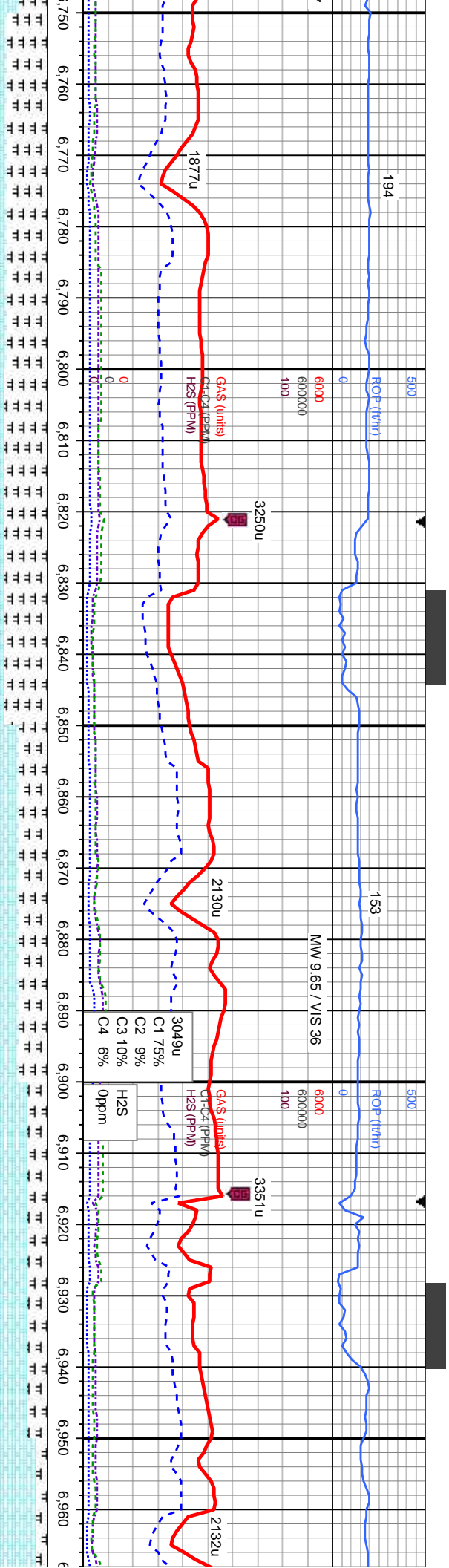
TVD (ft)

MD: 6.676  
TVD: 6.180.8  
Inclination: 88.8  
Azimuth: 357.4  
VS: 473.92

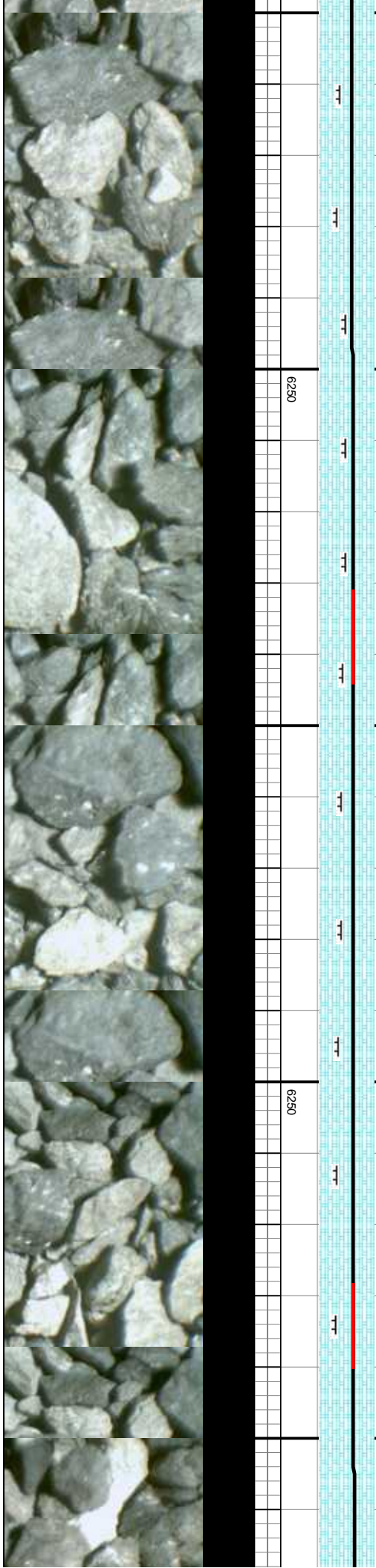
TVD (ft)

Bit Data  
Bit #: 4  
Type: U516S  
Size: 6.125"  
Depth In: 6.638'  
Depth Out: 9.880'  
Jets: 5x20  
S/N: 27060

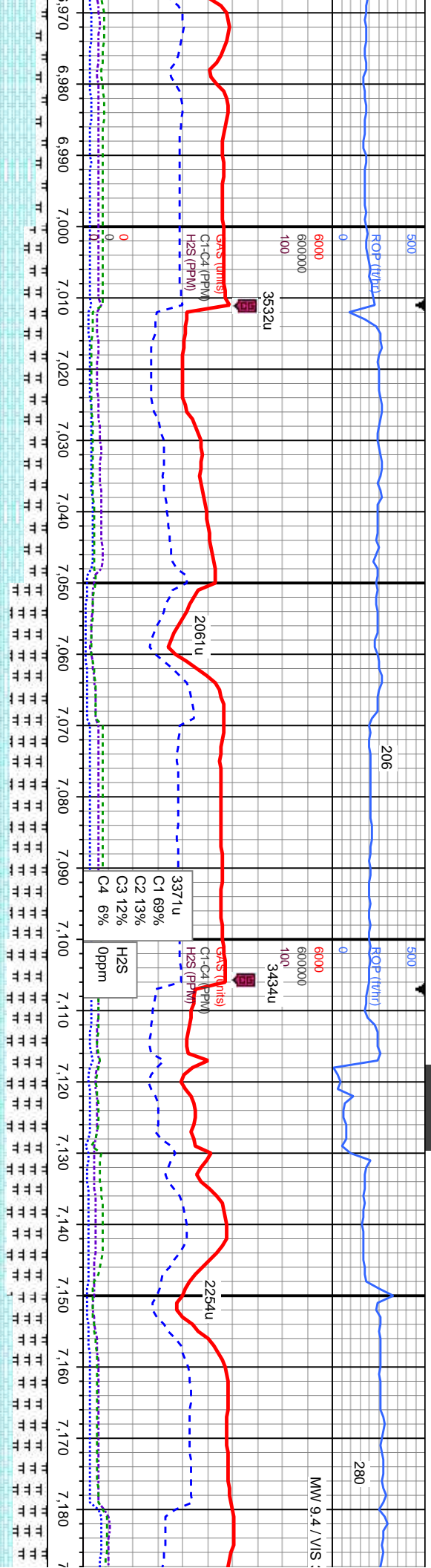




70% MRLST: med-dk gy, blk, sb pty-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, rr foss 30% CHK: wh-llgy, medgy, crm-brn, mot, pty-blky, sft-frm, fri-brit, silty ip, rthy lstr, wxy ip, calc; O SHOW: mod stmg, blshwh cut, bri yel-gn ring, mod stn, fnt od	108	200	57.5% MRLST: med-dk gy, blk, sb pty-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, rr foss 25% CHK: wh-llgy, medgy, crm-brn, mot, pty-blky, sft-frm, fri-brit, silty ip, rthy lstr, wxy ip, calc; O SHOW: mod stmg, blshwh cut, bri yel-gn ring, mod stn, fnt od	100	200	50% CHK: wh-llgy, medgy, crm-brn, mot, pty-blky, sft-frm, fri-brit, silty ip, rthy lstr, wxy ip, calc 50% MRLST: med-dk gy, blk, sb pty-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, rr foss; O SHOW: mod stmg, blshwh cut, bri yel-gn ring, mod stn, fnt od	200	56.5% CHK: wh-llgy, medgy, crm-brn, mot, pty-blky, sft-frm, fri-brit, silty ip, rthy lstr, wxy ip, calc 35% MRLST: med-dk gy, blk, sb pty-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, rr foss; O SHOW: mod stmg, blshwh cut, bri yel-gn ring, mod stn, fnt od	200	80% CHK: wh-llgy, pty-blky, sft-frm, calc 20% MRLST: frm-mod hd, brit, s mtx, rr foss; O SH bri yel-gn ring, mo
MD: 6,771 TVD: 6,181.3 Inclination: 90.6 Azimuth: 356.3 VS: 568.54	TVD (ft)		MD: 6,867 TVD: 6,180.04 Inclination: 90.9 Azimuth: 357.1 VS: 664.14	TVD (ft)		MD: 6,962 TVD: 6,179.55 Inclination: 89.7 Azimuth: 356.5 VS: 758.76				





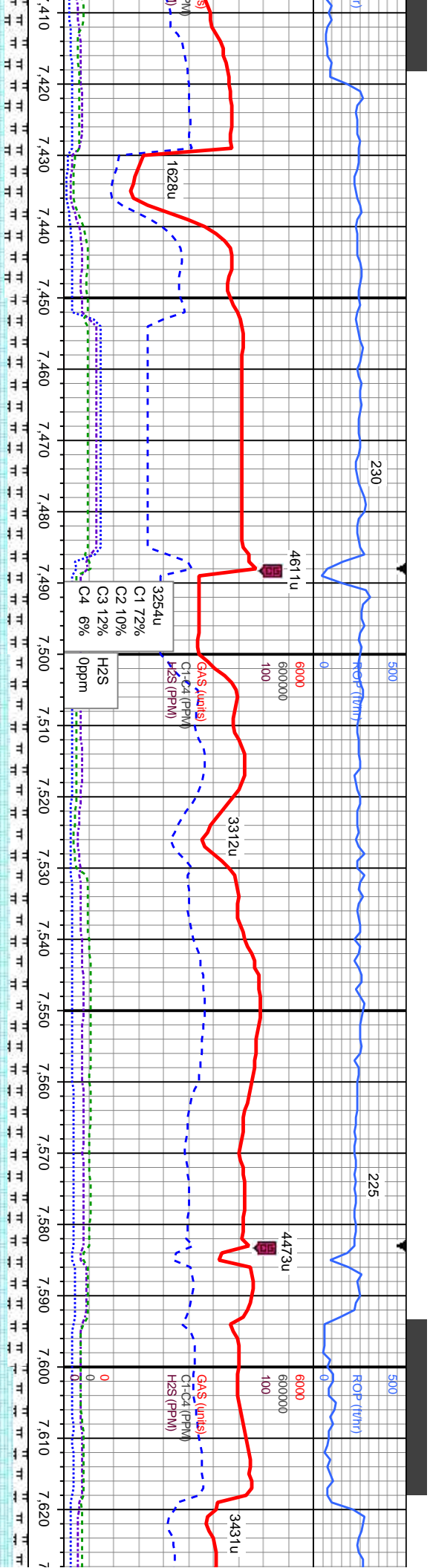


medgy, crm-brn, mot, frn-brit, silty ip, rthy lstr, wxy ip, med-dk gy, blk, sb pty-blky, silty-arg, mot, rthy lstr, calc, mod string, bishwh cut, d str, fnt od	60% CHK: wh-ltgy, medgy, crm-brn, mot, pty-blky, stf-frn, frn-brit, silty ip, rthy lstr, wxy ip, calc 40% MRLST: med-dk gy, blk, sb pty-blky, frn-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss, O SHOW: mod string, bishwh cut, bri yel-gn ring, fr sin, fnt od	65% MRLST: med-dk gy, blk, sb pty-blky, frn-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss 35% CHK: wh-ltgy, medgy, crm-brn, mot, pty-blky, stf-frn, frn-brit, silty ip, rthy lstr, wxy ip, calc, occ inbnd w/ marl: O SHOW: mod-slow string, bishwh cut, bri yel-gn ring, fr sin, fnt od	570% MRLST: med-dk gy, blk, sb pty-blky, frn-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss 30% CHK: wh-ltgy, medgy, crm-brn, mot, pty-blky, stf-frn, frn-brit, silty ip, rthy lstr, wxy ip, calc, occ inbnd w/ marl: O SHOW: mod-slow string, bishwh cut, bri yel-gn ring, fr sin, fnt od	60% MRLST: med-dk gy, blk, sb pty-blky, frn-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss 40% CHK: wh-ltgy, medgy, crm-brn, mot, pty-blky, stf-frn, frn-brit, silty ip, rthy lstr, wxy ip, calc, occ inbnd w/ marl: O SHOW: mod-slow string, bishwh cut, bri yel-gn sin, fnt od
TVD (ft)	MD: 7.058. TVD: 6,179.71. Inclination: 90.1 Azimuth: 357.1 VS: 854.37	TVD (ft)	MD: 7.153. TVD: 6,180.05 Inclination: 89.5 Azimuth: 358.4 VS: 949.12	

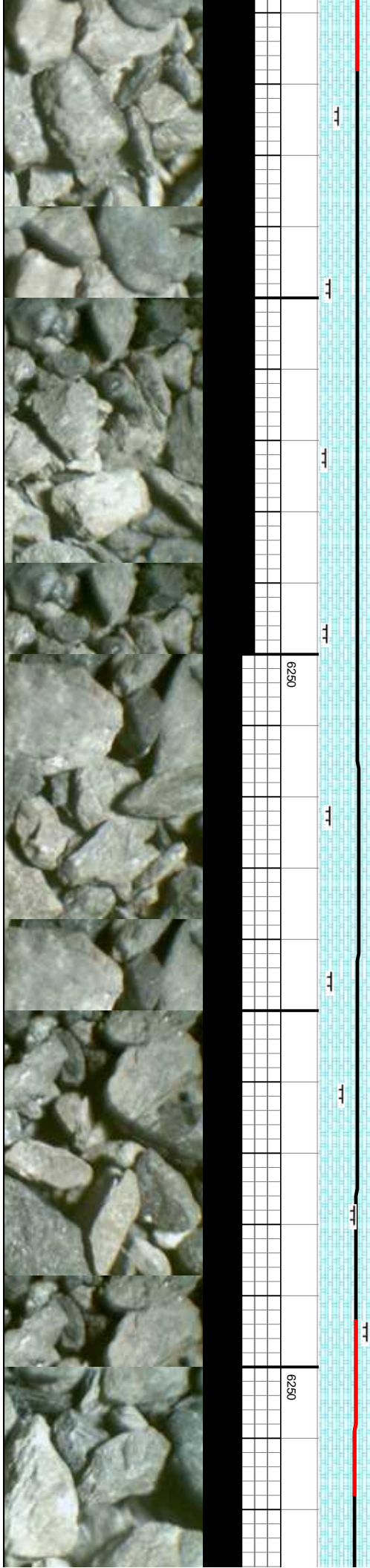




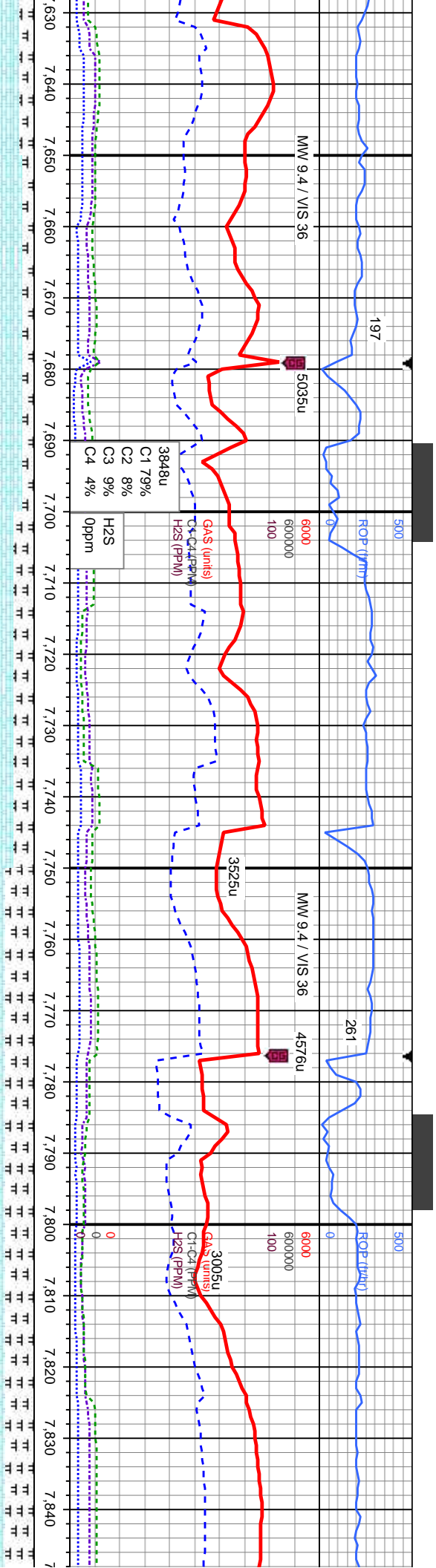




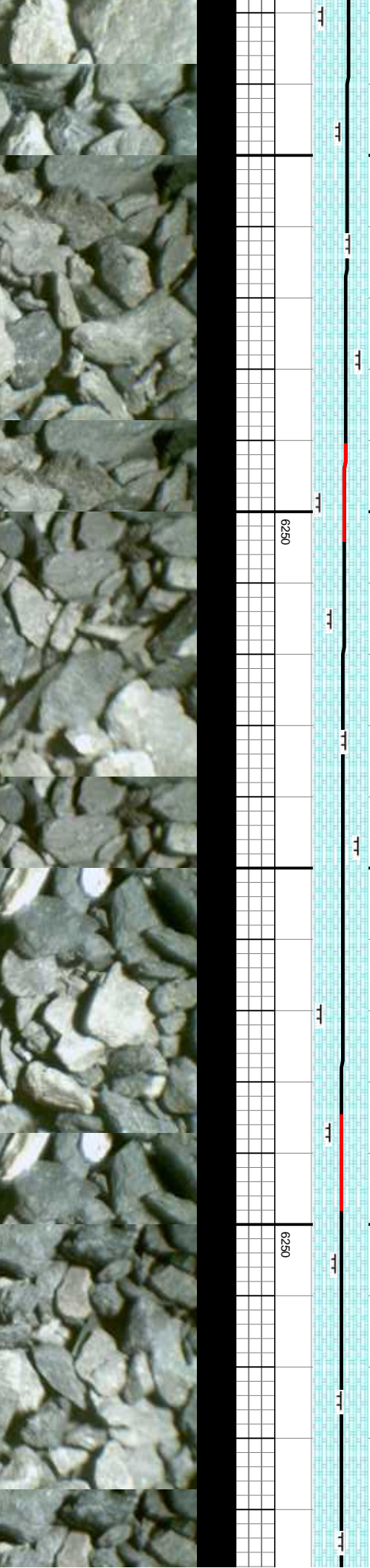
MD: 7.440 TVD: 6,176.48 Inclination: 89.6 Azimuth: 1.2 VS: 1,236.02	65% CHK: wh-llgy, medgy, crm-brn, mot, pily-blky, stf-frn, frt-brit, silty ip, rthy lstr, wxy ip, calc, occ intbd wi marl 40% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod stimg, bishwh cut, bri yel-gn ring, mod stn, fnt od	91	200	65% CHK: wh-llgy, medgy, crm-brn, mot, pily-blky, stf-frn, frt-brit, silty ip, rthy lstr, wxy ip, calc 30% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod stimg, bishwh cut, bri yel-gn ring, fr stn, fnt od	104	200	65% CHK: wh-llgy, medgy, crm-brn, mot, pily-blky, stf-frn, frt-brit, silty ip, rthy lstr, wxy ip, calc 25% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod stimg, bishwh cut, fnt gn-yel ring, fr stn, fnt od
MD: 7.536 TVD: 6,175.22 Inclination: 91.9 Azimuth: 1.2 VS: 1,332	65% CHK: wh-llgy, medgy, crm-brn, mot, pily-blky, stf-frn, frt-brit, silty ip, rthy lstr, wxy ip, calc 30% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod stimg, bishwh cut, bri yel-gn ring, fr stn, fnt od	104	200	65% CHK: wh-llgy, medgy, crm-brn, mot, pily-blky, stf-frn, frt-brit, silty ip, rthy lstr, wxy ip, calc 25% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod stimg, bishwh cut, fnt gn-yel ring, fr stn, fnt od	104	200	65% CHK: wh-llgy, medgy, crm-brn, mot, pily-blky, stf-frn, frt-brit, silty ip, rthy lstr, wxy ip, calc 25% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod stimg, bishwh cut, fnt gn-yel ring, fr stn, fnt od

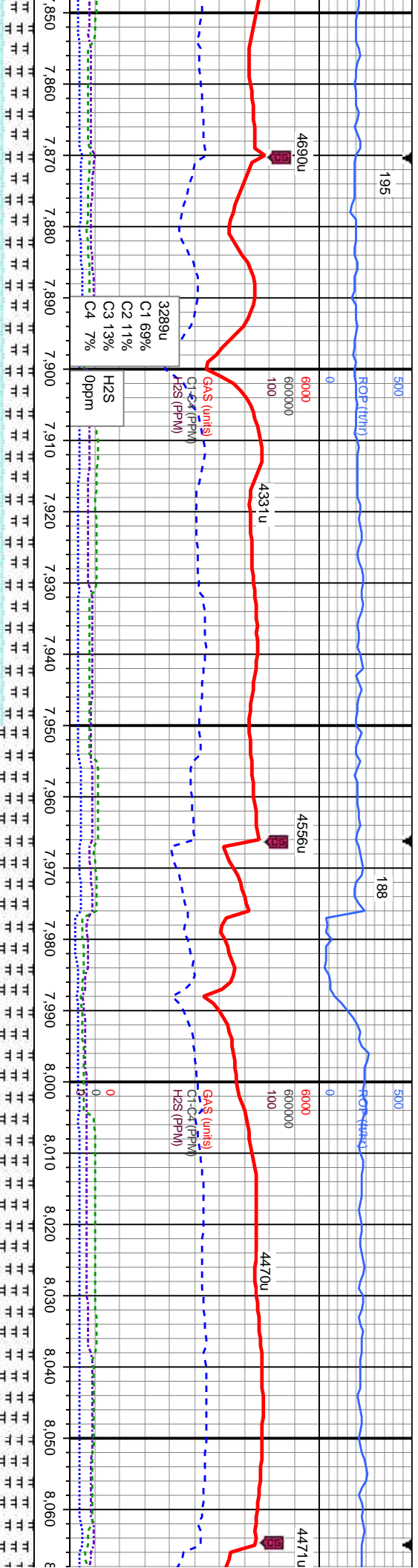






ip, rthy lstr, wxy ip, ply-biky, w, blk, sb ply-biky, ot, rthy lstr, calc fast sting, bishwh t od	80% CHK: wh-llgy, medgy, crm-brn, mot, ply-biky, sft-frn, fri-brit, sily ip, rthy lstr, wxy, calc 20% MRLST: med-dk gy, blk, sb ply-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, tr foss: O SHOW: mod-fast sting, bishwh cut, fnt gn-yel ring, fr stn, fnt od	65% CHK: wh-llgy, medgy, crm-brn, mot, ply-biky, sft-frn, fri-brit, sily ip, rthy lstr, wxy ip, calc 35% MRLST: med-dk gy, blk, sb ply-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, tr foss: O SHOW: mod-slow sting, bishwh cut, gn-wh ring, fr stn, fnt od	50% CHK: lt-medgy, crm-brn, mot, ply-biky, sft-frn, fri-brit, sily ip, rthy lstr, wxy ip, calc, occ intbd wi marl 50% MRLST: med-dk gy, blk, sb ply-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, tr foss: O SHOW: mod-slow sting, bishwh cut, gn-wh ring, fr stn, fnt od	50% CHK: lt-medgy, crm-brn, mot, ply-biky, sft-frn, fri-brit, sily ip, rthy lstr, wxy ip, calc, occ intbd wi marl 50% MRLST: med-dk gy, blk, sb ply-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, tr foss: O SHOW: mod-slow sting, bishwh cut, gn-yel ring, fr stn, fnt od
631 179.13 tion: 86.2 h: 359.4 126.91	TVD (ft) MD: 7.726 TVD: 6,184.02 Inclination: 87.9 Azimuth: 0.4 VS: 1,521.73	TVD (ft) MD: 7.821 TVD: 6,185.93 Inclination: 89.8 Azimuth: 1.2 VS: 1,616.68	TVD (ft)	TVD (ft)





50% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, silty ip, rthy lstr, wxy ip, calc, occ intbd wi marl 50% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod-slow stmg, blshwh cut, gn-yel ring, fr stn, fnt od	50% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, silty ip, rthy lstr, wxy ip, calc, occ intbd wi marl 50% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod-slow stmg, blshwh cut, fnt yel ring, mod stn, fnt od	60% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss 40% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, silty ip, rthy lstr, wxy ip, calc, occ intbd wi marl; O SHOW: mod-slow stmg, blshwh cut, fnt yel ring, mod stn, fnt od	575% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss 25% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, silty ip, rthy lstr, wxy ip, calc, occ intbd wi marl; O SHOW: mod-slow stmg, blshwh cut, gn-wh ring, fr stn, fnt od	70% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mix, tr foss 30% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, silty ip, rthy lstr, wxy ip, calc, occ intbd wi marl; O SHOW: mod-slow stmg, blshwh cut, gn-wh ring, fr stn, fnt od
117	200	144	200	
GA\$ (in/ft)	GA\$ (in/ft)	GA\$ (in/ft)	GA\$ (in/ft)	GA\$ (in/ft)
0	0	0	0	0

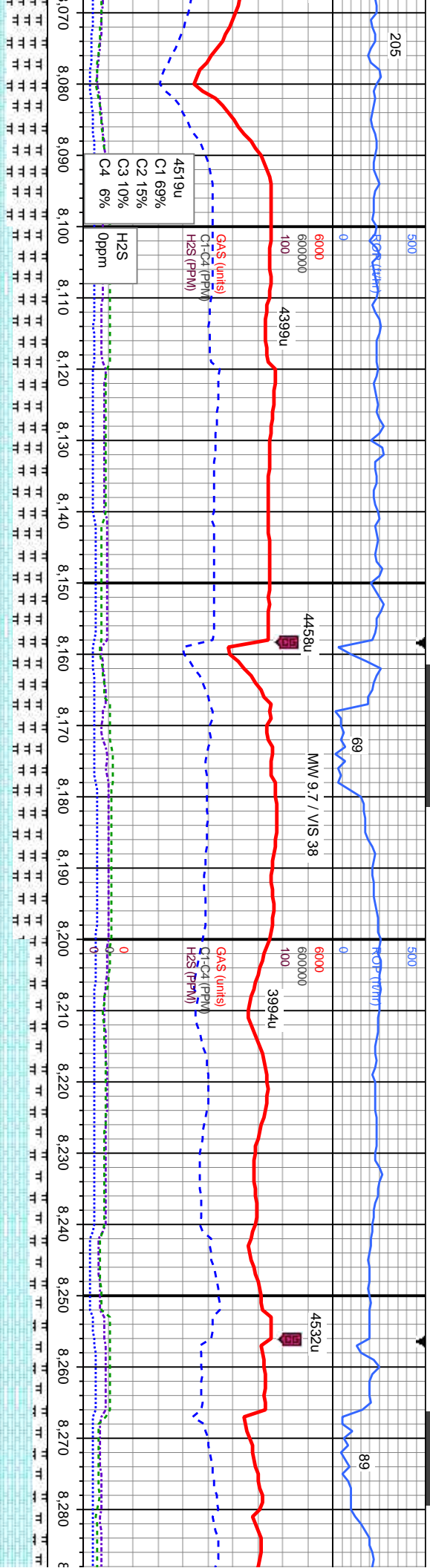
TVD (ft) MD: 7.916  
TVD: 6,185.27  
Inclination: 91  
Azimuth: 1.9  
VS: 1,711.68

TMMD: 8.012  
TVD: 6,184.34  
Inclination: 90.1  
Azimuth: 359.7  
VS: 1,807.65

6250	6250	6250	6250	6250
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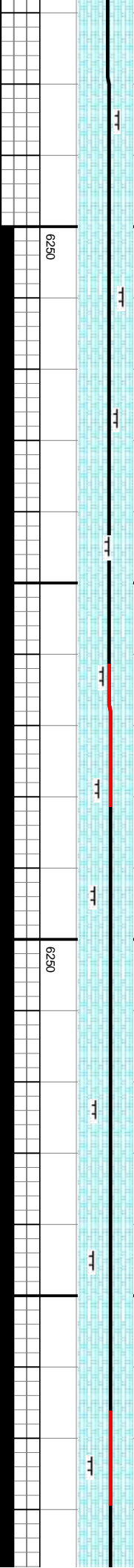




152	50% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mx, tr foss 40% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frm, fri-brit, sily ip, rthy lstr, wxy ip, calc, occ intbd wi marl: O SHOW: mod-slow sting, blshwh cut, gn-wh ring, mod stn, fnt od	60% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mx, tr foss 40% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frm, fri-brit, sily ip, rthy lstr, wxy ip, calc, occ intbd wi marl: O SHOW: mod-slow sting, blshwh cut, gn-wh ring, mod stn, fnt od	70% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frm, fri-brit, sily ip, rthy lstr, wxy ip, calc, occ intbd wi marl 30% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mx, tr foss: O SHOW: mod-slow sting, blshwh cut, yel-wh ring, mod stn, fnt od	75% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frm, fri-brit, sily ip, rthy lstr, wxy ip, calc, occ intbd wi marl 25% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mx, tr foss: O SHOW: mod-slow sting, blshwh cut, yel-wh ring, mod stn, fnt od
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MD: 8,107.  
TVD: 6,183.43.  
Inclination: 91.  
Azimuth: 0.2.  
VS: 1,902.59.

MD: 8,203. (ft)  
TVD: 6,181.67.  
Inclination: 91.1.  
Azimuth: 358.8.  
VS: 1,998.48.

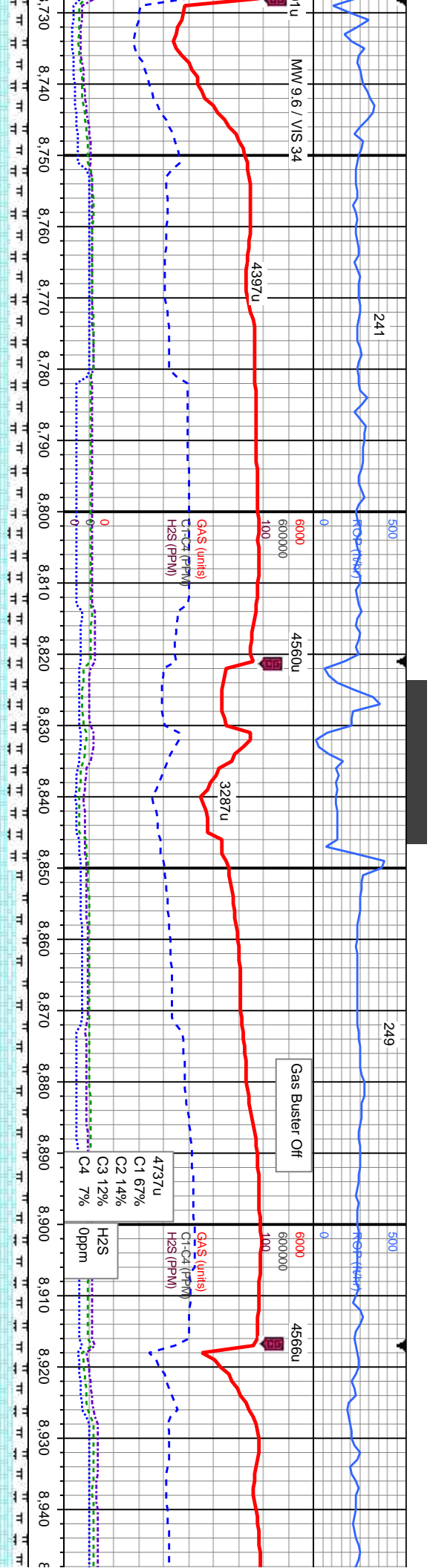




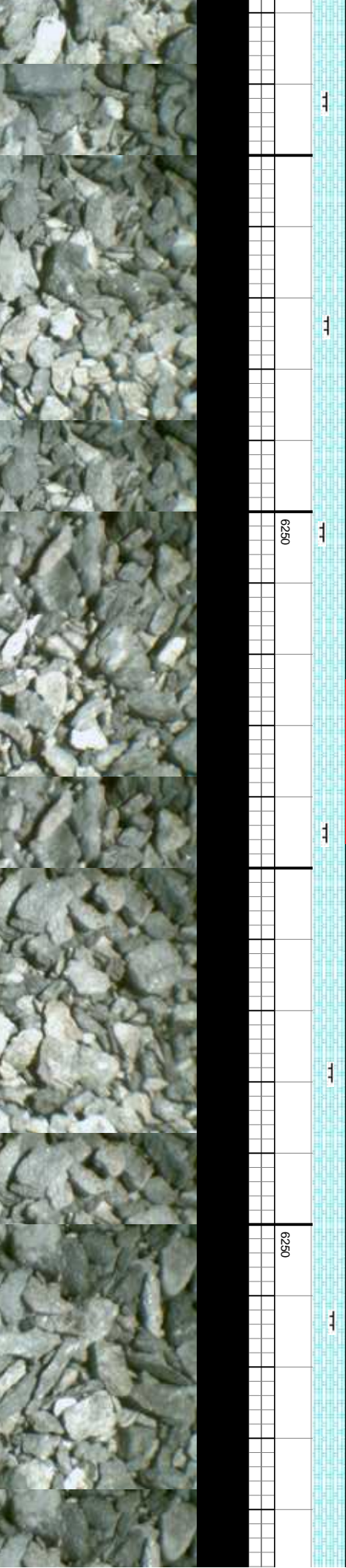








102	70% CHK: lt-medgy, crm-brn, mot, pily-biky, sft-frn, fri-brit, silty ip, rthy lstr, wxy ip, calc, occ intbd wi marl 30% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, tr foss: O SHOW: mod-slow string, blshwh cut, gn-wh ring, mod sin, fnt od	200	65% CHK: lt-medgy, crm-brn, mot, pily-biky, sft-frn, fri-brit, silty ip, rthy lstr, wxy ip, calc, occ intbd wi marl 35% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, tr foss: O SHOW: mod-slow string, blshwh cut, gn-wh ring, mod sin, fnt od	105	80% CHK: lt-medgy, crm-brn, mot, pily-biky, sft-frn, fri-brit, silty ip, rthy lstr, wxy ip, calc, occ intbd wi marl 20% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, tr foss: O SHOW: mod-slow string, blshwh cut, gn-wh ring, mod sin, fnt od	200	57.5% CHK: lt-medgy, crm-brn, mot, pily-biky, sft-frn, fri-brit, silty ip, rthy lstr, wxy ip, calc, occ intbd wi marl 25% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, tr foss: O SHOW: mod-slow string, blshwh cut, bl-gn ring, mod sin, fnt od
MD: 8,770 TVD: 6,180.1 Inclination: 90.6 Azimuth: 359.6 VS: 2,564.65		TVD (ft)		MD: 8,866 TVD: 6,180.35 Inclination: 89.1 Azimuth: 359.4 VS: 2,660.57		TVD (ft)	





251

03/29/2015

03/30/2015

230

500

ROE (ft/m)

MINDEPTH

ROE (ft/m)

4775u

6000

4555u

3697u

7000

5071u

3262u

GAS (units)

C1-C4 (PPM)

H2S (PPM)

New Gas Limit  
0 to 7000 units

GAS (units)

C1-C4 (PPM)

H2S (PPM)

5068u

C1 65%

C2 12%

C3 14%

C4 9%

H2S

0ppm

0ppm

0ppm

0ppm

93

200

GAMMA (api)

104

200

GAMMA (api)

90% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, slty ip, rthy lstr, wxy ip, calc, occ intbd wi marl 10% MRLST: med-dk gy, blk, sb pty-biky, frn-mod hd, brit, slty-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod-slow stmg, bl bishwh cut, bl-gn ring, mod stn, fnt od

70% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, slty ip, rthy lstr, wxy ip, calc, occ intbd wi marl 30% MRLST: med-dk gy, blk, sb pty-biky, frn-mod hd, brit, slty-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: slow stmg, bl cut, gn-yel ring, fr stn, fnt od

85% MRLST: med-dk gy, blk, sb pty-biky, frn-mod hd, brit, slty-arg, mot, rthy lstr, calc mix, tr foss 15% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, slty ip, rthy lstr, wxy ip, calc, occ intbd wi marl: O SHOW: slow stmg, bl cut, gn-yel ring, fr stn, fnt od

65% MRLST: med-dk gy, blk, sb pty-biky, frn-mod hd, brit, slty-arg, mot, rthy lstr, calc mix, tr foss 35% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, slty ip, rthy lstr, wxy ip, calc, occ intbd wi marl: O SHOW: slow stmg, bl cut, gn-yel ring, fr stn, fnt od

75% MRLST: med-dk gy, blk, sb pty-biky, frn-mod hd, brit, slty-arg, mot, rthy lstr, calc mix, tr foss 25% CHK: lt-medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, slty ip, rthy lstr, wxy ip, calc, occ intbd wi marl: O SHOW: slow stmg, bl cut, gn-yel ring, fr stn, fnt od

MD: 8.961

TVD: 6.180.43

Inclination: 90.8

Azimuth: 1.2

VS: 2.755.52

TVD (ft)

MD: 9.057

TVD: 6.179.93

Inclination: 89.8

Azimuth: 359.3

VS: 2.851.47

TVD (ft)

MD: 9.151

TVD: 6.180.83

Inclination: 89.1

Azimuth: 357.4

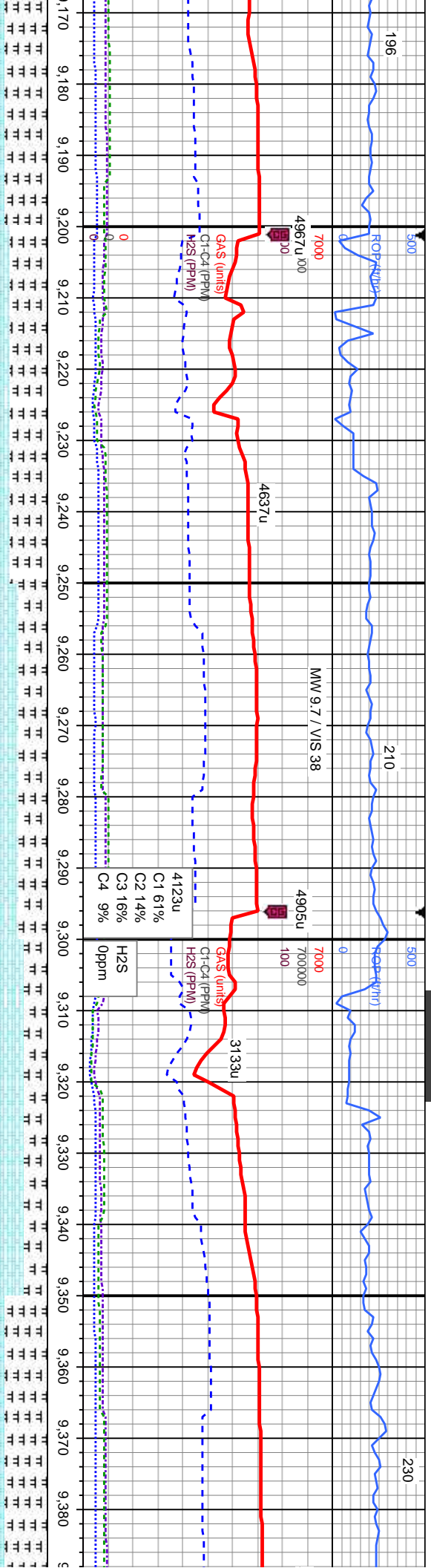
VS: 2.945.28

6250

6250

6250





102	200	97	200	120
dk- g, blk, sb pty-blky,	565% MRLST: med-dk gy, blk, sb pty-blky,	50% CHK: lt-medgy, crm-brn, mot, pty-blky,	60% CHK: lt-medgy, crm-brn, mot, pty-blky,	75% MRLST: med-dk gy, blk ip, sb pty
stly-arg, mot, rthy lstr, calc	frm-mod hd, brit, stly-arg, mot, rthy lstr, calc	sft-frm, fri-brit, stly ip, rthy lstr, wxy ip, calc,	sft-frm, fri-brit, stly ip, rthy lstr, wxy ip, calc, occ	frm-mod hd, brit, stly-arg, mot, rthy lstr
CHK: lt-medgy, crm-brn, mot,	mx, tr foss 35% CHK: lt-medgy, crm-brn, mot,	occ intbd wi marl 50% MRLST: med-dk gy, blk,	intbd wi marl 40% MRLST: med-dk gy, blk, sb	mx, mod amt foss 25% CHK: lt-medgy
fr-brit, stly ip, rthy lstr, wxy ip,	pty-blky, sft-frm, fri-brit, stly ip, rthy lstr, wxy ip,	sbc pty-blky, frm-mod hd, brit, stly-arg, mot, rthy	pty-blky, frm-mod hd, brit, stly-arg, mot, rthy lstr,	mot, pty-blky, sft-frm, fri-brit, stly ip, r
marl, O SHOW: slow sting, bl	calc, occ intbd wi marl, O SHOW: slow sting, bl	lstr, calc mtx, tr foss, O SHOW: slow sting, bl	calc mtx, tr foss, O SHOW: slow sting, milky	wxy ip, calc, occ intbd wi marl, O SHO
stin, fnt od	cut, bri gn-yl ring, tr stn, fnt od	cut, bri gn-yl ring, tr stn, fnt od	cut, bri gn-yl ring, tr stn, fnt od	sting, milky cut, bri gn-yl ring, tr stn,

TVD (ft)

MD: 9,246  
TVD: 6,182.24  
Inclination: 89.2  
Azimuth: 357.5  
VS: 3,039.99

TVD (ft)

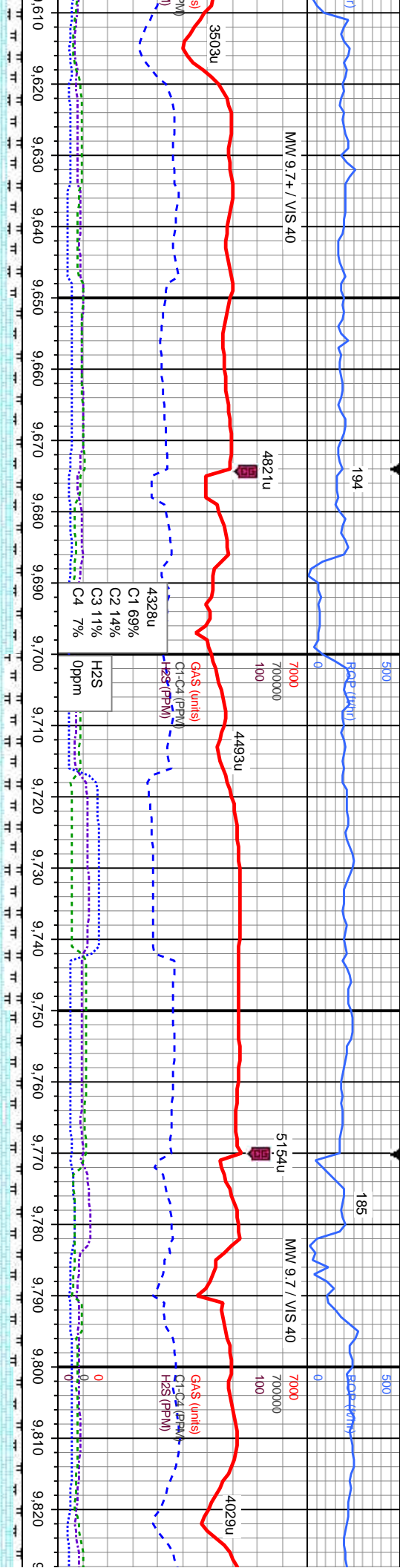
MD: 9,340  
TVD: 6,184.37  
Inclination: 88.2  
Azimuth: 357.7  
VS: 3,133.69



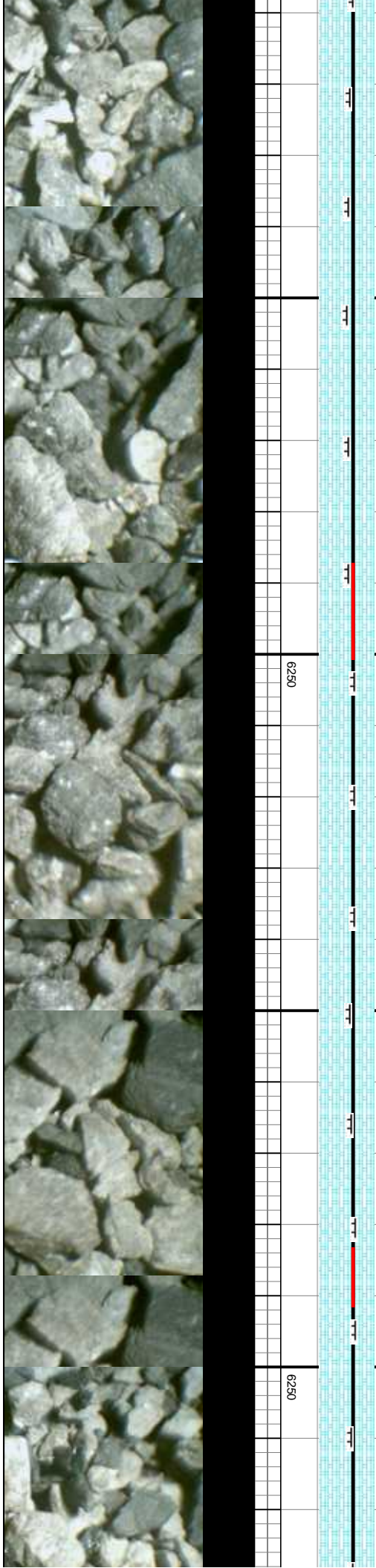


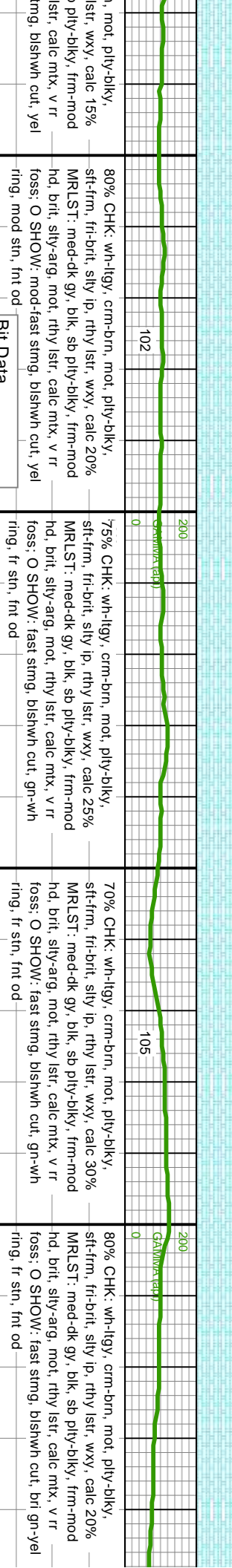
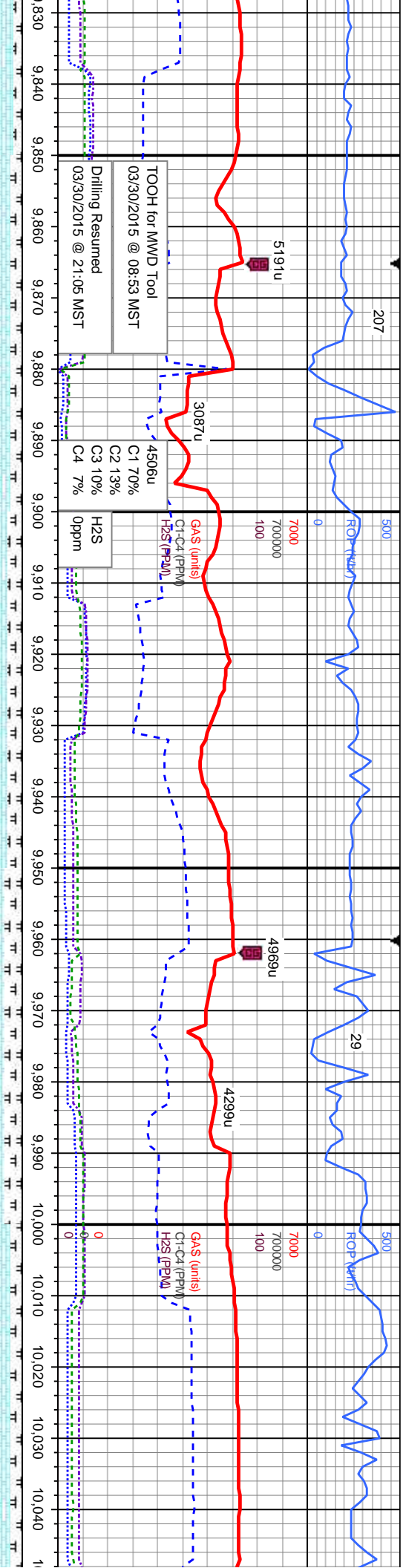






MD: 9.625. TVD: 6,180.56 Inclination: 90.8 Azimuth: 359.6 VS: 3,418.37	85% CHK: wh-ltgy, crm-brn, mot, pily-blky, sft-frn, fri-brit, sily ip, rthy lstr, wxy, calc 15% MRLST: med-dk gy, blk ip, sb pily-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, r foss; O SHOW: slow-mod stimg, milky cut, bri gn-yel ring, mod stn, fnt od	570% CHK: wh-ltgy, crm-brn, mot, pily-blky, sft-frn, fri-brit, sily ip, rthy lstr, wxy, calc 30% MRLST: med-dk gy, blk ip, sb pily-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, r foss; O SHOW: slow-mod stimg, blshwh cut, bri gn-yel ring, mod stn, fnt od	80% CHK: wh-ltgy, crm-brn, mot, pily-blky, sft-frn, fri-brit, sily ip, rthy lstr, wxy, calc 20% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, v rr foss; O SHOW: mod stimg, blshwh cut, bri gn-yel ring, mod stn, fnt od	5965% CHK: wh-ltgy, crm-brn, sft-frn, fri-brit, sily ip, rthy lstr, wxy, calc 25% MRLST: med-dk gy, blk ip, sb pily-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, r foss; O SHOW: mod stimg, milky cut, bri gn-yel ring, mod stn, fnt od
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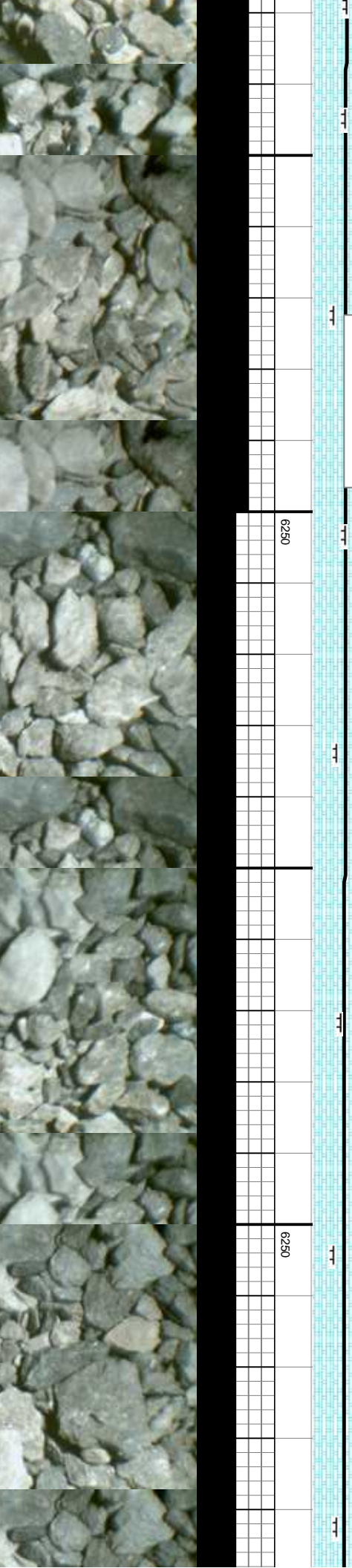




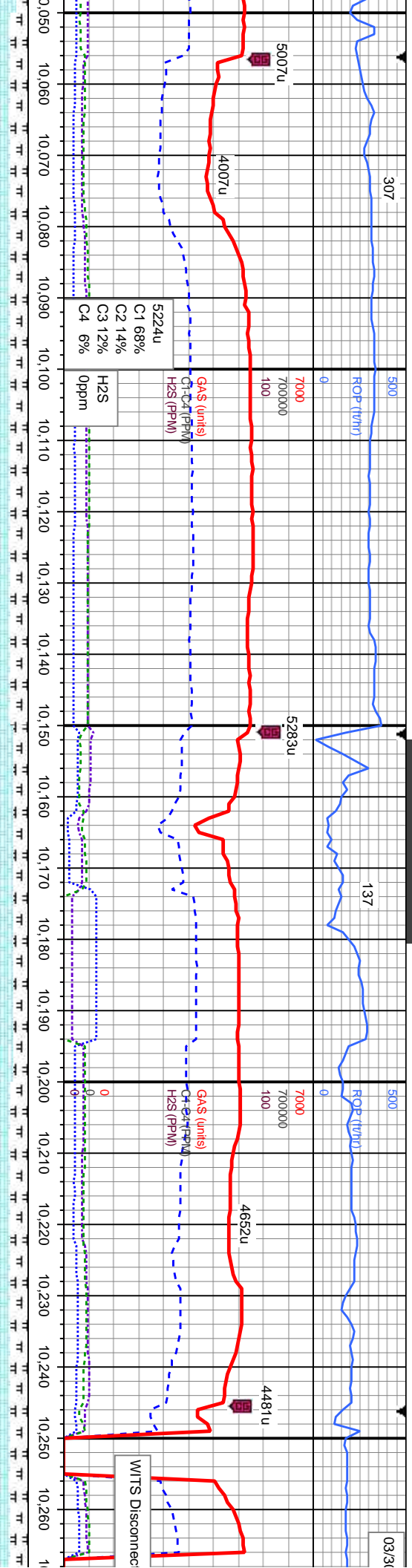
Bit Data  
Bit #: 5  
Type: SKH1516M-E1  
Size: 6.125"  
Depth In: 9,880'  
Depth Out: 15,671'  
Jets: 5x22  
S/N: A211337

TMD: 9.911  
TVD: 6,181.72  
Inclination: 88.4  
Azimuth: 0.2  
VS: 3,704.2

TMD: 10.006  
TVD: 6,183.13  
Inclination: 89.9  
Azimuth: 0.1  
VS: 3,799.14



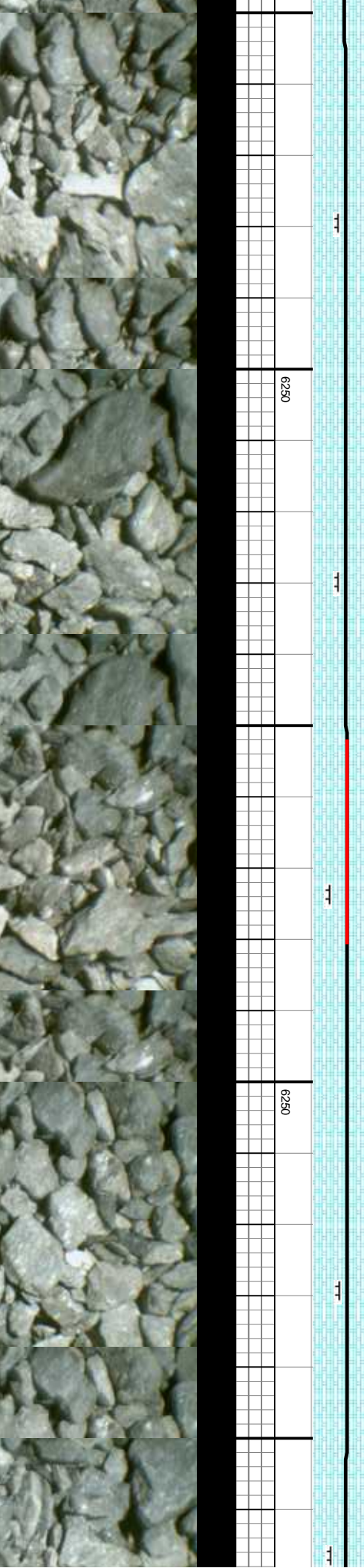




70% CHK: wh-ltgy, crm-brn, mot, pily-biky, sft-firm, fri-brit, sily ip, rthy lstr, wxy, calc 30% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, v rr foss; O SHOW: fast stimg, bishwh cut, bri gn-yel ring, fr stn, fnt od	72	200	0	70% CHK: wh-ltgy, crm-brn, mot, pily-biky, sft-firm, fri-brit, sily ip, rthy lstr, wxy, calc 30% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, v rr foss; O SHOW: fast stimg, bishwh cut, bri gn-yel ring, fr stn, fnt od	75% CHK: lt-medgy, crm-brn, mot, pily-biky, sft-firm, fri-brit, sily ip, rthy lstr, wxy, calc 25% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, v rr foss; O SHOW: fast stimg, bishwh cut, bri gn-yel ring, fr stn, fnt od	94	200	0	570% CHK: lt-medgy, crm-brn, mot, pily-biky, sft-firm, fri-brit, sily ip, rthy lstr, wxy, calc 30% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, v rr foss; O SHOW: mod-fast stimg, bishwh cut, bri gn-yel ring, fr stn, fnt od	70% CHK: lt-medgy, crm-brn, mot, pily-biky, sft-firm, fri-brit, sily ip, rthy lstr, wxy, calc 30% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, v rr foss; O SHOW: m
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MD: 10,101 . (ft)  
TVD: 6,181 .56  
Inclination: 92  
Azimuth: 0.9  
VS: 3,894.09

MD: 10,195 .  
TVD: 6,180.41  
Inclination: 89.4  
Azimuth: 359.5  
VS: 3,988.03





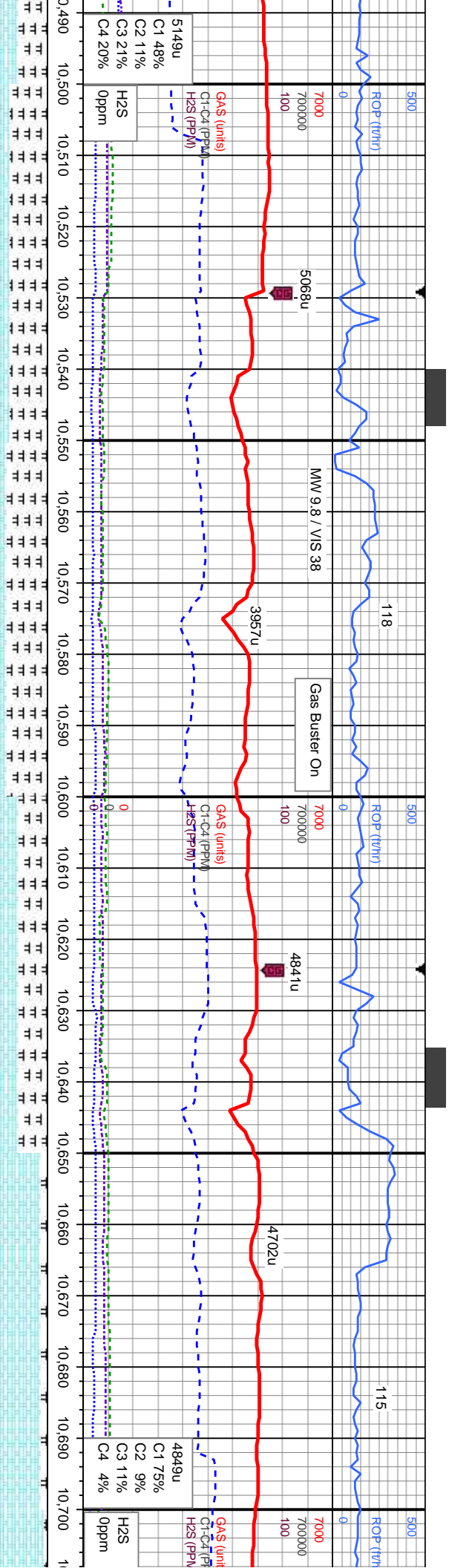
MD: 10,290	TVD (ft)	MD: 10,384	TVD (ft)	MD: 10,479
TVD: 6,181.32		TVD: 6,182.47		TVD: 6,184.04
Inclination: 89.5		Inclination: 89.1		Inclination: 89
Azimuth: 359.1		Azimuth: 358.5		Azimuth: 359.5
VS: 4,082.93		VS: 4,176.78		VS: 4,271.64

[illegible]

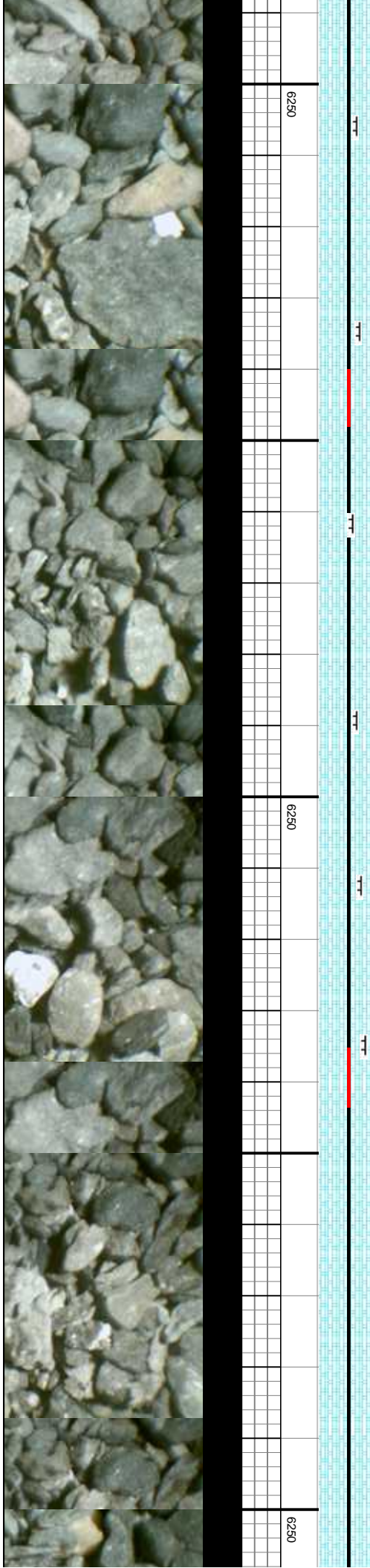
MD: 10,479 .  
TVD: 6,184.04 .  
Inclination: 89 .  
Azimuth: 359.5 .  
VS: 4,271.64 .







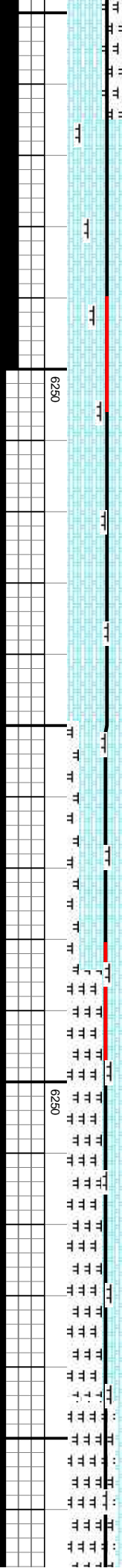
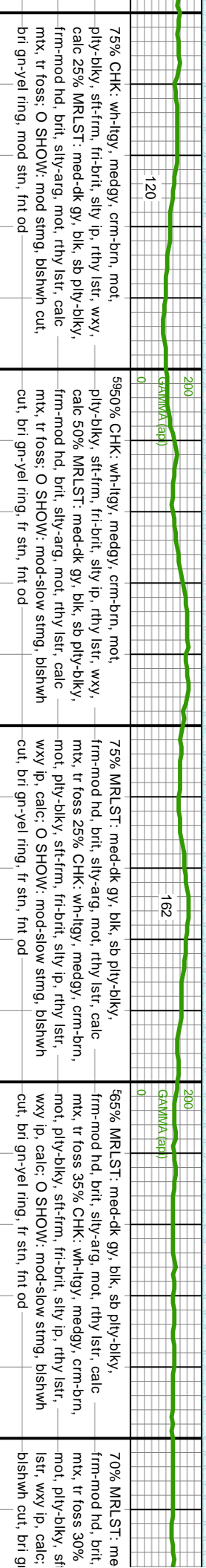
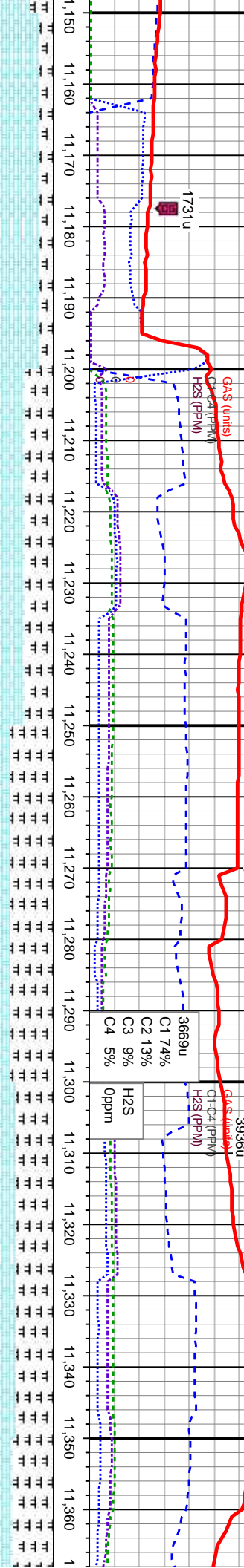
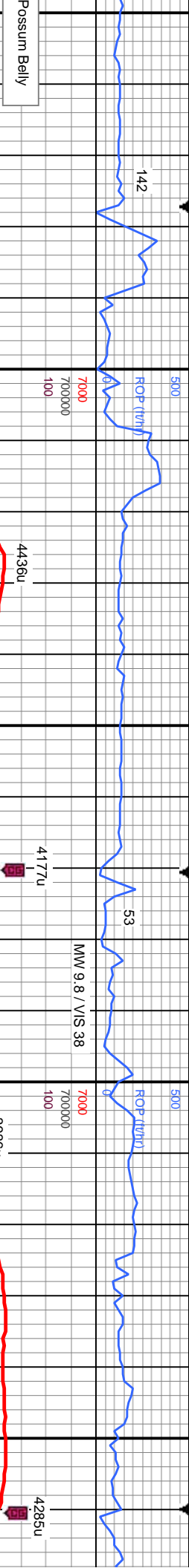
565% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mx, v rr foss 35% CHK: lt-medgy, crm-brn, mot, pily-biky, stf-frm, fri-brit, sily ip, rthy lstr, wxy, calc; O SHOW: mod stmg, bishwh cut, bri gn-yel ring, fr stn, v fnt od	70% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mx, v rr foss 30% CHK: lt-medgy, crm-brn, mot, pily-biky, stf-frm, fri-brit, sily ip, rthy lstr, wxy, calc; O SHOW: mod stmg, bishwh cut, bri gn-yel ring, fr stn, v fnt od	50% CHK: lt-medgy, crm-brn, mot, pily-biky, stf-frm, fri-brit, sily ip, rthy lstr, wxy, calc 50% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mx, v rr foss; O SHOW: mod stmg, bishwh cut, bri gn-yel ring, fr stn, v fnt od	90% CHK: lt-medgy, crm-brn, mot, pily-biky, stf-frm, fri-brit, sily ip, rthy lstr, wxy, calc 10% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mx, r foss; O SHOW: mod stmg, bishwh cut, bri gn-yel ring, fr stn, v fnt od	595% C sft-frm MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mx, v rr foss; O SHOW: mod stmg, bishwh cut, bri gn-yel ring, fr stn, v fnt od
TVD (ft)	TVD (ft)	TVD (ft)	TVD (ft)	TVD (ft)
MD: 10,574 TVD: 6,183.96 Inclination: 91.1 Azimuth: 1.2 VS: 4,366.6	MD: 10,667 TVD: 6,184.2 Inclination: 88.6 Azimuth: 0.1 VS: 4,459.57	MD: 10,667 TVD: 6,184.2 Inclination: 88.6 Azimuth: 0.1 VS: 4,459.57	MD: 10,667 TVD: 6,184.2 Inclination: 88.6 Azimuth: 0.1 VS: 4,459.57	MD: 10,667 TVD: 6,184.2 Inclination: 88.6 Azimuth: 0.1 VS: 4,459.57



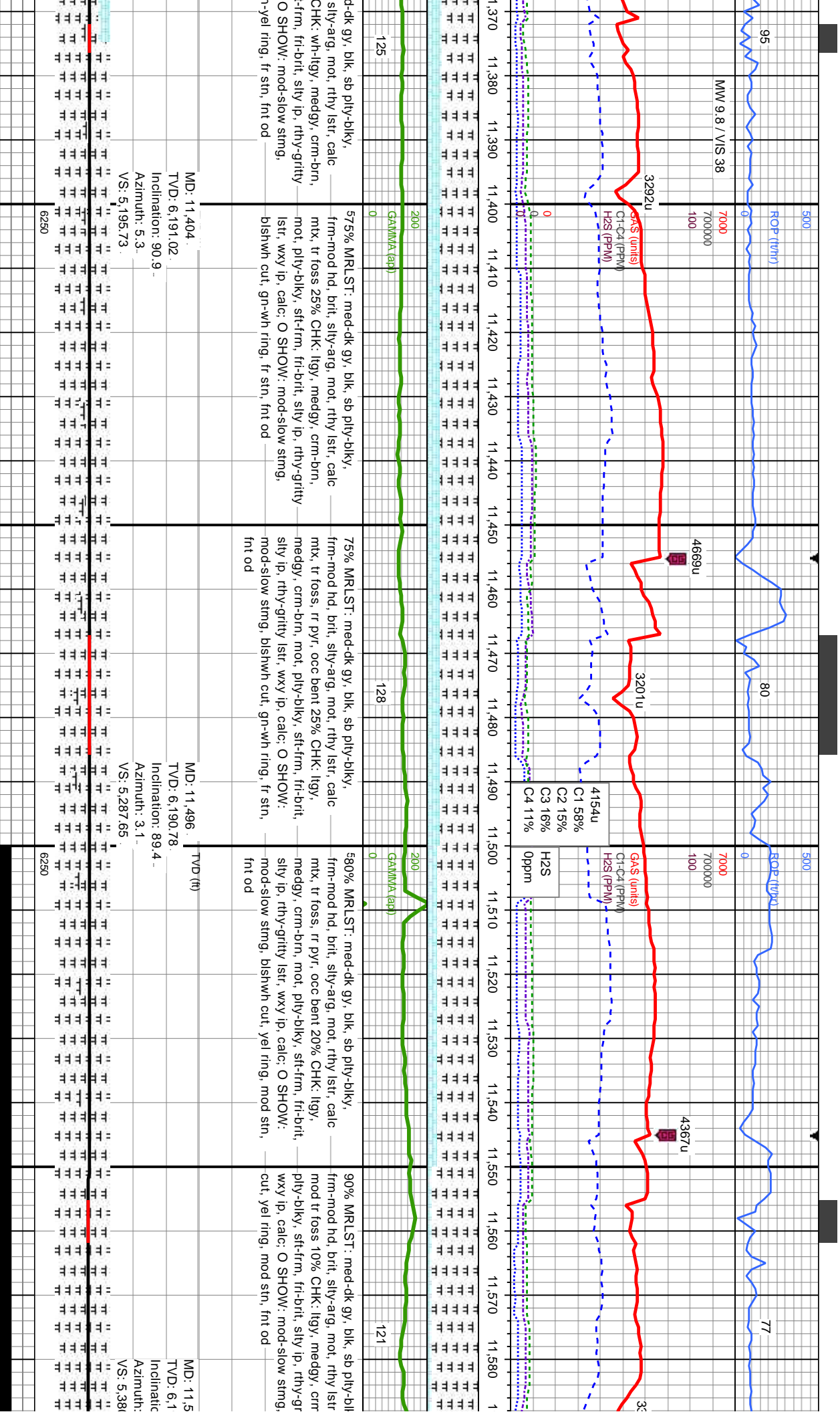


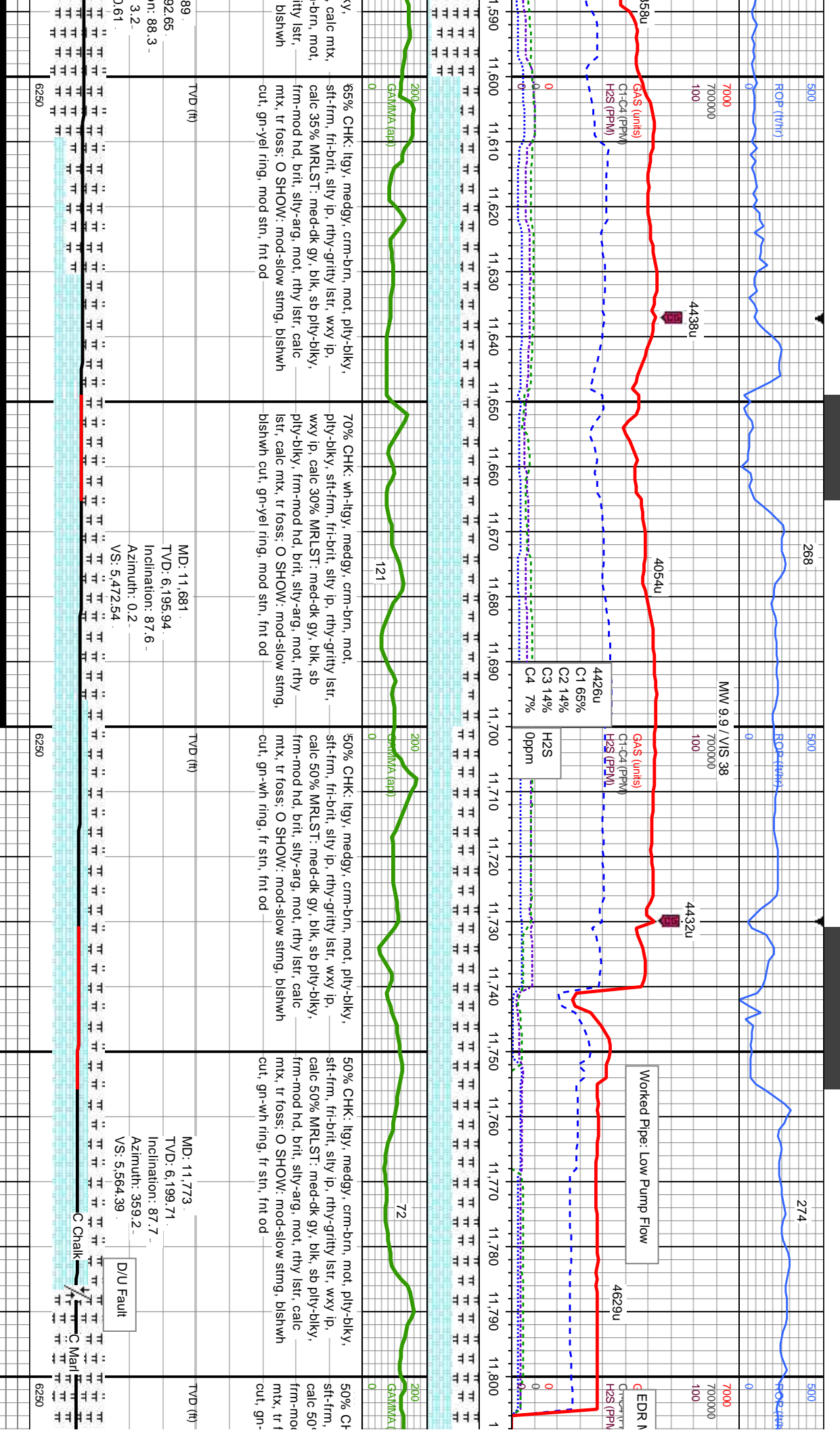




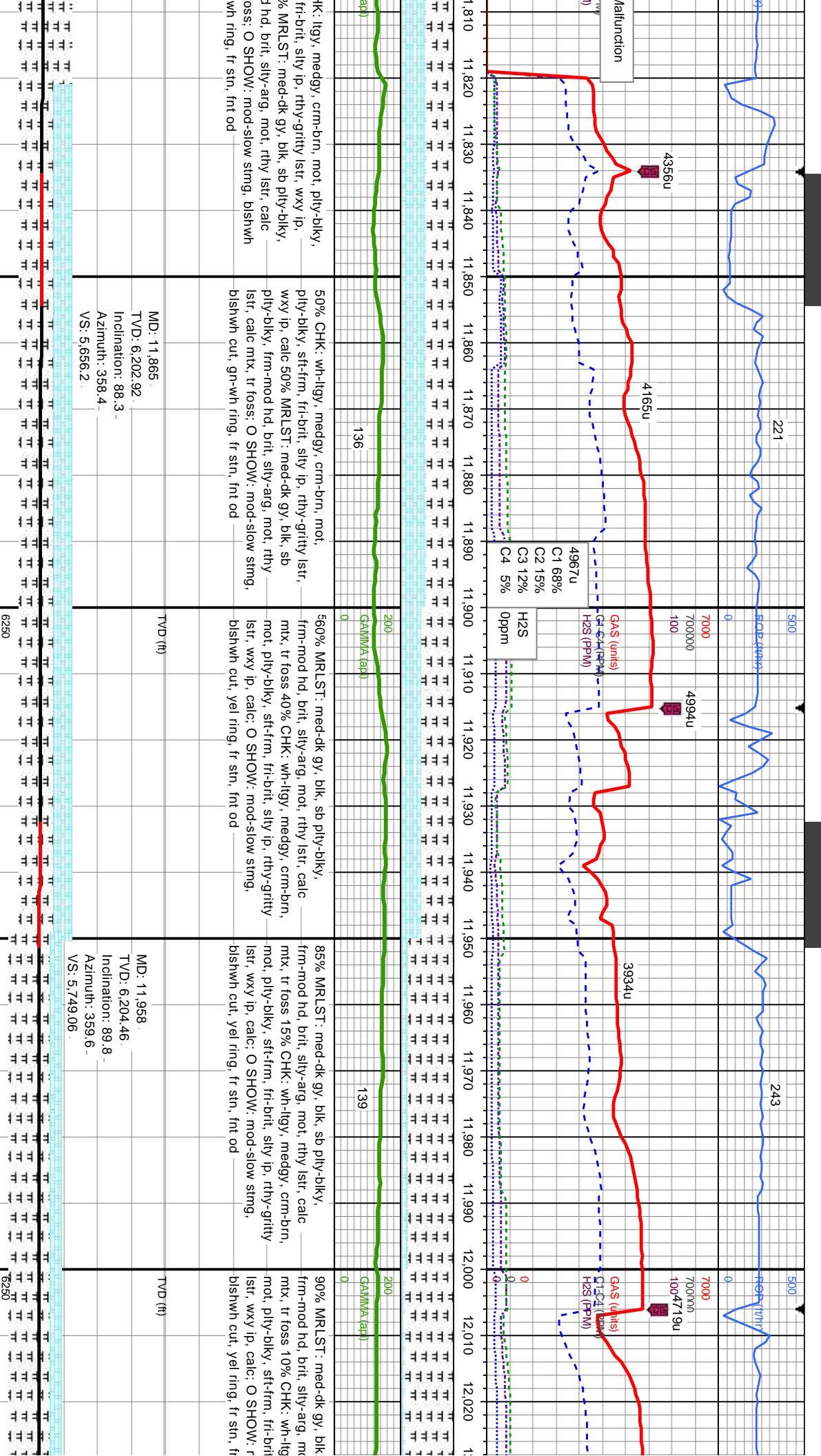


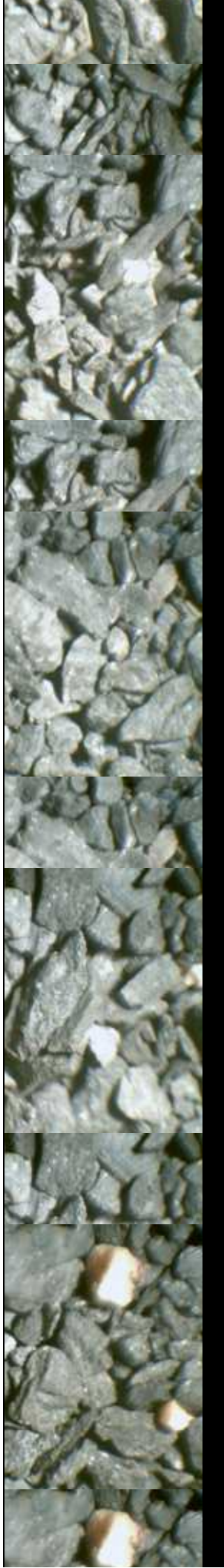
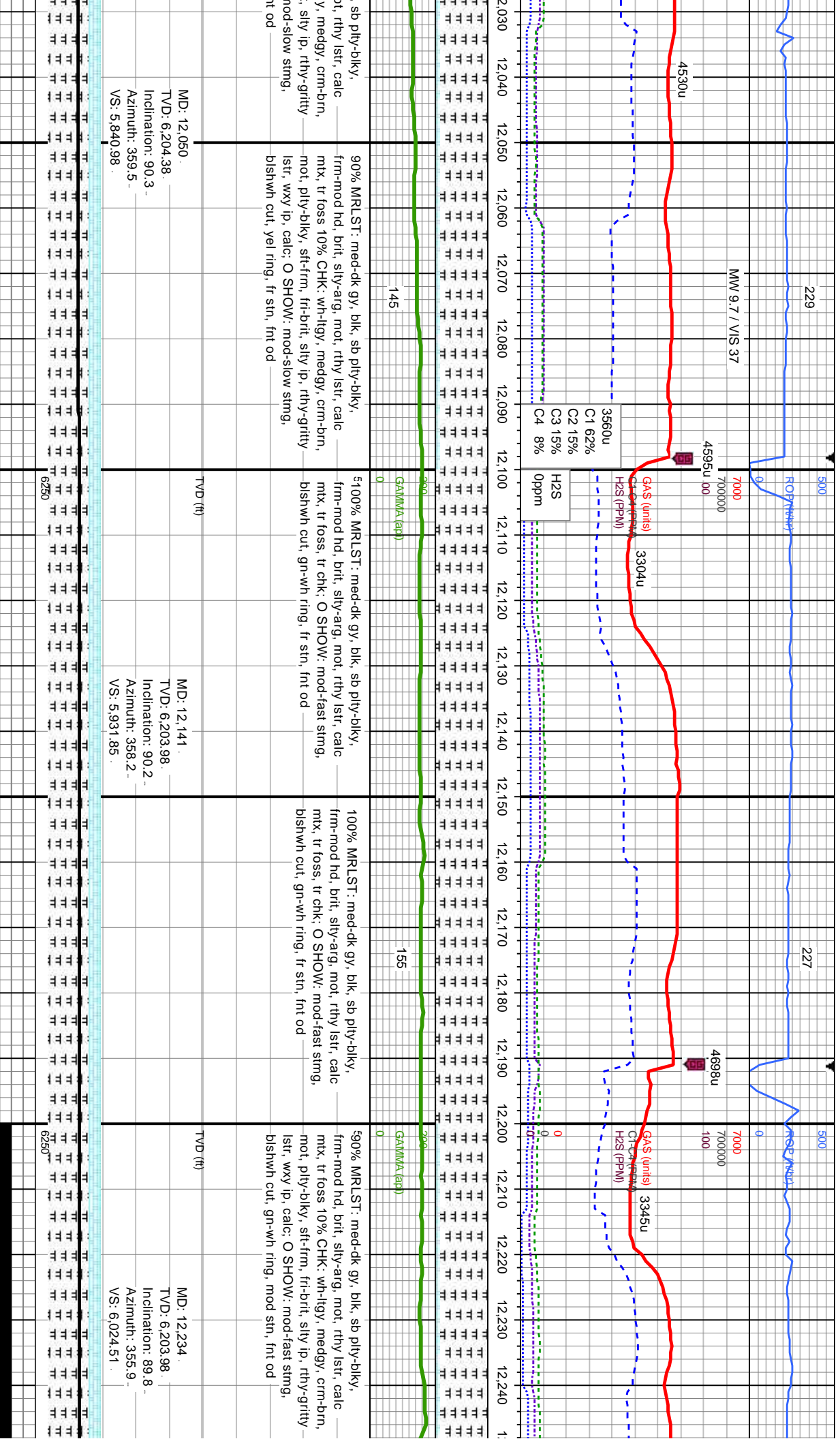




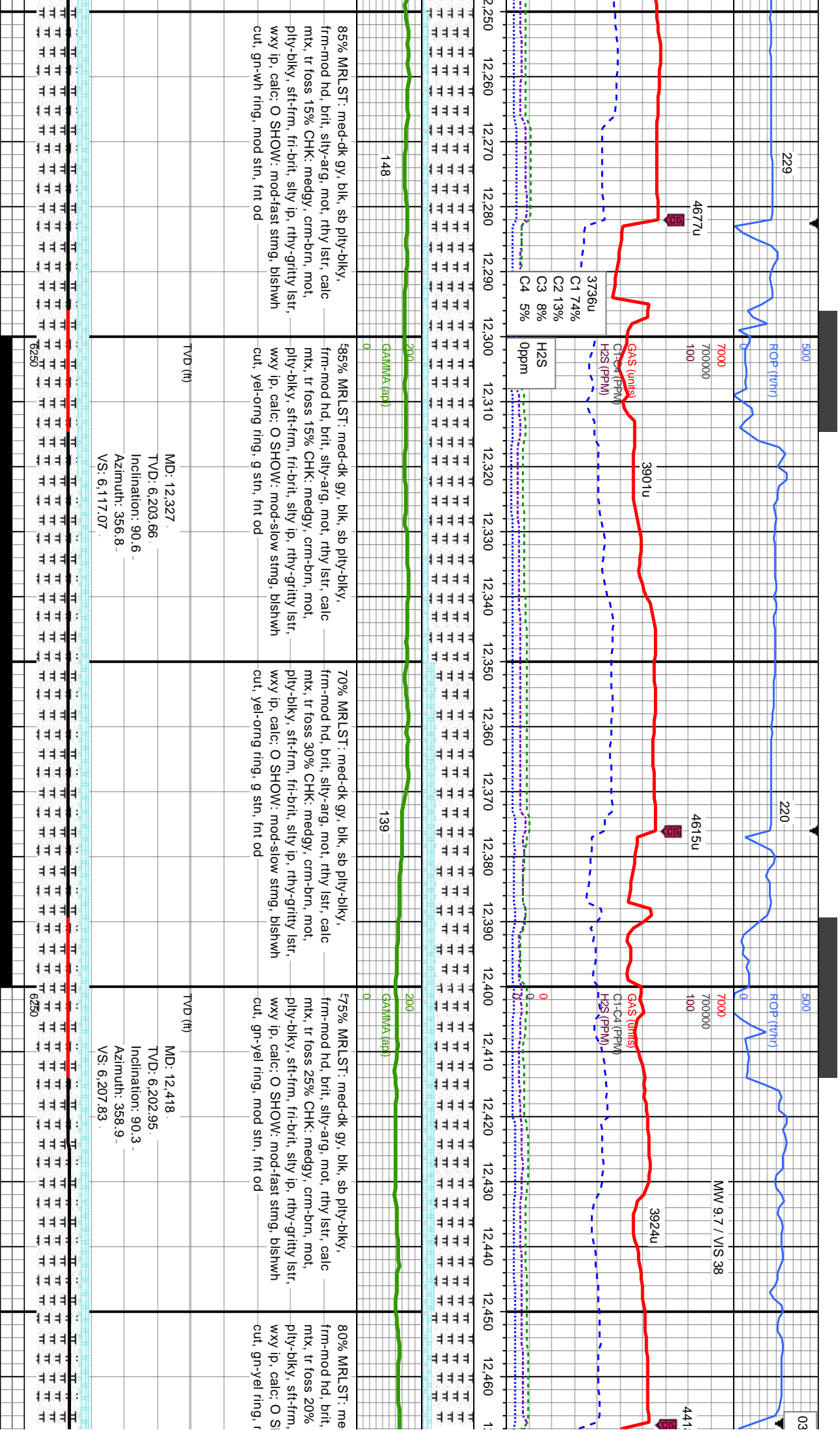




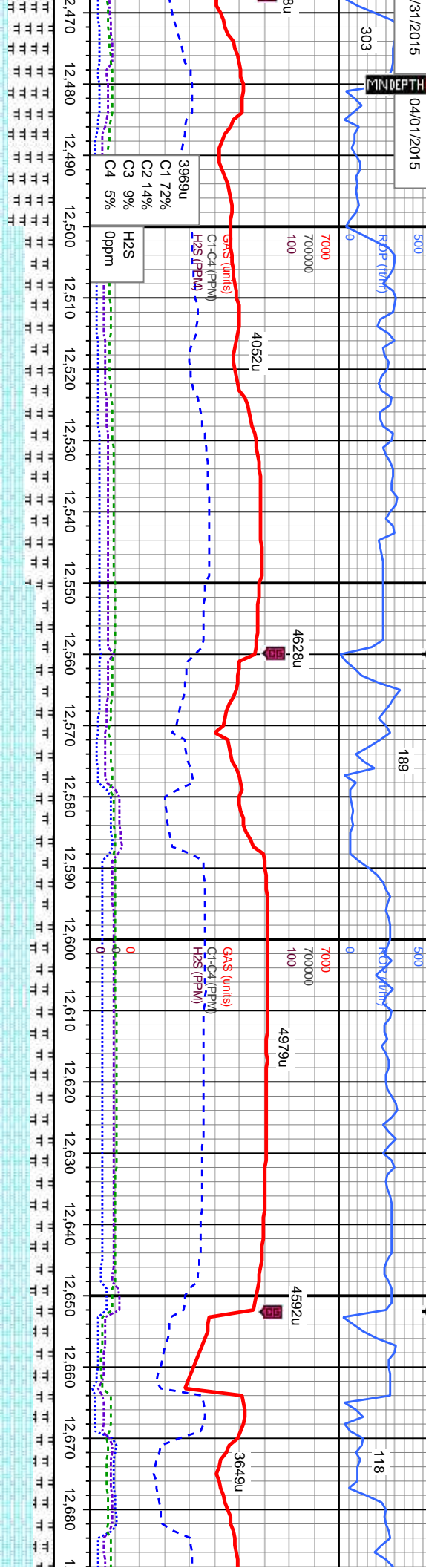








MINDEPTH



d-dk gy, blk, sb pty-blky, sily-arg, mot, rthy lstr, calc CHK: medgy, crm-brn, mot, fri-brit, sily ip, rthy-gritty lstr, H2OW: mod-fast string, blshwh mod stn, fnt od

50% CHK: wh-lgy, medgy, crm-brn, mot, pty-blky, sft-frn, fri-brit, sily ip, rthy-gritty lstr, wxy ip, calc 50% MRLST: med-dk gy, blk, sb pty-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod-slow string, blshwh cut, gn-yel ring, fr stn, fnt od

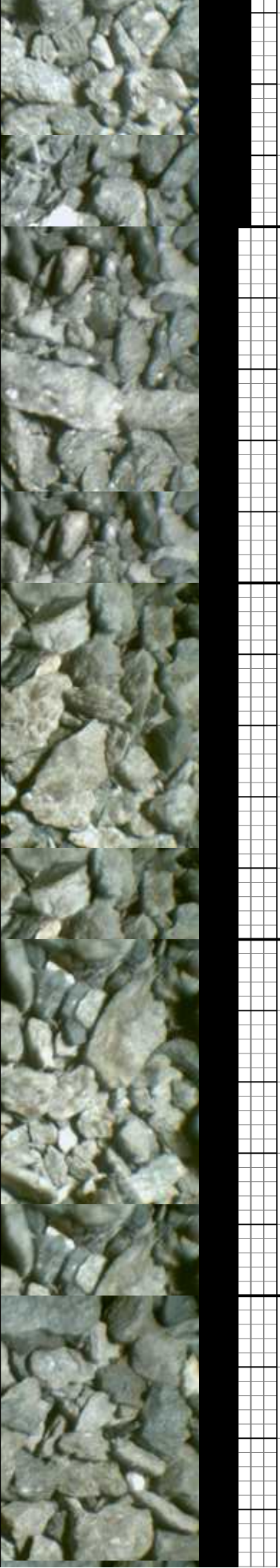
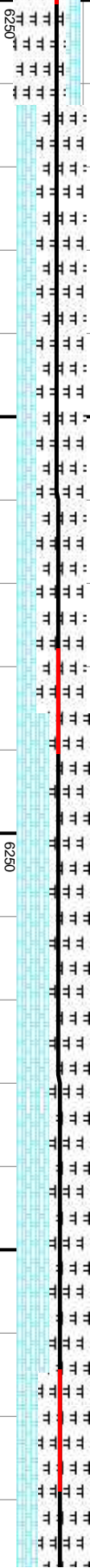
70% CHK: wh-lgy, medgy, crm-brn, mot, pty-blky, sft-frn, fri-brit, sily ip, rthy-gritty lstr, wxy ip, calc 30% MRLST: med-dk gy, blk, sb pty-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod-slow string, blshwh cut, gn-yel ring, fr stn, fnt od

560% CHK: lt-medgy, crm-brn, mot, pty-blky, sft-frn, fri-brit, sily ip, rthy-gritty lstr, wxy ip, calc 40% MRLST: med-dk gy, blk, sb pty-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod-slow string, blshwh cut, gn-yel ring, fr stn, fnt od

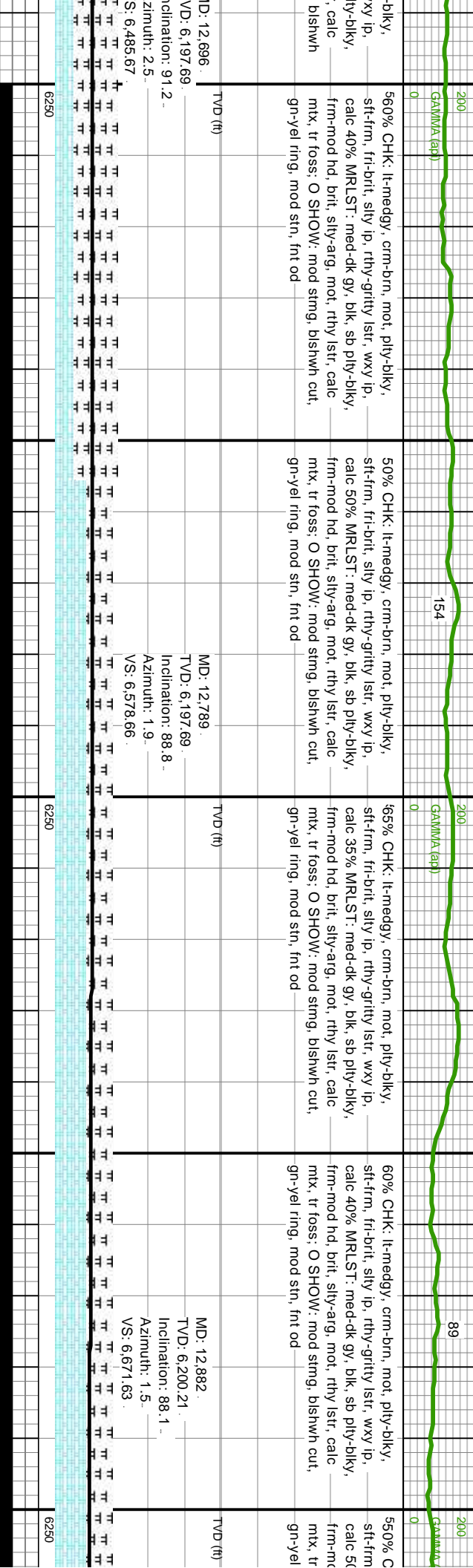
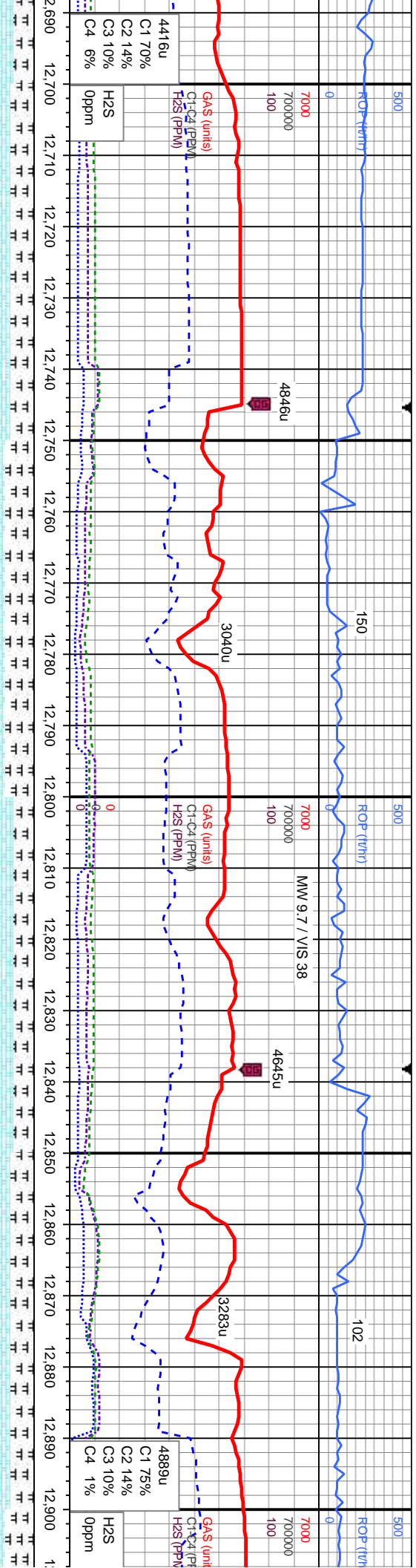
65% CHK: lt-medgy, crm-brn, mot, pty-blky, sft-frn, fri-brit, sily ip, rthy-gritty lstr, wxy ip, calc 35% MRLST: med-dk gy, blk, sb pty-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mix, tr foss: O SHOW: mod-slow string, blshwh cut, gn-yel ring, fr stn, fnt od

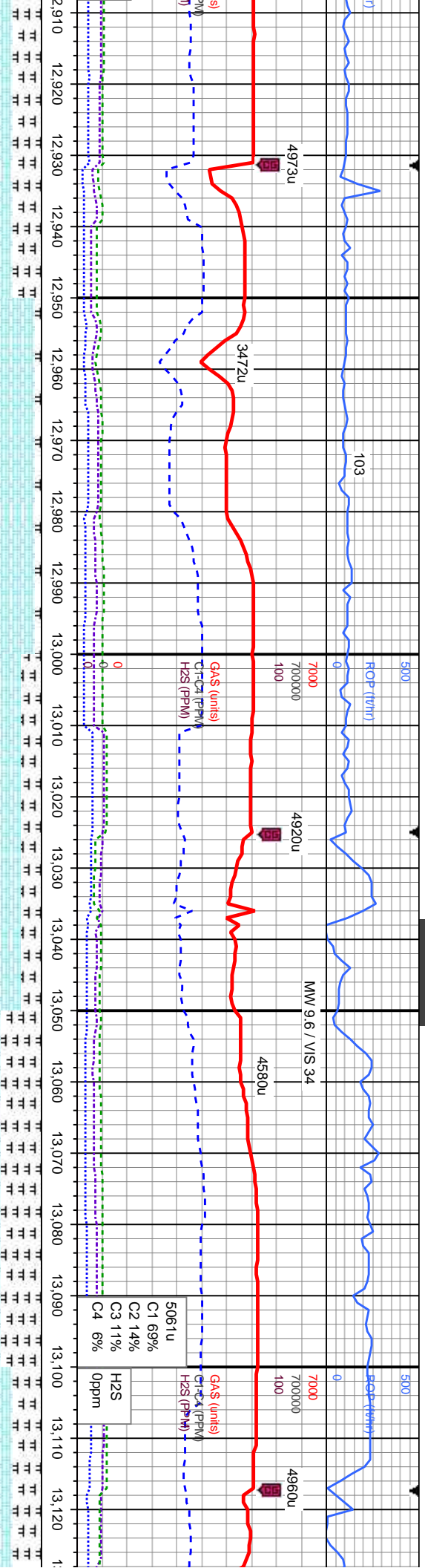
TVD (ft)  
MD: 12,511  
TVD: 6,201.16  
Inclination: 91.9  
Azimuth: 0.5  
VS: 6,300.74

TVD (ft)  
MD: 12,603  
TVD: 6,199.15  
Inclination: 90.6  
Azimuth: 0.6  
VS: 6,392.69









HK: lt-medgy, crm-brn, mot, pily-biky, fri-brit, sily ip, rthy-gritty lstr, wxy ip, 10% MRLST: med-dk gy, blk, sb pily-biky, mod hd, brit, sily-arg, mot, rthy lstr, calc foss; O SHOW: mod sting, blshwh cut, ring, mod stn, fnt od

90% CHK: wh-ltgy, crm-brn, mot, pily-biky, sft-firm, fri-brit, sily ip, rthy-gritty lstr, wxy, calc 10% MRLST: med-dk gy, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mix, r foss; O SHOW: mod sting, blshwh cut, bri gn-yel ring, mod stn, fnt od

565% CHK: wh-ltgy, crm-brn, mot, pily-biky, sft-firm, fri-brit, sily ip, rthy-gritty lstr, wxy, calc 35% MRLST: med-dk gy, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mix, r foss; O SHOW: mod sting, blshwh cut, bri gn-yel ring, g stn, fnt od

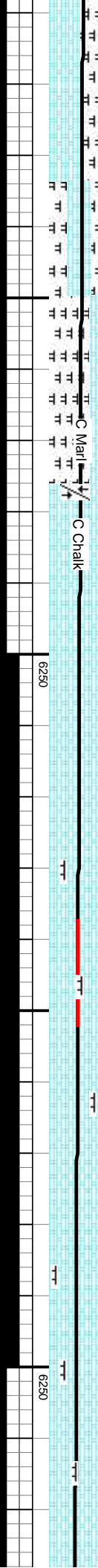
70% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mix, r foss 30% CHK: wh-ltgy, crm-brn, mot, pily-biky, sft-firm, fri-brit, sily ip, rthy-gritty lstr, wxy ip, calc; O SHOW: mod sting, blshwh cut, bri gn-yel ring, g stn, fnt od

50% CHK: wh-ltgy, crm-brn, sft-firm, fri-brit, sily ip, rthy-gritty lstr, wxy ip, calc 50% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mix, r foss; O SHOW: mod sting, blshwh cut, bri gn-yel ring, mod stn, fnt od

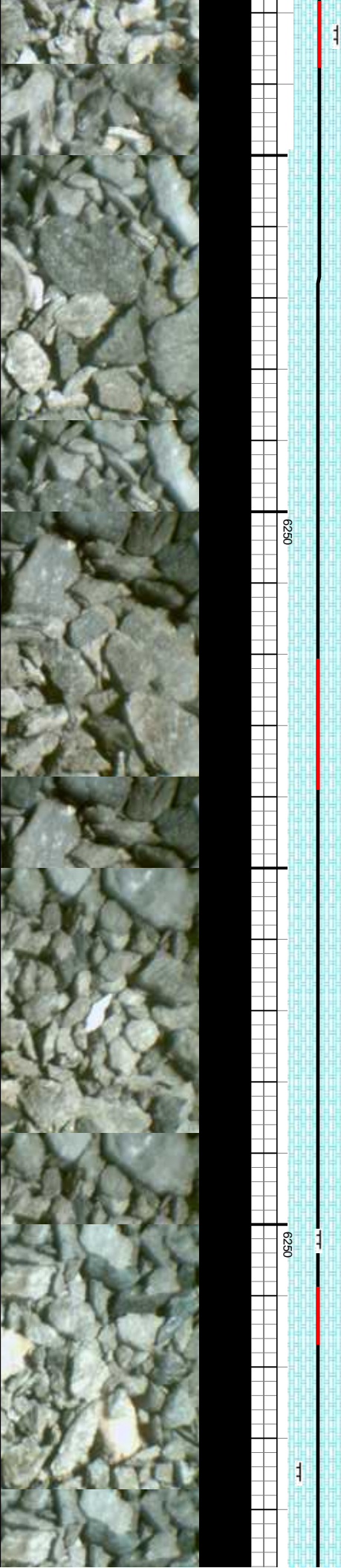
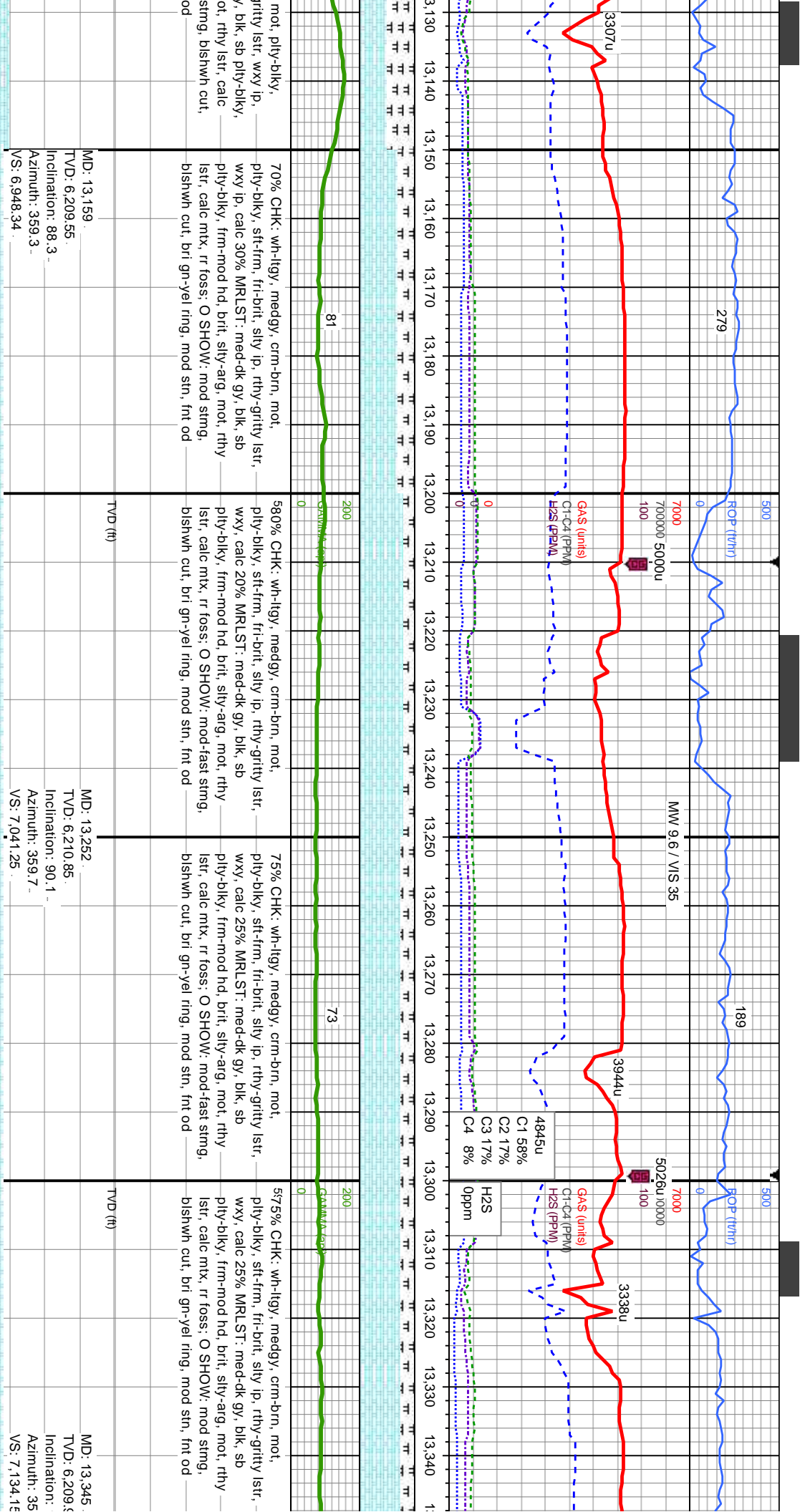
MD: 12,975.  
TVD: 6,203.62  
Inclination: 87.7  
Azimuth: 0.9  
VS: 6,764.56

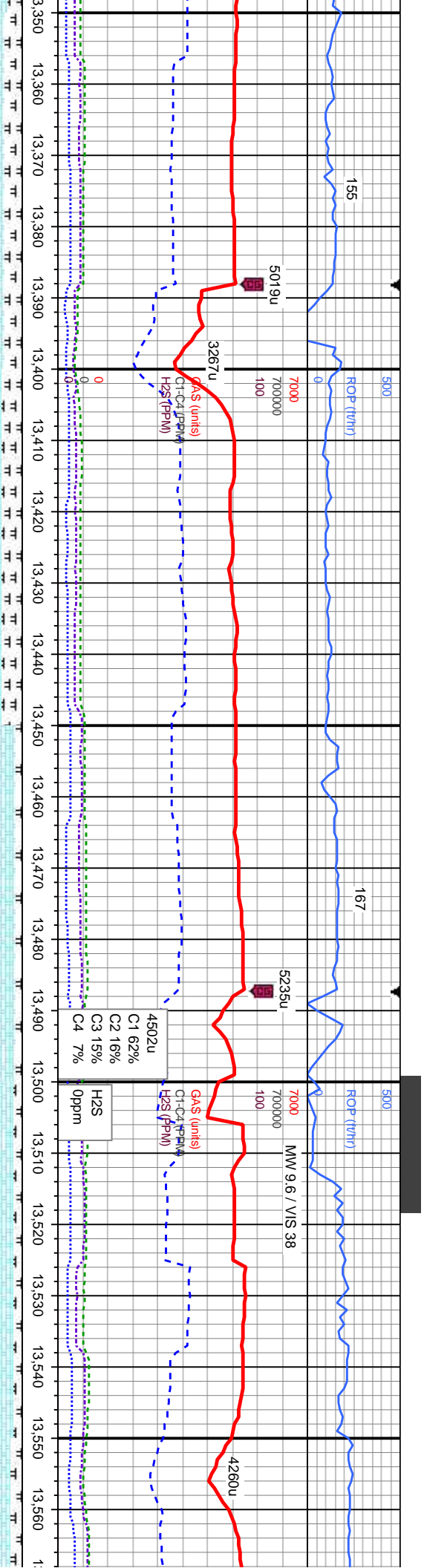
U/D Fault

TVD (ft)



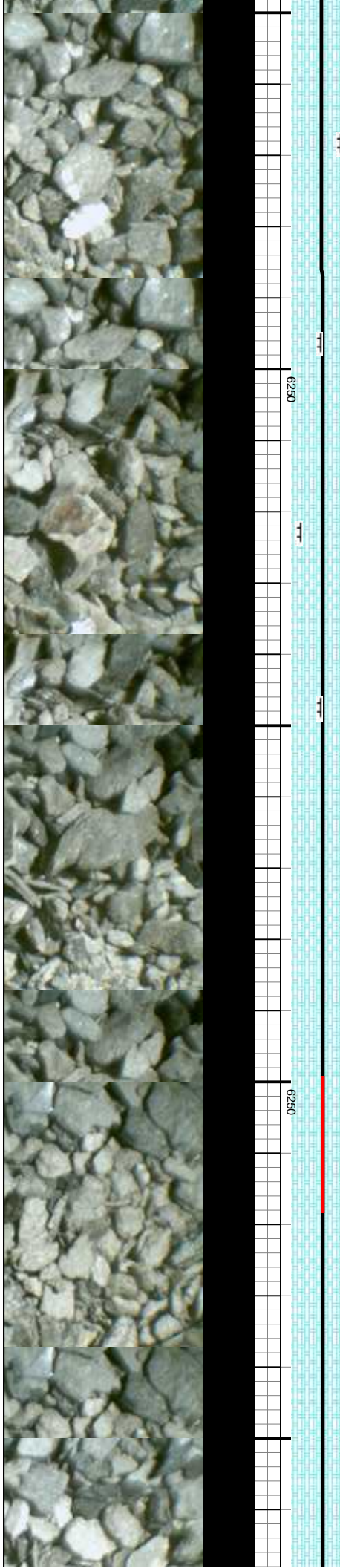




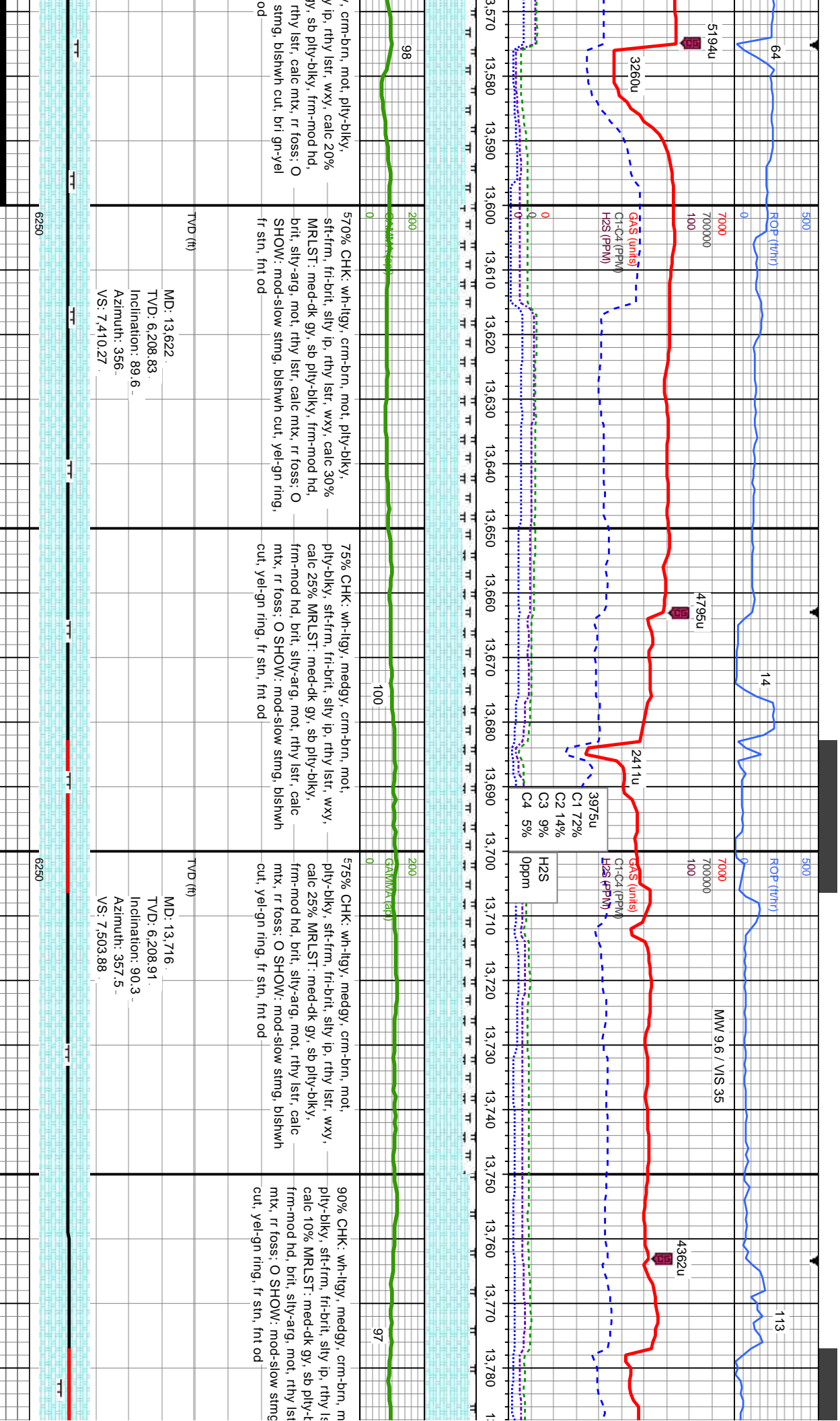


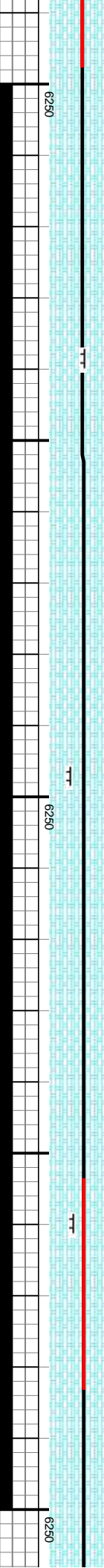
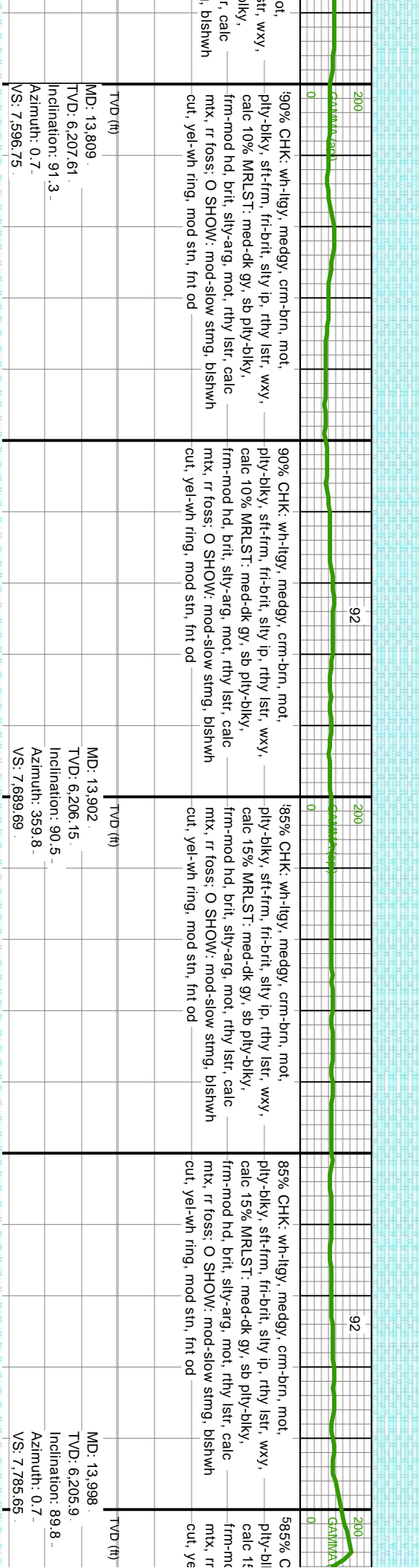
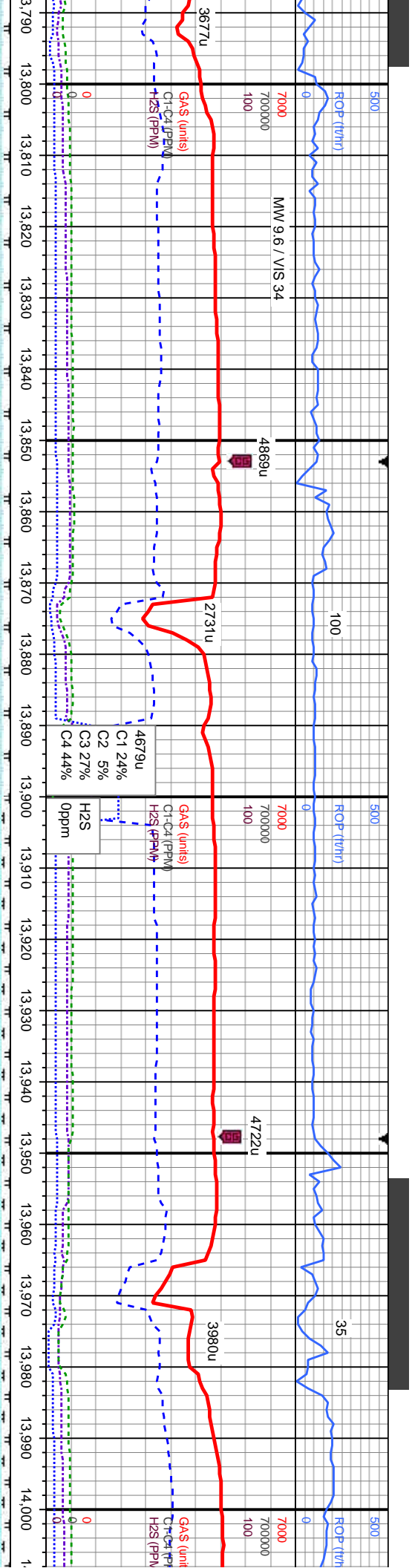
70% CHK: wh-ltgy, medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, slty ip, rthy-grity lstr, wxy, calc 30% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, slty-arg, mot, rthy lstr, calc mtx, tr foss: O SHOW: mod sting, bishwh cut, bri gn-yel ring, mod stn, fnt od	565% CHK: wh-ltgy, medgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, slty ip, rthy-grity lstr, wxy, calc 35% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, slty-arg, mot, rthy lstr, calc mtx, tr foss: O SHOW: mod sting, bishwh cut, bri gn-yel ring, mod stn, fnt od	90% CHK: wh-ltgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, slty ip, rthy lstr, wxy, calc 10% MRLST: med-dk gy, sb pty-biky, frm-mod hd, brit, slty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: mod sting, bishwh cut, bri gn-yel ring, mod stn, fnt od	85% CHK: wh-ltgy, crm-brn, mot, pty-biky, sft-frn, fri-brit, slty ip, rthy lstr, wxy, calc 15% MRLST: med-dk gy, sb pty-biky, frm-mod hd, brit, slty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: slow-mod sting, bishwh cut, bri gn-yel ring, mod stn, fnt od	80% CHK: wh-ltgy, sft-frn, fri-brit, slty ip, rthy lstr, wxy, calc 15% MRLST: med-dk gy, sb pty-biky, frm-mod hd, brit, slty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: slow-mod sting, bishwh cut, bri gn-yel ring, mod stn, fnt od
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TVD (ft)	MD: 13,438 TVD: 6,209.31 Inclination: 89.8 Azimuth: 357.1 VS: 7,226.93	TVD (ft)	MD: 13,530 TVD: 6,208.99 Inclination: 90.6 Azimuth: 357.6 VS: 7,318.63
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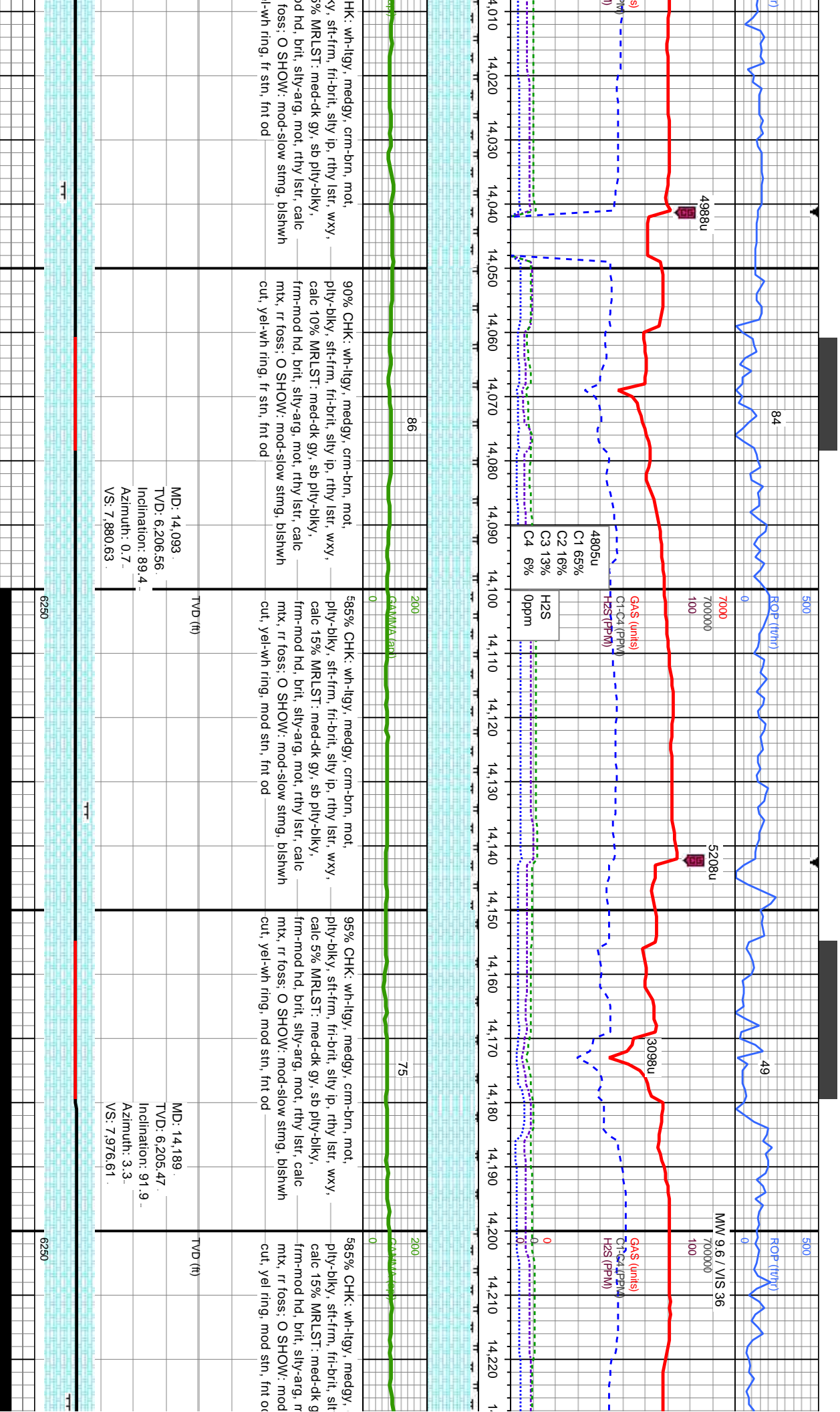




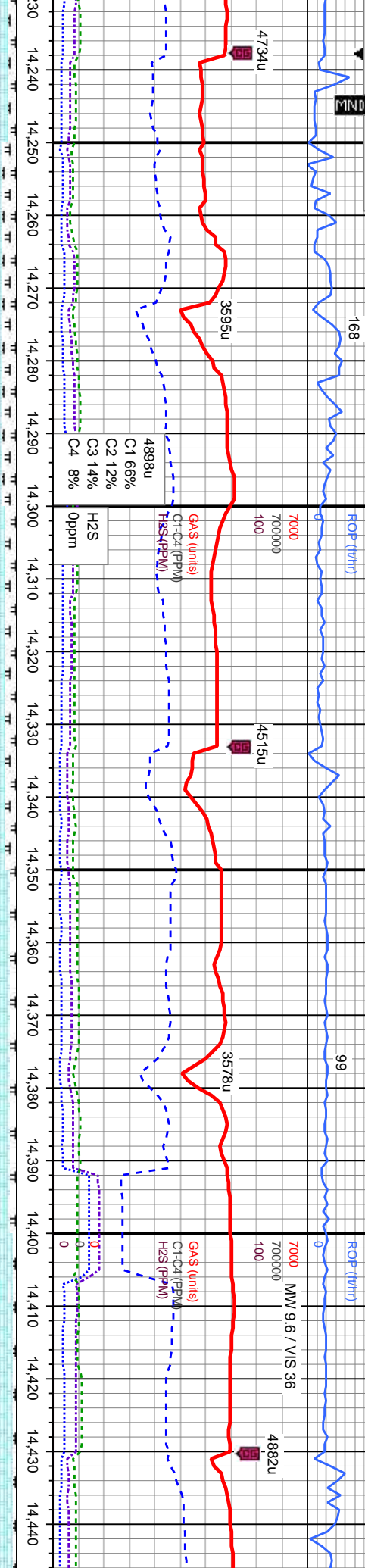








MINDEPTH



cm-brn, mot, ip, rthy lstr, wxy, y, sb pty-biky, not, rthy lstr, calc slow stmg, blshwh cut, yel ring, mod stn, fnt od

75% CHK: wh-llgy, medgy, cm-brn, mot, pty-biky, sft-frn, fr-brit, slty ip, rthy lstr, wxy, calc 25% MRLST: med-dk gy, sb pty-biky, frn-mod hd, brit, slty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: mod-slow stmg, blshwh cut, yel ring, mod stn, fnt od

80% CHK: wh-llgy, medgy, cm-brn, mot, pty-biky, sft-frn, fr-brit, slty ip, rthy lstr, wxy, calc 20% MRLST: med-dk gy, sb pty-biky, frn-mod hd, brit, slty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: mod-slow stmg, blshwh cut, yel ring, fr stn, fnt od

90% CHK: wh-llgy, medgy, cm-brn, mot, pty-biky, sft-frn, fr-brit, slty ip, rthy lstr, wxy, calc 10% MRLST: med-dk gy, sb pty-biky, frn-mod hd, brit, slty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: mod-slow stmg, blshwh cut, yel ring, fr stn, fnt od

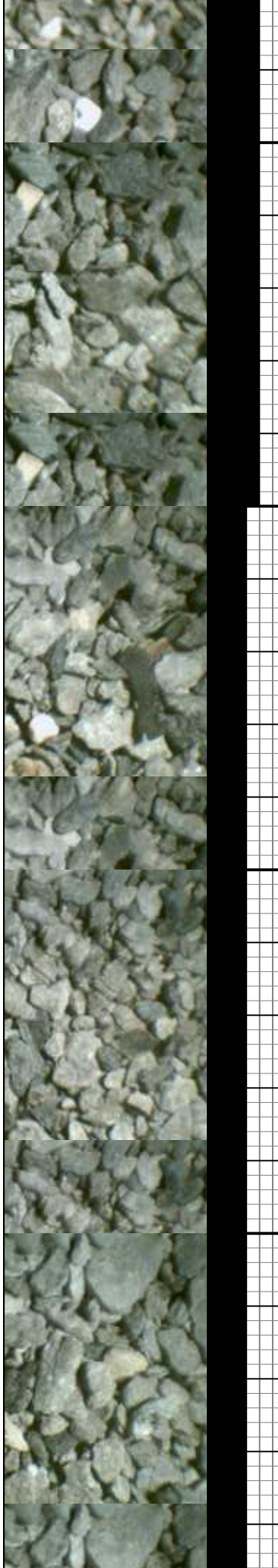
95% CHK: wh-llgy, medgy, cm-brn, mot, pty-biky, sft-frn, fr-brit, slty ip, rthy lstr, wxy, calc 5% MRLST: med-dk gy, sb pty-biky, frn-mod hd, brit, slty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: mod-slow stmg, blshwh cut, gn-yel ring, fr stn, fnt od

MD: 14,284  
TVD: 6,203.98  
Inclination: 89.9  
Azimuth: 0.4  
VS: 8,071.58

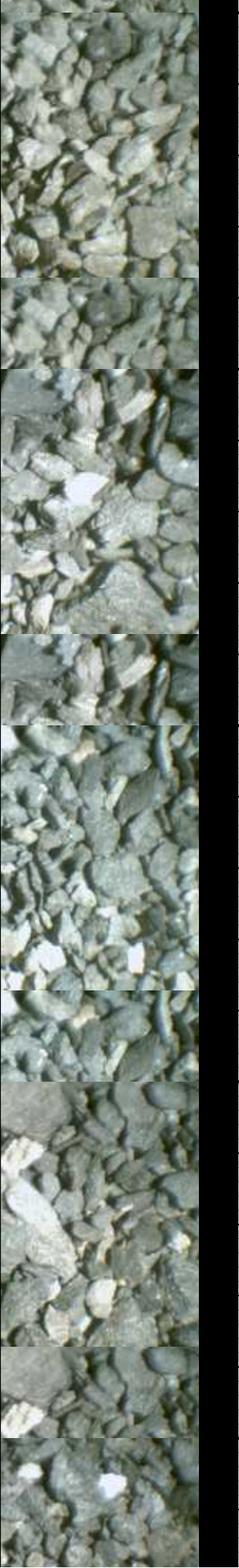
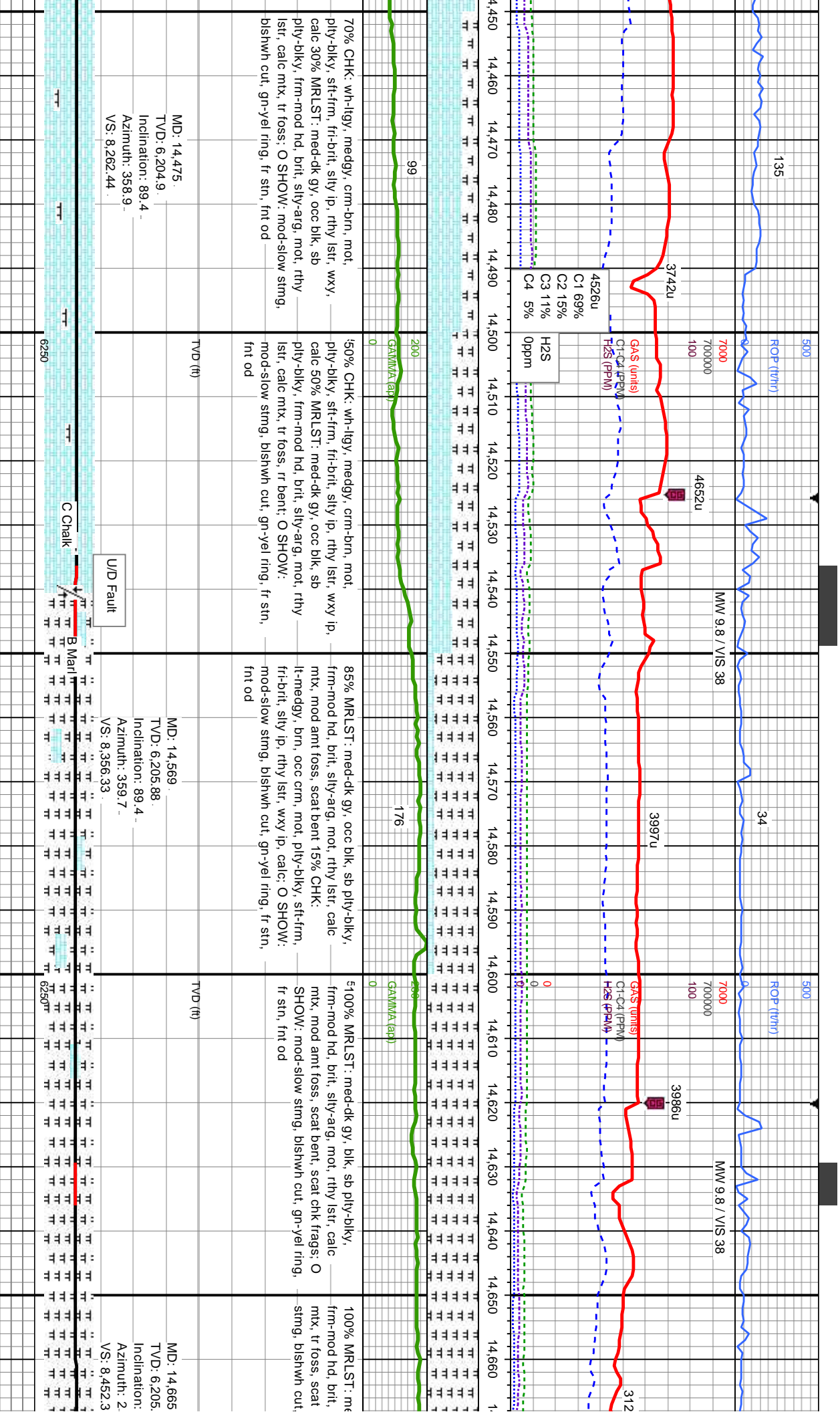
MD: 14,379  
TVD: 6,204.23  
Inclination: 89.8  
Azimuth: 359.9  
VS: 8,166.53

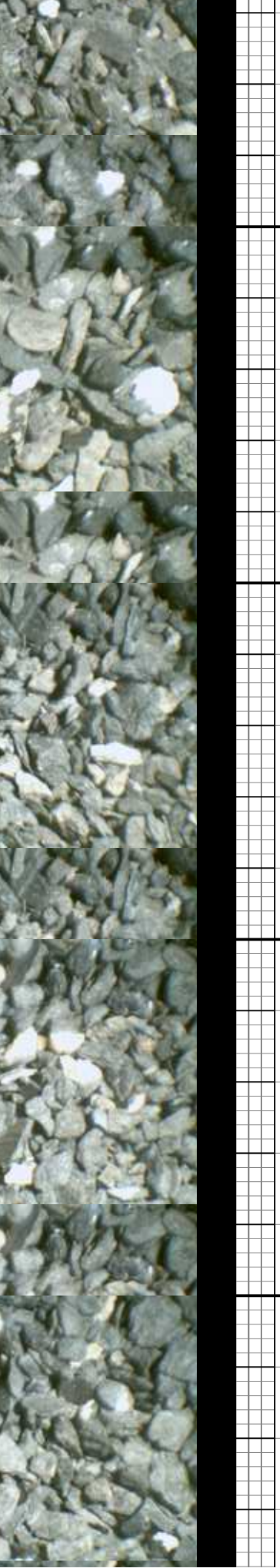
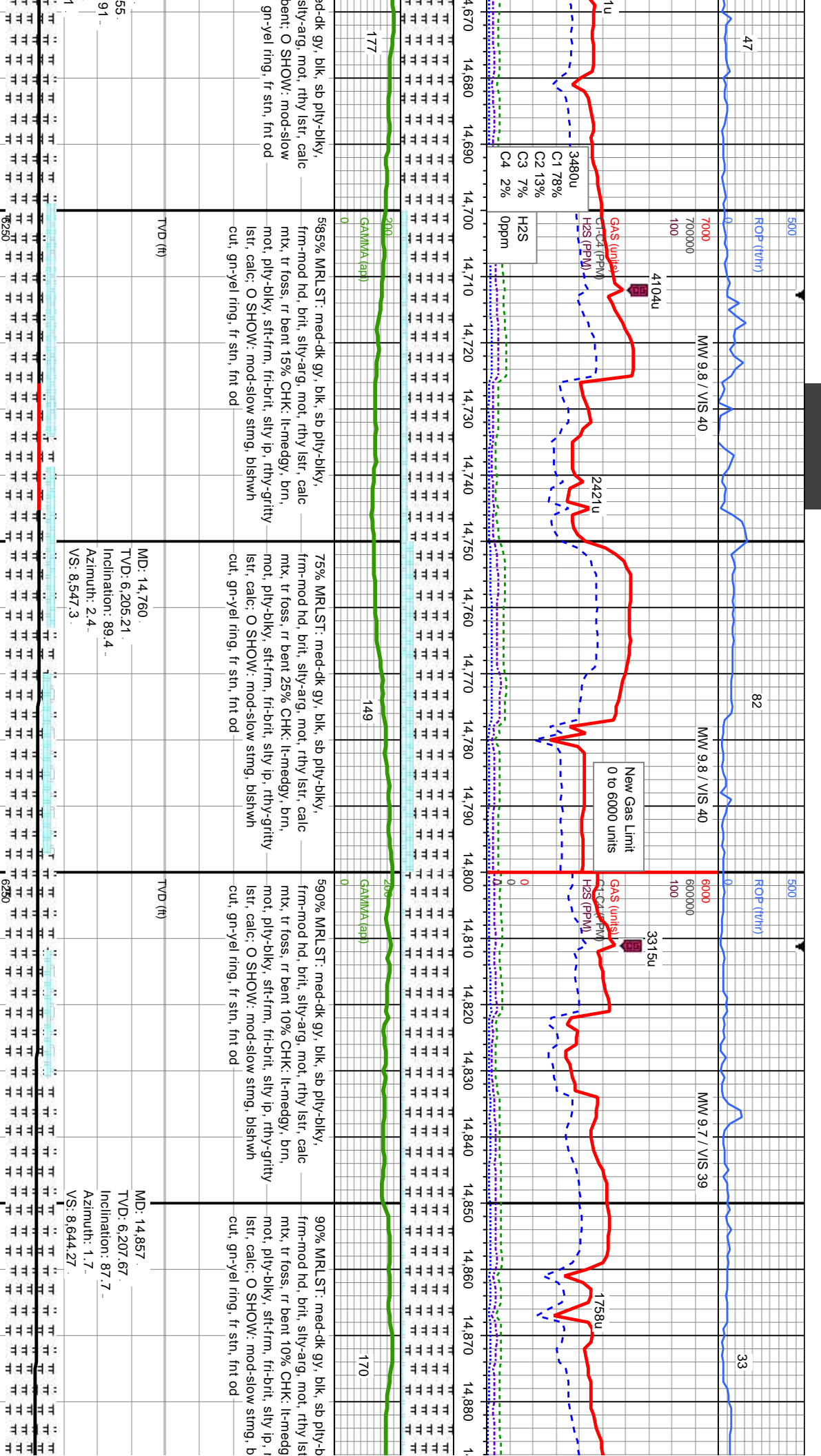
6250

6250



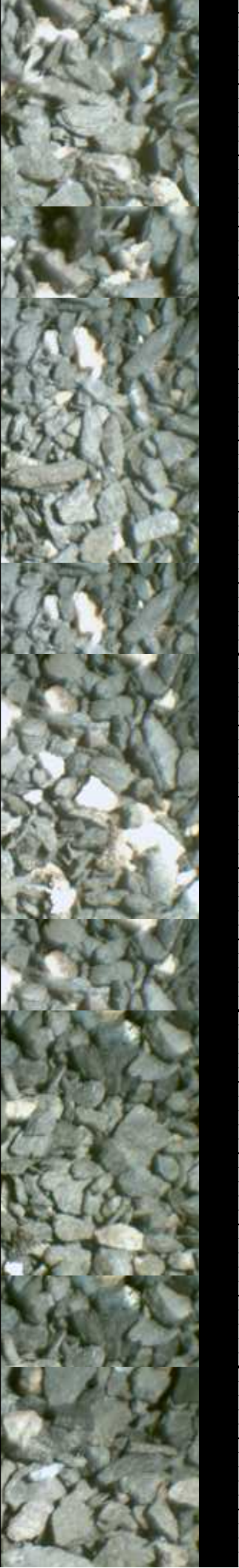
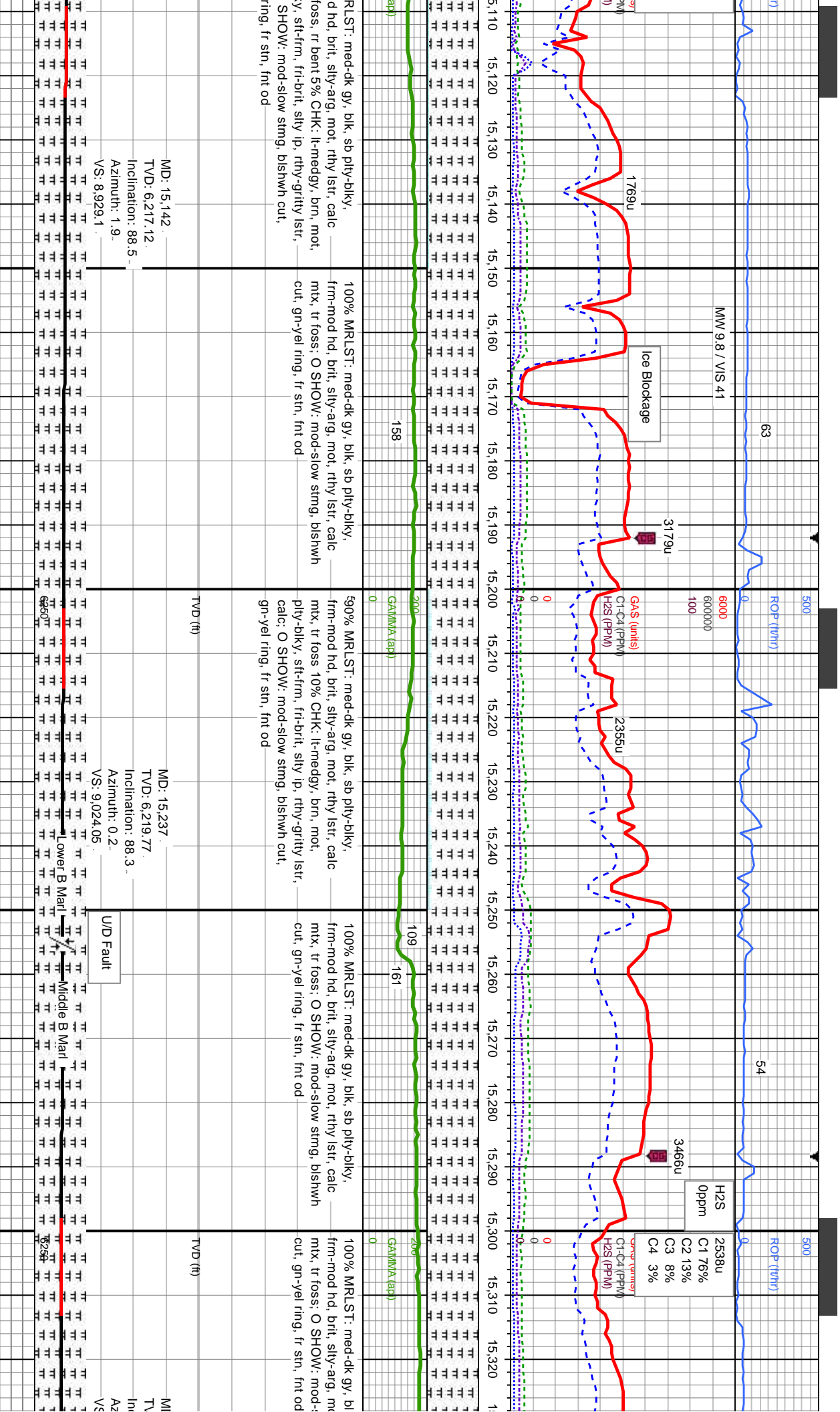




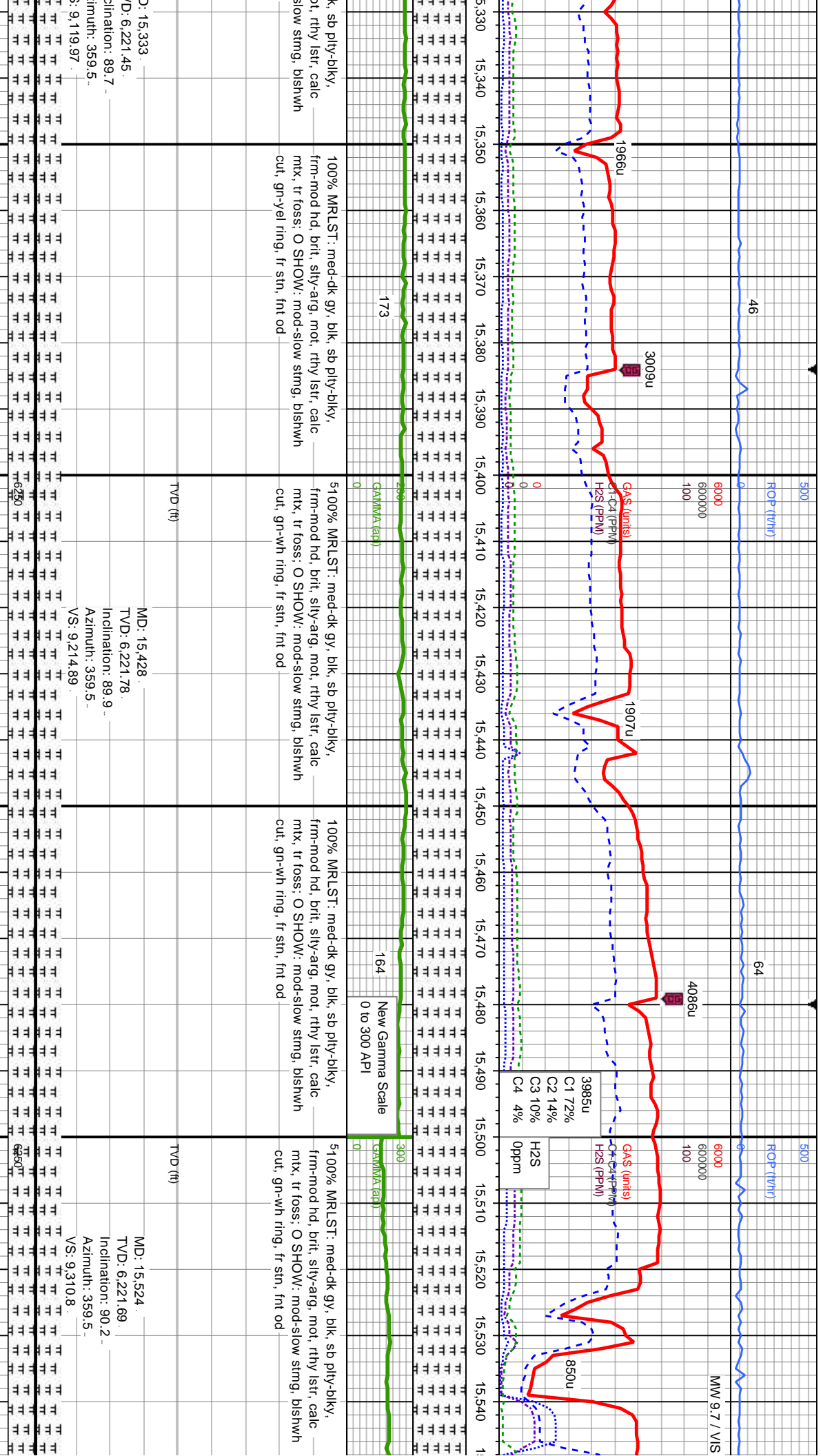












D: 15.333  
D: 6.221.45  
Inclination: 89.7  
Azimuth: 359.5  
VS: 9.119.97

MD: 15.428  
TVD: 6.221.78  
Inclination: 89.9  
Azimuth: 359.5  
VS: 9.214.89

MD: 15.524  
TVD: 6.221.69  
Inclination: 90.2  
Azimuth: 359.5  
VS: 9.310.8

k, sb pty-biky,  
dt, rthy lstr, calc  
slow string, bishwh

100% MRLST: med-dk gy, blk, sb pty-biky,  
frm-mod hd, brit, silty-arg, mot, rthy lstr, calc  
mtx, tr foss: O SHOW: mod-slow string, bishwh  
cut, gn-vel ring, fr str, fnt od

5100% MRLST: med-dk gy, blk, sb pty-biky,  
frm-mod hd, brit, silty-arg, mot, rthy lstr, calc  
mtx, tr foss: O SHOW: mod-slow string, bishwh  
cut, gn-wh ring, fr str, fnt od

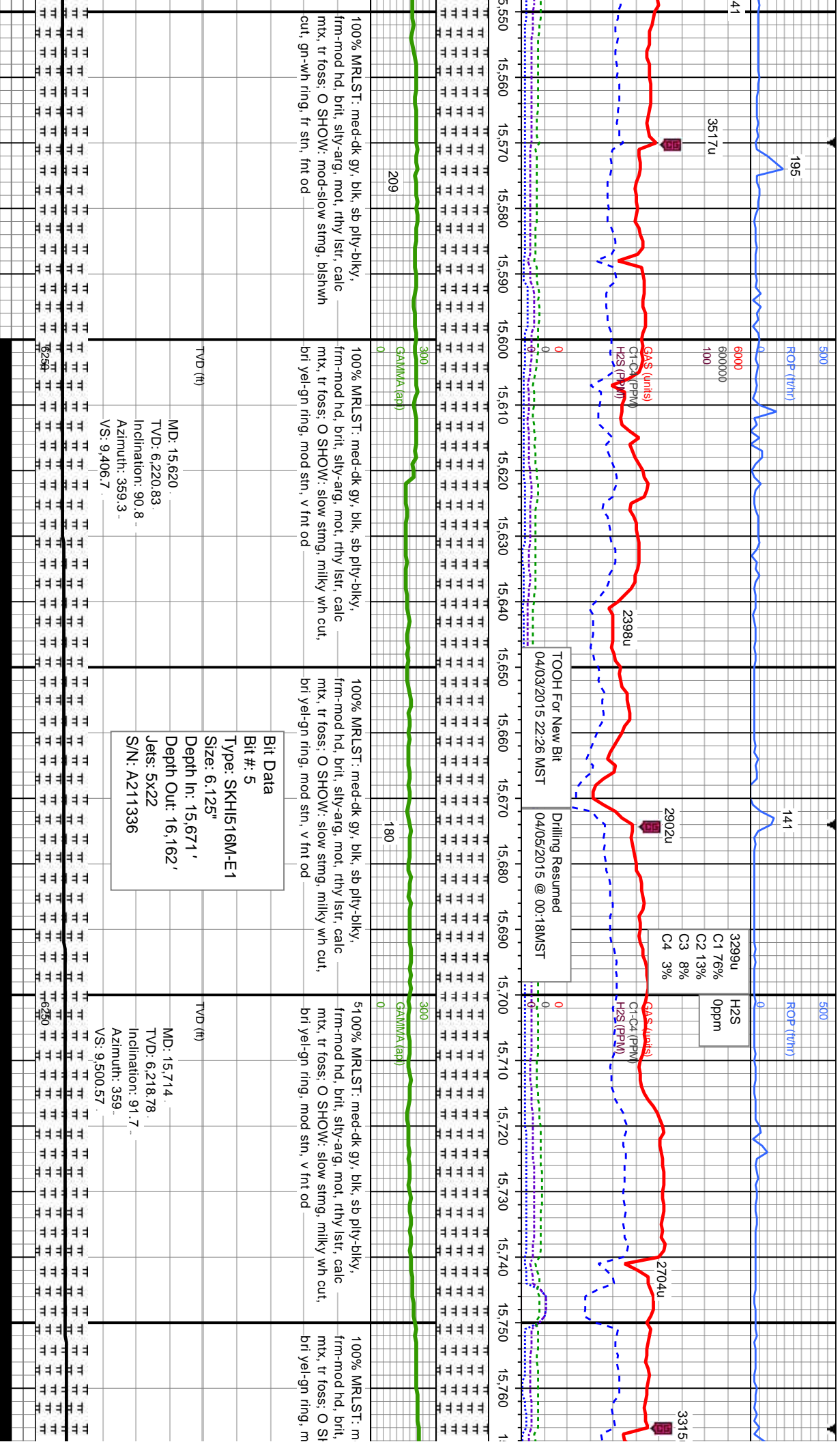
100% MRLST: med-dk gy, blk, sb pty-biky,  
frm-mod hd, brit, silty-arg, mot, rthy lstr, calc  
mtx, tr foss: O SHOW: mod-slow string, bishwh  
cut, gn-wh ring, fr str, fnt od

5100% MRLST: med-dk gy, blk, sb pty-biky,  
frm-mod hd, brit, silty-arg, mot, rthy lstr, calc  
mtx, tr foss: O SHOW: mod-slow string, bishwh  
cut, gn-wh ring, fr str, fnt od

TVD (ft)

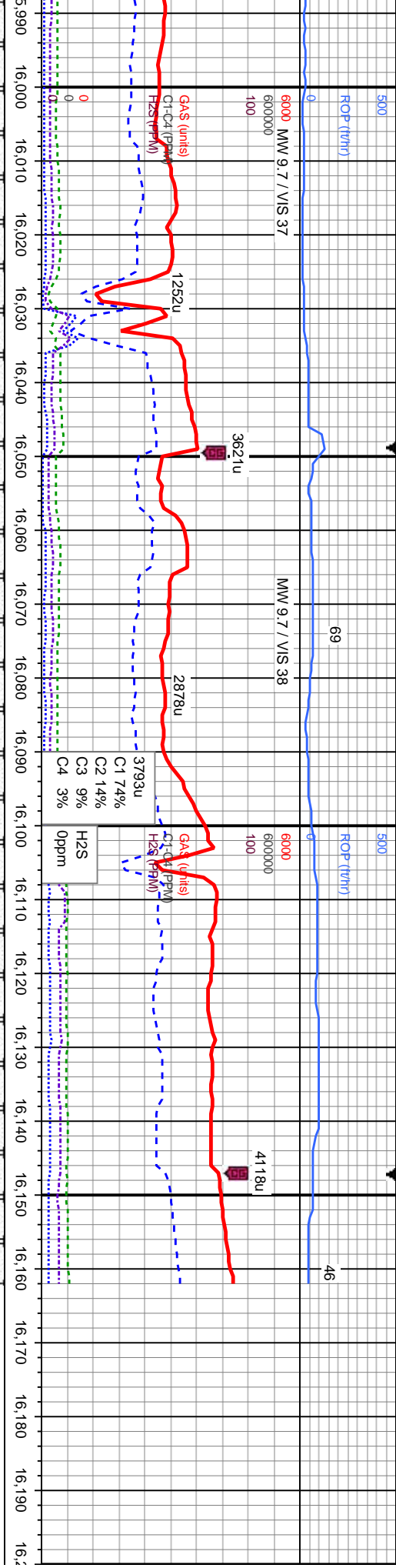
TVD (ft)

MW 9.7 / VIS







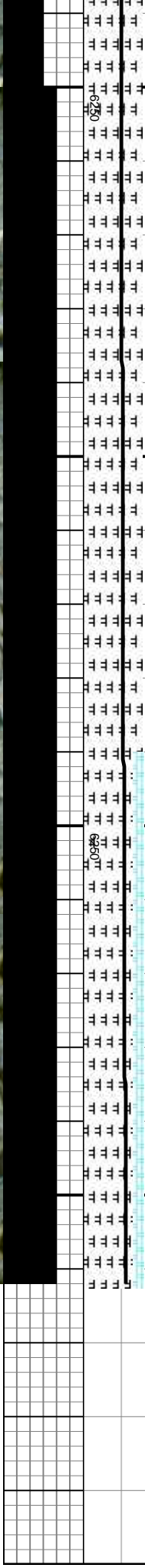


5100% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, tr foss, rr bent, scat pyr; O SHOW: mod-slow string, blshwn cut, gn-yel ring, mod stn, fnt od	90% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, tr foss, 10% CHK: lt-medgy, brn, mot, pty-biky, sft-frm, fri-brit, silty lp, rthy-gritty lstr, calc; O SHOW: mod-slow string, blshwn cut, gn-yel ring, mod stn, fnt od	90% MRLST: med-dk gy, blk, sb pty-biky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, tr foss, 10% CHK: lt-medgy, brn, mot, pty-biky, sft-frm, fri-brit, silty lp, rthy-gritty lstr, calc; O SHOW: mod-slow string, blshwn cut, gn-yel ring, mod stn, fnt od
GA3 (in/ft)	GA3 (in/ft)	GA3 (in/ft)
0	234	300

MD: 16.001  
TVD: 6,214.7  
Inclination: 90.8  
Azimuth: 0.5  
VS: 9,787.38

MD: 16.109  
TVD: 6,211.97  
Inclination: 92.1  
Azimuth: 1  
VS: 9,895.32

MD: 16.162  
TVD: 6,210.02  
Inclination: 92.1  
Azimuth: 1  
VS: 9,948.28



TD @ MD 16162  
04/05/2015 @ 18:38MST  
Thank you for using  
Columbine Logging, Inc.