



Scale: 5" / 100'  
Measured Depth Log

Well Name State Pronghorn X-D-29HNC

Location SESE SECTION 29, T5N, R61W

State COLORADO County WELD

Country USA Rig Number CADE 25

API Number 05-123-40062 AFE # 15021

Region DJ BASIN Field WATTENBERG

Spud Date 2/1/2015 Drilling Completed 2/16/2015

Surface Coordinates 1240' FSL x 230' FEL

Bottom Hole Coordinates 1281' FSL x 525' FWL

Ground Elevation 4602' K.B. Elevation 4619'

Logged Interval 5600' To 10612' Total Depth 10612'

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

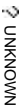

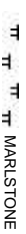
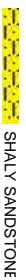

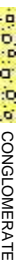

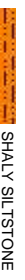



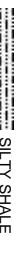

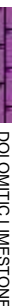








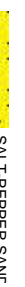





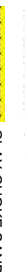





## Zone Color Coding

Oil  
Note  
Error

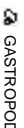

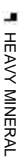
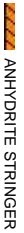
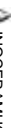
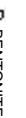

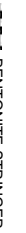
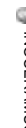


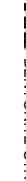
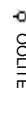
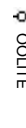
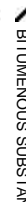
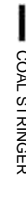
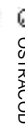
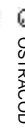

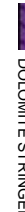


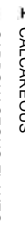
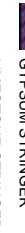
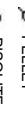
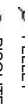

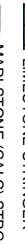
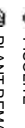
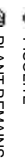

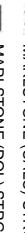
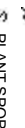
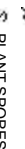




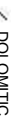
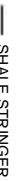
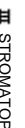
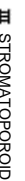







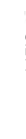

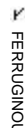




Condensate  
Core  
Water

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
 BELEMNITE	 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
- VUGGY






































Engineering

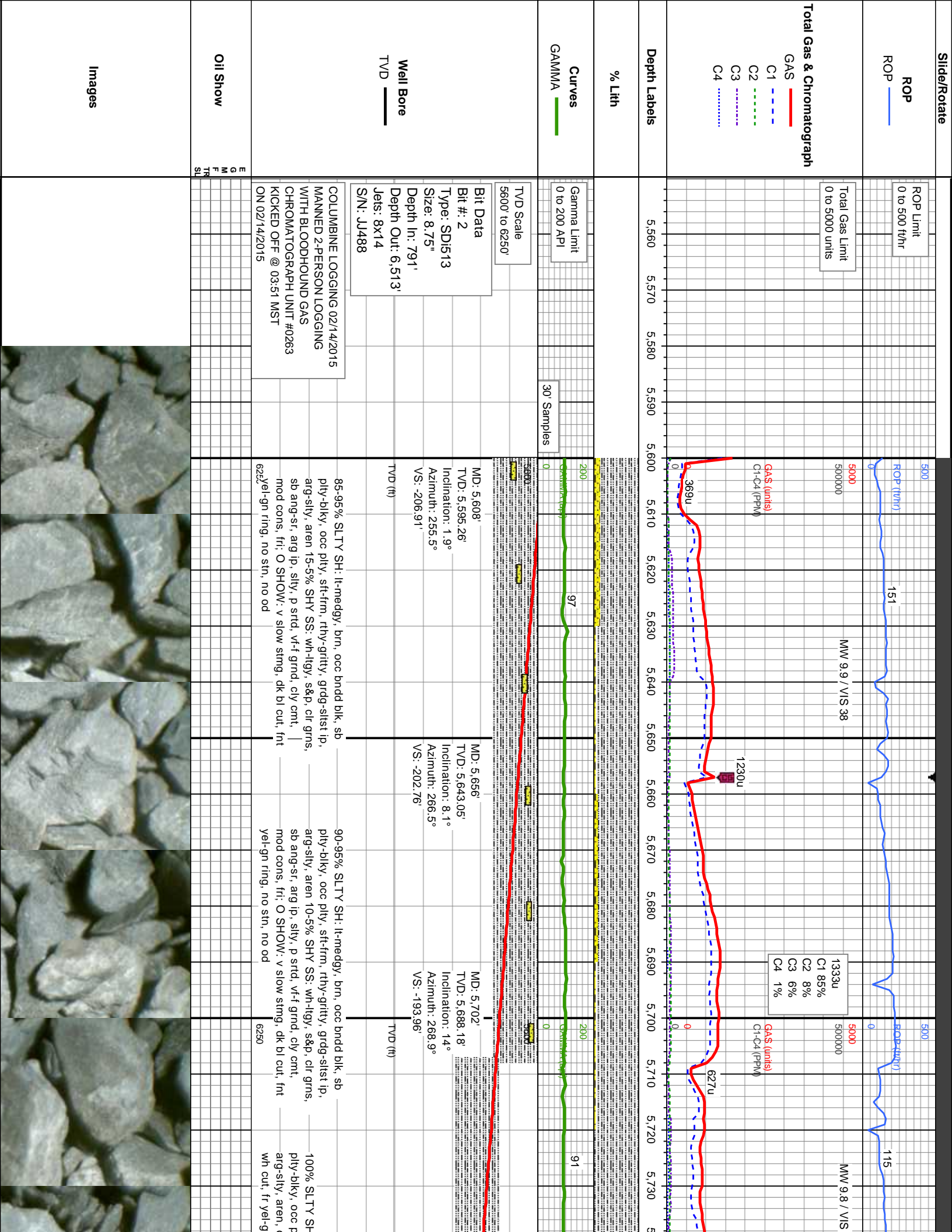
- D DEAD
- EVEN
- QUESTIONABLE
- BIT
- SPOTTED STAINING
- CONNECTION (UP)

Porosity

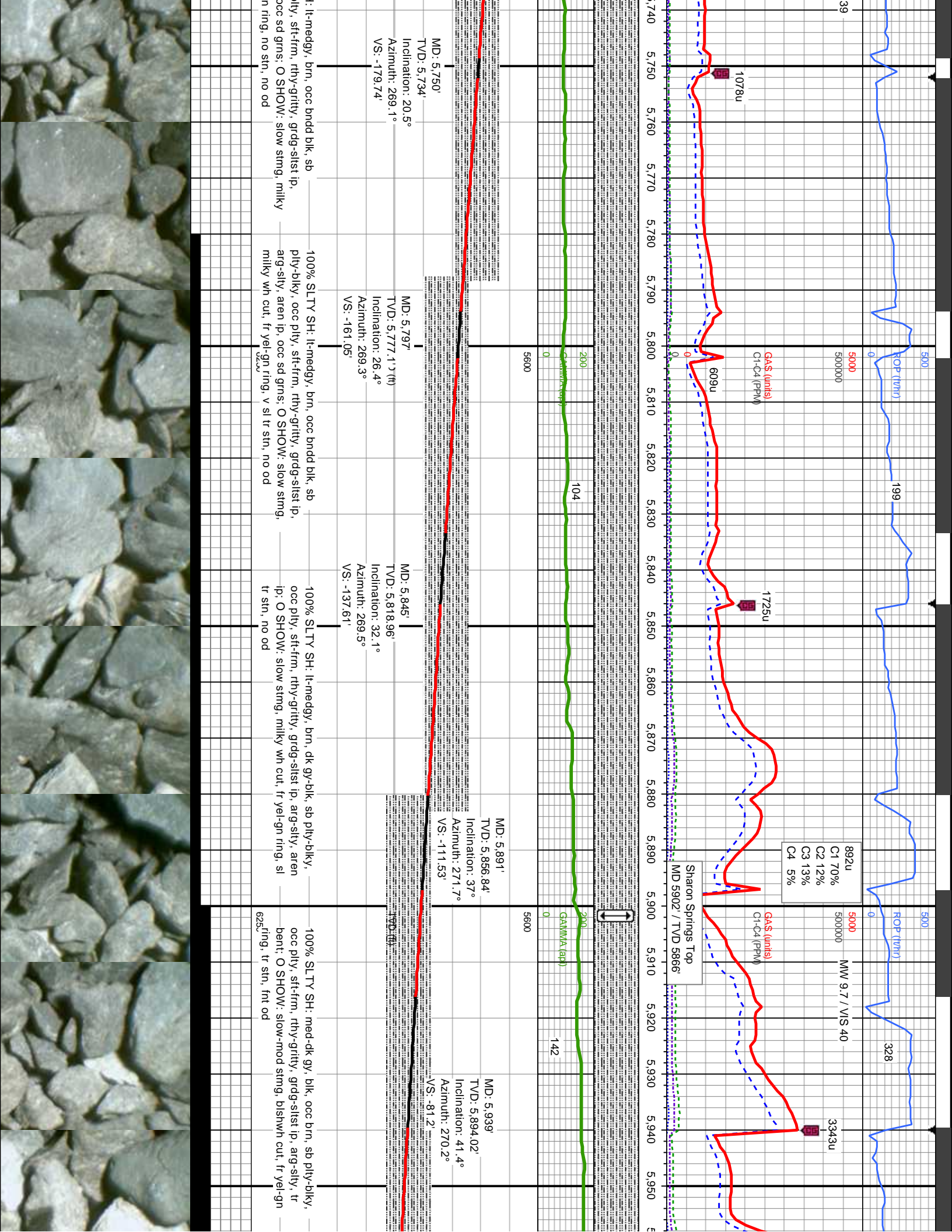
- CONNECTION GAS
- CONNECTION GAS
- TRIP GAS
- TRIP GAS (LEFT)
- FRACTURE
- INTERCRYSTALLINE
- DOWN TIME GAS
- INTEROOLITIC
- DOWN TIME GAS
- MOLDIC
- CORE - LOST
- CORE - RECOVERED

Other Symbols

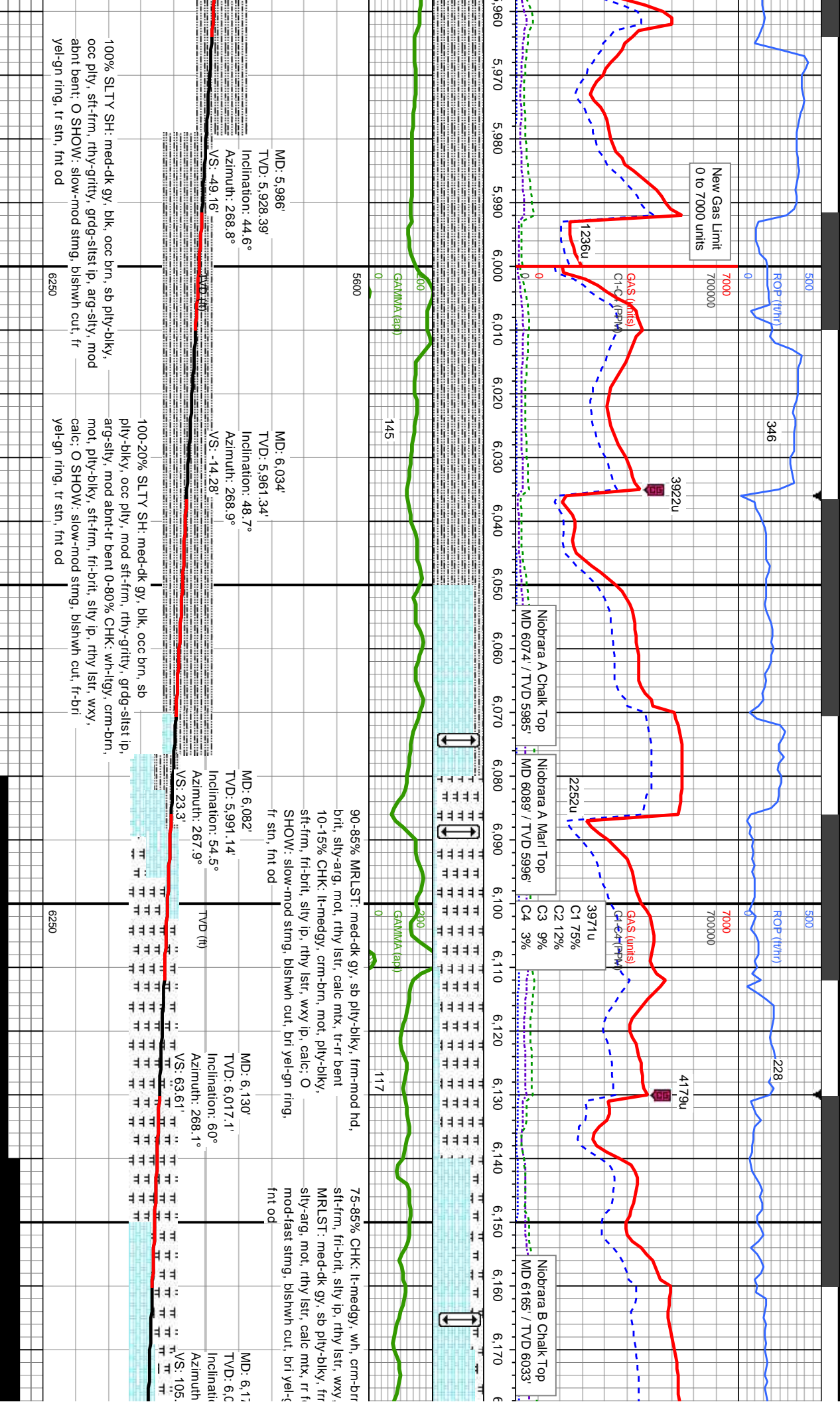
	DST INTERVAL		WIRELINE TESTED - LEFT		E EARTHY
	FAULT		WIRELINE TESTED - RT		FX FINELYXLN
	FORMATION TOP		DRILL STEM TEST		BS GRAINSTONE
	GAS SHOW		MIN DEPTH		L LITHOGRAPHIC
	OIL SHOW				MX MICROXLN
	MIN DEPTH UP	<b>Rounding</b>			
					MS MUDSTONE
	MIN DEPTH (DOWN)		ANGULAR		PS PACKSTONE
	NORMAL FAULT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





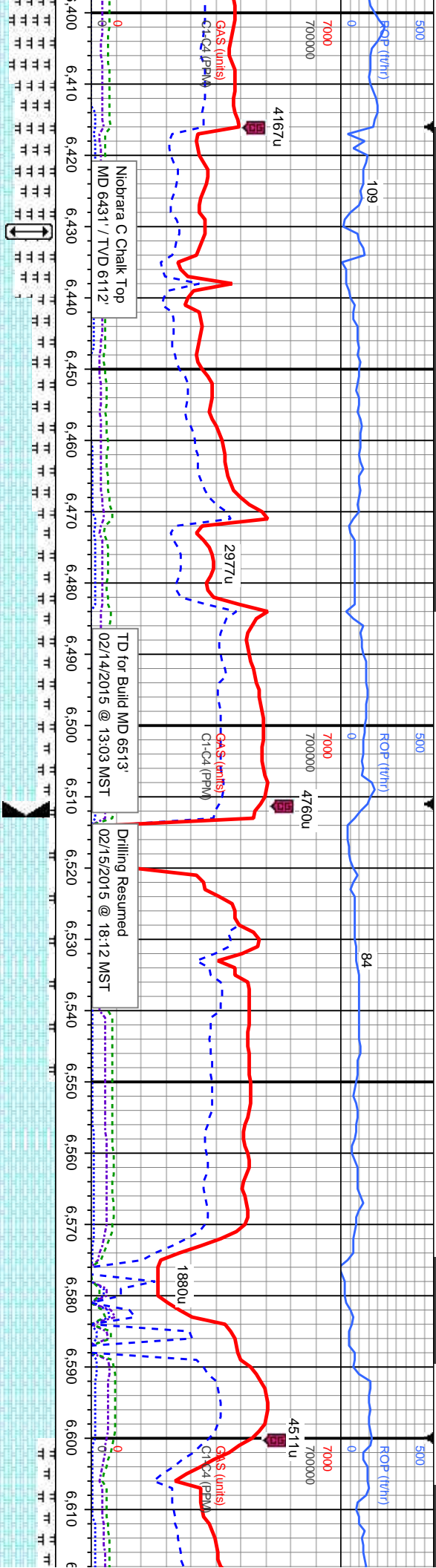












med-dk gy, blk, sb ply-biky, frm-nod  
j, mot, rthy lstr, calc mix, tr foss, r  
20-30% CHK: lt-medgy, crm ip-brn,  
sft-frm, fr-brit, silty ip, rthy lstr, wxy ip,  
mod stmg, blshwh cut, bri yel-gn  
od

60-70% CHK: lt-medgy, wh, crm-brn, mot, ply-biky,  
sft-frm, fr-brit, silty ip, rthy lstr, wxy, calc 40-30%  
MR.LST: med-dk gy, blk, sb ply-biky, frm-mod hd, brit,  
silty-arg, mot, rthy lstr, calc mix, tr foss, r bent, dissim  
pyr: O SHOW: mod stmg, blshwh cut, bri yel-gn ring, fr  
stn, fnt od

90% CHK: wh-crm, occ lgy, mot, ply-biky, sft-frm,  
fr-brit, silty ip, rthy lstr, wxy, calc 10% MR.LST:  
med-dk gy, blk, sb ply-biky, frm-mod hd, brit,  
silty-arg, mot, rthy lstr, calc mix, tr foss, r bent,  
dissim pyr: O SHOW: mod-fast stmg, blshwh cut,  
gn-yel ring, fr stn, fnt od

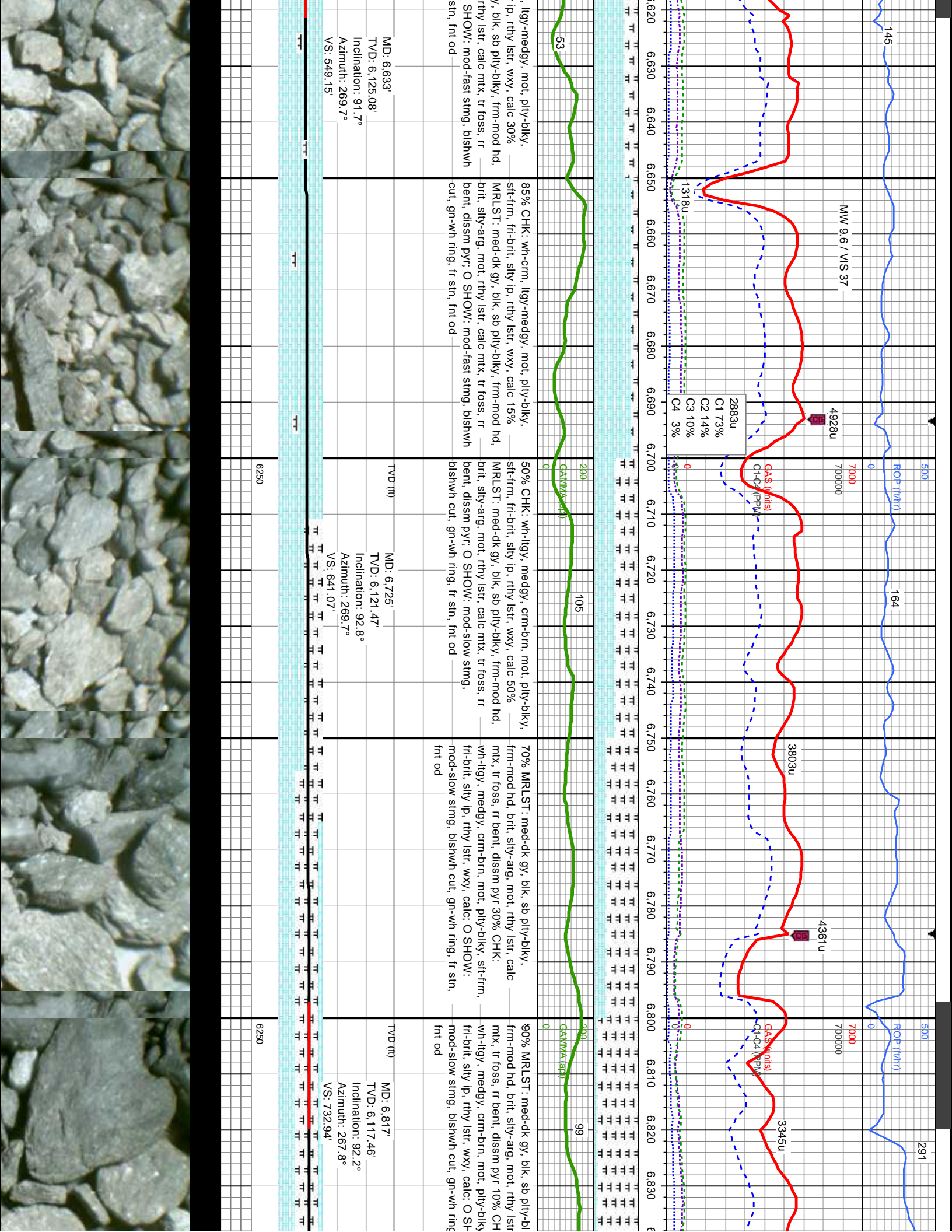
100% CHK: wh-crm, occ lgy, mot, ply-biky,  
sft-frm, fr-brit, silty ip, rthy lstr, wxy, calc: O  
SHOW: mod-fast stmg, blshwh cut, gn-yel  
ring, fr stn, fnt od

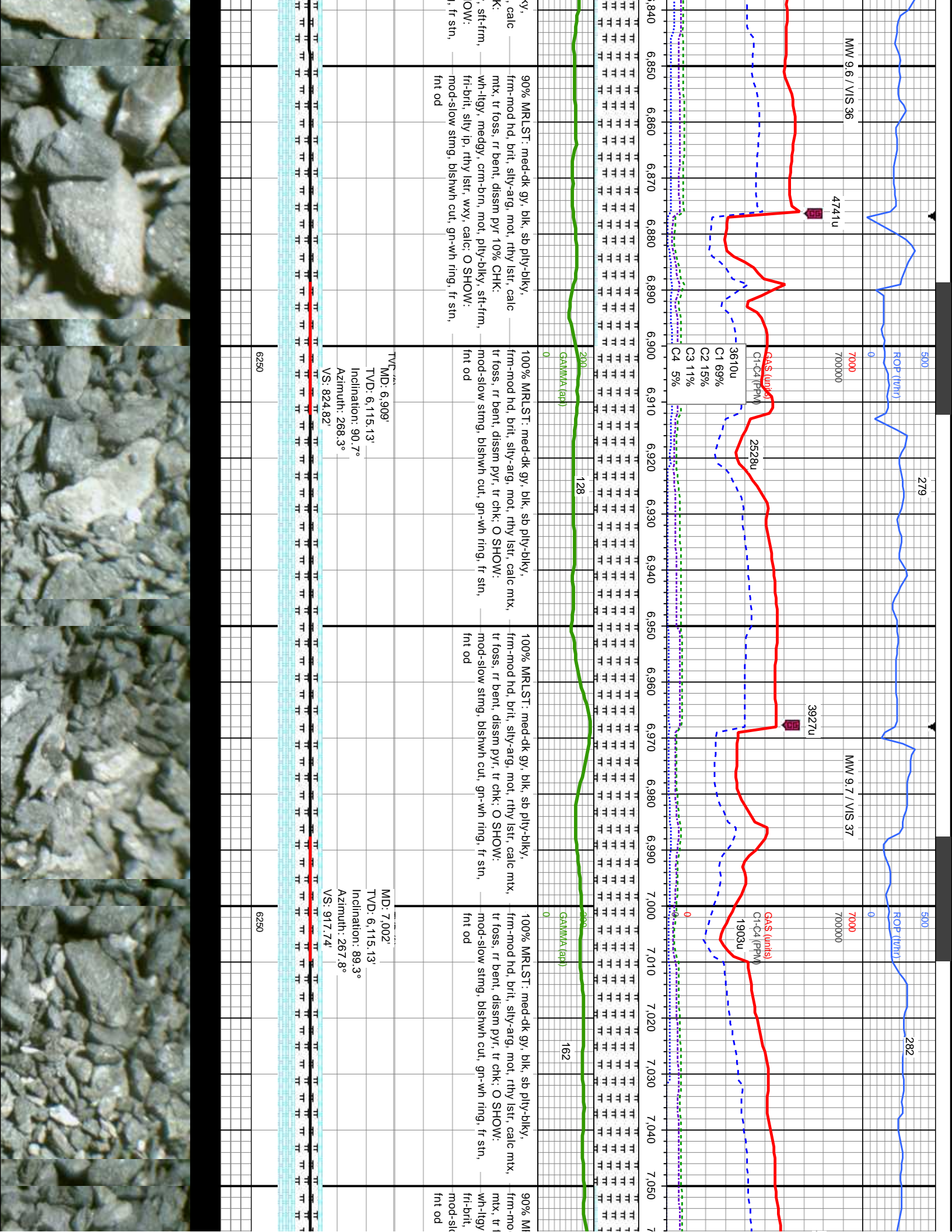
70% CHK: wh-crm  
sft-frm, fr-brit, silty  
MR.LST: med-dk g  
brit, silty-arg, mot,  
bent, dissim pyr: O  
cut, gn-wh ring, fr

TVD (ft)	MD: 6,416'	MD: 6,461'	TVD: 6,513'	MD: 6,540'	TVD (ft)
	Inclination: 76.3°	TVD: 6,117.03'	Inclination: 89.5°	Depth In: 6,513'	
VS: 333.34'	Azimuth: 269.3°	Inclination: 82.4°	Depth Out: 10,612'	Jets: 5x16	VS: 456.18'
	VS: 377.53'	Azimuth: 269.5°	Azimuth: 270.7°	S/N: J18674	

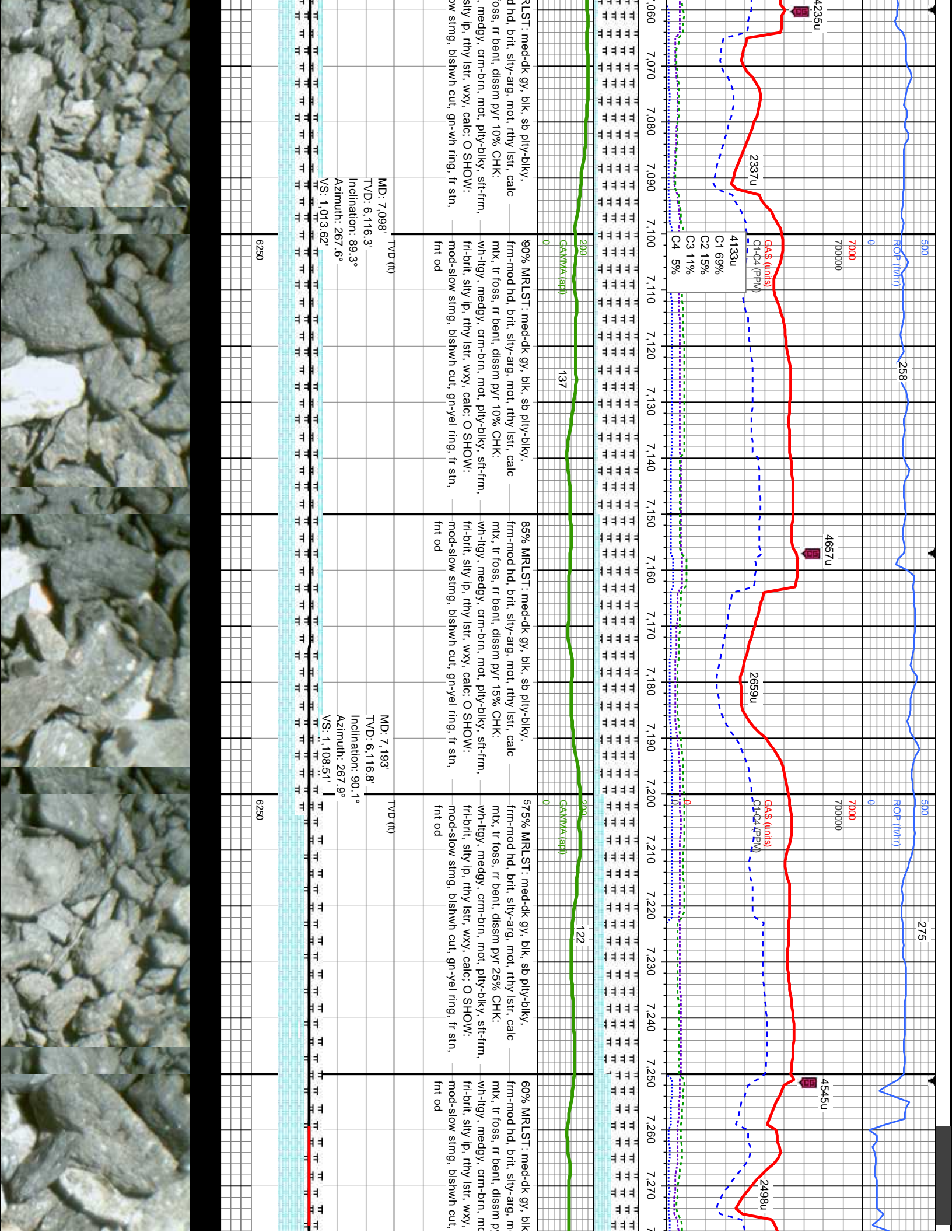




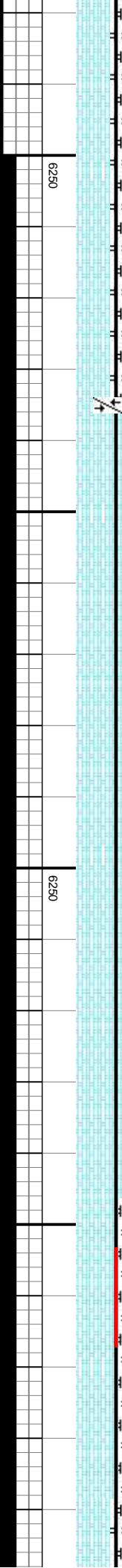
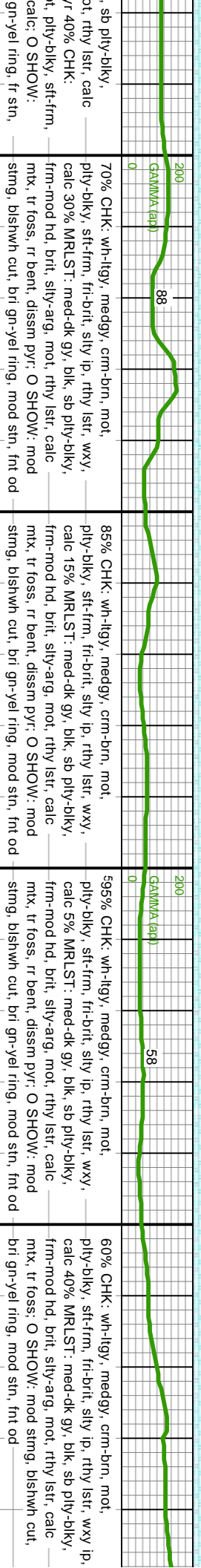
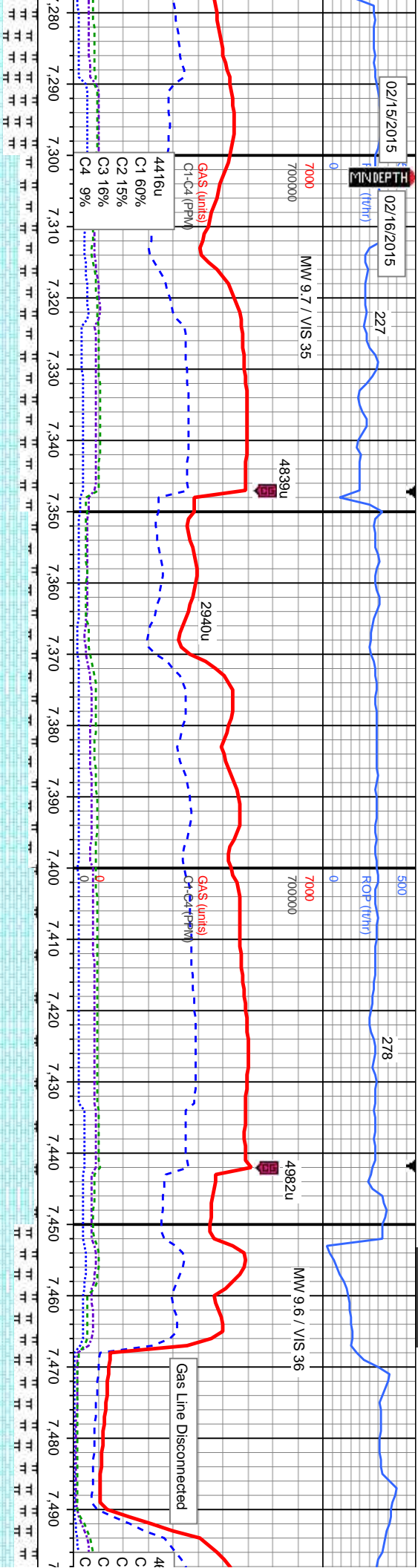


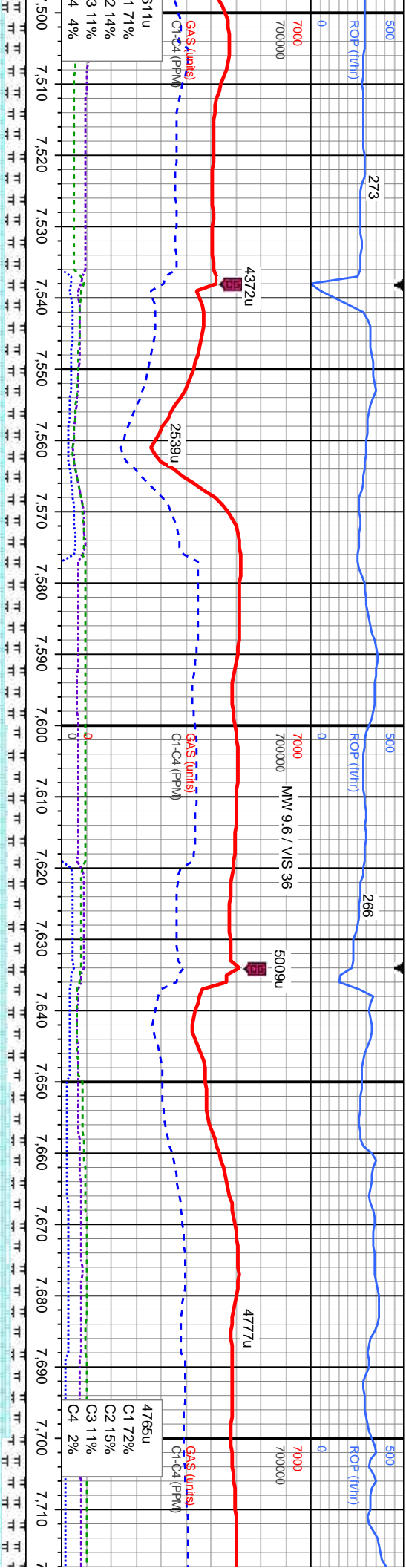












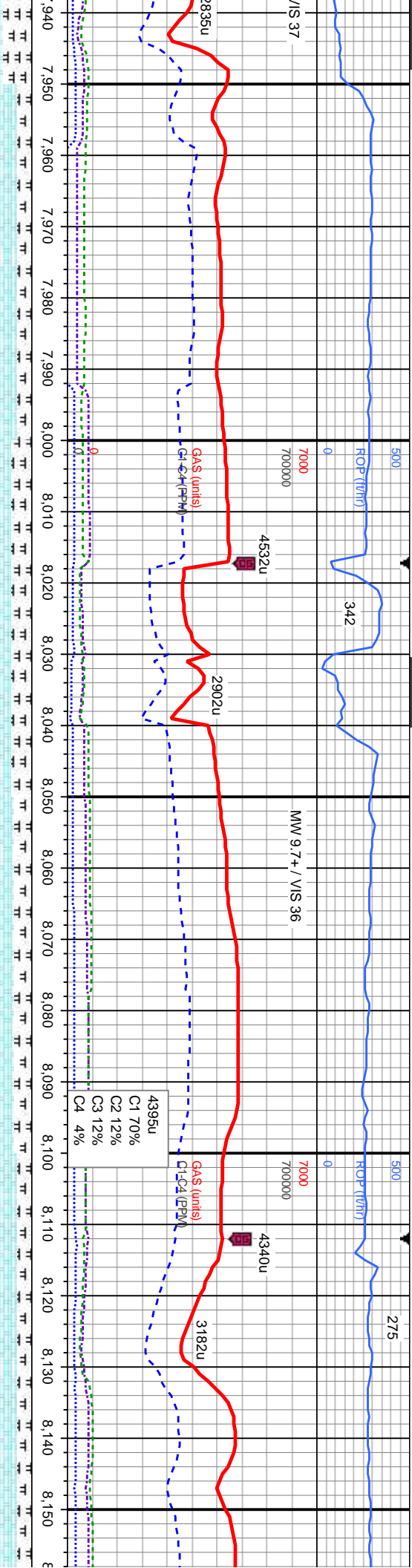
65% CHK: wh-llgy, medgy, crm-brn, mot, plty-blky, sft-frm, frt-brit, silty ip, rthy lstr, wxy ip, calc 35% MRLST: med-dk gy, blk, sb plty-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: mod stmg, blshwh cut, bri gn-yel ring, mod stn, fnt od	65% CHK: wh-llgy, medgy, crm-brn, mot, plty-blky, sft-frm, frt-brit, silty ip, rthy lstr, wxy ip, calc 35% MRLST: med-dk gy, blk, sb plty-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: mod-slow stmg, blshwh cut, bri gn-yel ring, mod stn, fnt od	570% CHK: wh-llgy, medgy, crm-brn, mot, plty-blky, sft-frm, frt-brit, silty ip, rthy lstr, wxy ip, calc 30% MRLST: med-dk gy, blk, sb plty-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: mod-slow stmg, blshwh cut, bri gn-yel ring, mod stn, fnt od	75% CHK: wh-llgy, medgy, crm-brn, mot, plty-blky, sft-frm, frt-brit, silty ip, rthy lstr, wxy ip, calc 25% MRLST: med-dk gy, blk, sb plty-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: mod-slow stmg, blshwh cut, bri gn-yel ring, mod stn, fnt od	60% CHK: wh-llgy, medgy, crm-brn, mot, plty-blky, sft-frm, frt-brit, silty ip, rthy lstr, wxy ip, calc 40% MRLST: med-dk gy, blk, sb plty-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, rr foss: O SHOW: mod stmg, blshwh cut, bri gn-yel ring, mod stn, fnt od
TVD (ft)	TVD (ft)	TVD (ft)	TVD (ft)	TVD (ft)
MD: 7.576' TVD: 6,116.88' Inclination: 89.8° Azimuth: 268.7° VS: 1,491.4'	MD: 7.672' TVD: 6,116.46' Inclination: 90.7° Azimuth: 269.4° VS: 1,587.37'			
6250	6250	6250	6250	6250









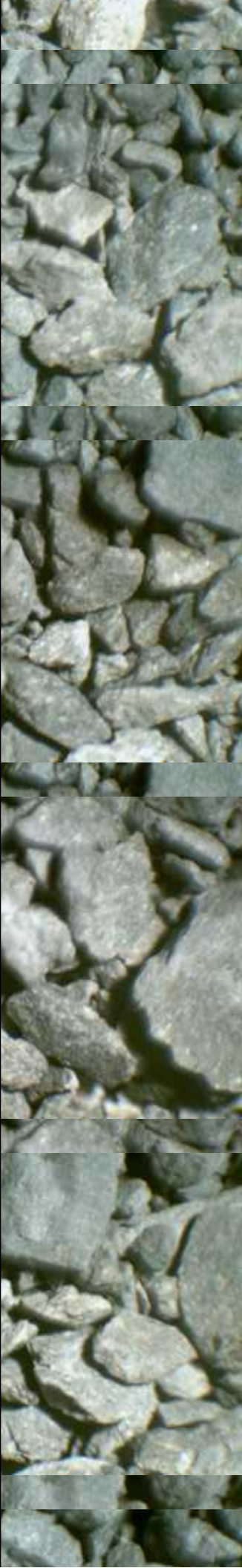


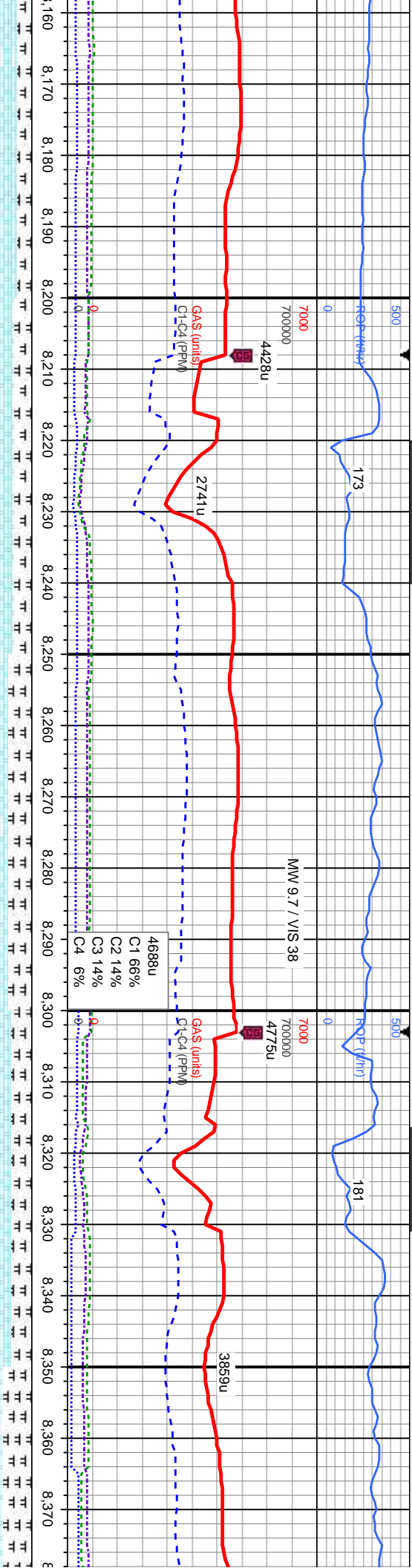
ply-blky, calc 50% frm-mod	75% CHK: lt-medgy, wh, crm-brn, mot, ply-blky, sft-frm, fri-brt, silty lp, rthy lstr, wxy, calc 25% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, v rr foss; O SHOW: mod stmg, blshwh cut, bri gn-yel ring, mod stn, fnt od	565% CHK: lt-medgy, wh, crm-brn, mot, ply-blky, sft-frm, fri-brt, silty lp, rthy lstr, wxy, calc 35% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, v rr foss; O SHOW: mod stmg, blshwh cut, bri gn-yel ring, mod stn, fnt od	70% CHK: lt-medgy, wh, crm-brn, mot, ply-blky, sft-frm, fri-brt, silty lp, rthy lstr, wxy, calc 30% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, v rr foss; O SHOW: mod stmg, blshwh cut, bri gn-yel ring, mod stn, fnt od	75% CHK: lt-medgy, wh, crm-brn, mot, ply-blky, sft-frm, fri-brt, silty lp, rthy lstr, wxy, calc 25% MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brit, silty-arg, mot, rthy lstr, calc mtx, v rr foss; O SHOW: mod-fast stmg, blshwh cut, bri gn-yel ring, mod stn, fnt od	75% Ch sft-frm, MRLST: med-dk gy, blk, sb ply-blky, frm-mod hd, brit foss; O SHOW: mod-fast stmg, blshwh cut, bri gn-yel ring, mod stn, fnt od
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MD: 7.956'  
TVD: 6,124.71'  
Inclination: 88.8°  
Azimuth: 268.9°  
VS: 1,873.19'

MD: 8.054'  
TVD: 6,125.8'  
Inclination: 89.9°  
Azimuth: 268.7°  
VS: 1,969.14'

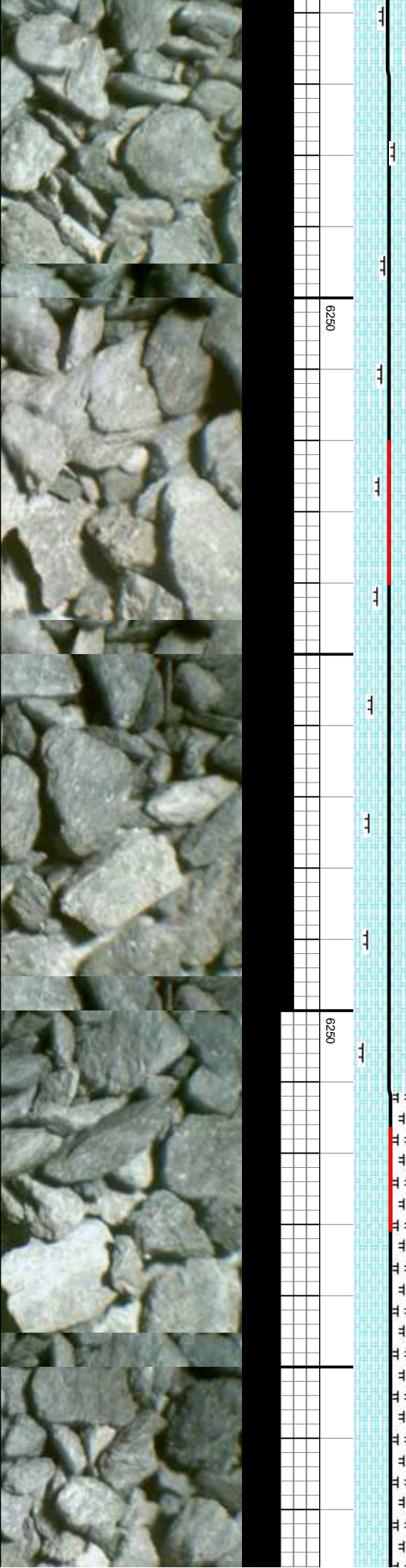
MD: 8.150'  
TVD: 6,126.97'  
Inclination: 88.7°  
Azimuth: 267.3°  
VS: 2,065.04'



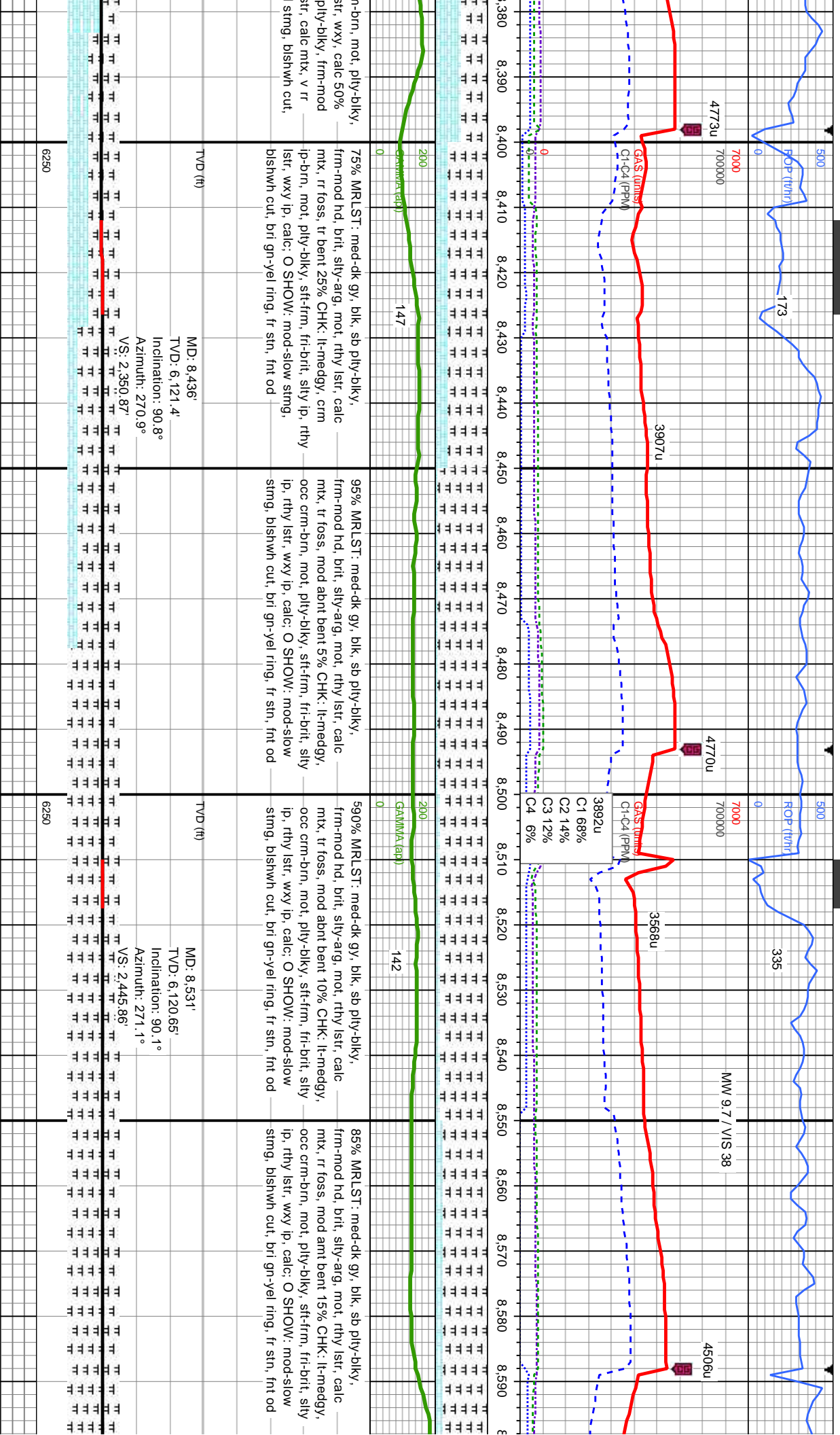


HK: lt-medgy, wh, crm-brn, mot, pily-blky, frt-brit, sily ip, rthy lstr, wxy, calc 25% med-dk gy, blk, sb pily-blky, frm-mod sily-arg, mot, rthy lstr, calc mtx, v rr SHOW: mod-fast stmg, blshwh cut, bri ring, mod stn, frt od	200 GAMMA (cp)	102	60% CHK: lt-medgy, wh, crm-brn, mot, pily-blky, sft-frm, frt-brit, sily ip, rthy lstr, wxy, calc 40% 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 stmg, blshwh cut, bri gn-yel ring, mod stn, frt od	200 GAMMA (cp)	130	50% CHK: lt-medgy, wh, crm-brn, mot, pily-blky, sft-frm, frt-brit, sily ip, rthy lstr, wxy, calc 35% MRLST: med-dk gy, blk, sb pily-blky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, v rr foss: tr bent, O SHOW: mod stmg, blshwh cut, bri gn-yel ring, fr stn, frt od
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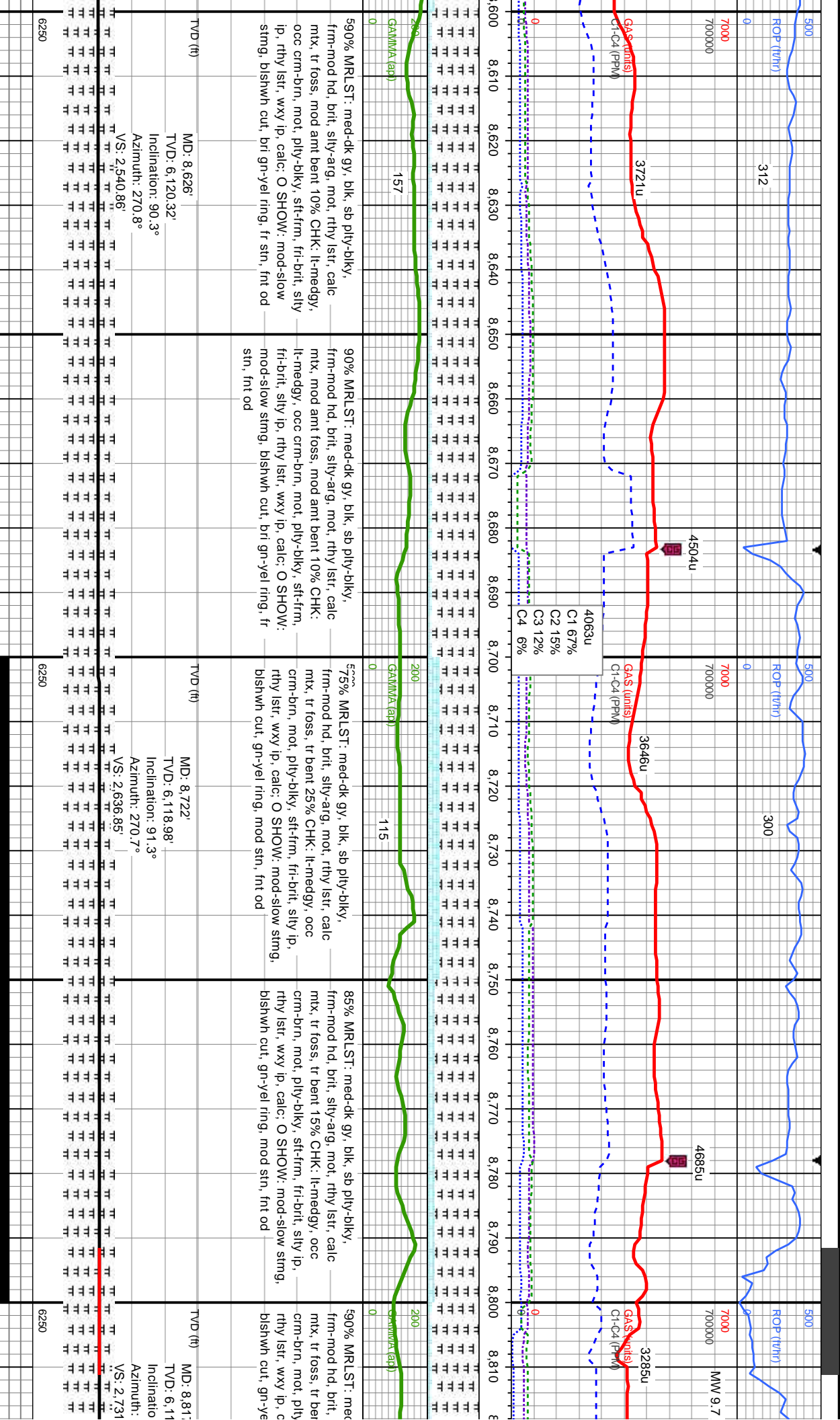
TVD (ft)	MD: 8,245' TVD: 6,126.39' Inclination: 92° Azimuth: 269.3° VS: 2,159.95'	TVD (ft)	MD: 8,340' TVD: 6,123.41' Inclination: 91.6° Azimuth: 271° VS: 2,254.9'
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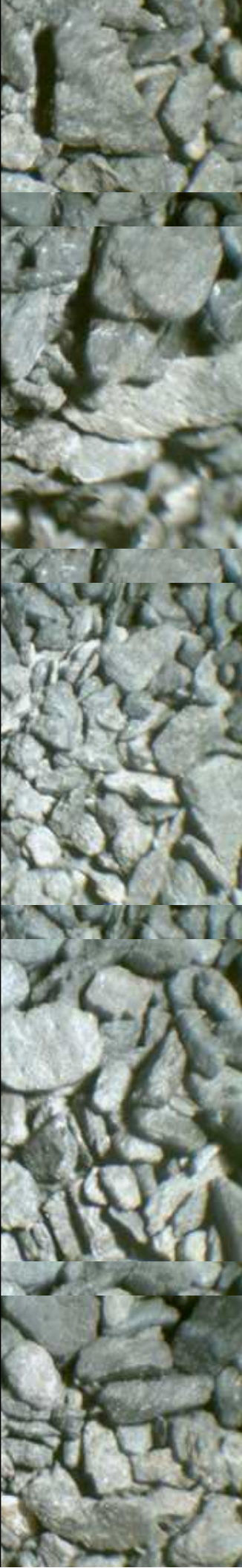
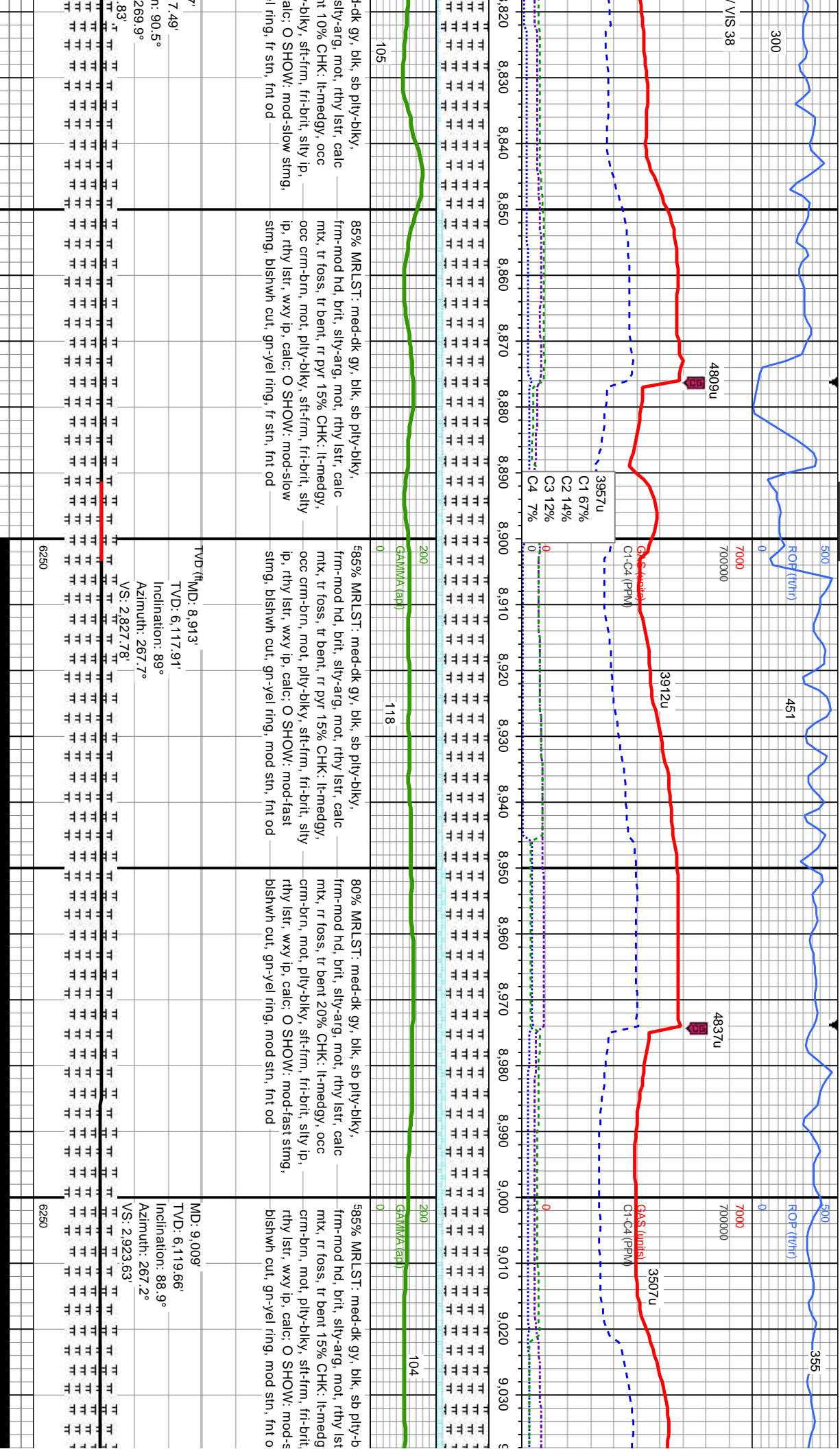




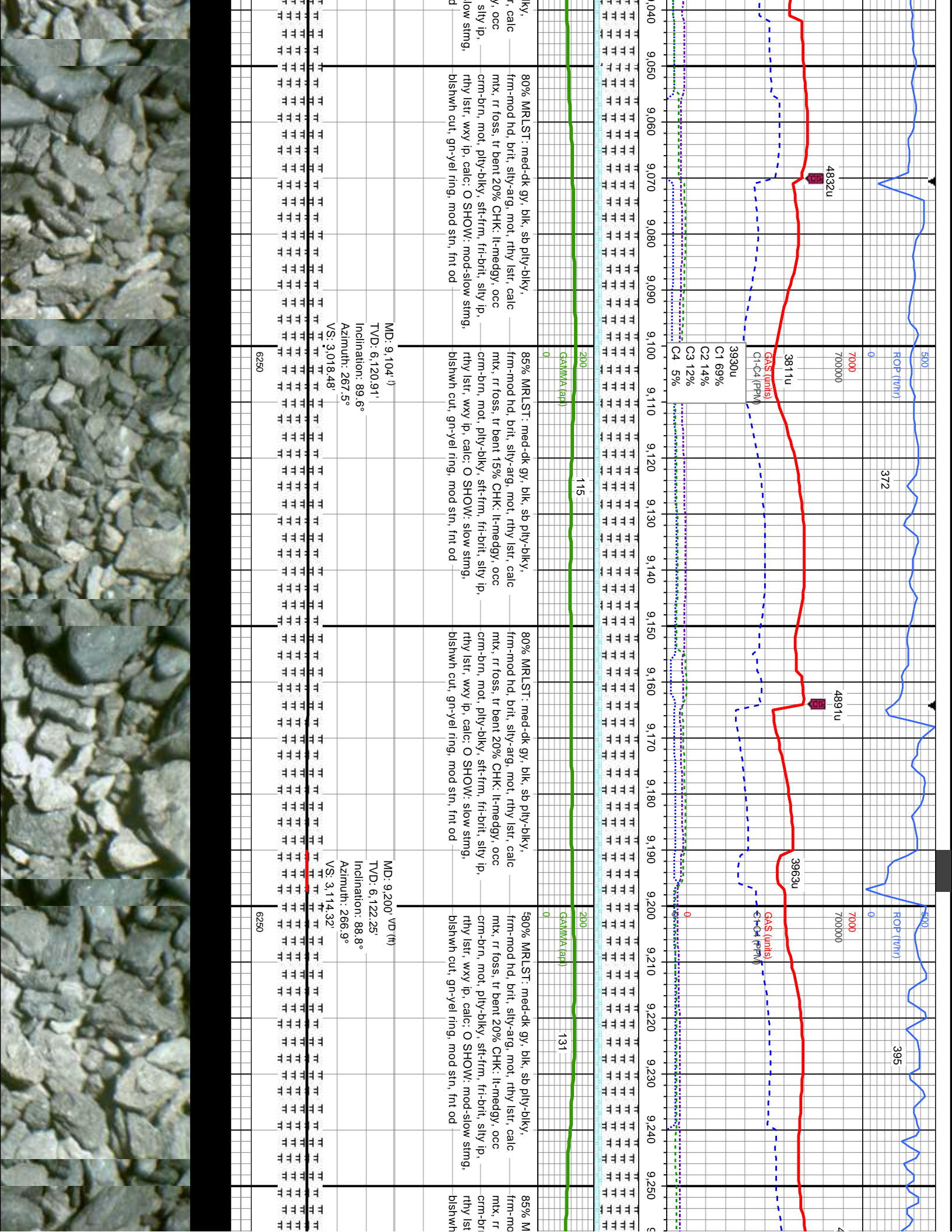




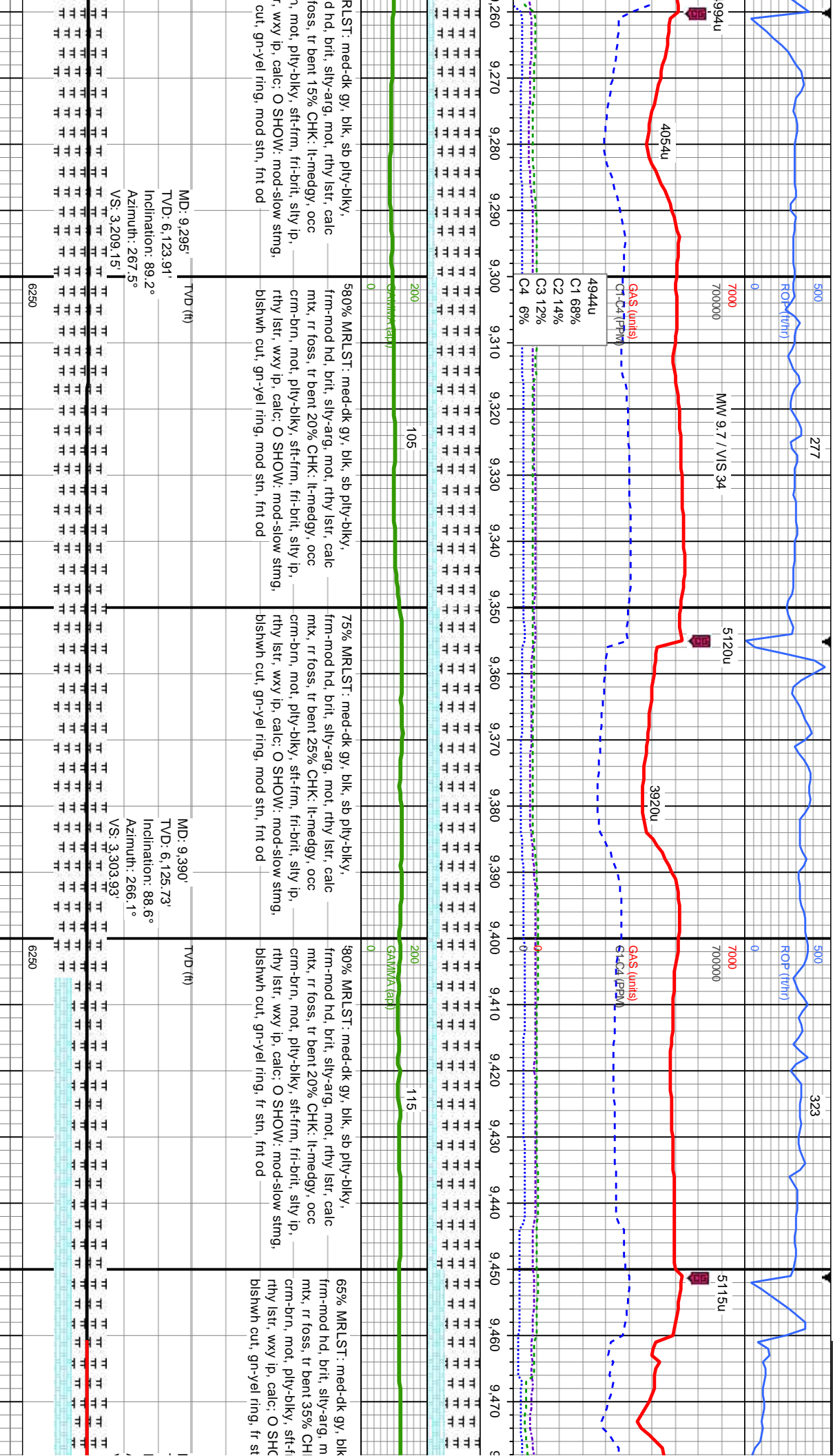


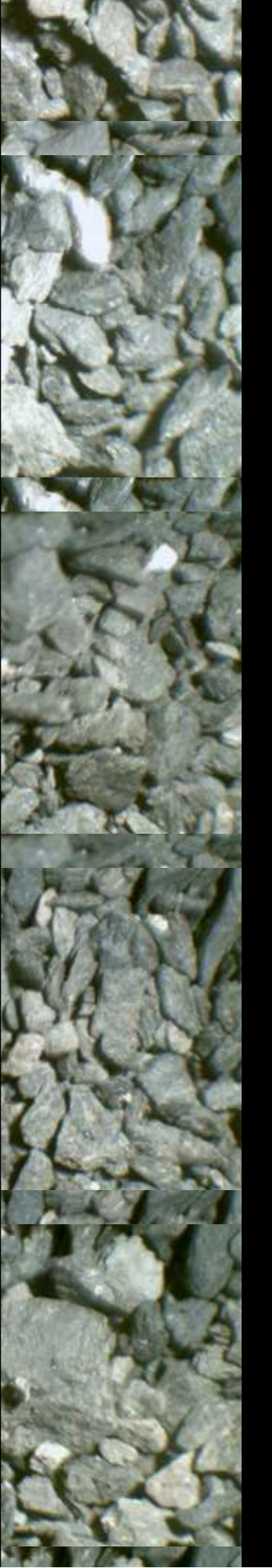
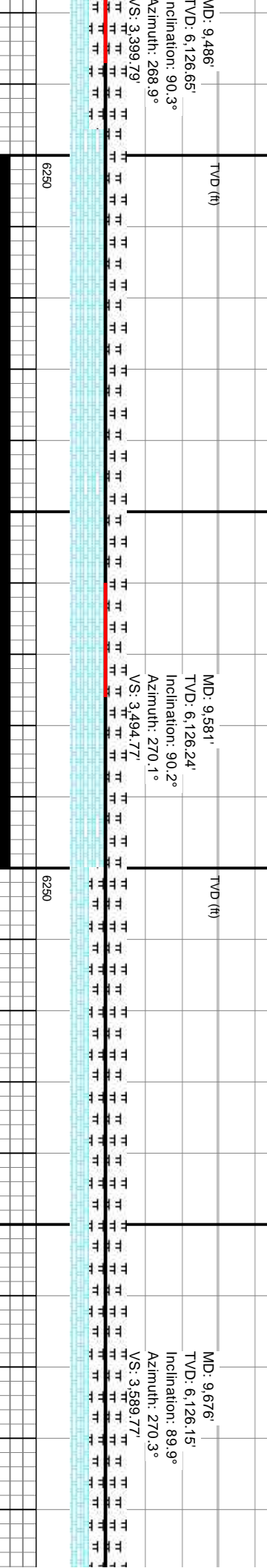
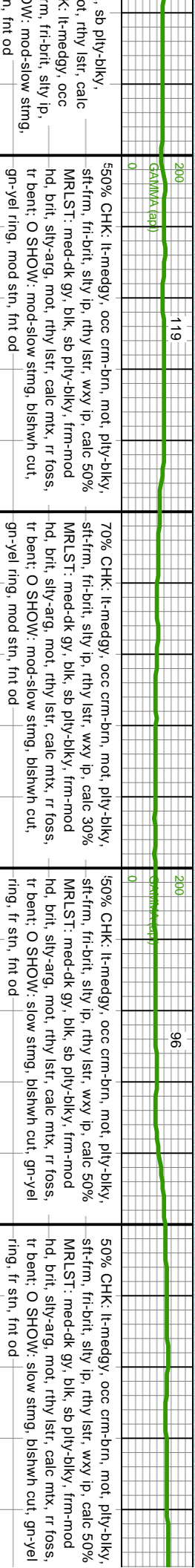
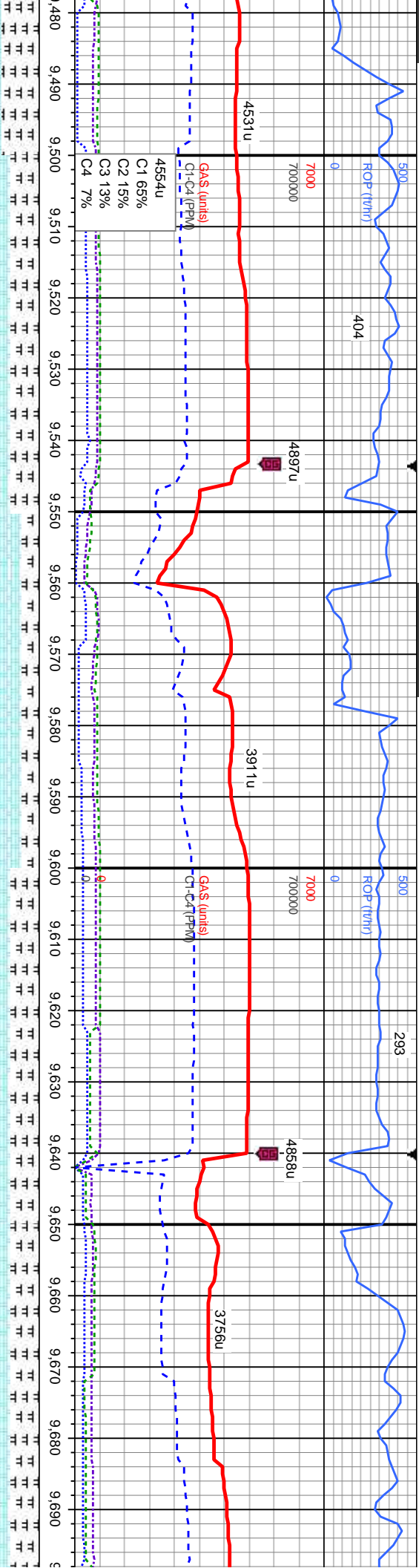




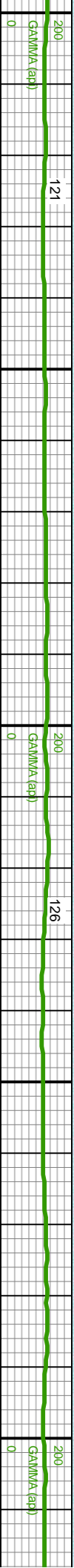
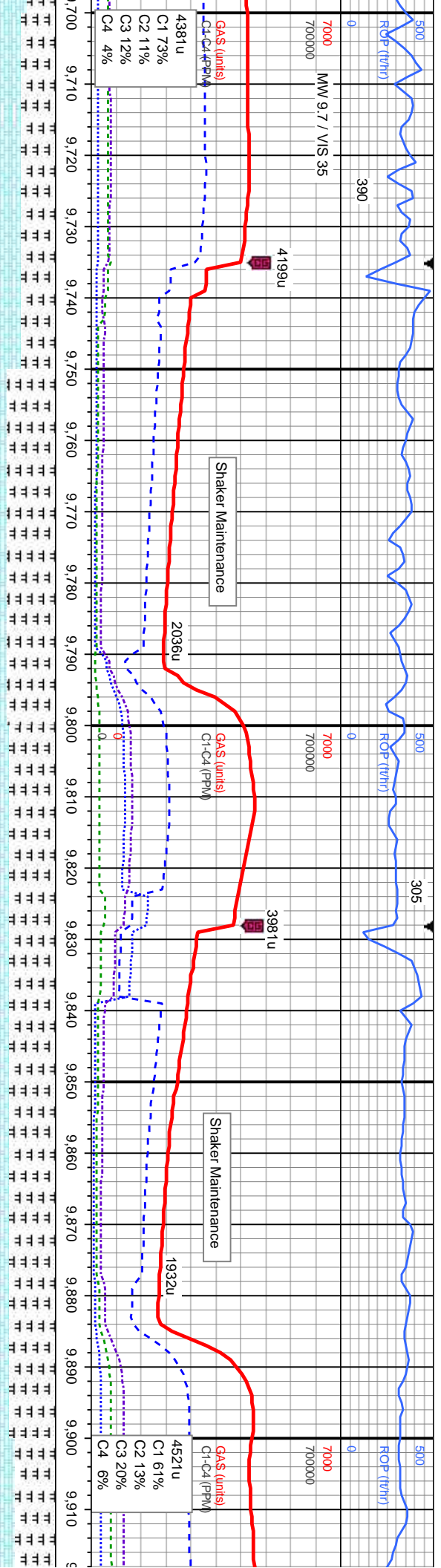












460% MR.LST.: med-clk gy, blk, sb pty-biky, frim-mod hd, brit, sily-aig, mot, rthy lst, calc mix, rr loss, tr bent 40% CHK; lt-medey, coc crm-brn, mot, pty-biky, stf-frm, fri-brit, sly ip, rthy lst, wxy ip, calc; O SHOW: slow sing, blshw cut, gn-yel ring, mod stn, int od

85% MR.IST, med-dk gy, blk, sd ply-bldky, frm-mod hd, brt, stly-aig, mot, rthy lstr, calc mxx, r loss, r bent 15% CHK, il-medgy, ooc ctm-birn, mot, ply-bldky, sft-frm, frt-brt, stly ip, rthy lstr, wxy ip, calc; O SHOW, slow strng, blswh cut, gn-yel ring, mod sin, fnt od

80% MRLST: med-dk, gy, blk, sb pily-bilky, firm-mod hd, brit, sily-arg, mot, rthy lst, calc mtx, rr foss, tr bent 20% CHK, lt-medgy, occ crm-brn, mot, pily-bilky, sft-firm, frt-brt, sily ip, rthy lst, wxy ip, calc, O: SHOWD: mod-slow simg, bishwn cut, gn-yel ring, mod stn, fnt od

80% MRLST: med-dk gy, blk, sb plty-bdky, -firm-mood hd, brit, slty-arg, mot, rthy istr, calc-mtx, rr foss, rt bent 20% CHK: lt-meddy, occ-crm-btrn, mot, ipy-balky, stf-firm, fri-brit, slty ip, -istr, wxy ip, calc; O SHOW: med stn, fn od blshw cut, gn-yei ring, med stn, fn od

70% MRLST: mec  
frm-mod hd, brit,  
mtx, rr foss, tr ber  
crm-brn, mot, pily  
rthy lstr, wxy ip, c  
blshwh cut, gn-ye

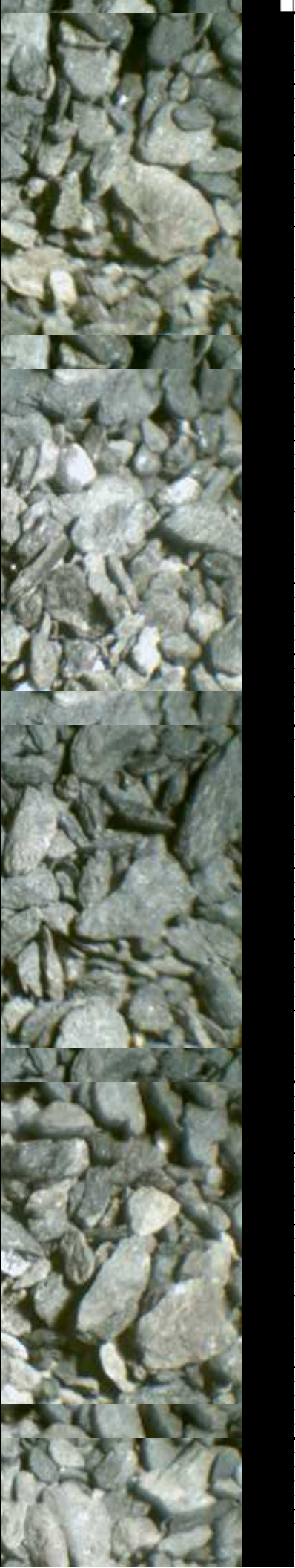
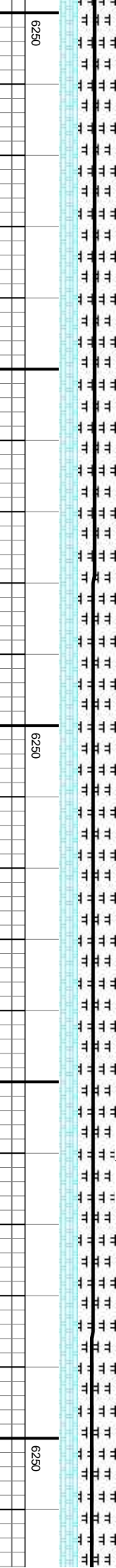
TVD (ft)

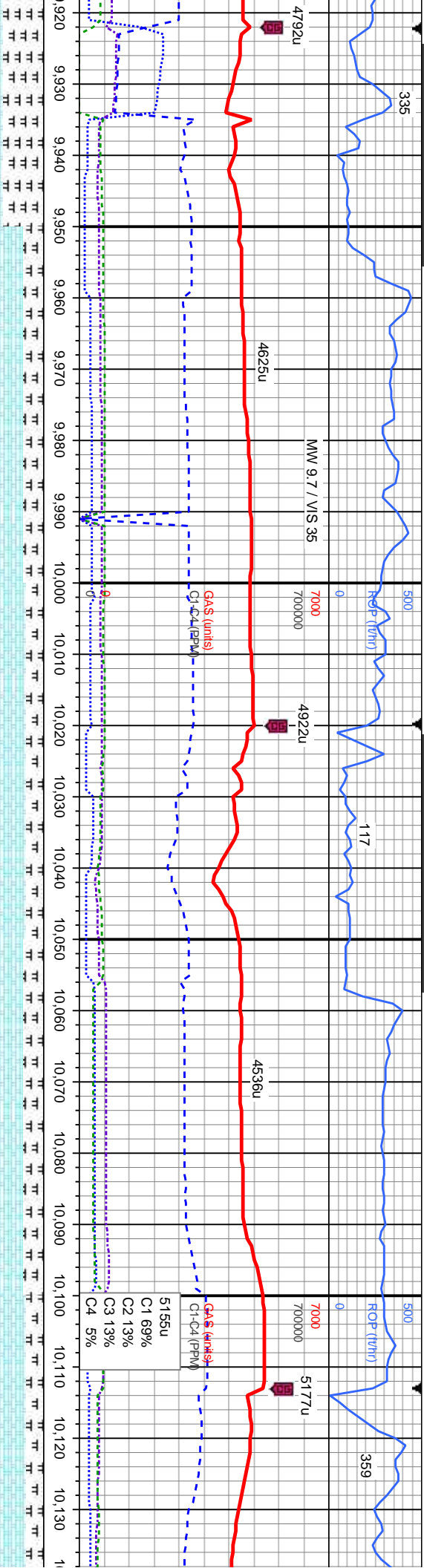
MD: 9,769'  
TVD: 6,126.64'  
Inclination: 89.5°  
Azimuth: 269.7°  
VS: 3,682.76'

TVD (ft)

MD: 9,864'  
TVD: 6,128.63'  
Inclination: 88.1°  
Azimuth: 268.2°  
VS: 3,777.7'

TV D (ft)





65	65% CHK: It-medgy, mot, pily-biky, sft-frm, fri-brit, sily ip, rthy lstr, wxy ip, calc 35% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, rr foss, tr bent, O SHOW: mod-slow string, bishwh cut, gn-yel ring, mod stn, fnt od	58	570% CHK: It-medgy, wh-crm, mot, pily-biky, sft-frm, fri-brit, sily ip, rthy lstr, wxy ip, calc 30% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, rr foss, tr bent, O SHOW: mod-slow string, bishwh cut, yel ring, g stn, fnt od	135	570% CHK: It-medgy, wh-crm, mot, pily-biky, sft-frm, fri-brit, sily ip, rthy lstr, wxy ip, calc 35% MRLST: med-dk gy, blk, sb pily-biky, frm-mod hd, brit, sily-arg, mot, rthy lstr, calc mtx, rr foss, tr bent, O SHOW: mod-slow string, bishwh cut, gn-yel ring, mod stn, fnt od
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MD: 9.959'  
TVD: 6.132.03'  
Inclination: 87.8°  
Azimuth: 269.5°

MD: 10.054'  
TVD: 6.133.11'  
Inclination: 90.9°  
Azimuth: 273.6°

6250		6250		6250	
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