



Scale: 5" / 100'
Measured Depth Log

Well Name B-Farm LD 18-392HN

Location SECTION 7, T1S, R67W

State COLORADO

Country USA

API Number 050011009700

Geographic Region DJ BASIN

County ADAMS

Rig Number PRECISION 466

AFE # 19DC0013

Field WATTENBERG

Ground Elevation 5124.5'

K.B. Elevation 5144.5'

Logged Interval 6000' MD To 18377' MD

Total Depth 18377' MD

Formation NIOBRARA B CHALK

Type of Drilling Fluid OIL BASED MUD

Operator

Company Great Western Oil and Gas

Address 1001 17th Street, Suite 2000
Denver, CO 80202



Geologist

Name Gabriel Rubio, Zach Souvall, Wyatt Wicks

Company Terra Guidance

Address 67 W. Floyd Ave. Ste 105
Englewood, CO 80110
(970) 260-5408

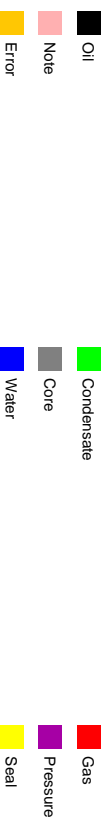


Other

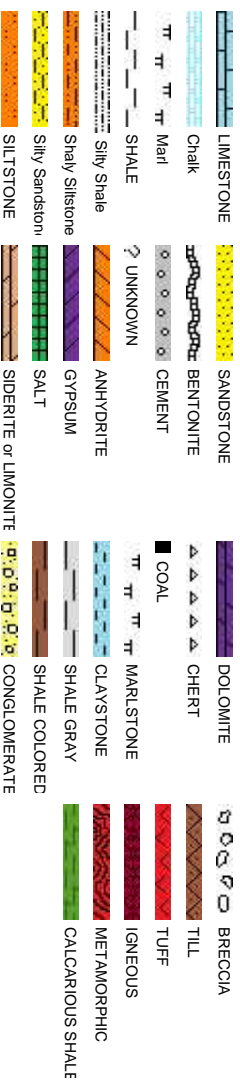
Mudlog Start Date 3/3/2019

Mudlog End Date 3/6/2019

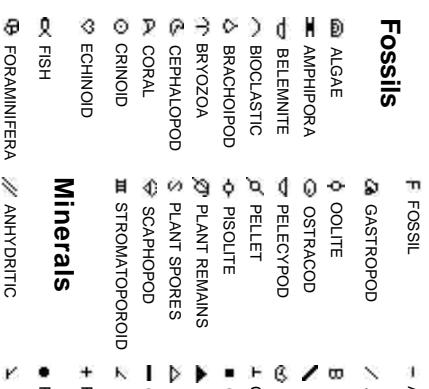
Color Coding



Rock Types



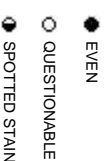
Fossils



Minerals



Oil Show



Engineering

















Porosity














Accessories






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Other Symbols


	FORMATION TOP
	GAS SHOW
	MINDEPTH MN DEPTH
	NORMAL FAULT
	OIL SHOW
	OVERTURNED STRATA
	REVERSE FAULT
	SIDEWALL CORE (LEFT)
	SIDEWALL CORE (RIGHT)
	SLIDE
	SURVEY
	TRIP GAS
	WIRELINE TESTED - LEFT
	WIRELINE TESTED - RT



	GRAINSTONE
	EARTHY
	CRYPTOXLN
	CHALKY
	BOUNDSTONE
	POOR
	WELL

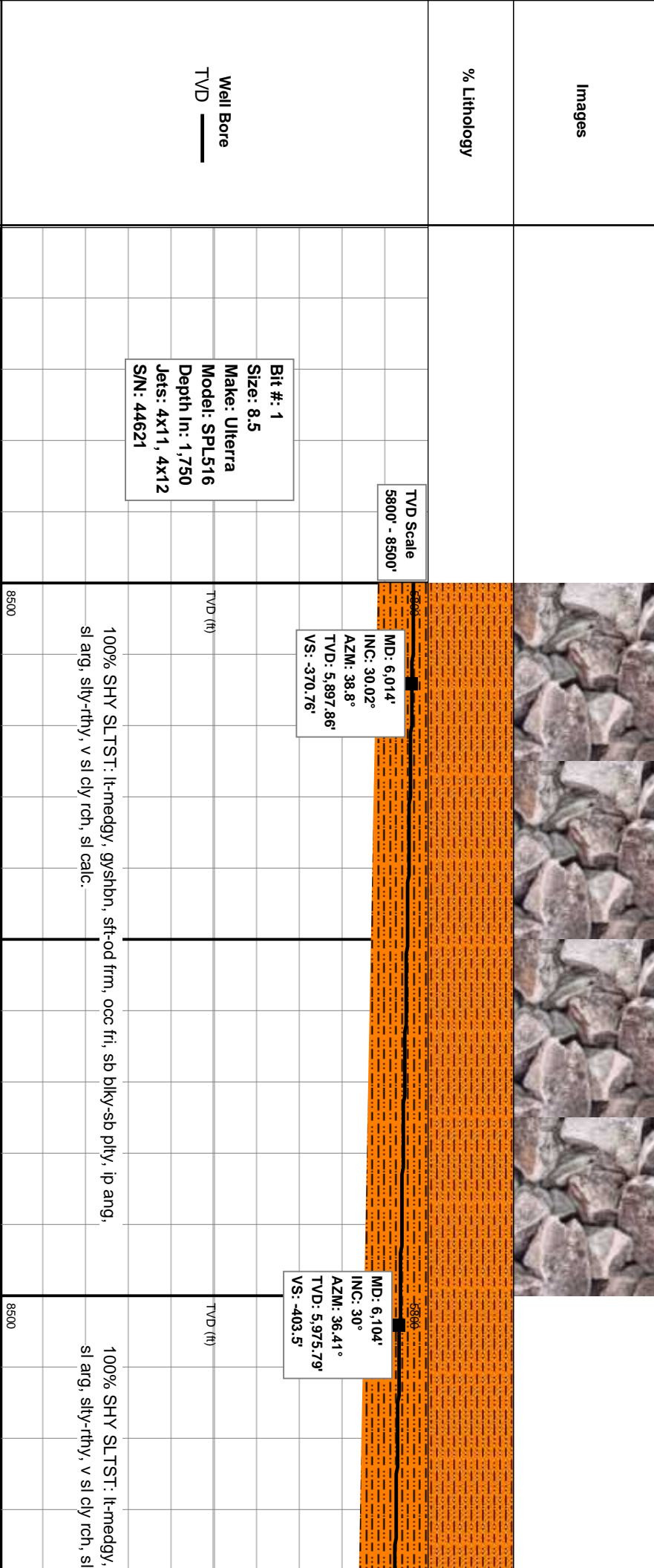
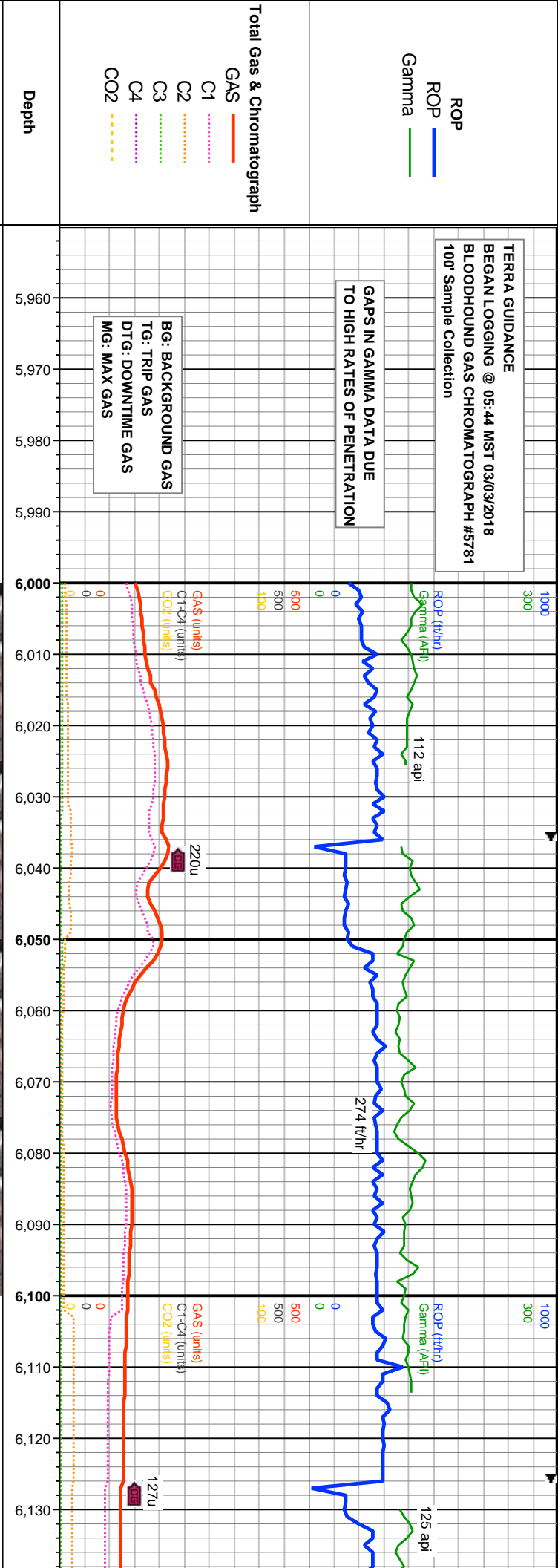
	ANGULAR
	ROUNDED
	SUBANG
	SUBBRD

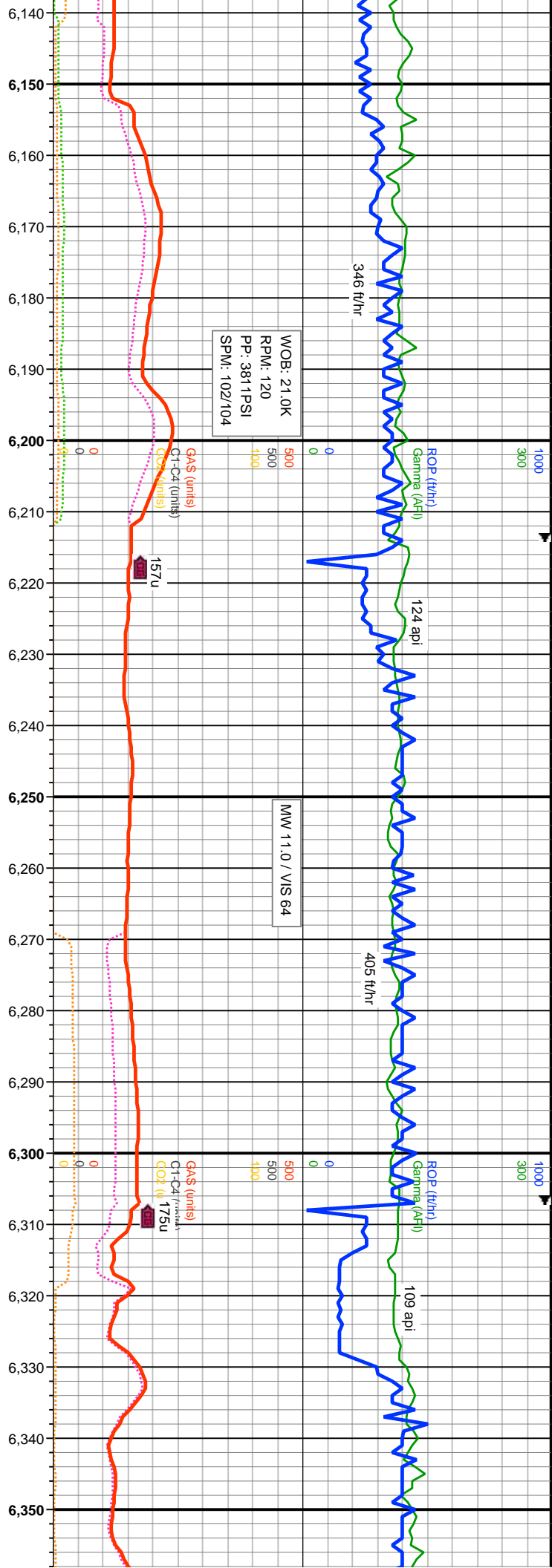
	LITHOGRAPHIC
	MICROXLN
	MUDSTONE
	PACKSTONE
	WACKSTONE

	Sorting
	MODERATE

	Textures
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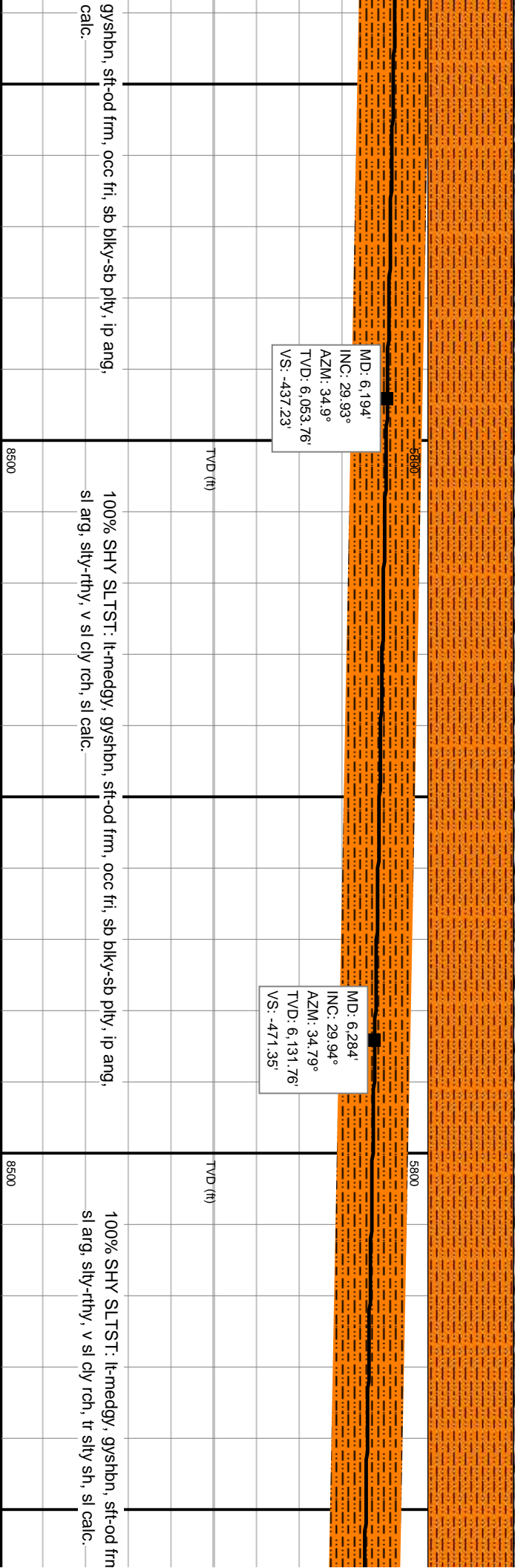
	Calcarius shale
	Calcarious shale

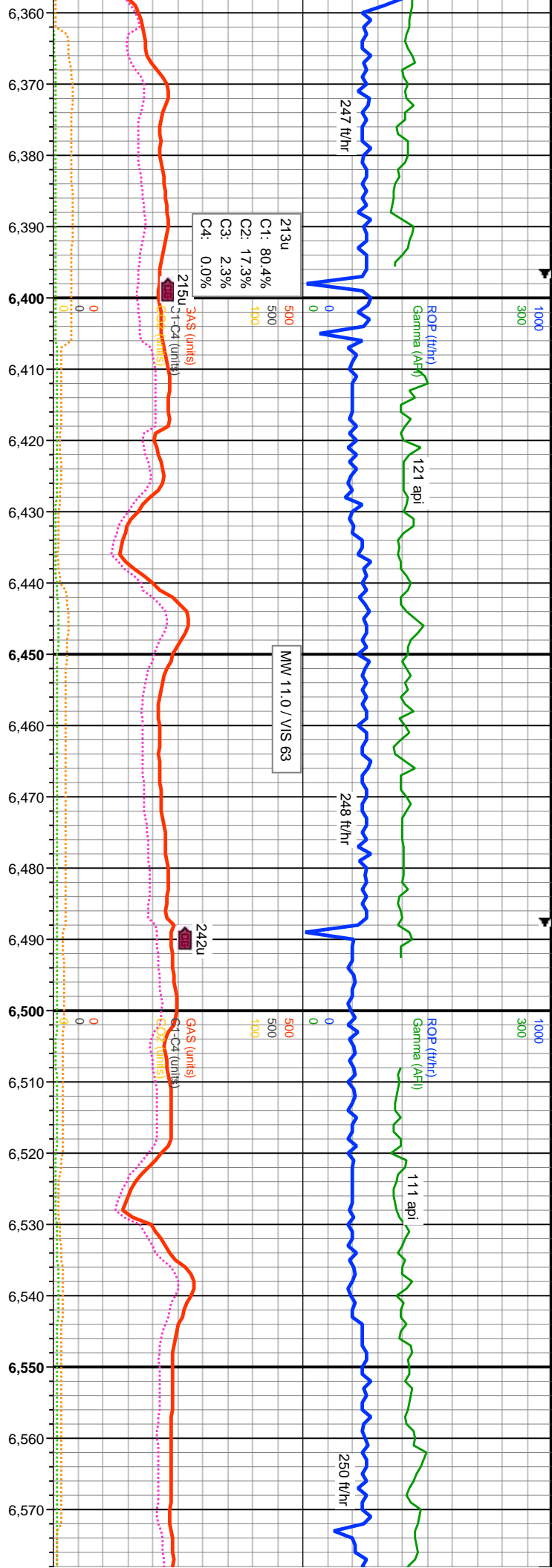




MD: 6,194'
INC: 29.93°
AZM: 34.9°
TVD: 6,053.76'
VS: -437.23'

MD: 6,284'
INC: 29.94°
AZM: 34.79°
TVD: 6,131.76'
VS: -471.35'





MD: 6,373'
INC: 29.26°
AZM: 38.72°
TVD: 6,209.15'
VS: -503.77'

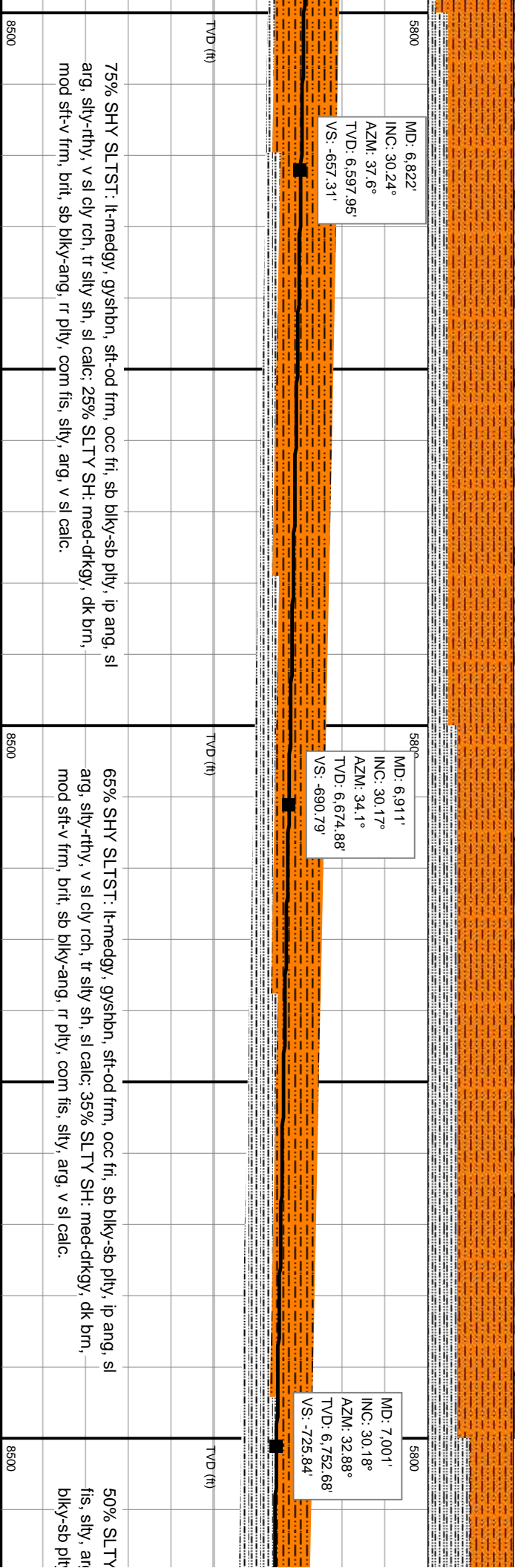
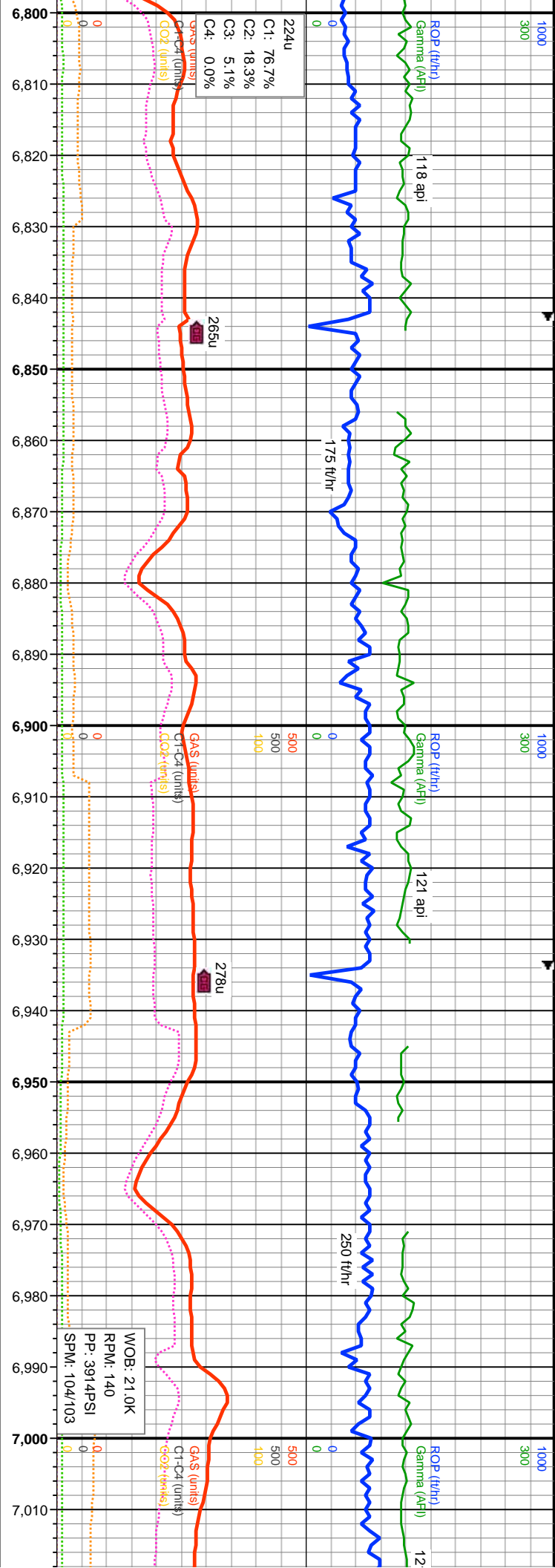
TVD (ft)

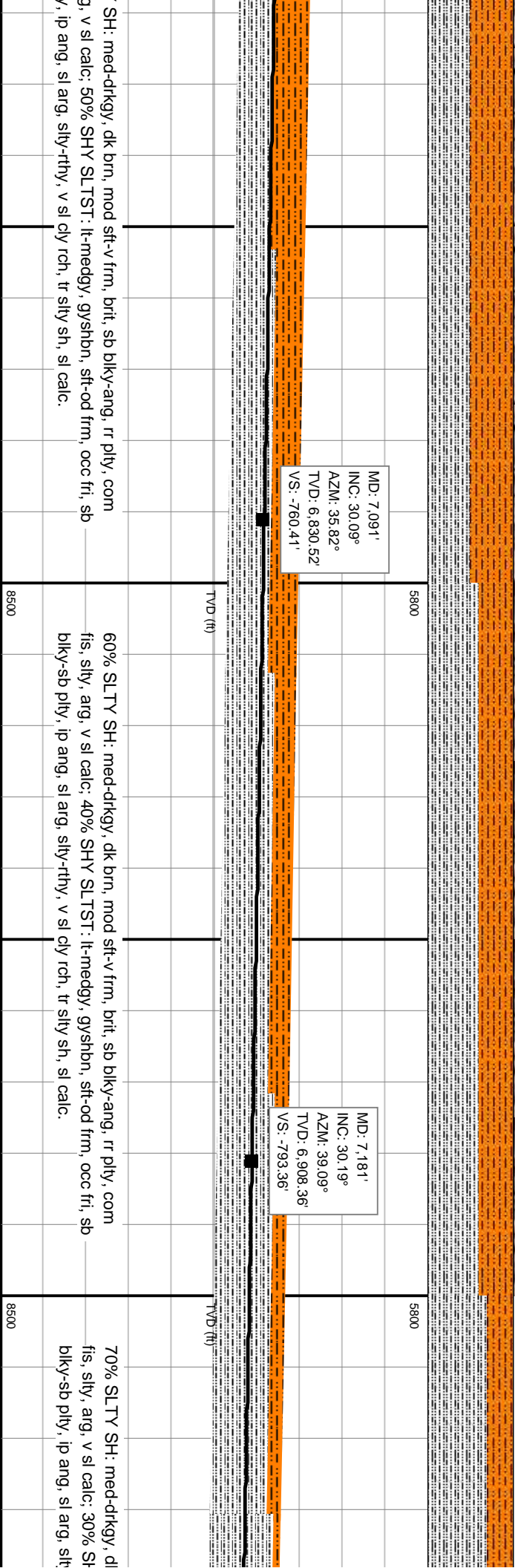
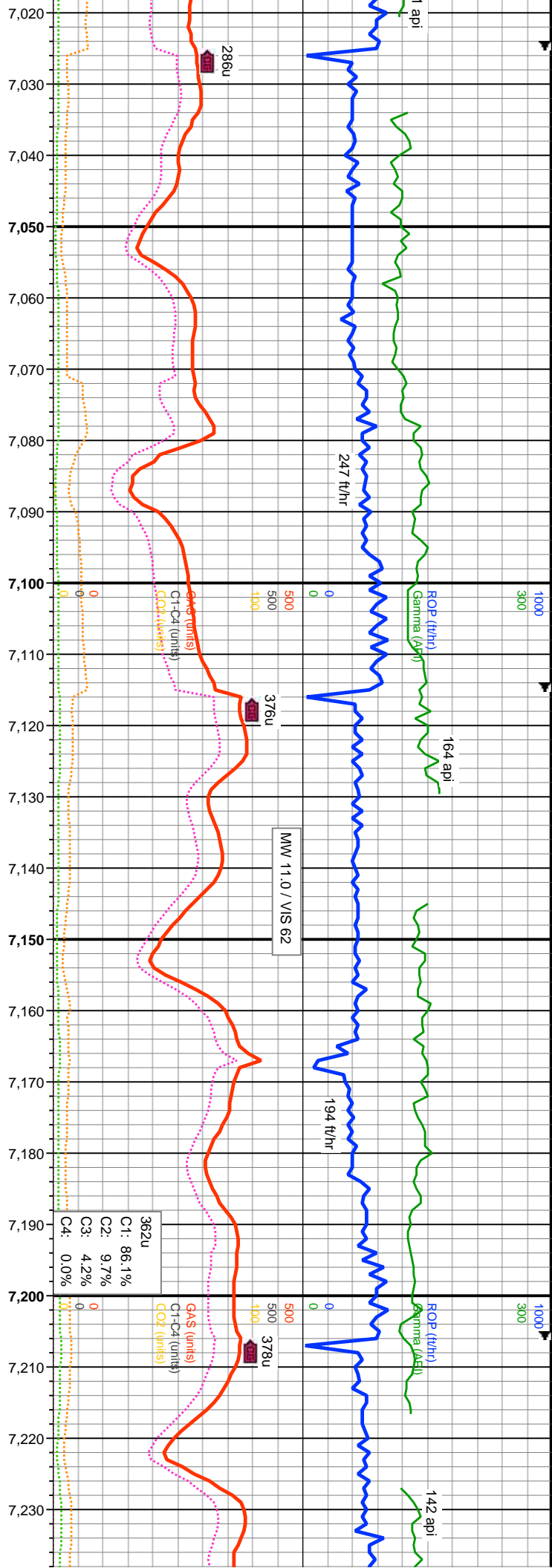
MD: 6,463'
INC: 30.02°
AZM: 41.73°
TVD: 6,287.38'
VS: -534.7'

TVD (ft)

MD: 6,553'
INC: 30.01°
AZM: 40.98°
TVD: 6,365.31'
VS: -565.36'

100% SHY SLTST: It-medgy, gysbhn, sft-od frm, occ fri, sb blkly-sb pily, ip ang, sl arg, slty-rthy, v sl cly rch, tr slty sh, sl calc.

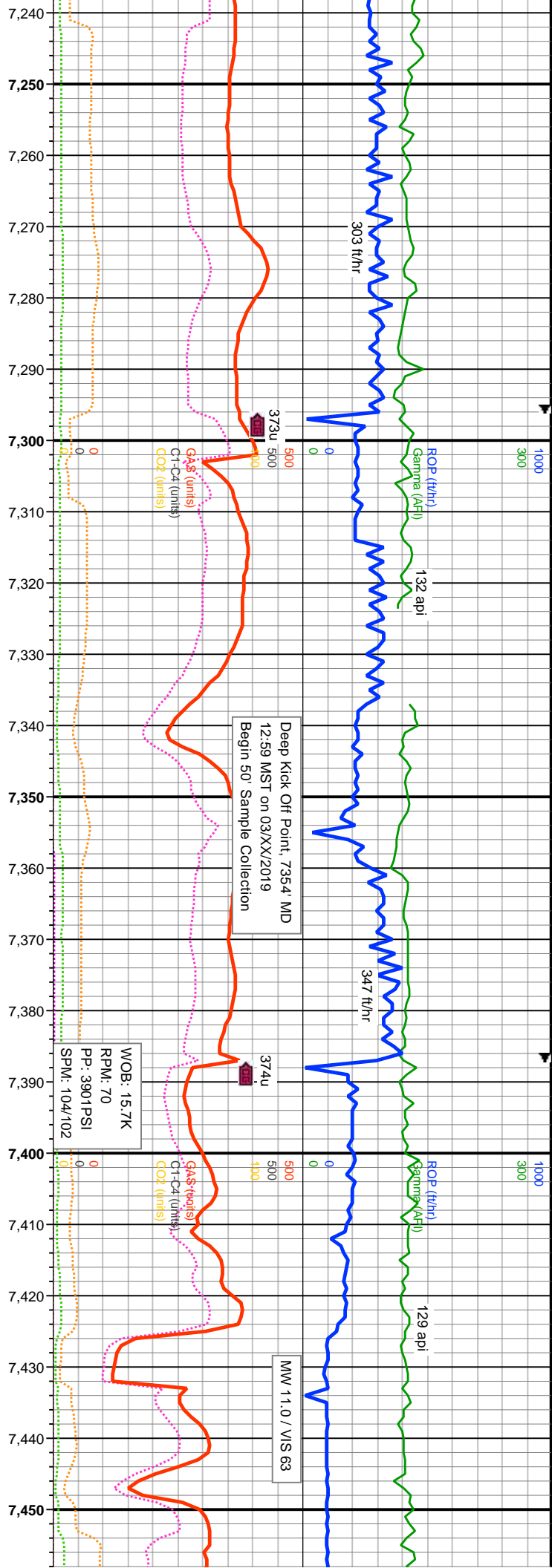




SH: med-dirky, dk brn, mod sft-v frm, brit, sb blk-y-ang, rr pty, com
g, v sl calc; 50% SHY SLTST; lt-medgy, gysbn, sft-od frm, occ fri, sb
v, ip ang, sl arg, silty-rthy, v sl cly rch, tr silty sh, sl calc.

60% SLTY SH: med-dirky, dk brn, mod sft-v frm, brit, sb blk-y-ang, rr pty, com
fis, silty, arg, v sl calc; 40% SHY SLTST; lt-medgy, gysbn, sft-od frm, occ fri, sb
blk-y-sb pty, ip ang, sl arg, silty-rthy, v sl cly rch, tr silty sh, sl calc.

70% SLTY SH: med-dirky, dk brn, mod sft-v frm, brit, sb blk-y-ang, rr pty, com
fis, silty, arg, v sl calc; 30% SHY SLTST; lt-medgy, gysbn, sft-od frm, occ fri, sb
blk-y-sb pty, ip ang, sl arg, silty-rthy, v sl cly rch, tr silty sh, sl calc.



MD: 7,270'
INC: 30.07°
AZM: 39.35°
TVD: 6,986.34'
VS: -824.98'

MD: 7,360'
INC: 28.7°
AZM: 41.31°
TVD: 7,063.76'
VS: -855.64'

MD: 7,450'
INC: 18.37°
AZM: 58.11°
TVD: 7,146.25'
VS: -876.7'

IND (ft)

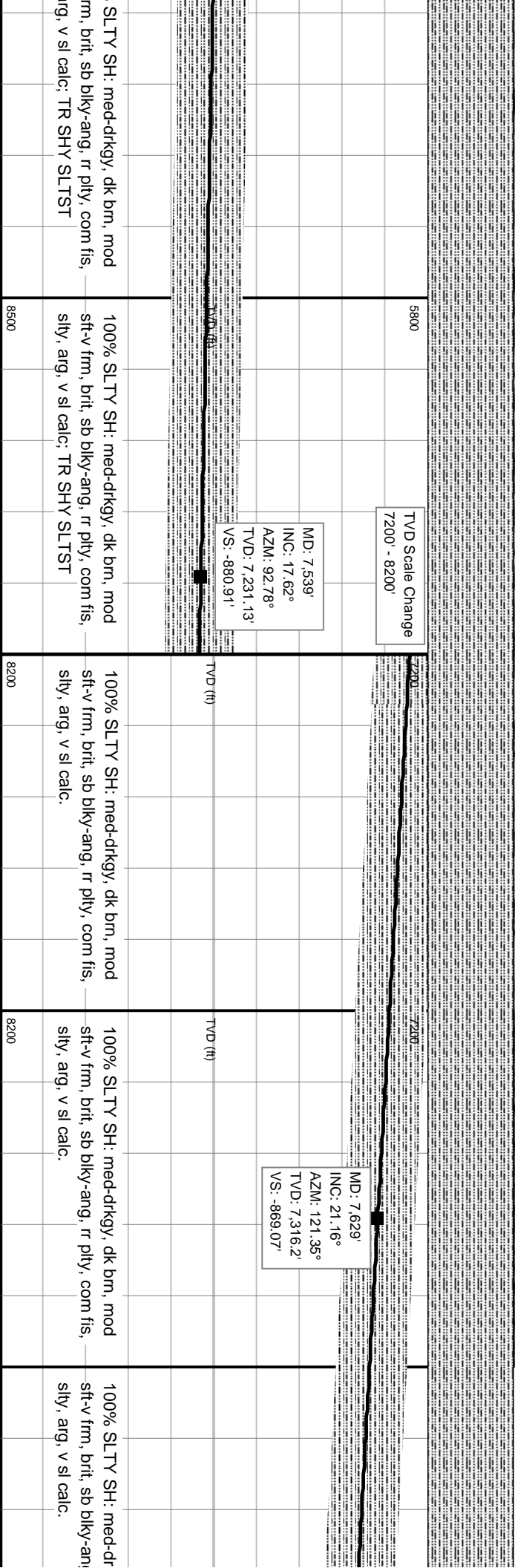
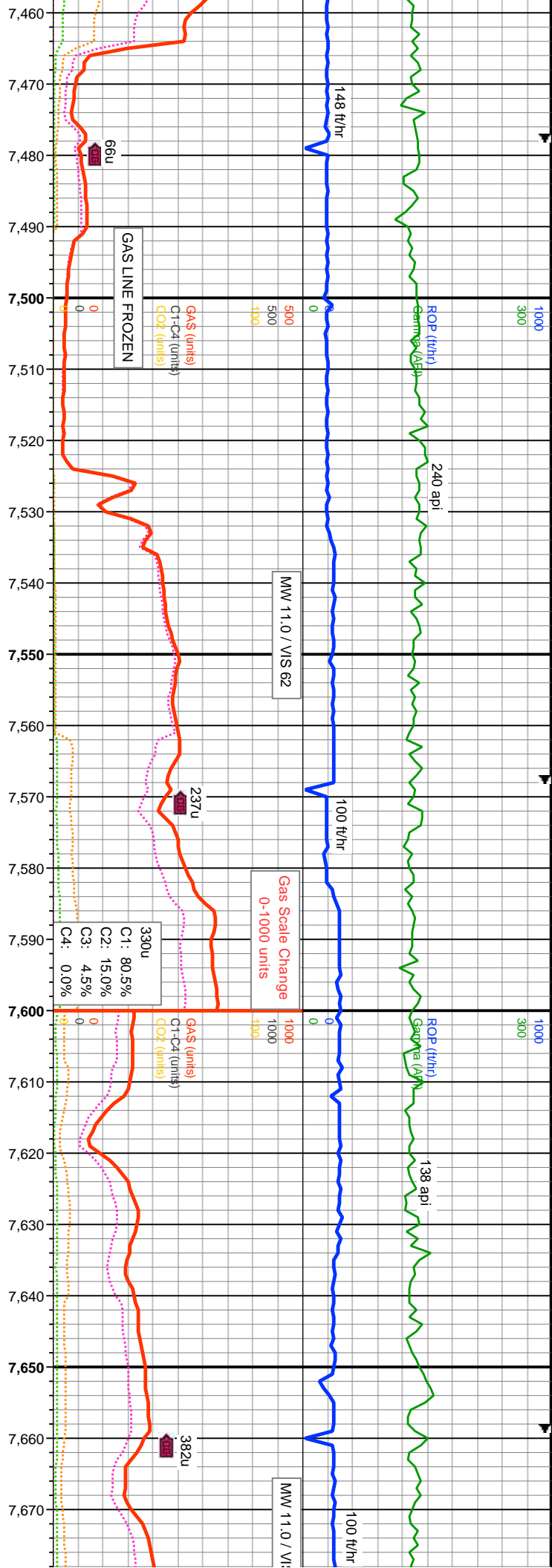
TVD (ft)

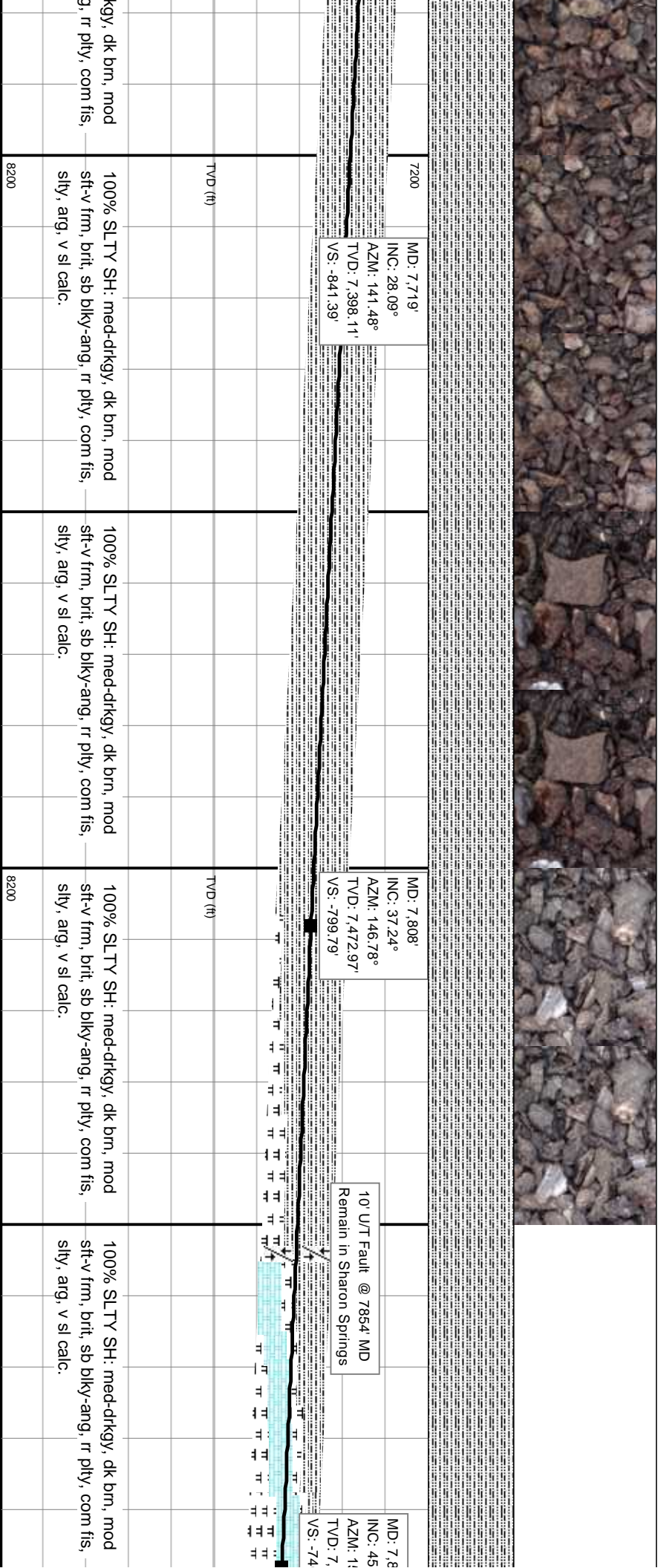
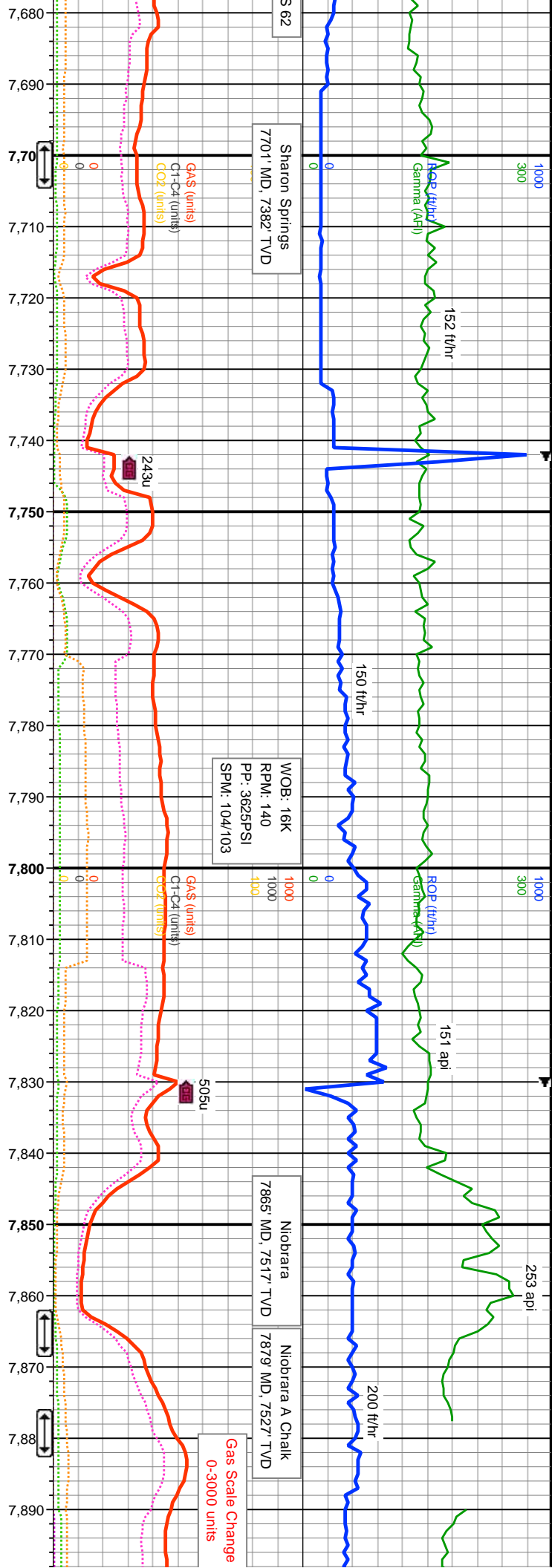
mod sft-v frm, brit, sb blk-ang, rr pty, com
SLTST: lt-medgy, gysbhn, sft-od frm, occ fri, sb
-rthy, v sl cly rch, tr sily sh, sl calc.

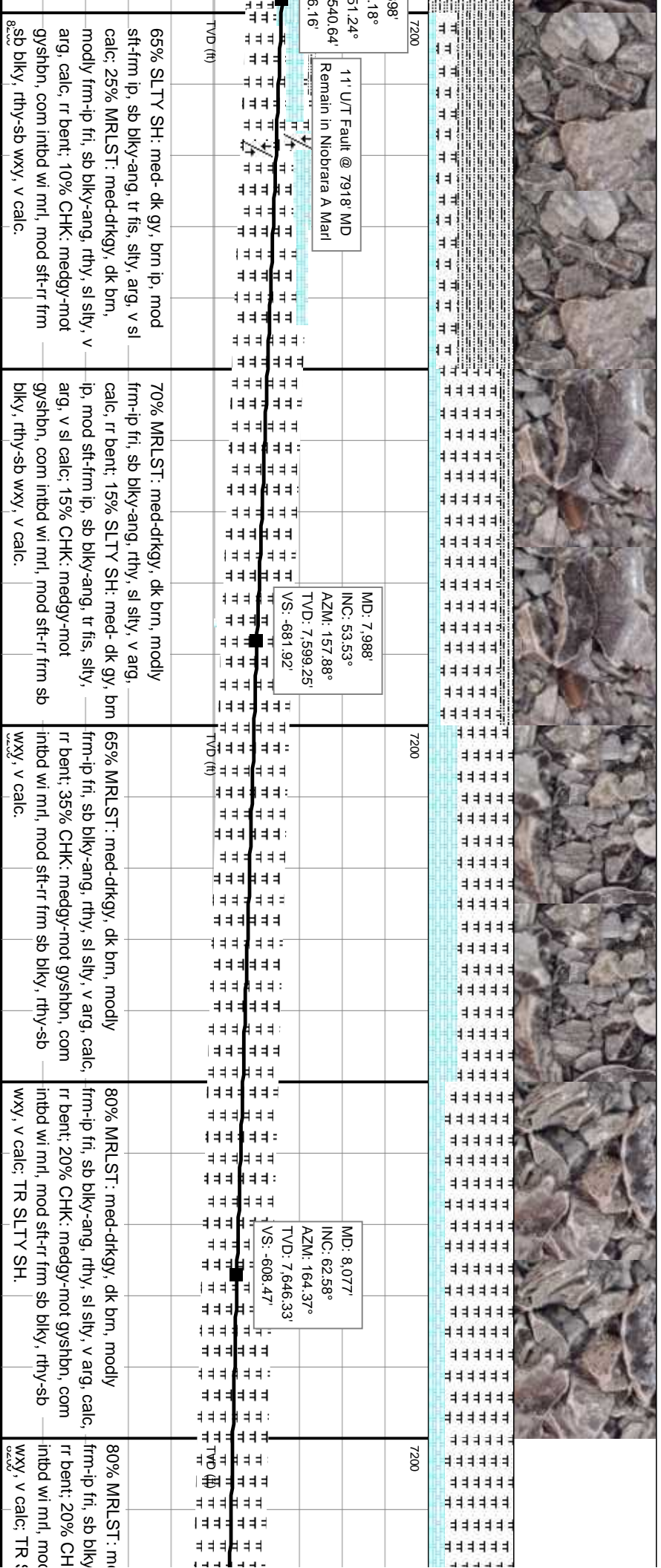
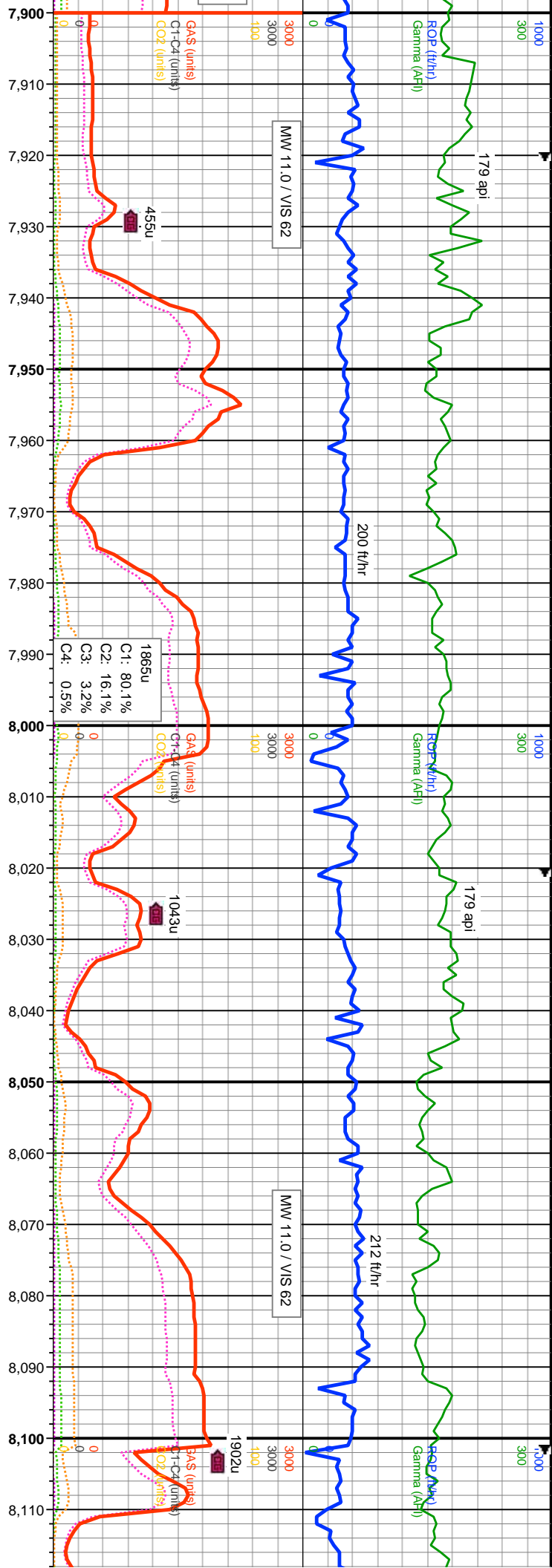
85% SLTY SH: med-drkgy, dk brn, mod sft-v frm, brit, sb blk-ang, rr pty, com
fis, sily, arg, v sl calc; 15% SHY SLTST: lt-medgy, gysbhn, sft-od frm, occ fri, sb
blk-sb pty, ip ang, sl arg, sily-rthy, v sl cly rch, tr sily sh, sl calc.

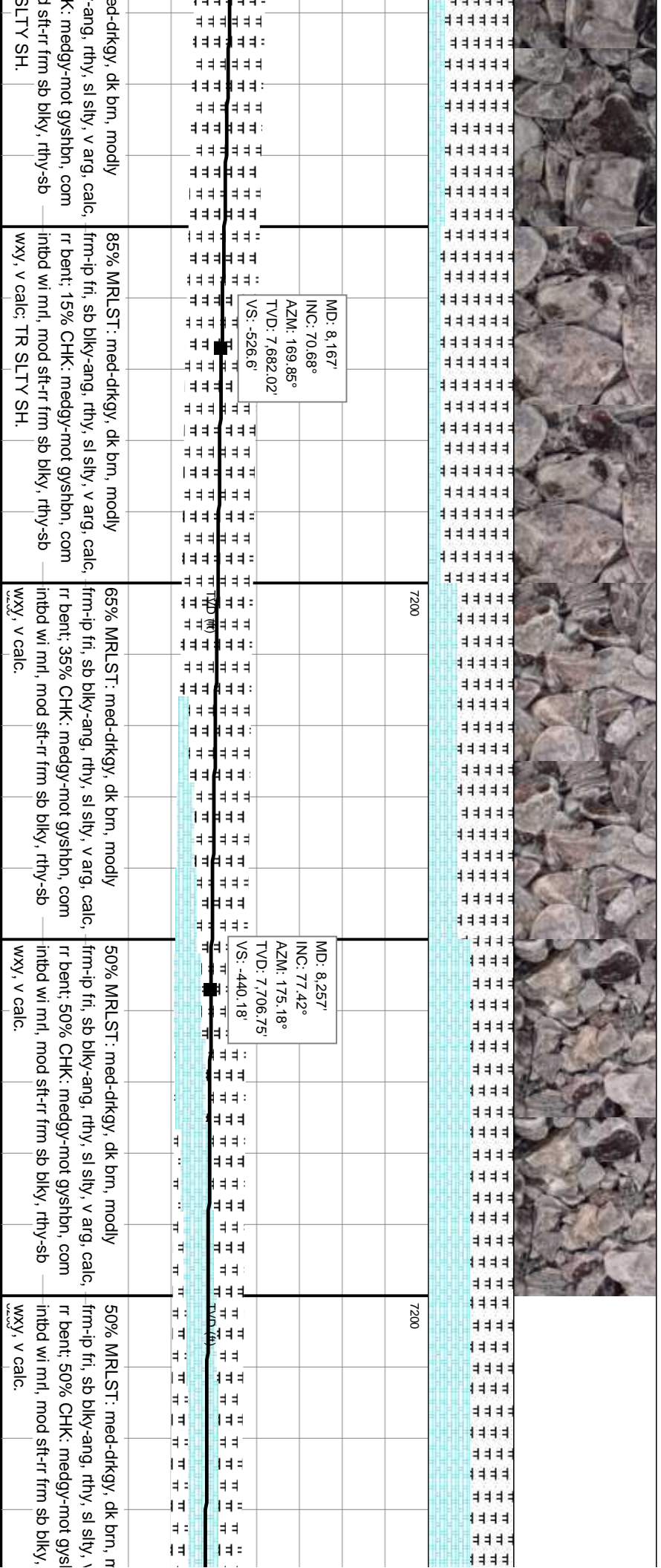
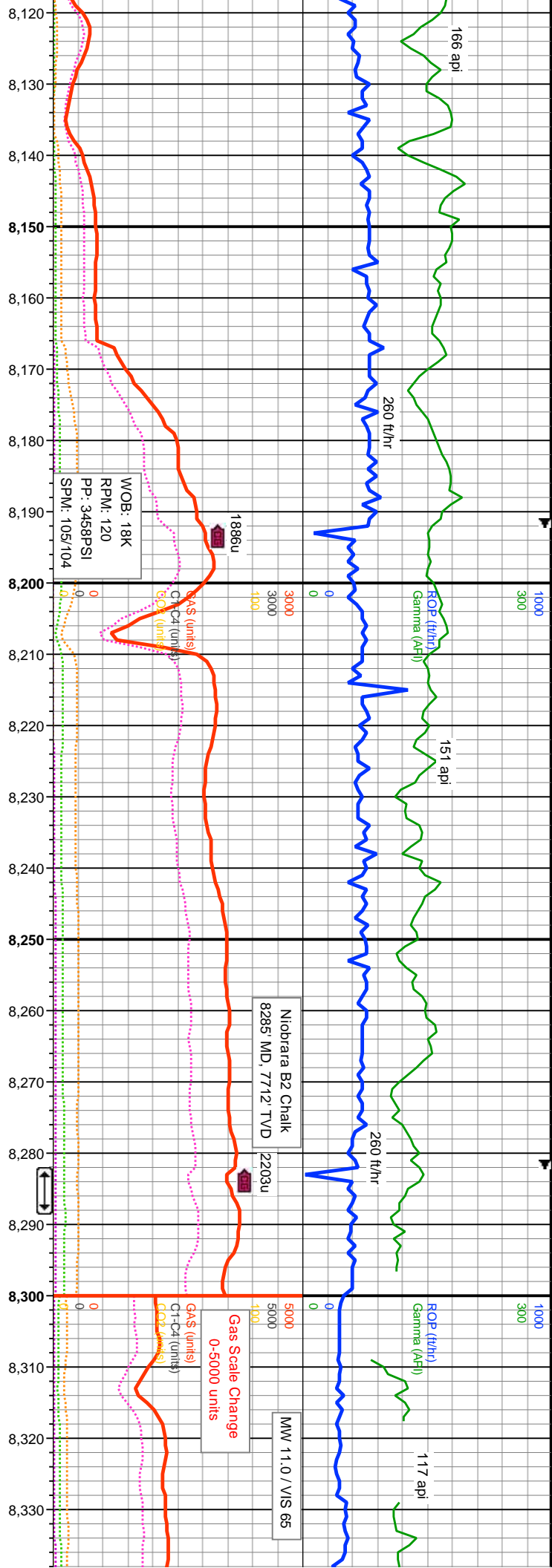
90% SLTY SH: med-drkgy, dk brn, mod
sft-v frm, brit, sb blk-ang, rr pty, com fis,
sily, arg, v sl calc; 10% SHY SLTST:
lt-medgy, gysbhn, sft-od frm, occ fri, sb
blk-sb pty, ip ang, sl arg, sily-rthy, v sl
cly rch, tr sily sh, sl calc.

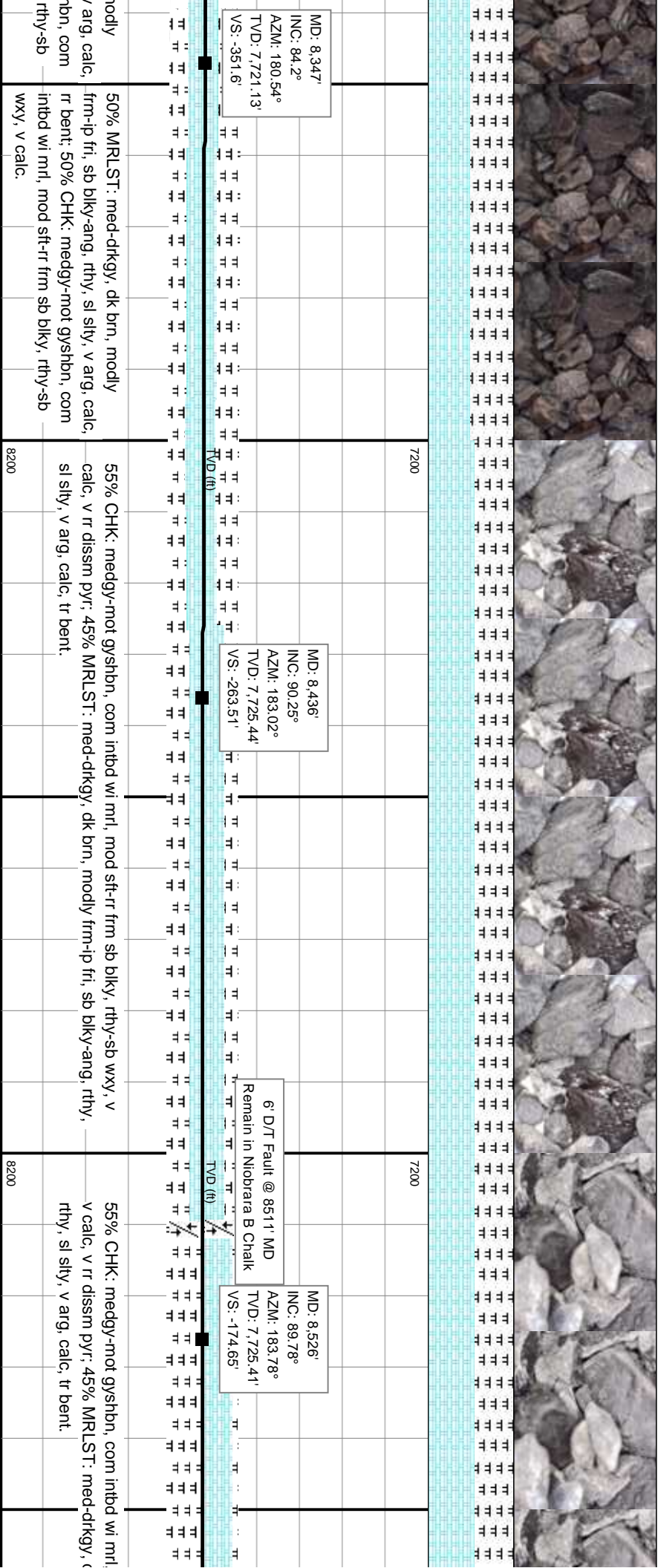
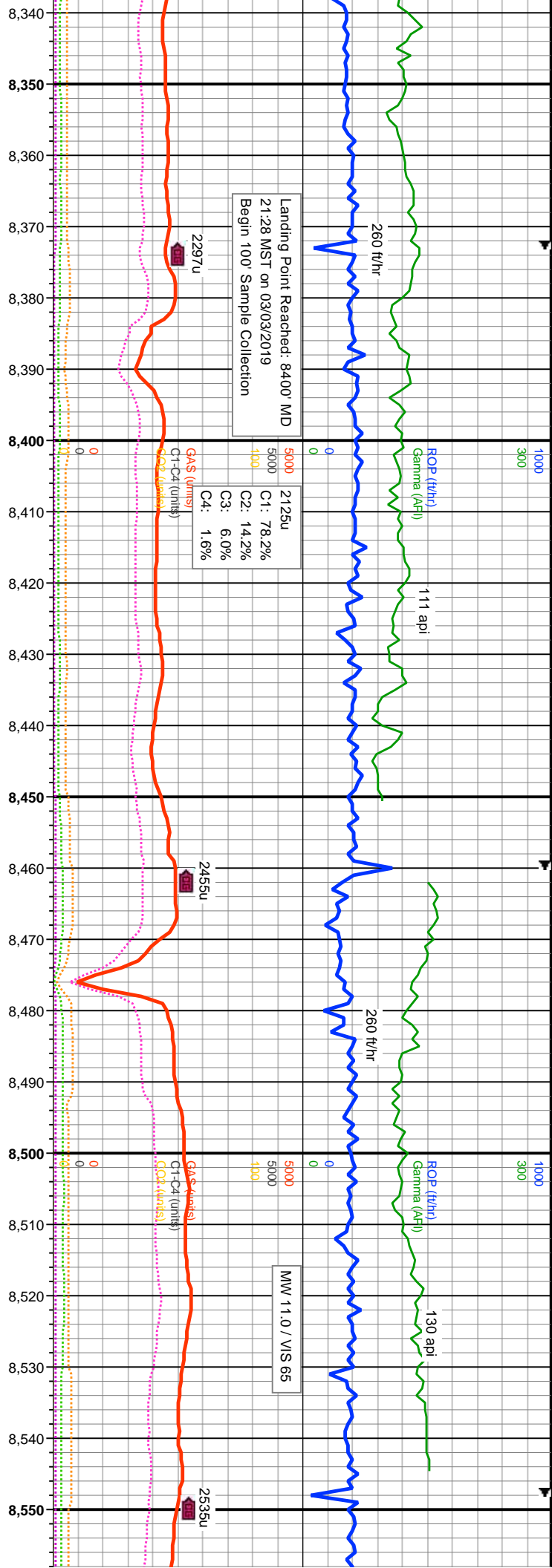
100%
sft-v f
sily, e

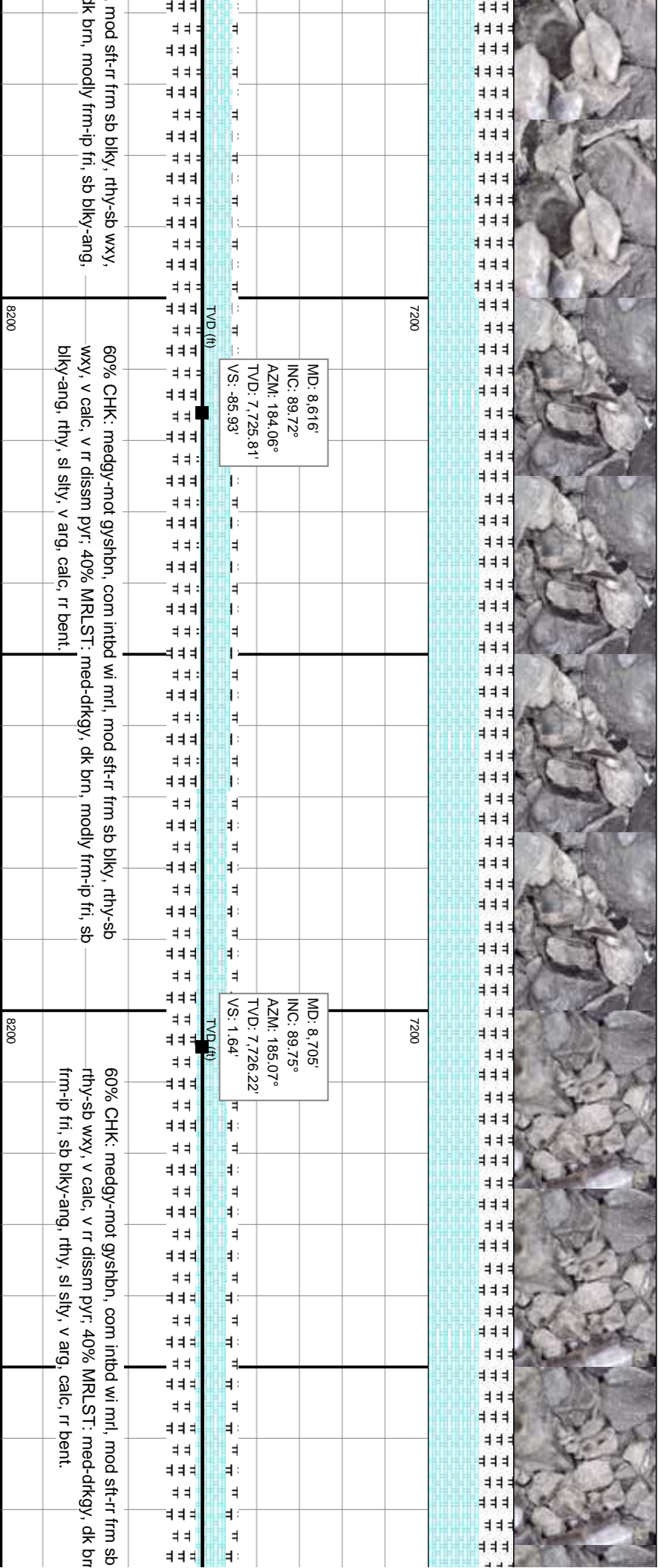
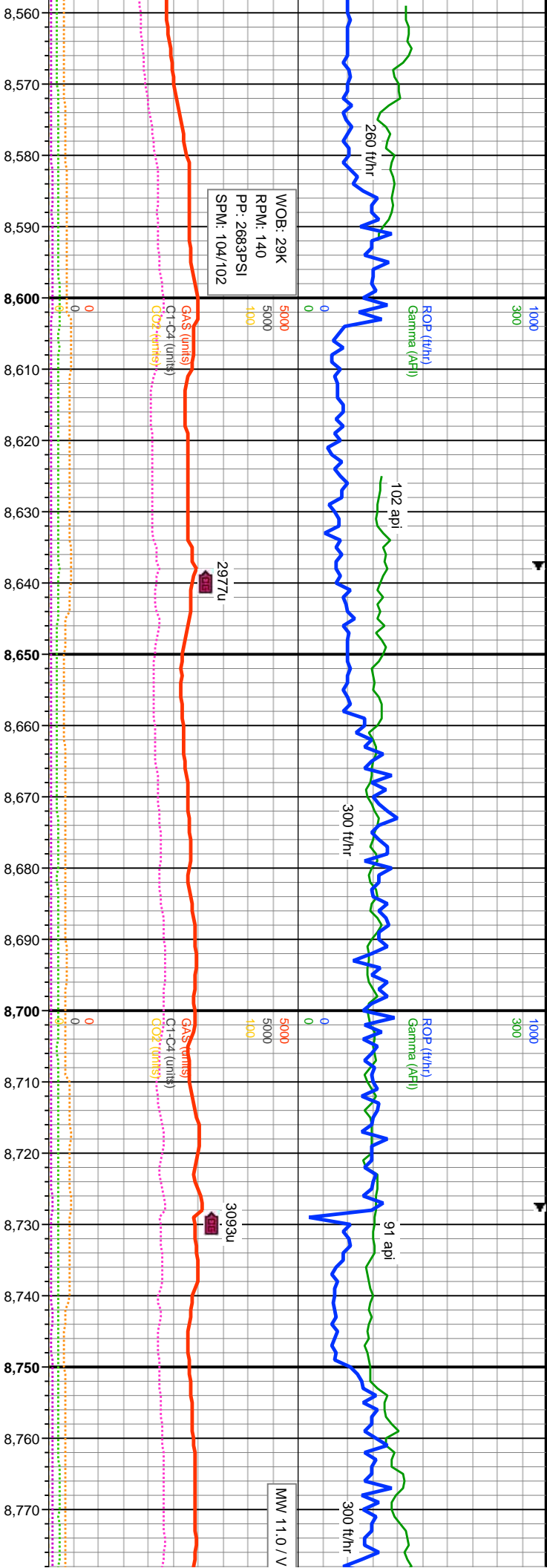


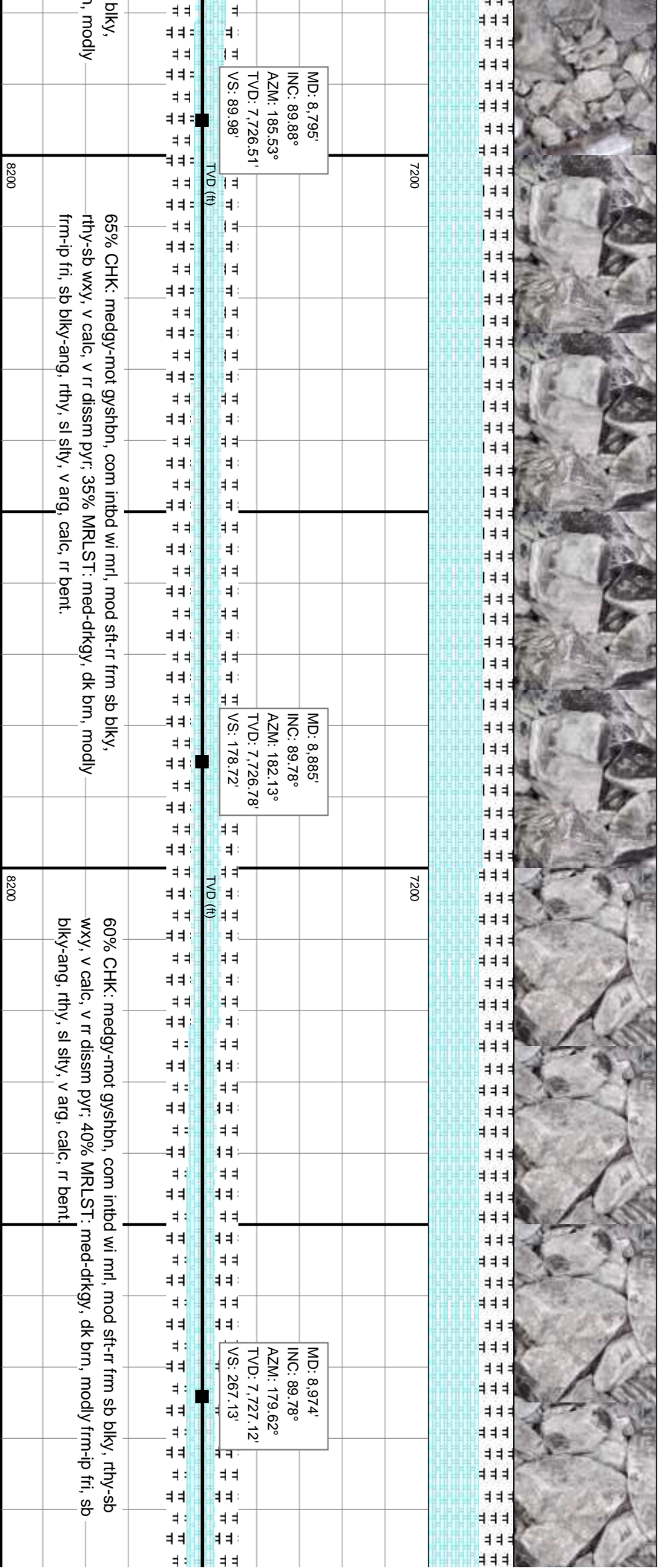
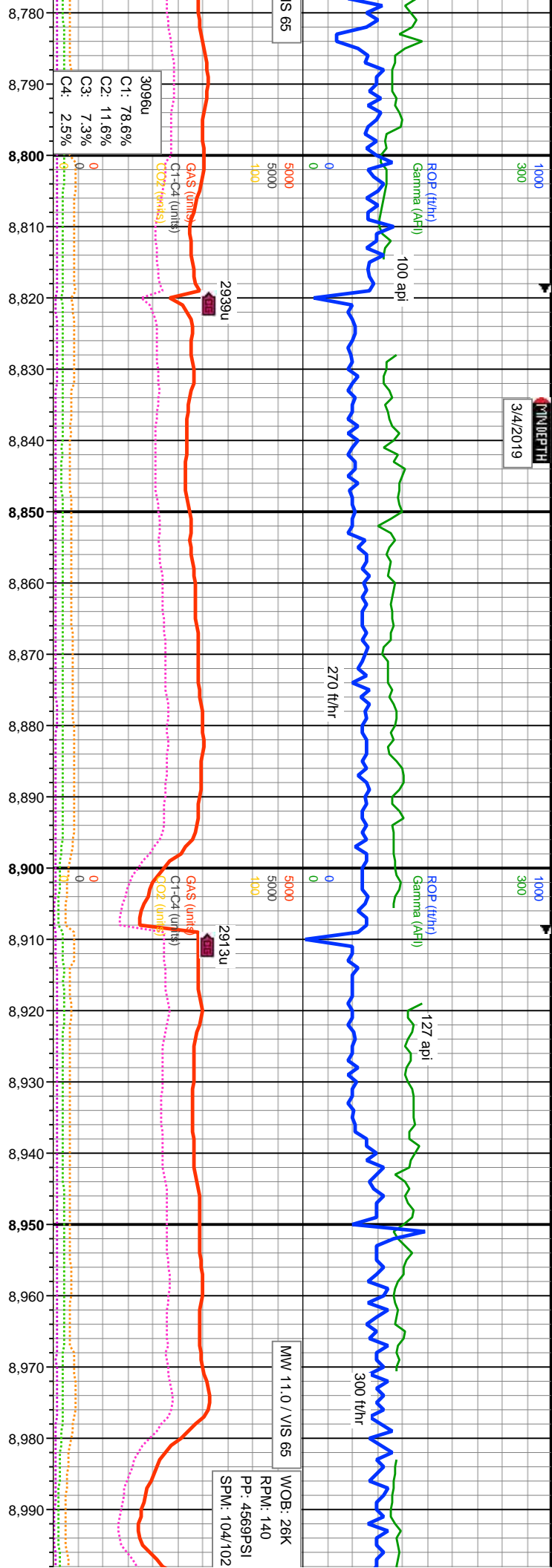


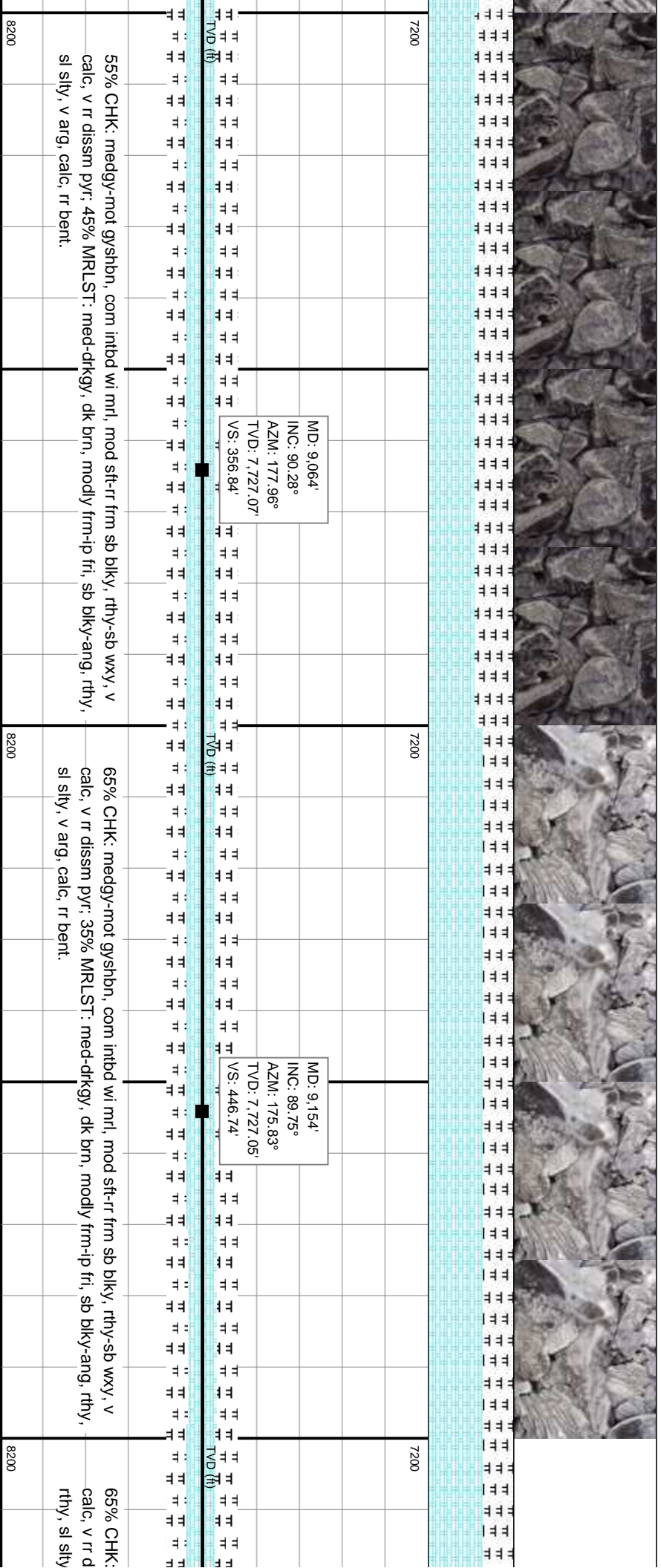
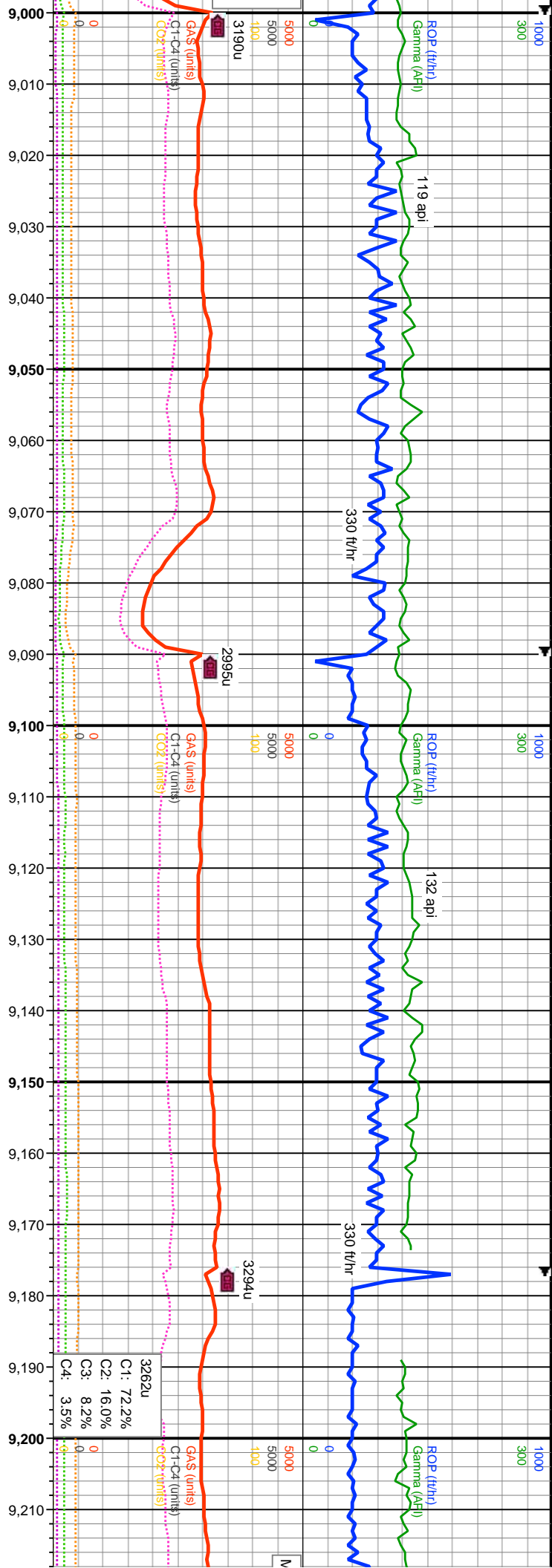


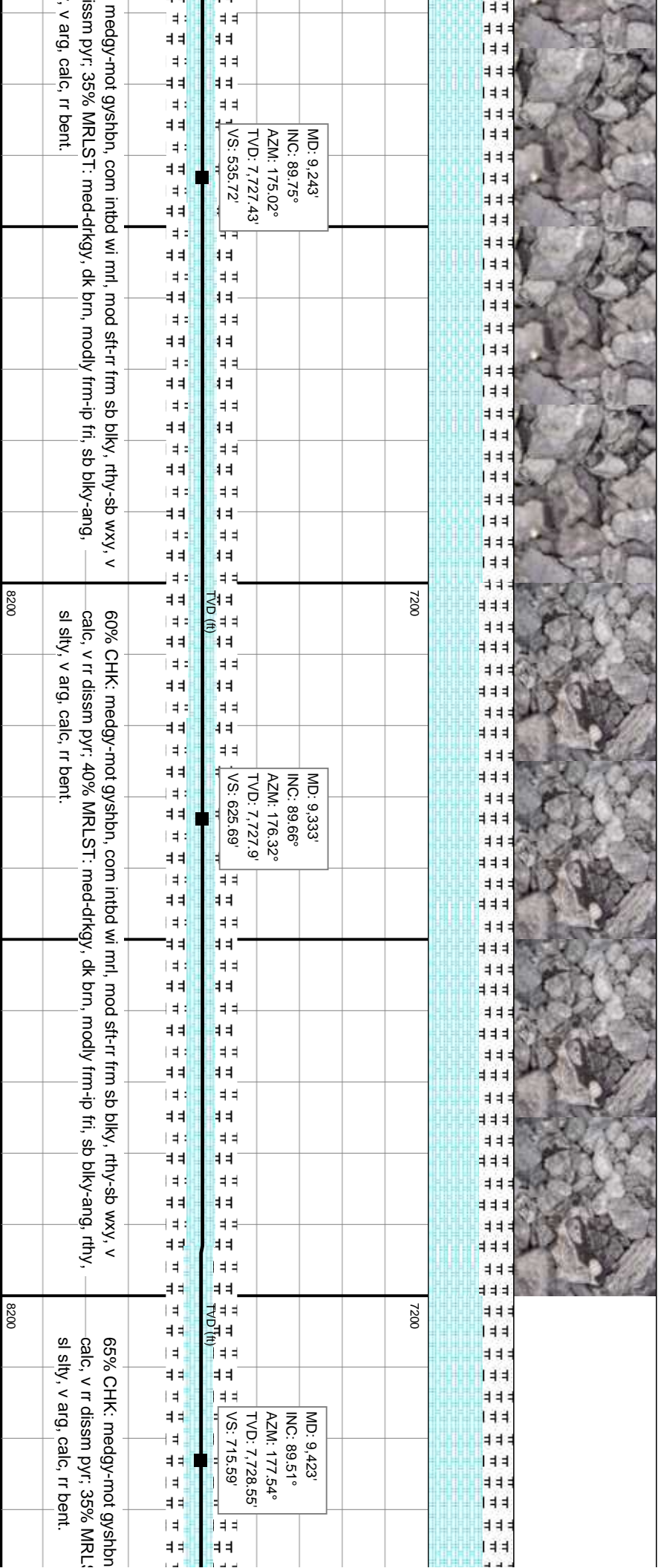
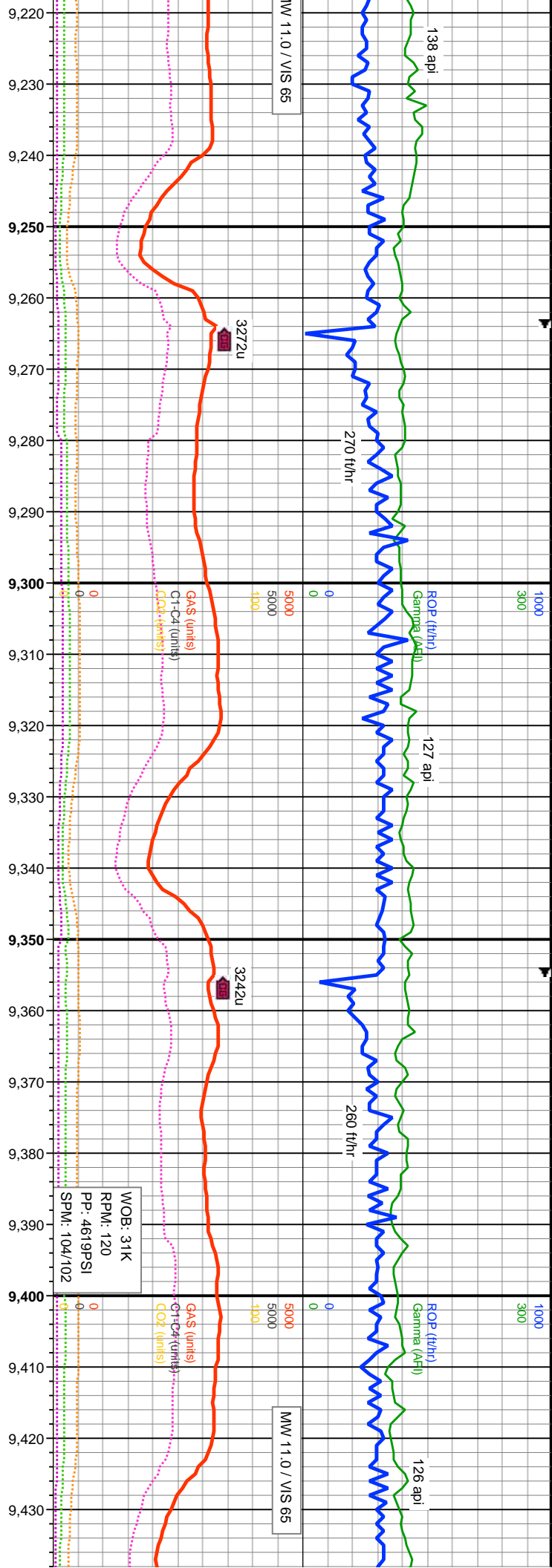


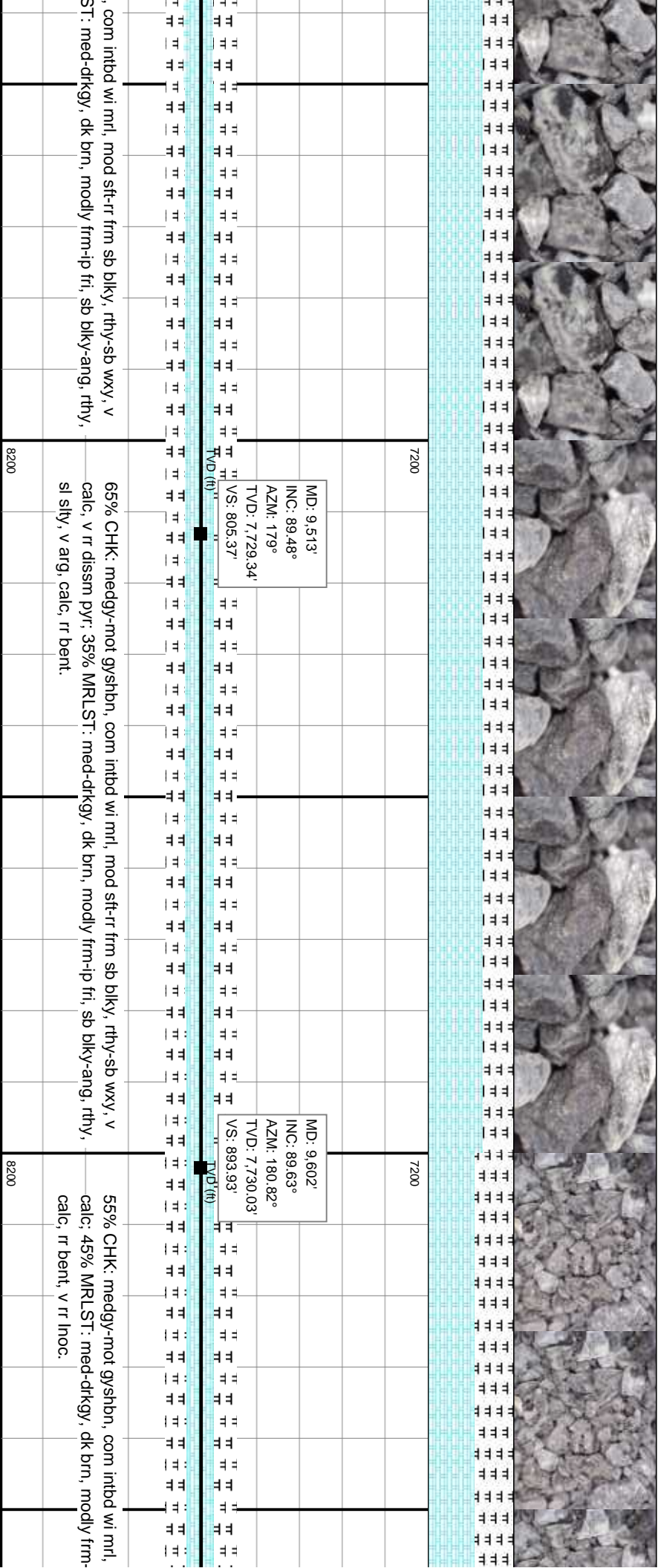
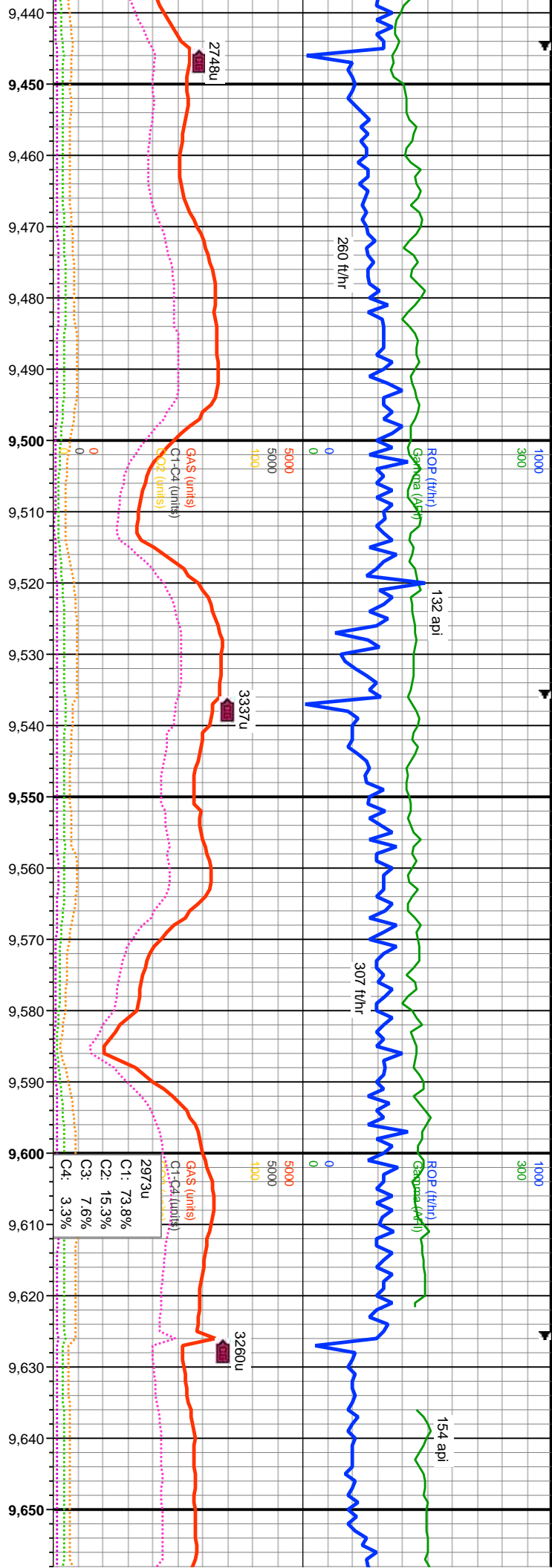


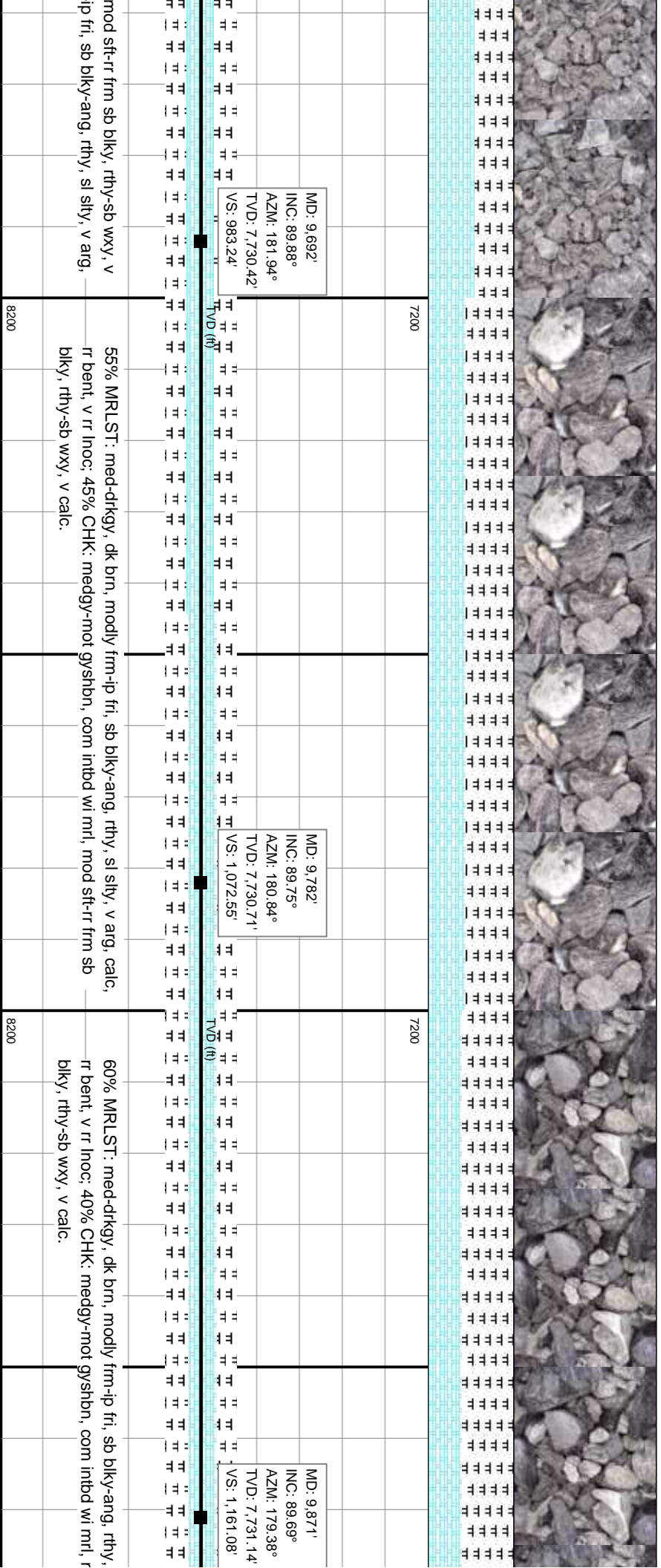
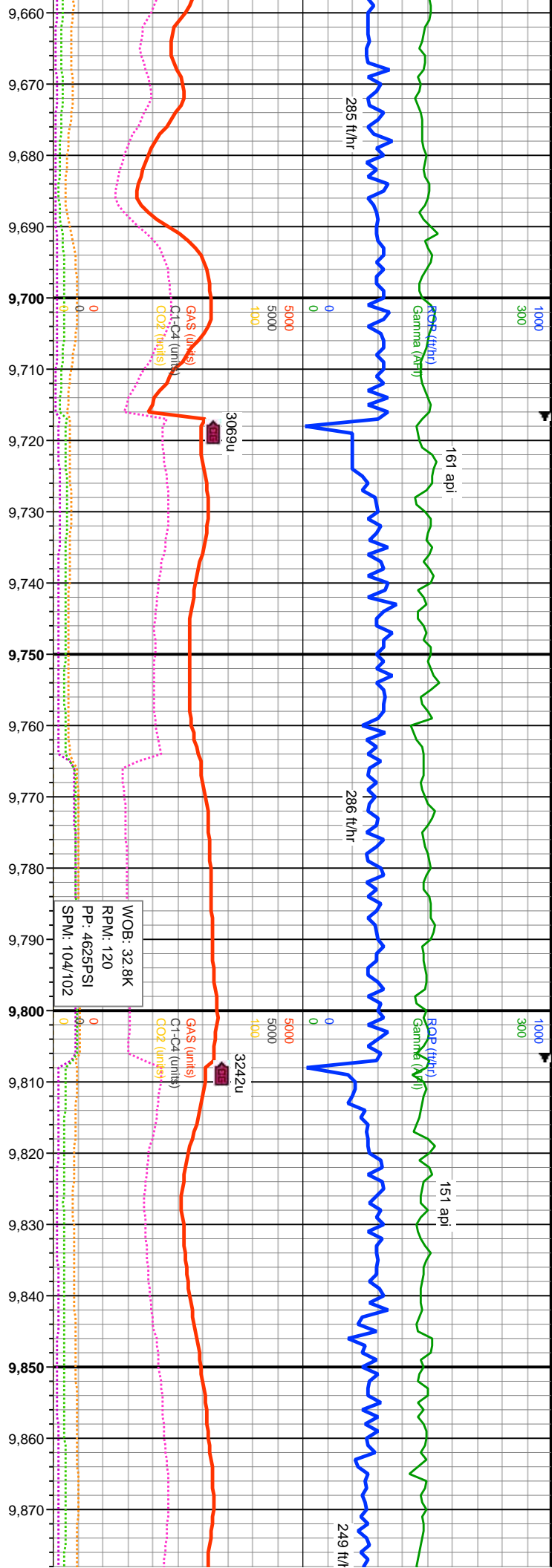


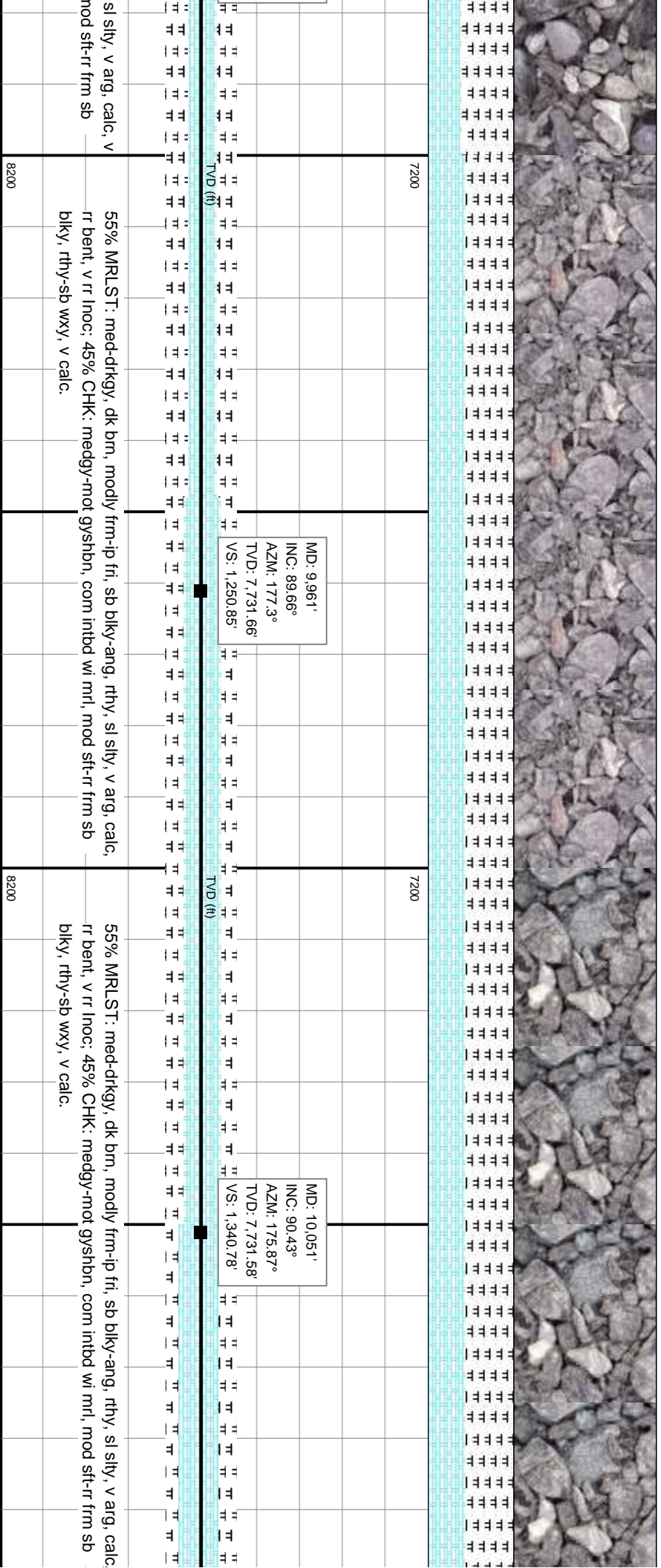
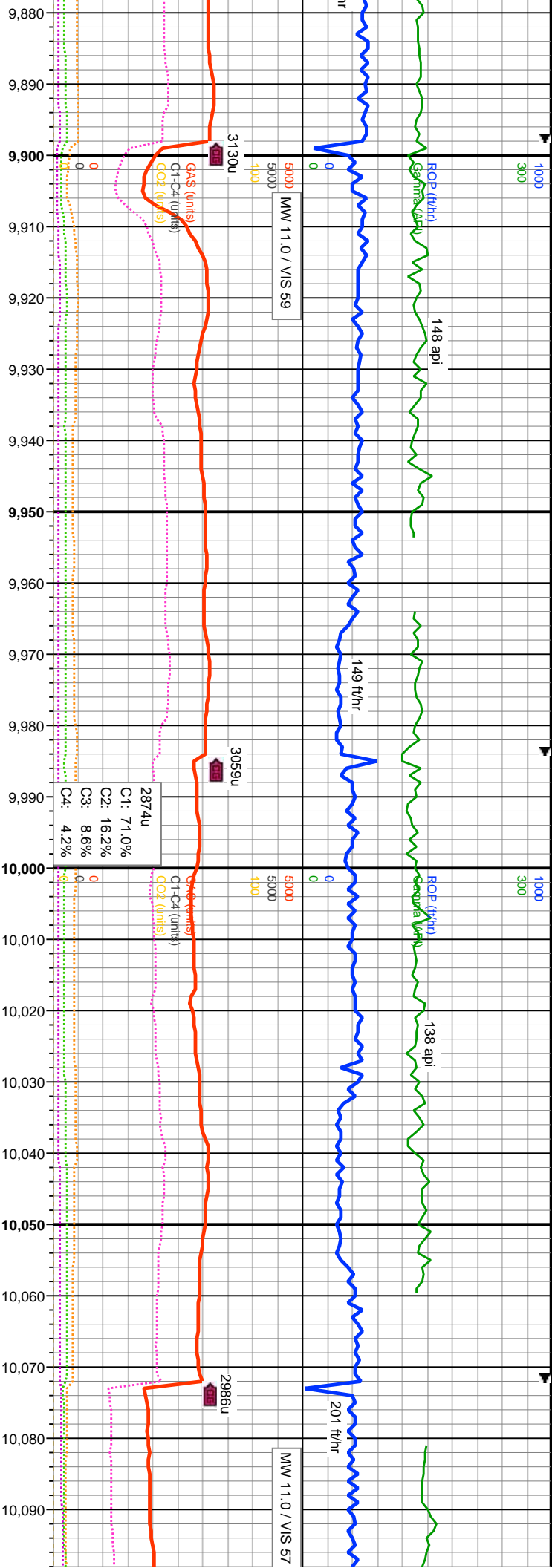


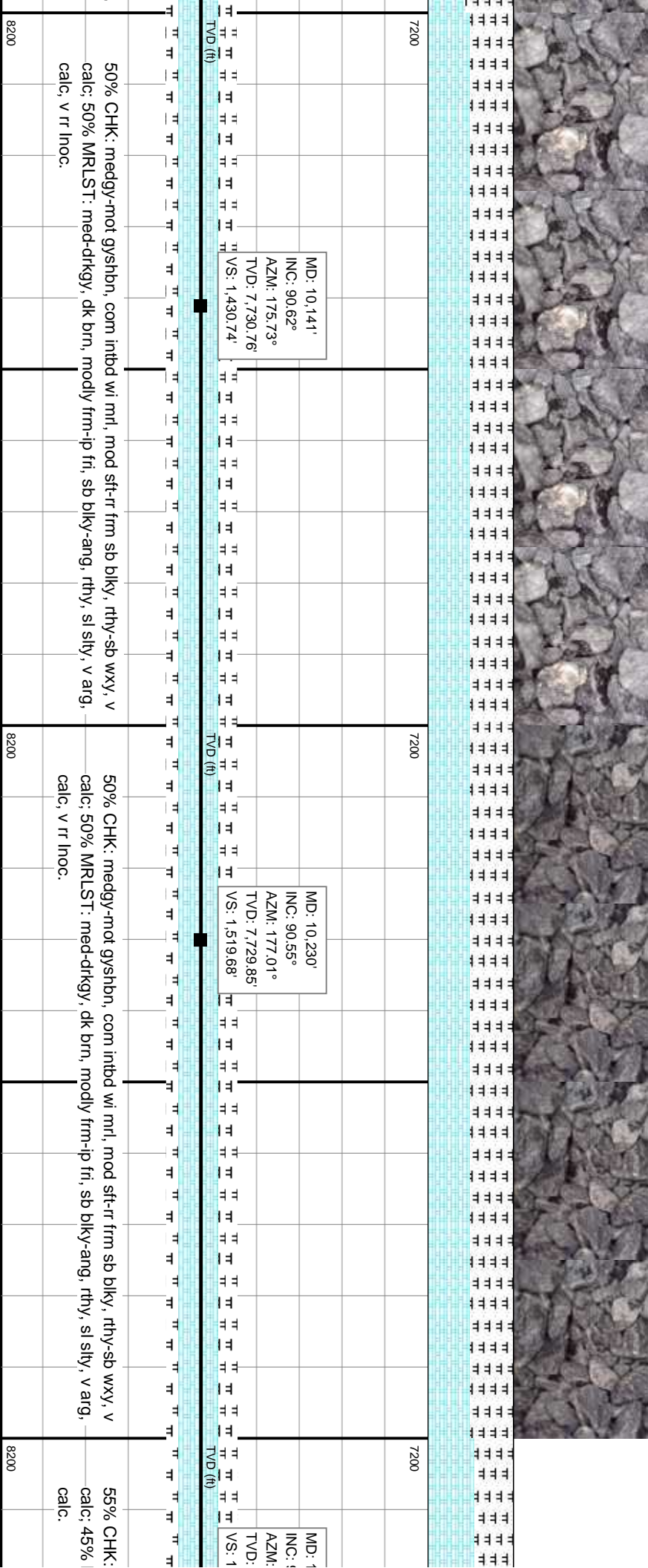
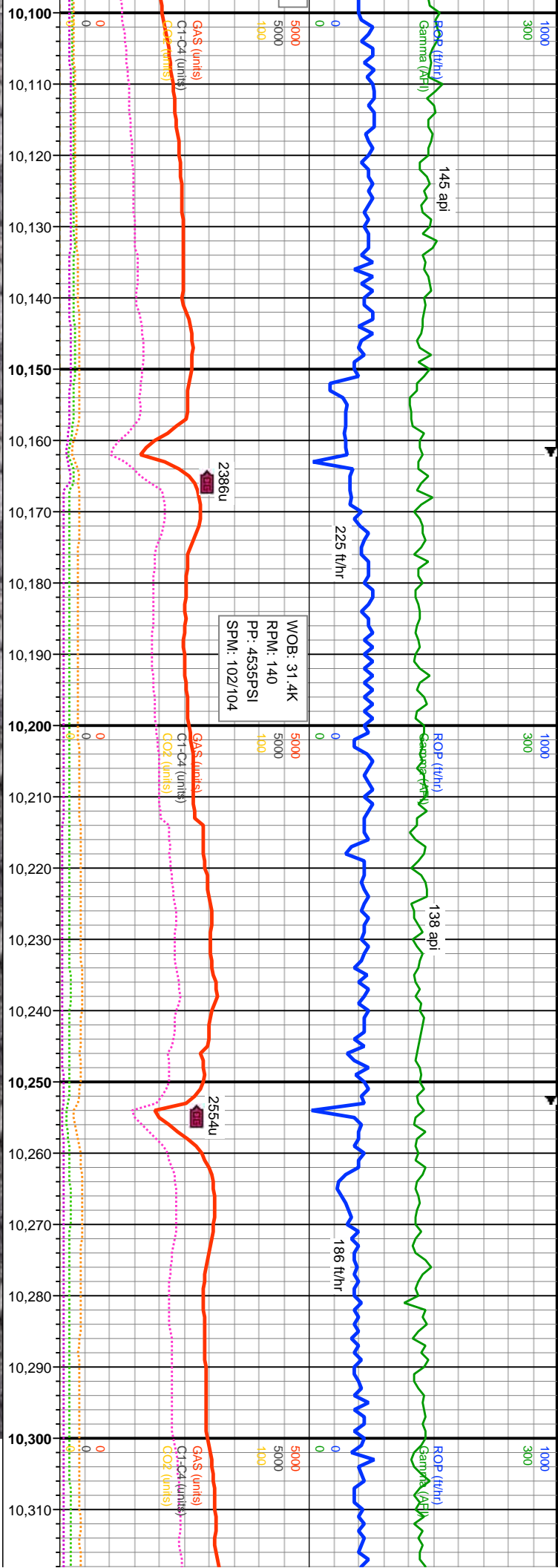


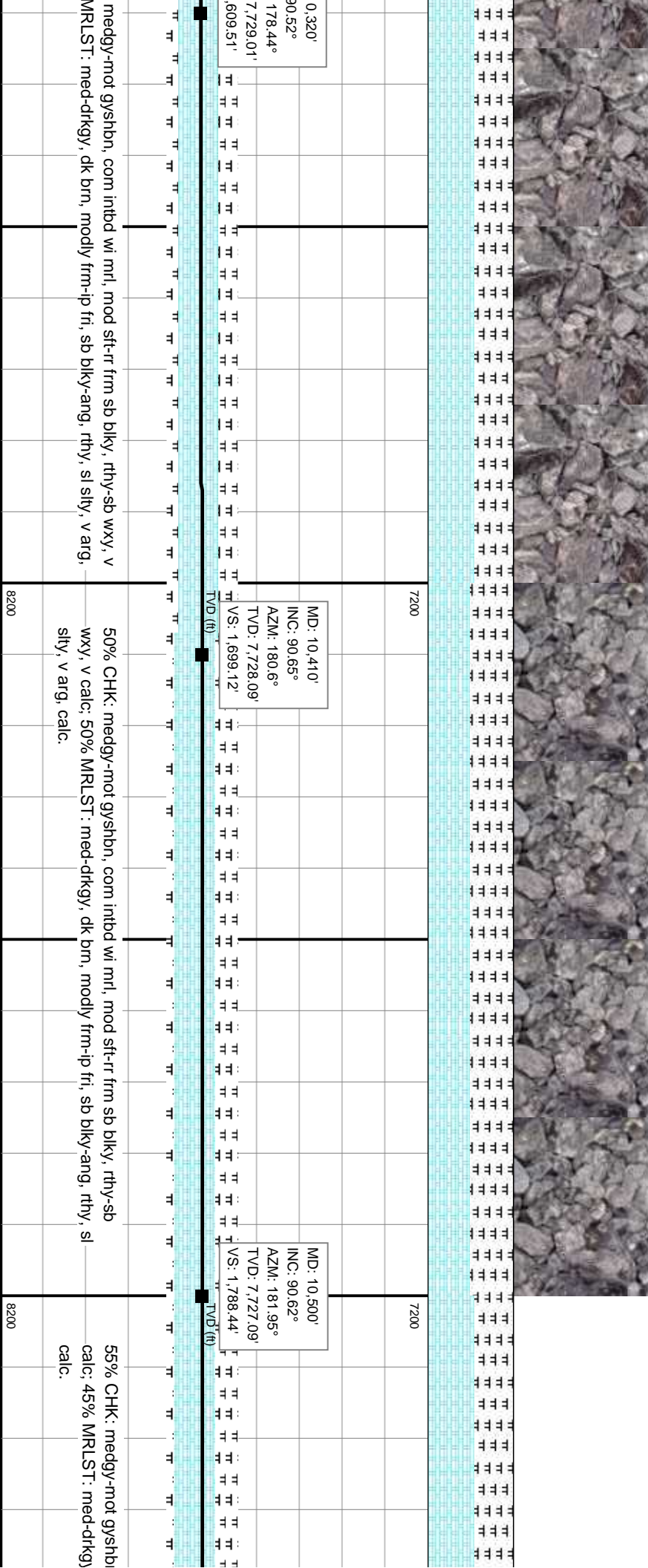
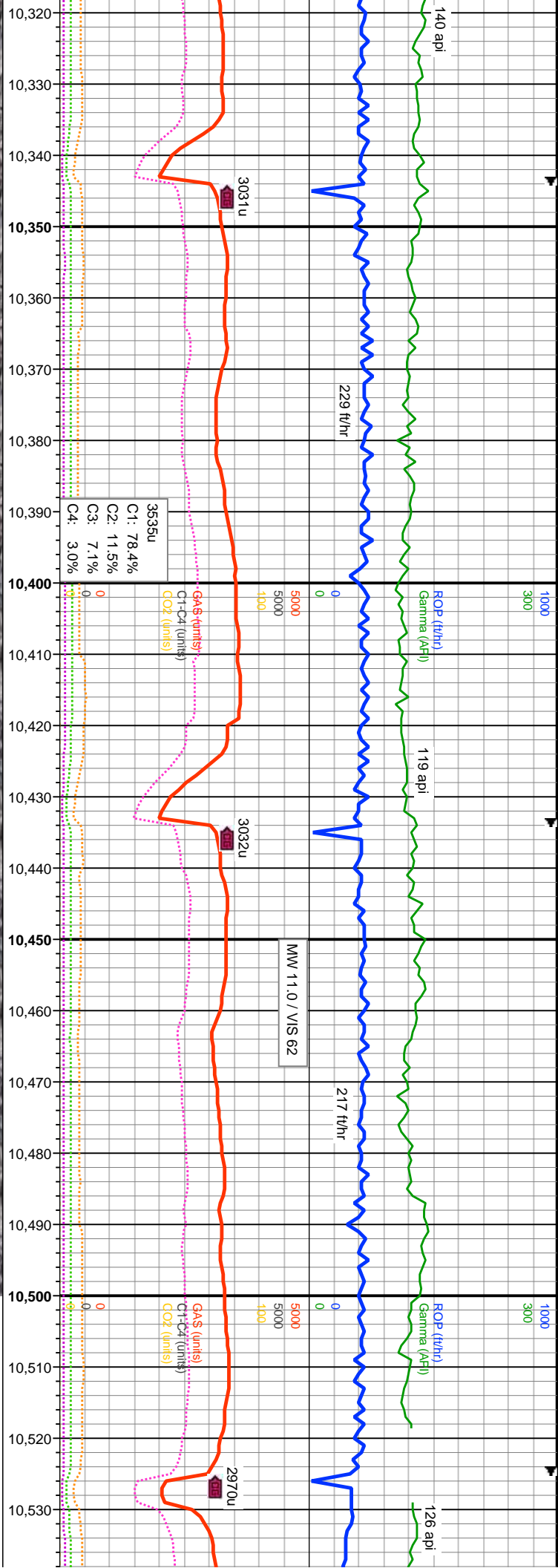








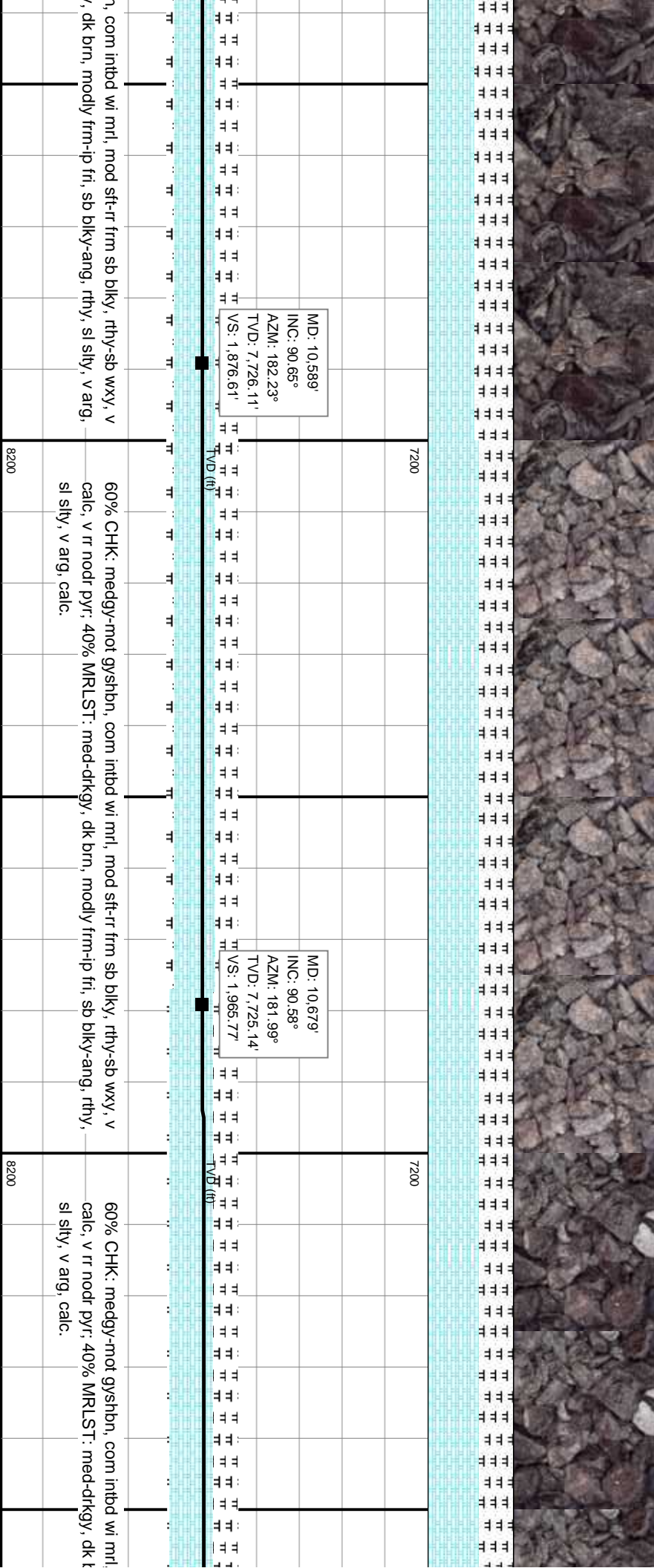
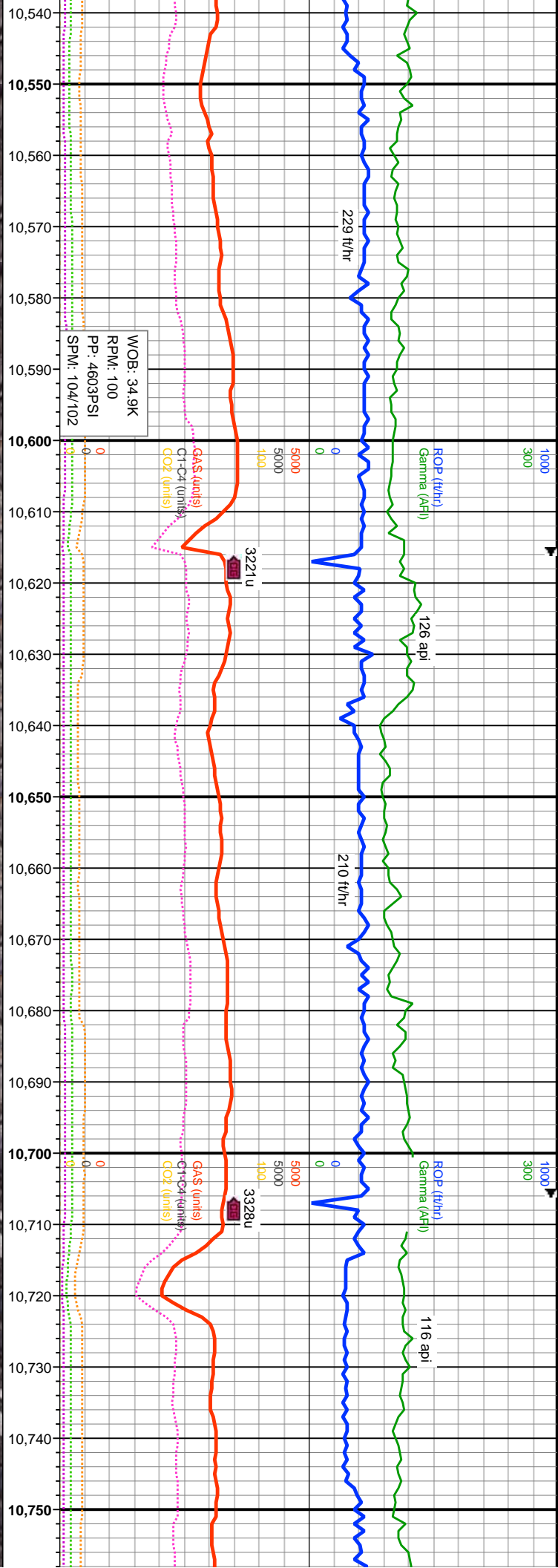


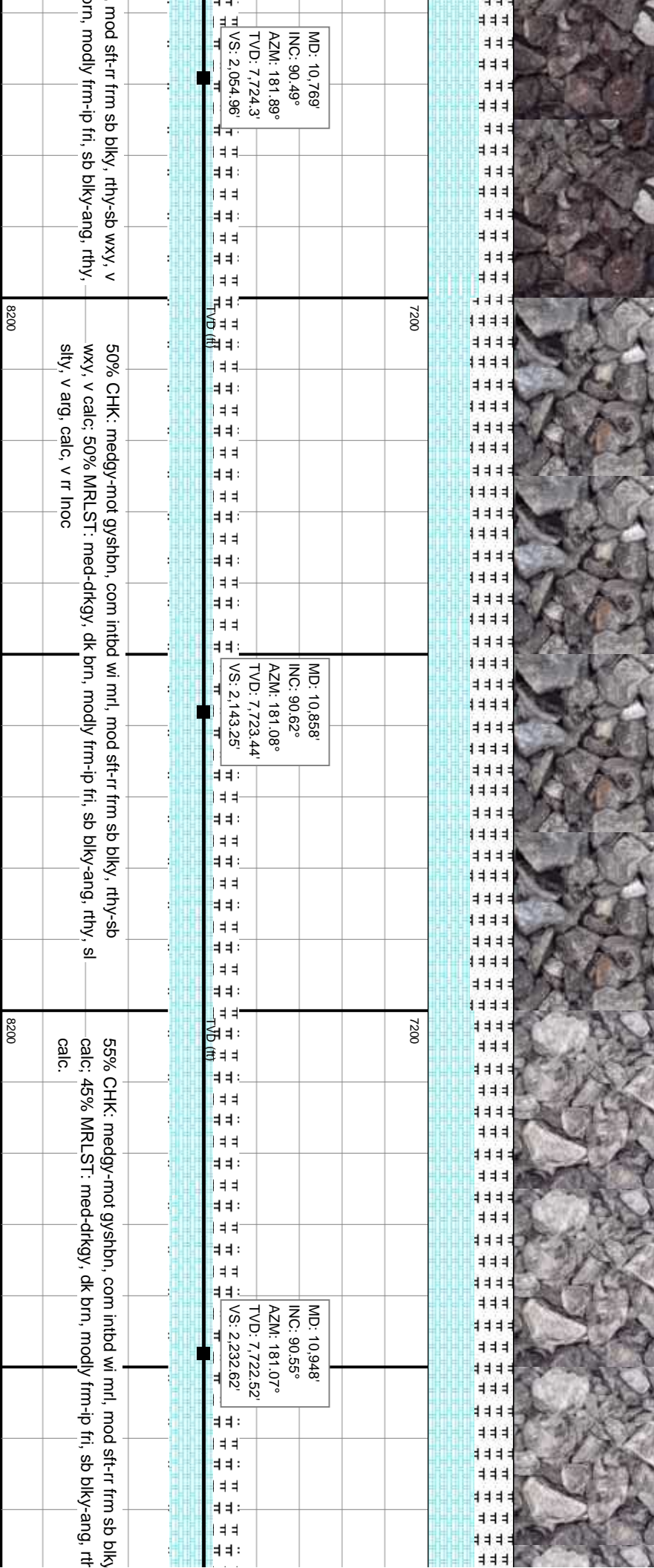
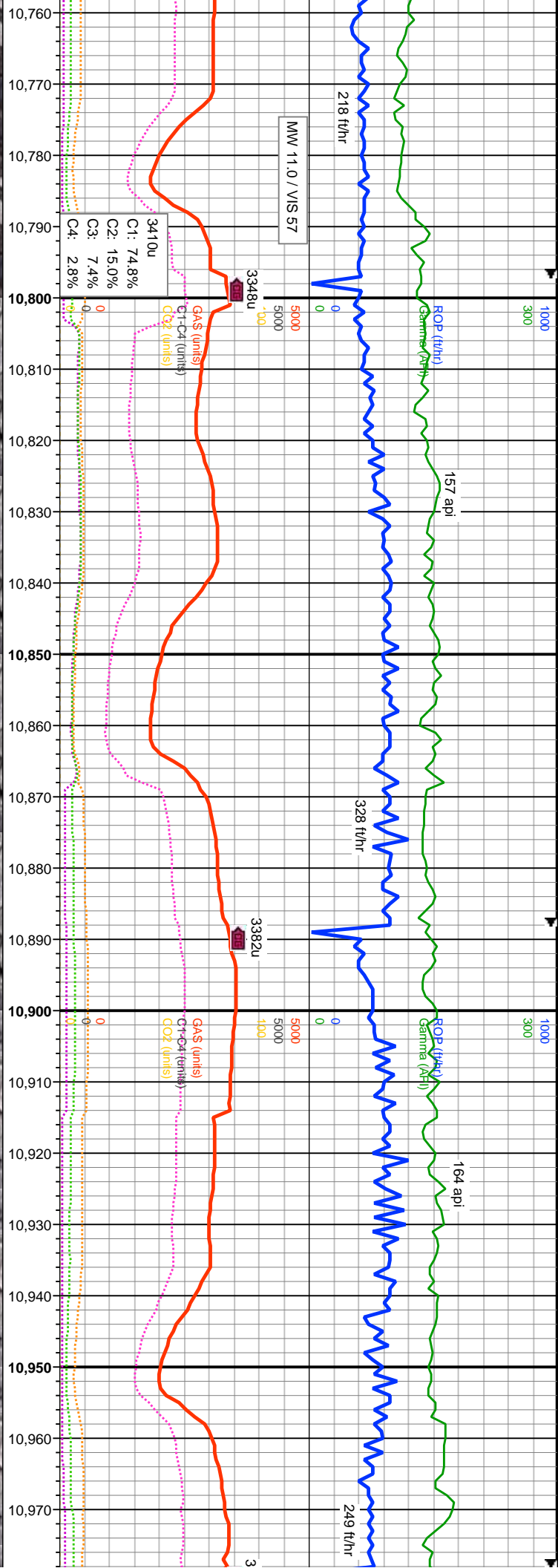


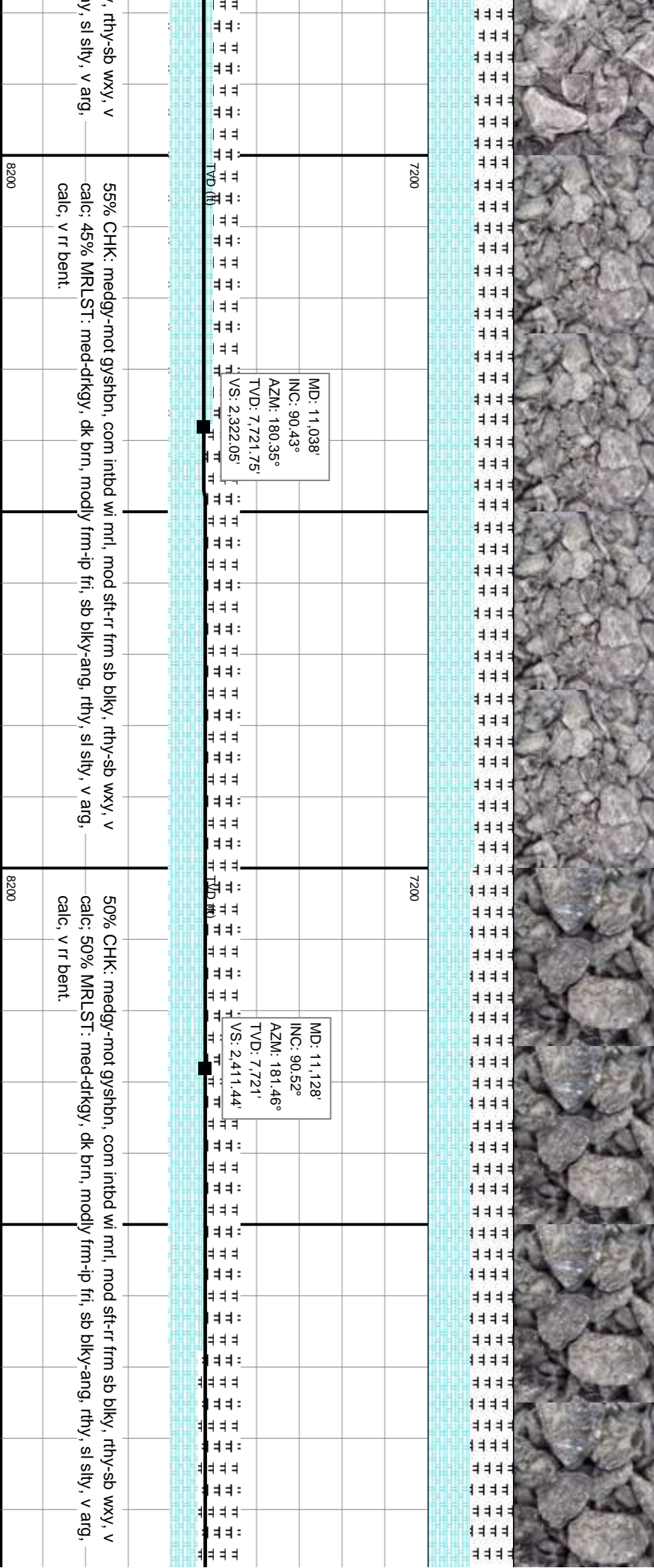
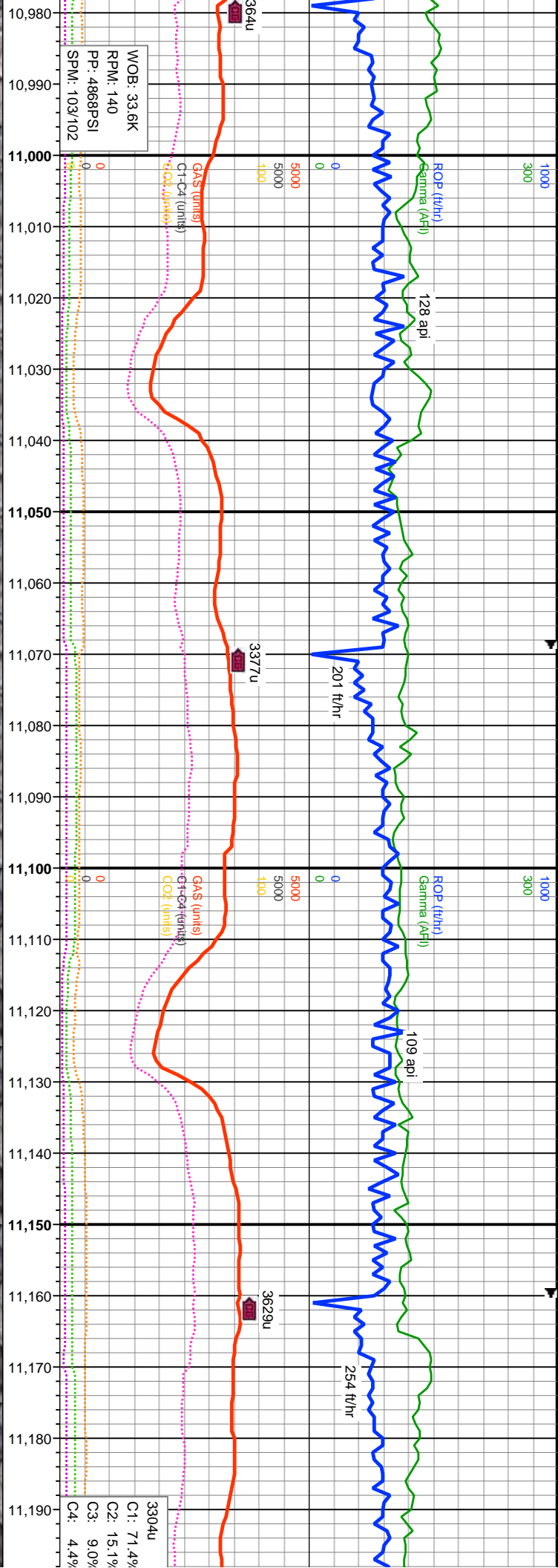
medgy-mot gysbhn, com intbd wi mrl, mod sft-r frn sb blk, rthy-sb wxy, v wxy, v calc, 50% MRLST: med-dtkgy, dk brn, modly frn-ip fri, sb blk-ang, rthy, sl sily, v arg, calc.

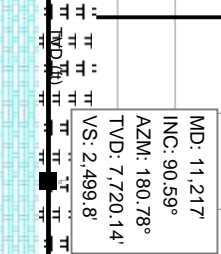
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55% CHK: medgy-mot gysbhn, com intbd wi mrl, mod sft-r frn sb blk, rthy-sb wxy, v calc, 45% MRLST: med-dtkgy, dk brn, modly frn-ip fri, sb blk-ang, rthy, sl sily, v arg, calc.



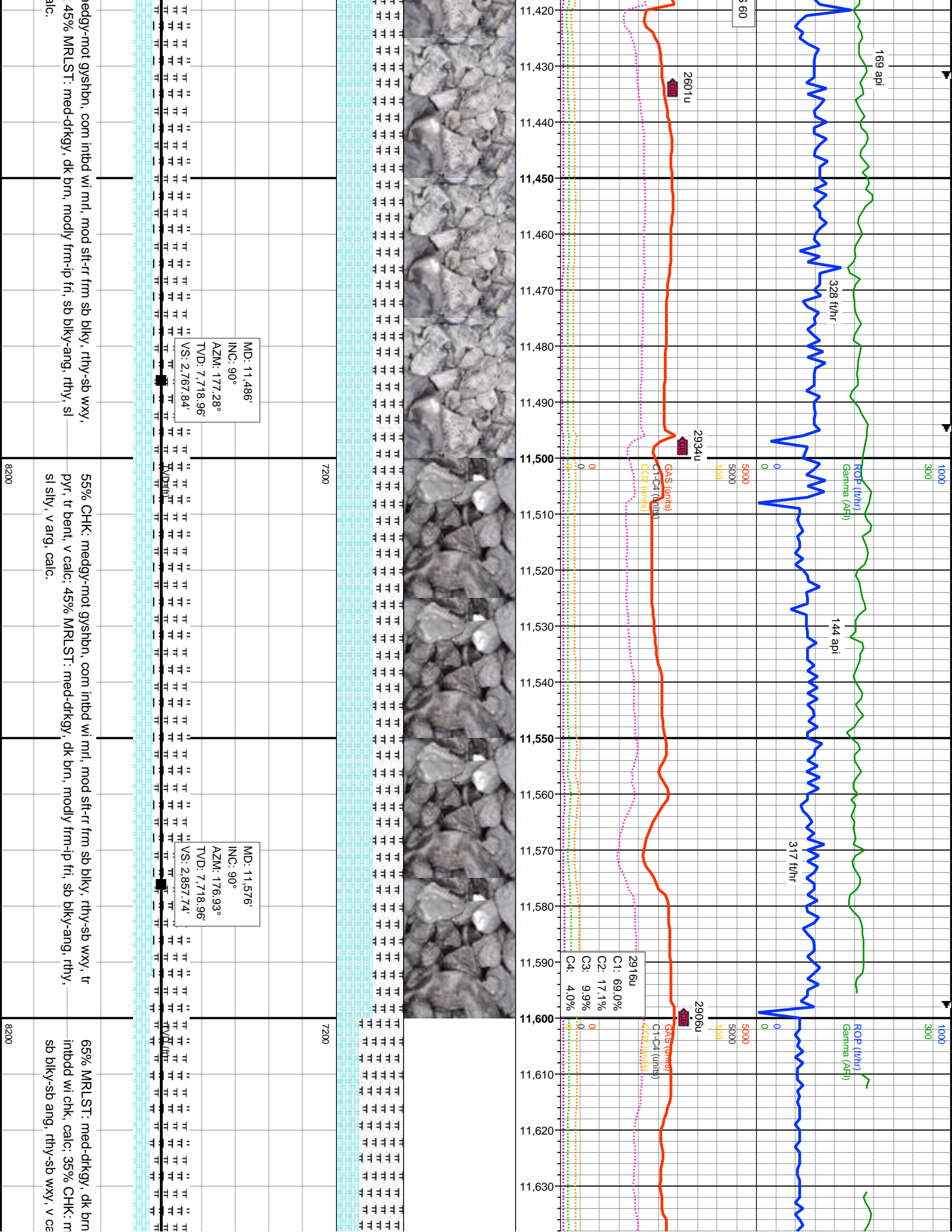


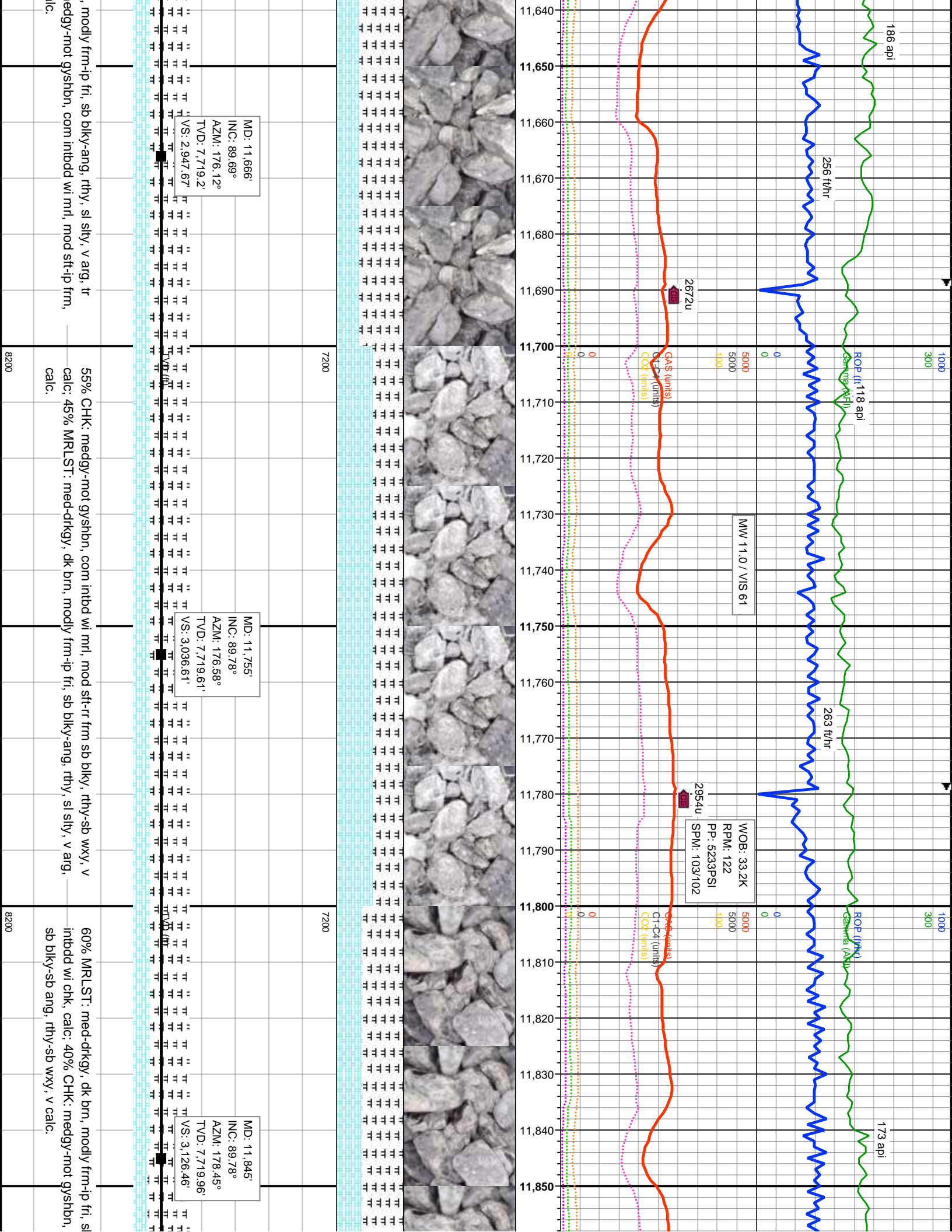


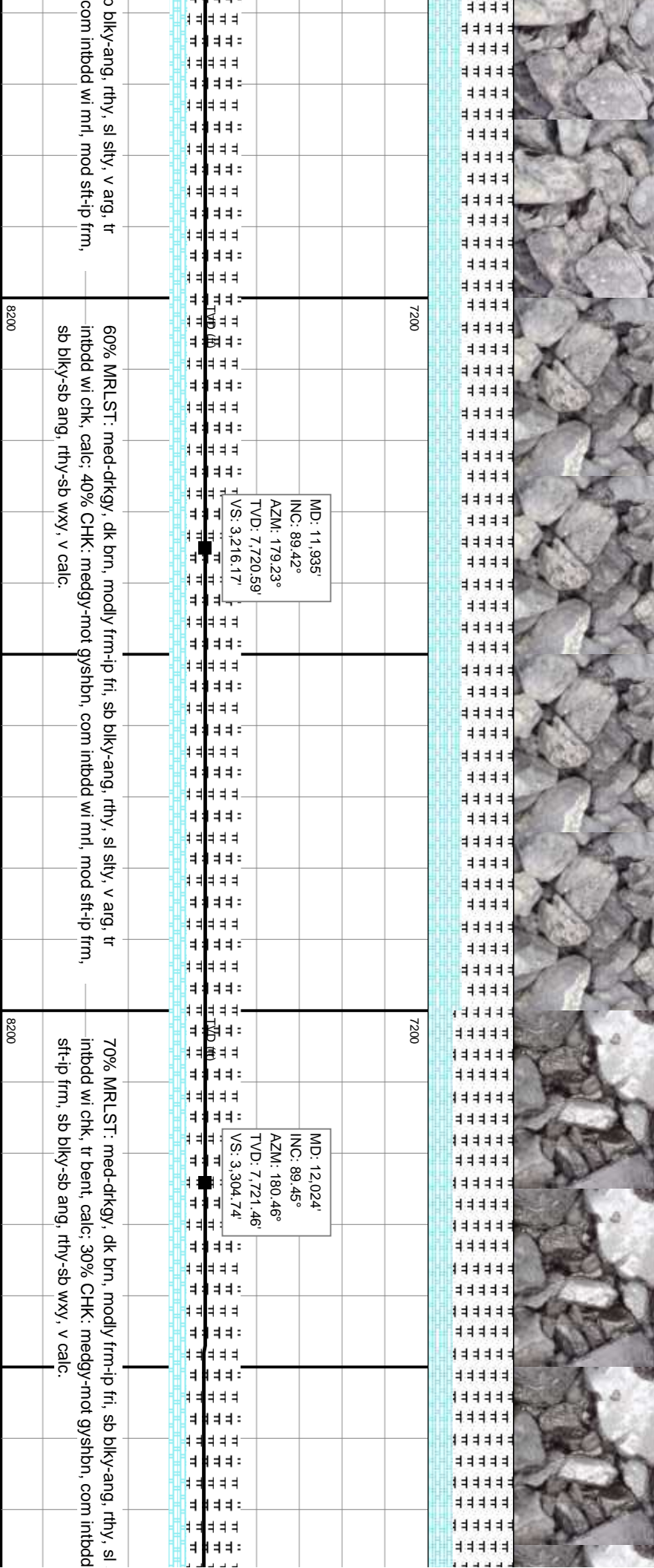
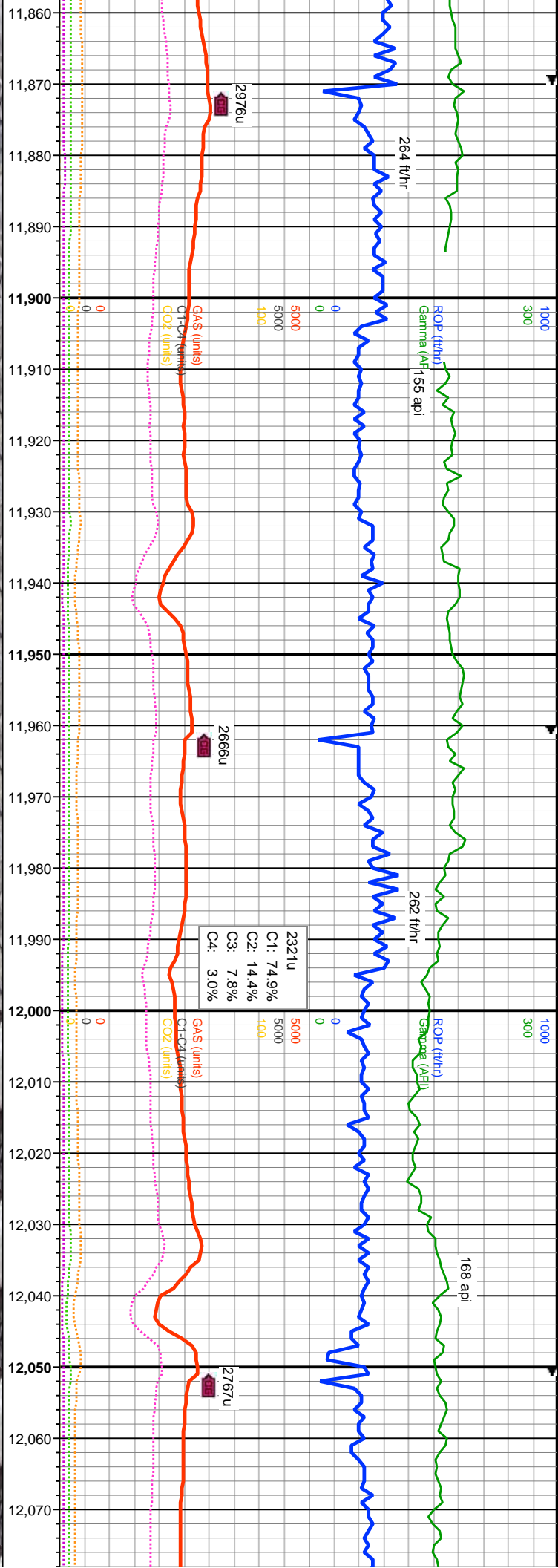


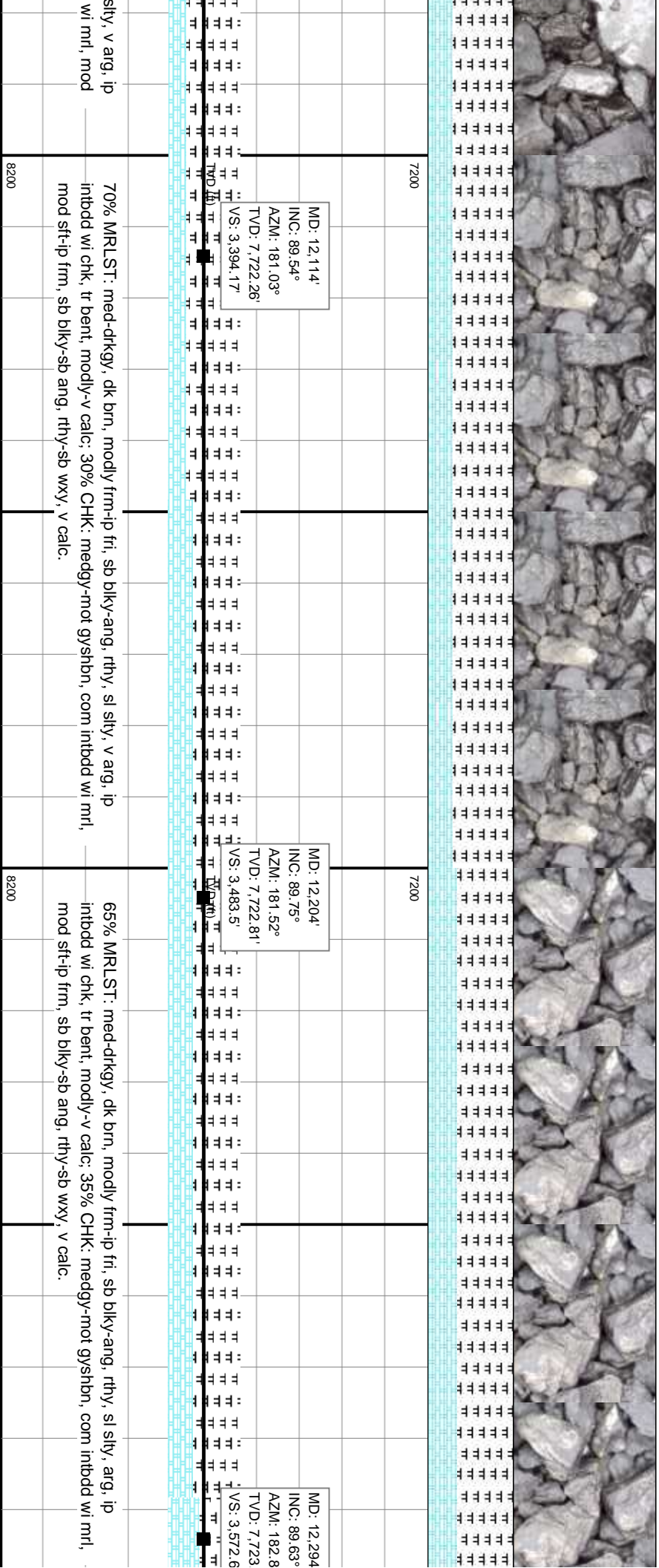
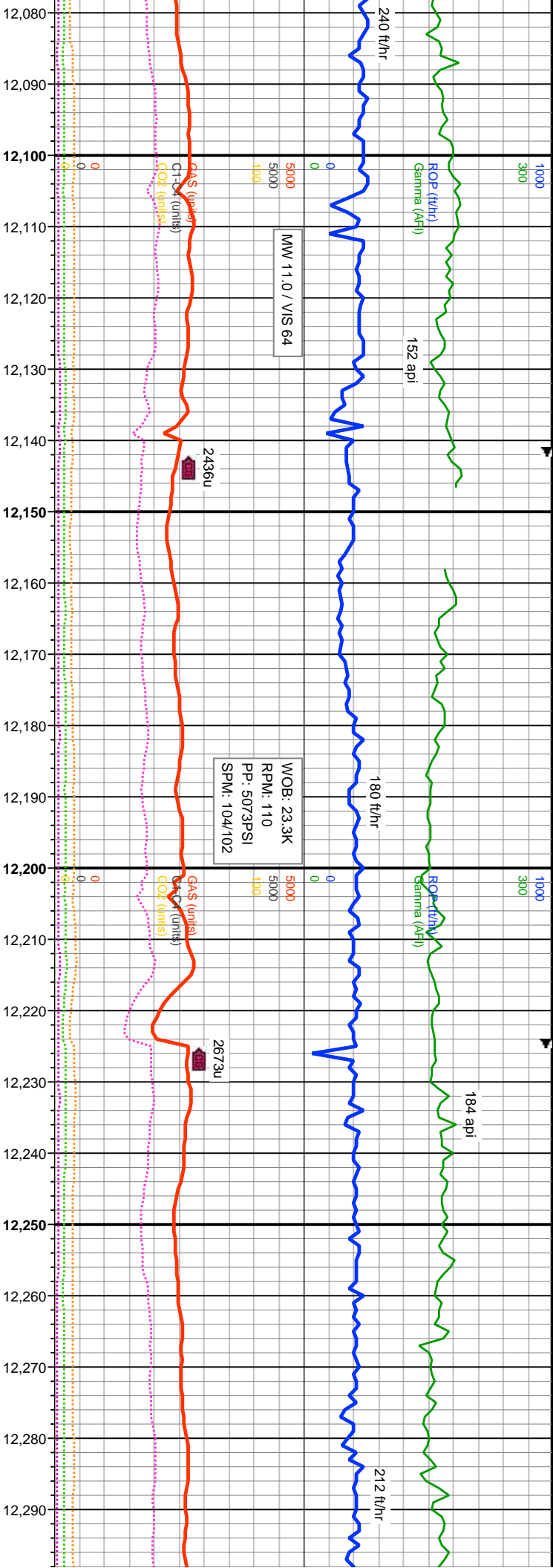
50% CHK: medgy-mot gyszhb, com intbd wi mrl, mod sft-rr frm sb blyk, rthy-sb wxy, v
calc; 50% MRLST: med-dfky, dk brn, modly frm-ip fri, sb blyk-ang, rthy, sl sily, v arg,
calc.

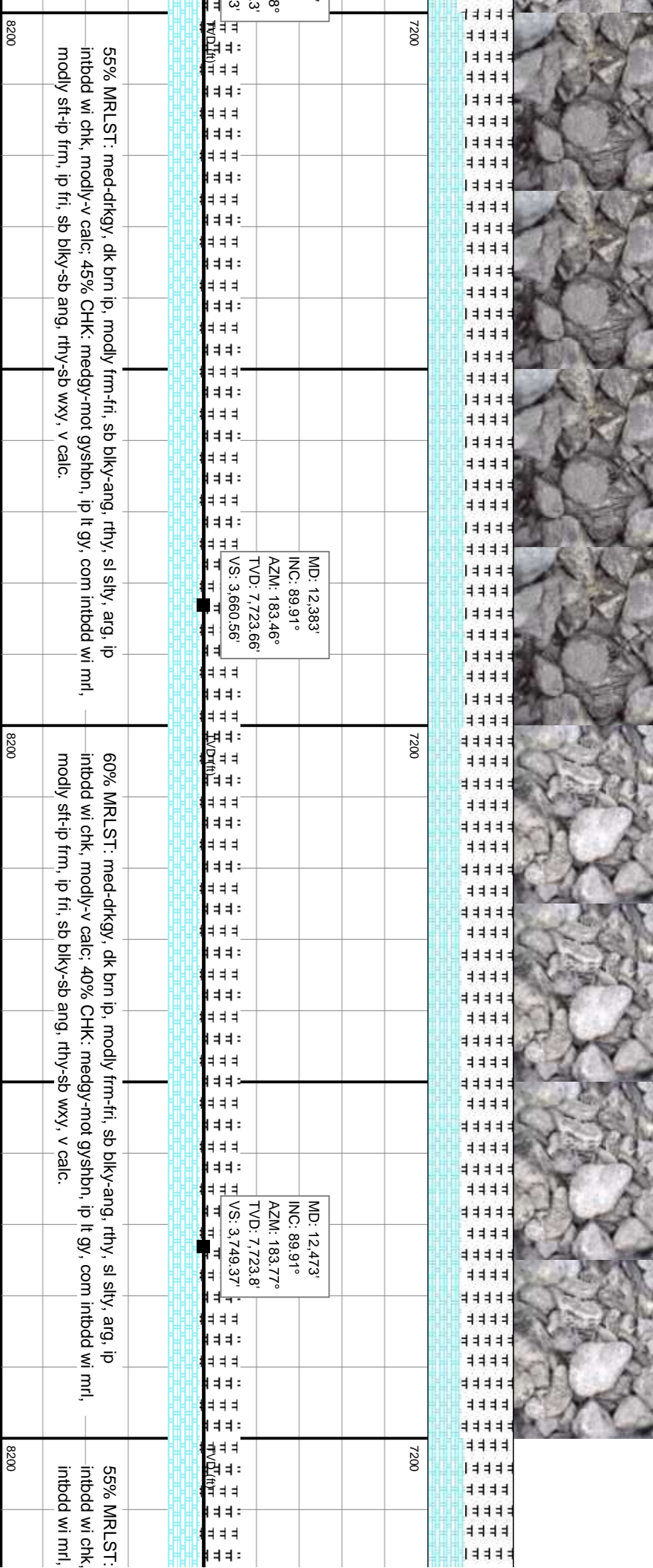
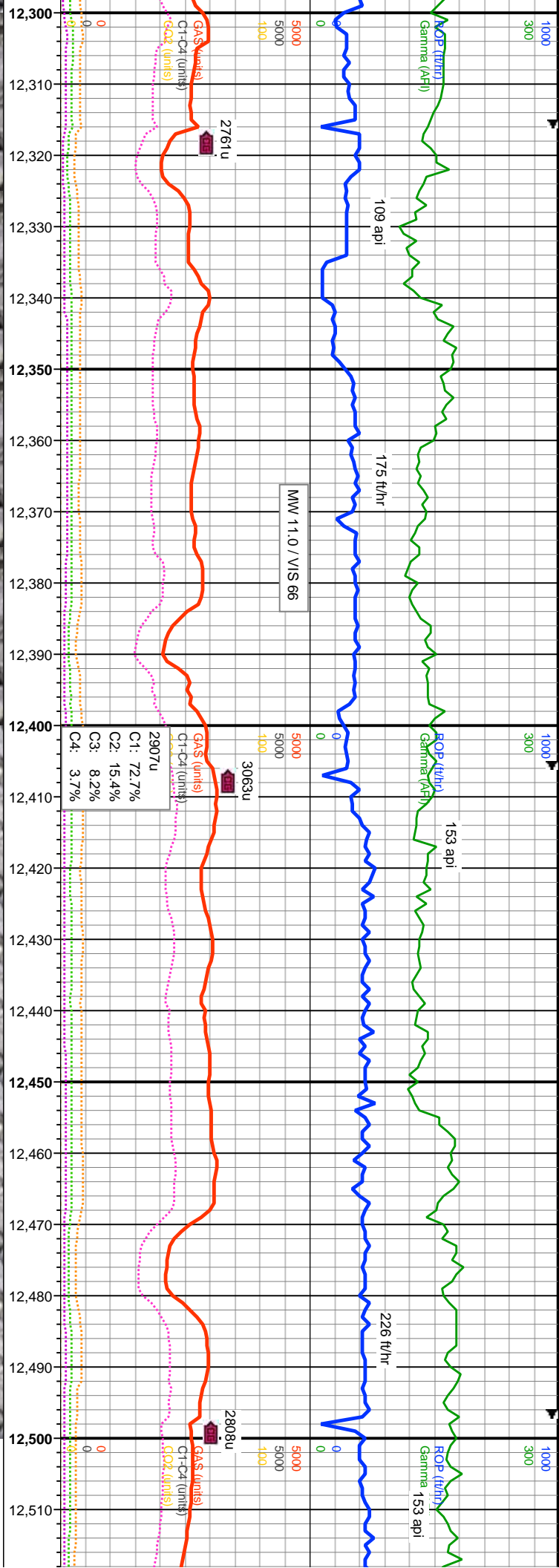
55% CHK: n
tr pyr, v calc
sity, v arg, ca







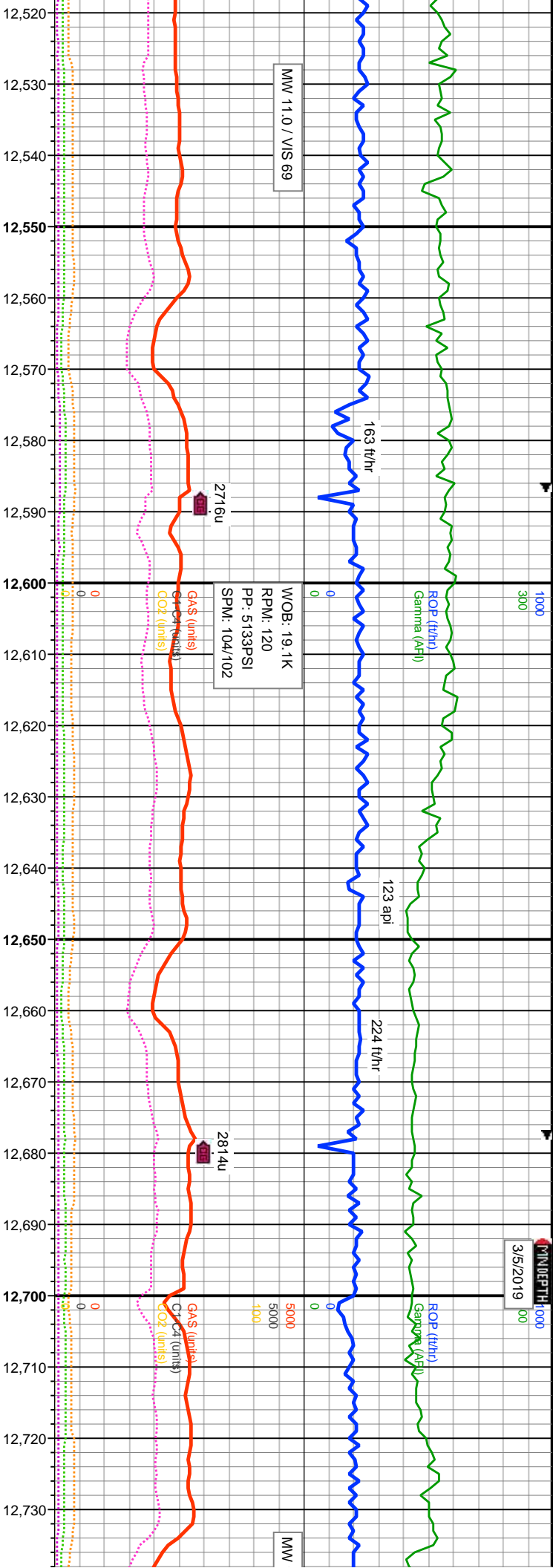




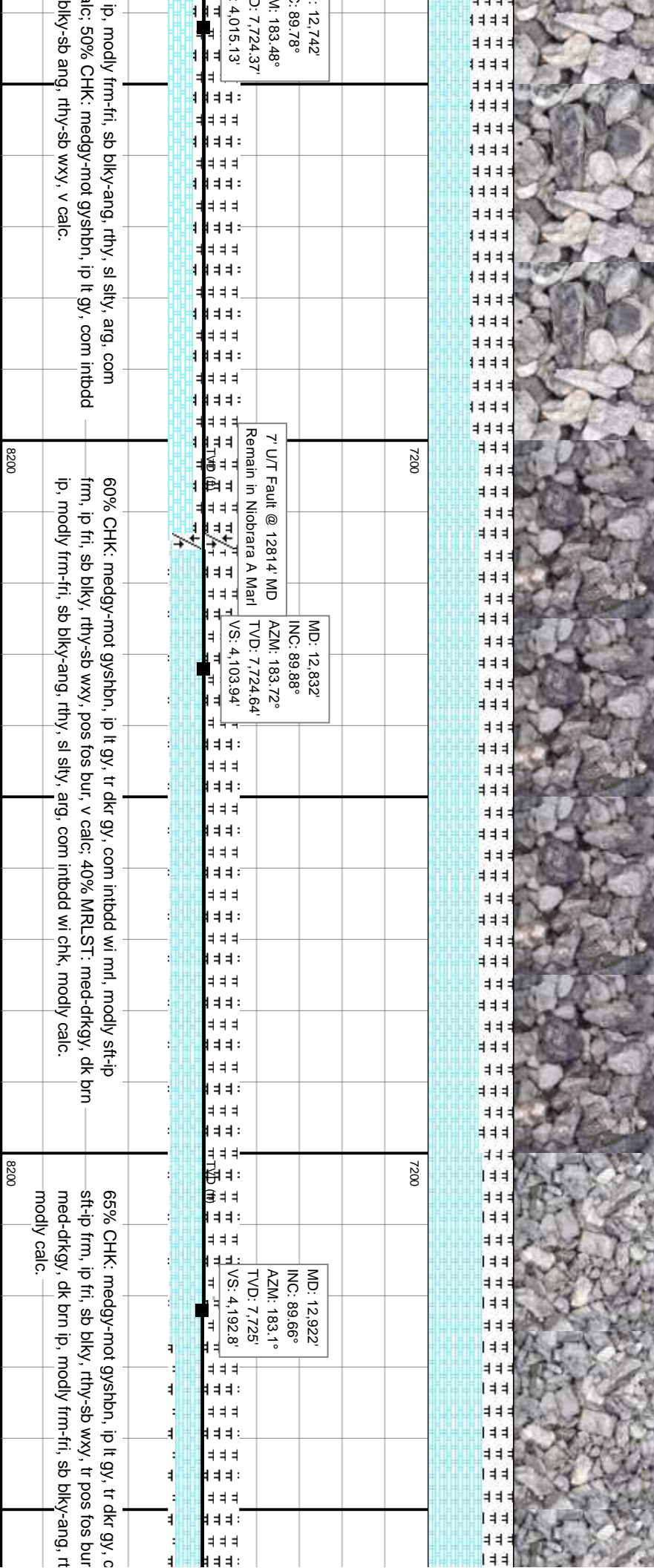
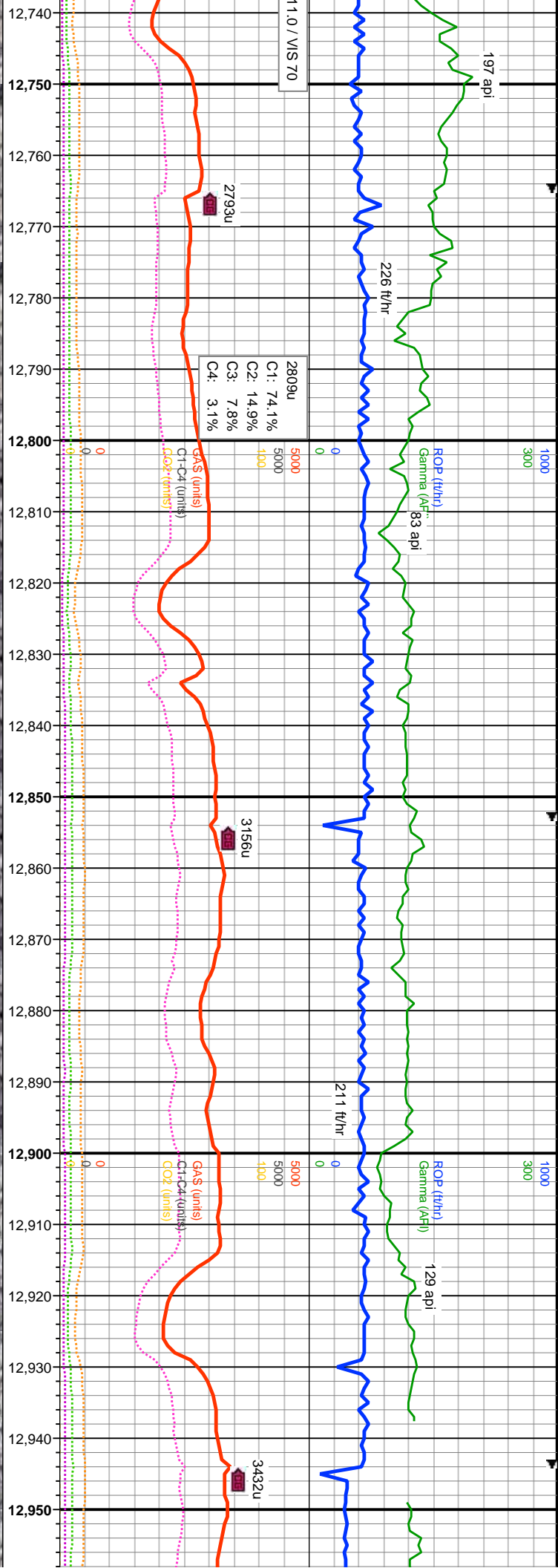
55% MRLST: med-dtkgy, dk brn ip, modly frm-fri, sb blk-y-ang, rthy, sl slty, arg, ip
intbdd wi chk, modly-v calc, 45% CHK: medgy-mot gysbhn, ip lt gy, com intbdd wi mrl,
modly sft-ip frm, ip fri, sb blk-y-sb ang, rthy-sb wxy, v calc.

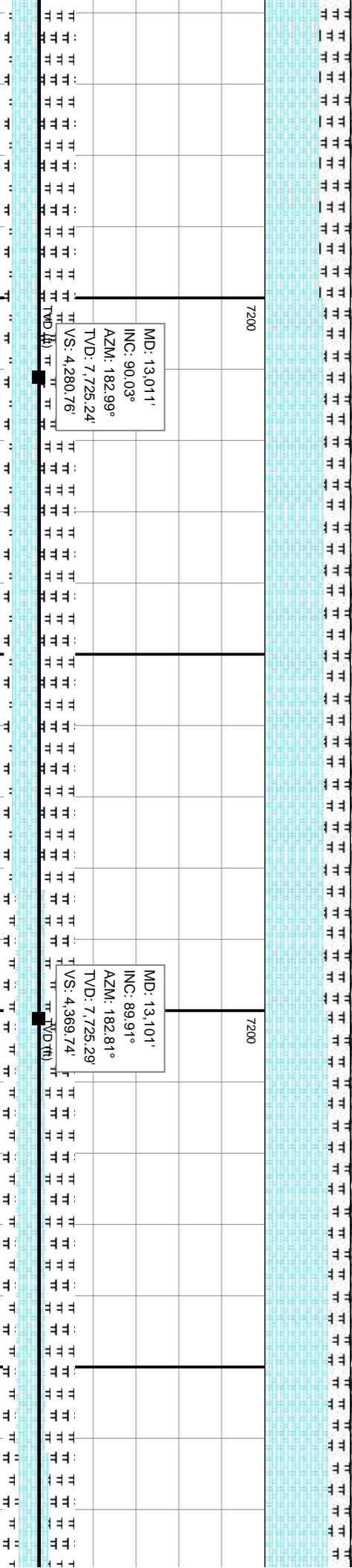
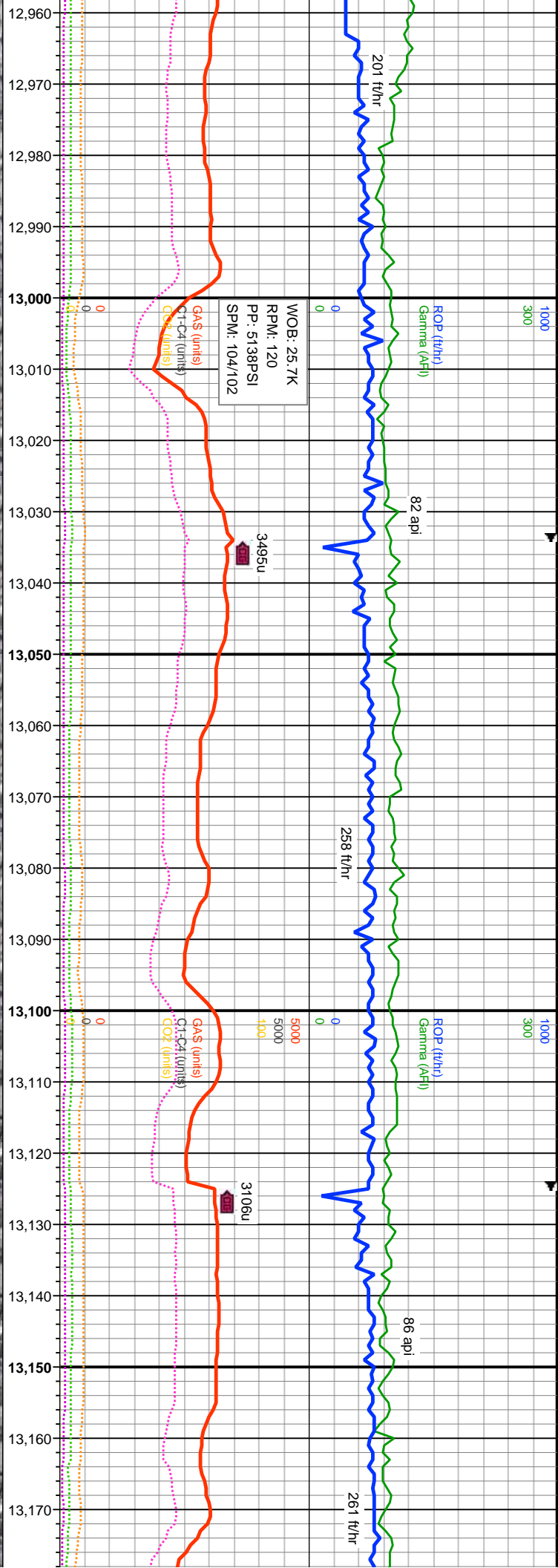
60% MRLST: med-dtkgy, dk brn ip, modly frm-fri, sb blk-y-ang, rthy, sl slty, arg, ip
intbdd wi chk, modly-v calc, 40% CHK: medgy-mot gysbhn, ip lt gy, com intbdd wi mrl,
modly sft-ip frm, ip fri, sb blk-y-sb ang, rthy-sb wxy, v calc.

55% MRLST: med-dtkgy, dk brn ip, modly frm-fri, sb blk-y-ang, rthy, sl slty, arg, ip
intbdd wi chk, modly-v calc, 45% CHK: medgy-mot gysbhn, ip lt gy, com intbdd wi mrl,
modly sft-ip frm, ip fri, sb blk-y-sb ang, rthy-sb wxy, v calc.



7200		7200	
<div> <div>MD: 12.563'</div> <div>INC: 89.85°</div> <div>AZM: 183.09°</div> <div>TV/D: 7.723.99'</div> </div>	VS: 3.838.23'	<div> <div>MD: 12.653'</div> <div>INC: 89.94°</div> <div>AZM: 182.84°</div> <div>TV/D: 7.724.15'</div> </div>	VS: 3.927.19'
med-dtkgy, dk brn ip, modly frm-fri, sb blk-y-ang, rthy, sl sfty, arg, ip v tr bent, modly-v calc; 45% CHK: medgy-not gysbhn, ip lt gy, com modly sft-ip frm, ip fri, sb blk-y-sb ang, rthy-sb wxy, v calc.	55% MRLST: med-dtkgy, dk brn ip, modly frm-fri, sb blk-y-ang, rthy, sl sfty, arg, ip intbdd wi chk, v tr bent, modly-v calc; 45% CHK: medgy-not gysbhn, ip lt gy, com intbdd wi mrl, modly sft-ip frm, ip fri, sb blk-y-sb ang, rthy-sb wxy, v calc.	50% MRLST: med-dtkgy, dk brn intbdd wi chk, tr bent, modly-v calc wi mrl, modly sft-ip frm, ip fri, sb	
8200	8200	8200	8200

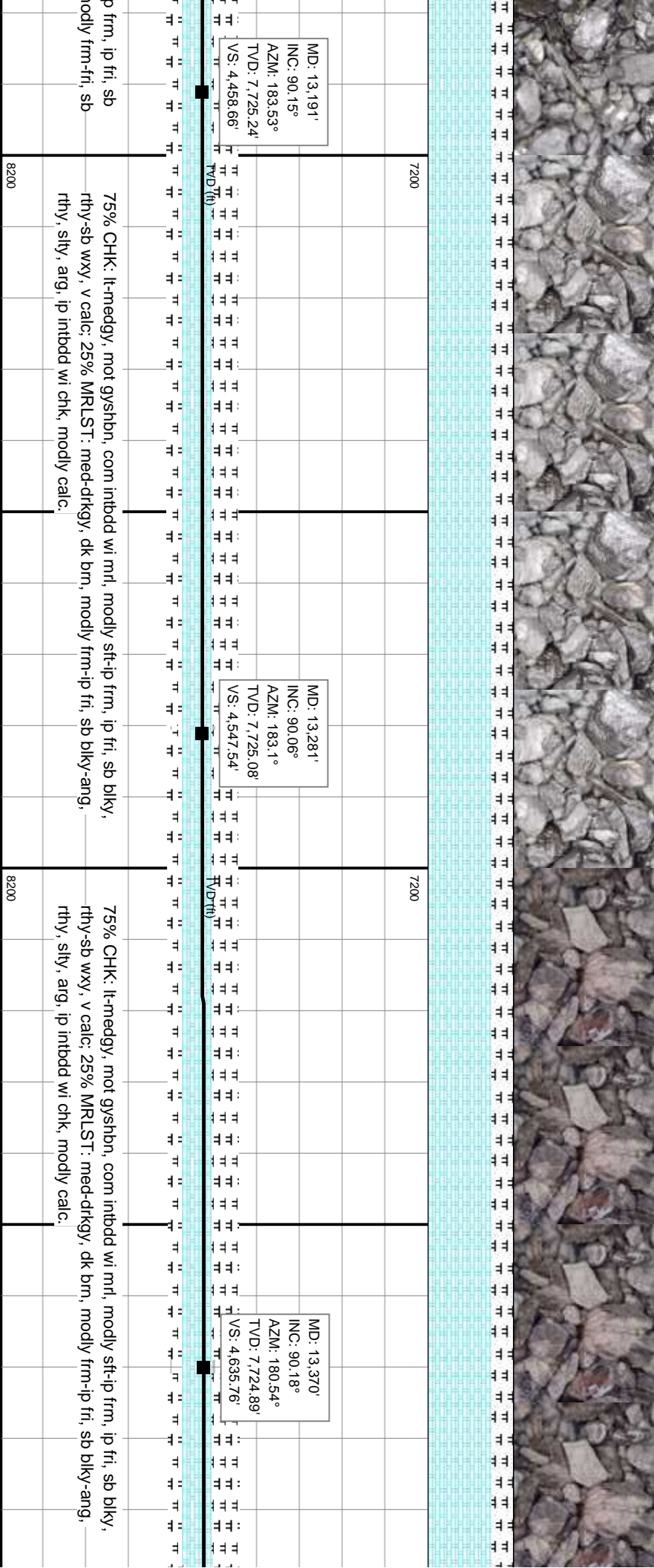
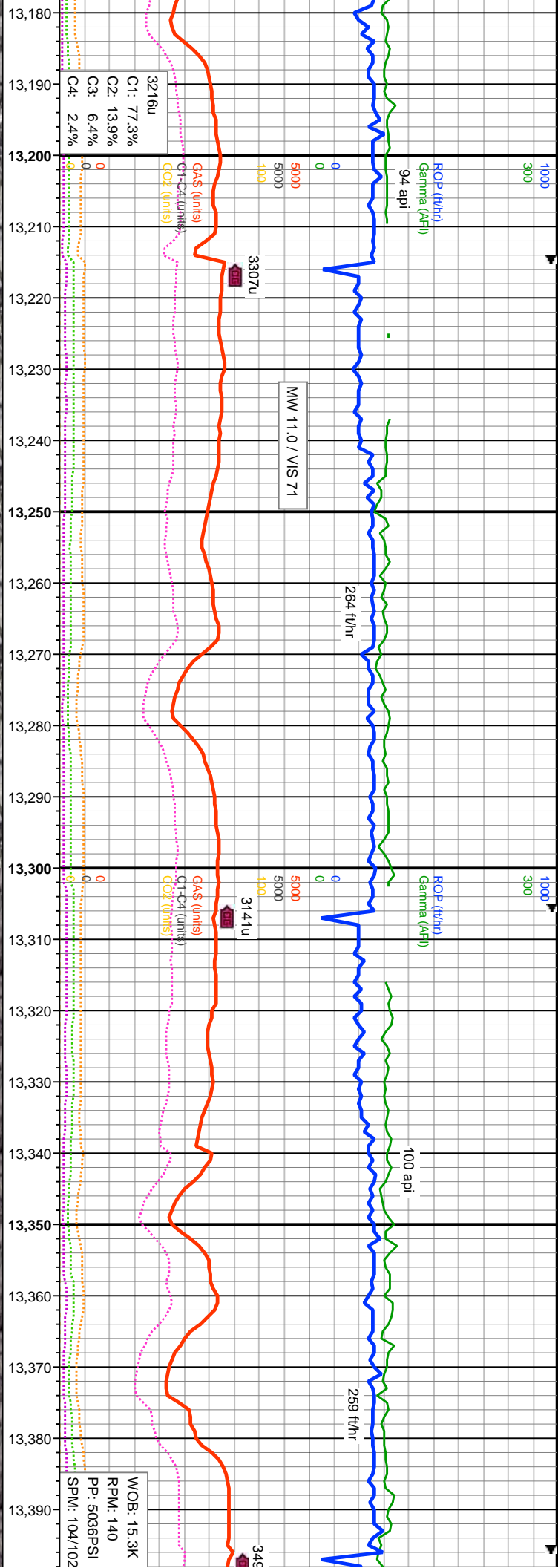


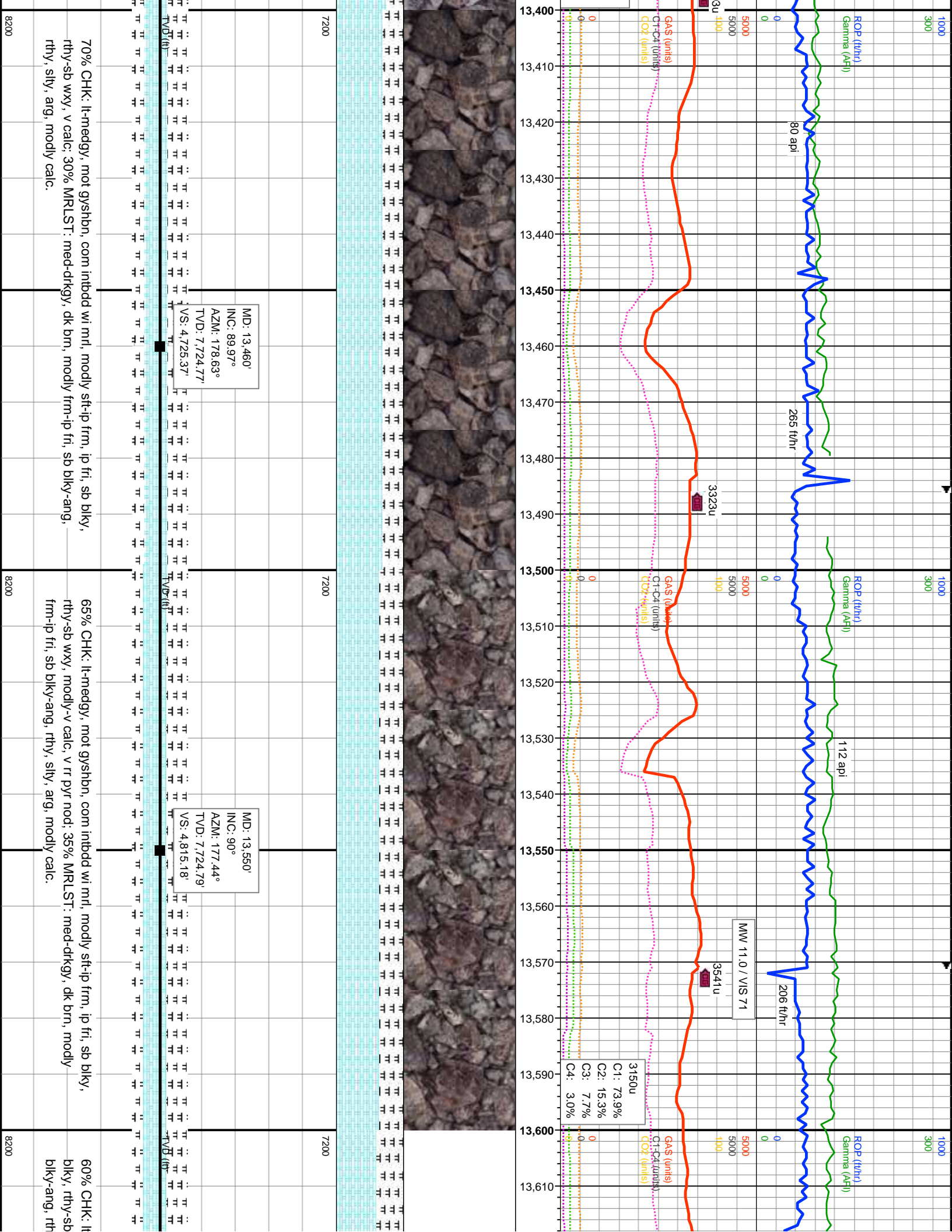


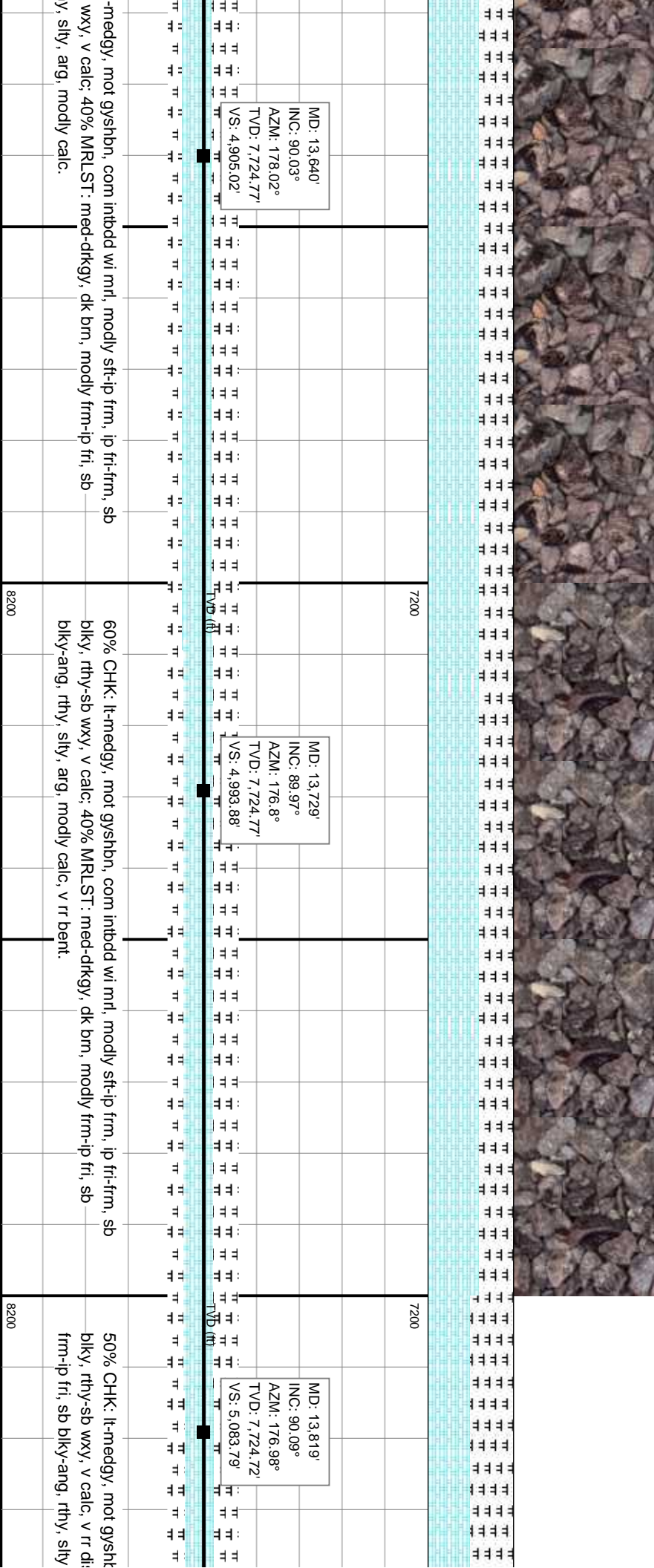
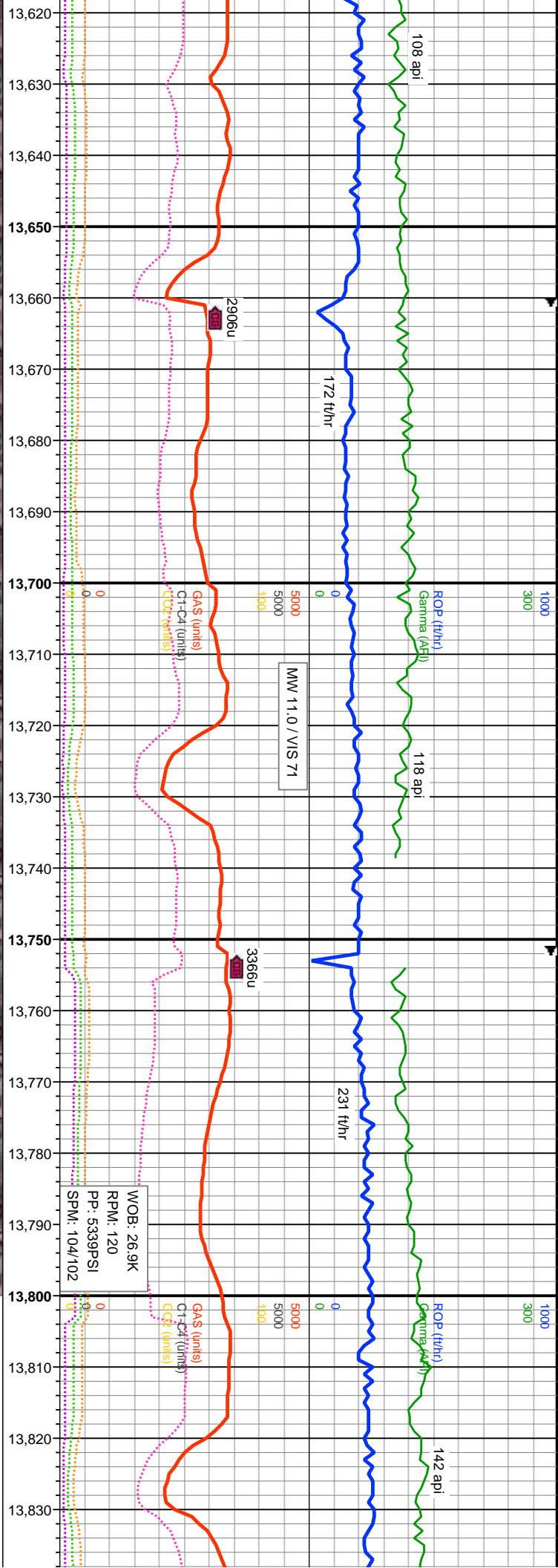
om-abnt intbdd wi mrl, modly
tr bent, v calc; 35% MRLST:
y, slty, arg, com intbdd wi chk,

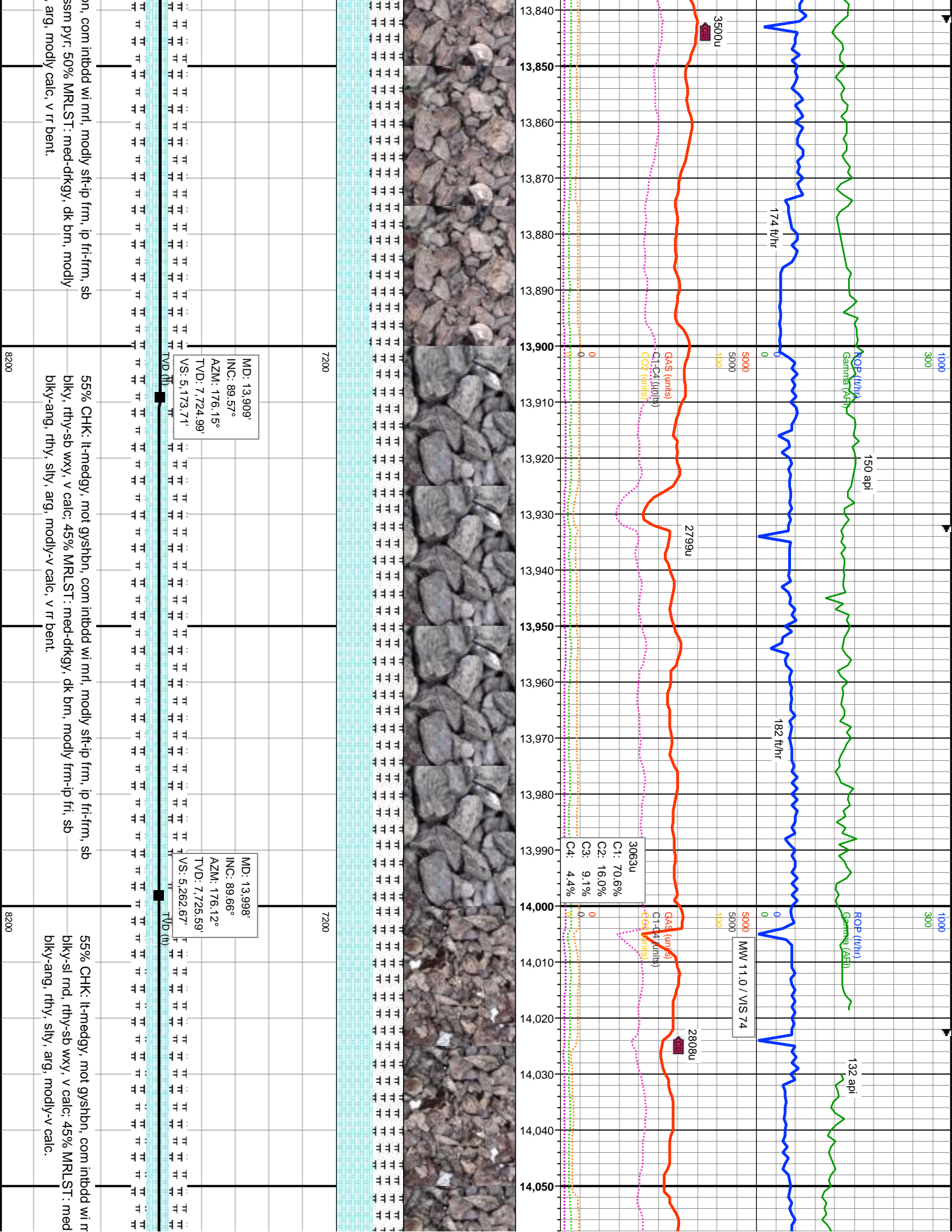
70% CHK: medgy-mot gysbhn, ip lt gy, com intbdd wi mrl, modly sft-ip frm, ip fri, sb
bkly, rthy-sb wxy, tr pyr, v calc; 30% MRLST: med-drkgy, dk brn ip, modly frm-fri, sb
bkly-ang, rthy, slty, arg, ip intbdd wi chk, modly calc.

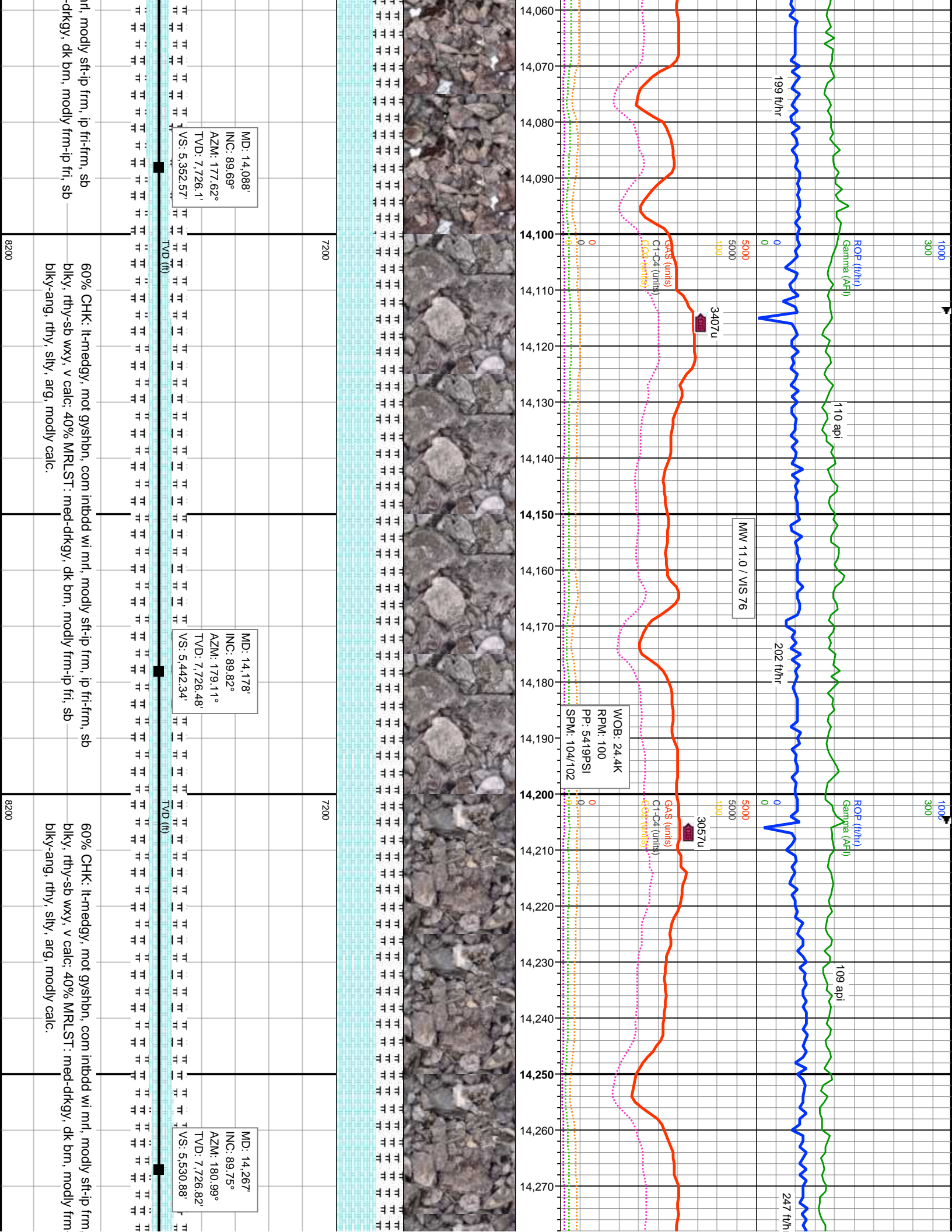
75% CHK: medgy-mot gysbhn, ip lt gy, com intbdd wi mrl, modly sft-i
bkly, rthy-sb wxy, tr pyr, v calc; 25% MRLST: med-drkgy, dk brn ip, r
bkly-ang, rthy, slty, arg, ip intbdd wi chk, modly calc.

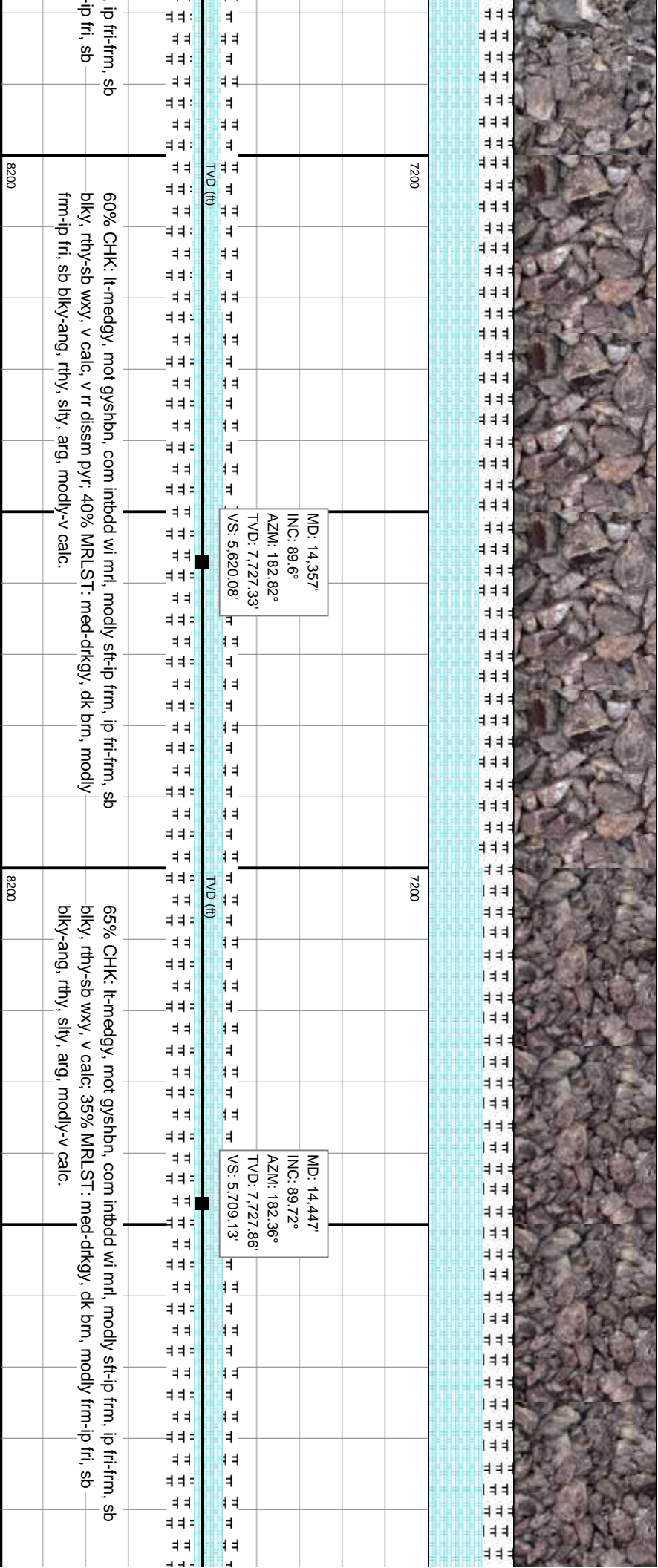
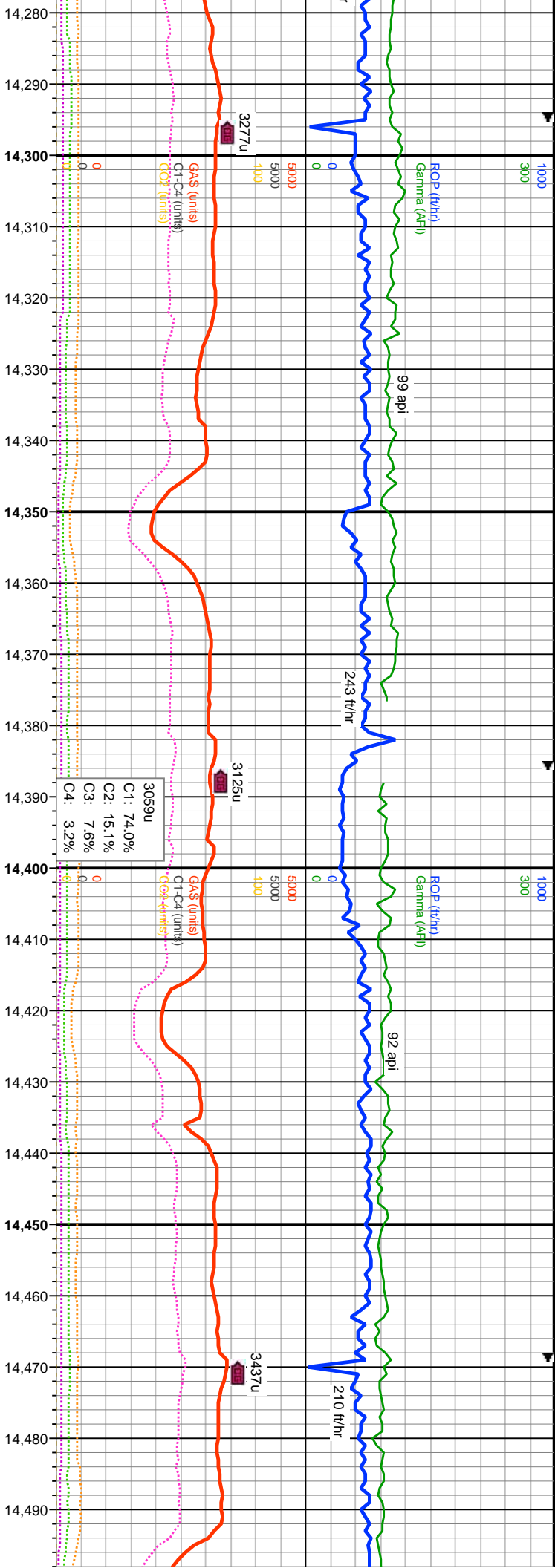


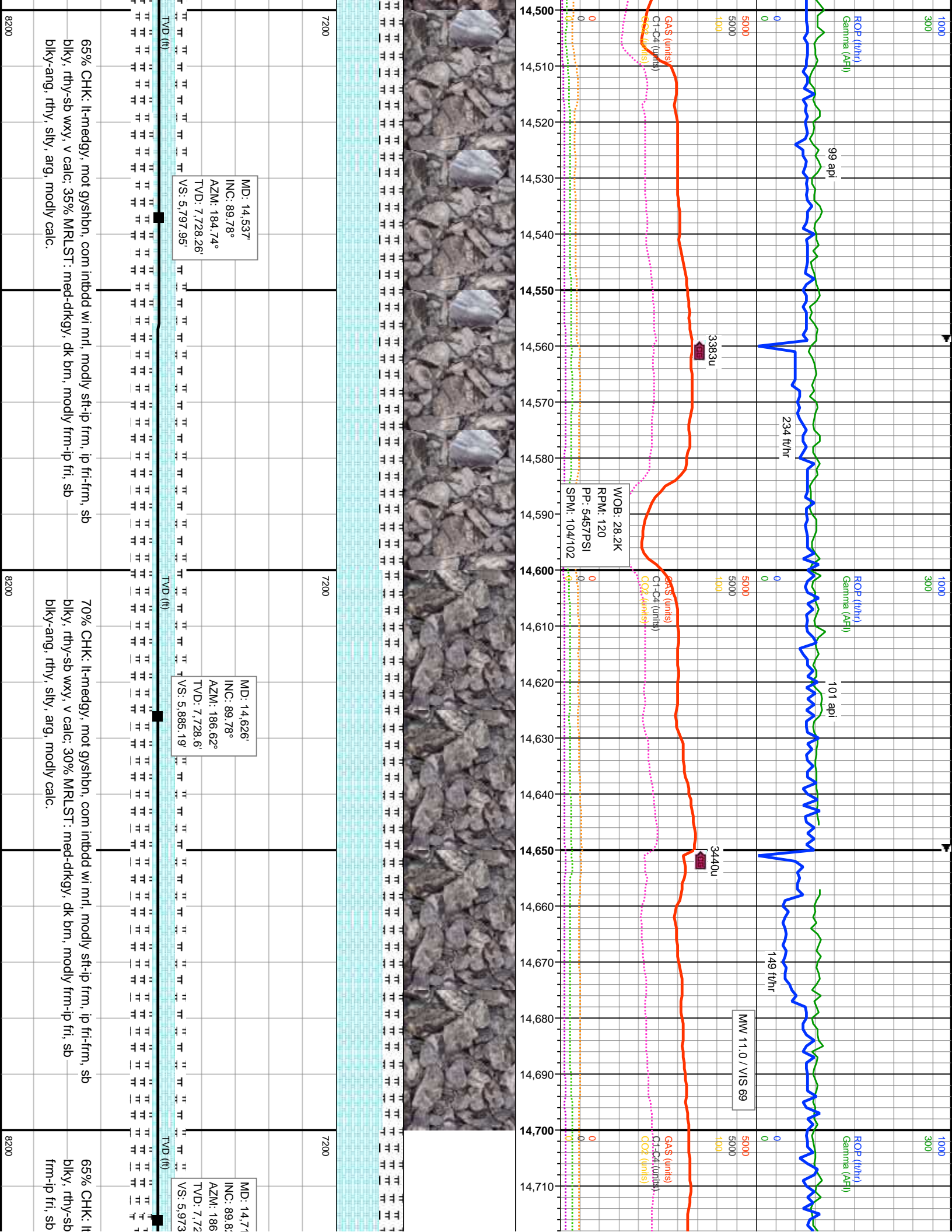


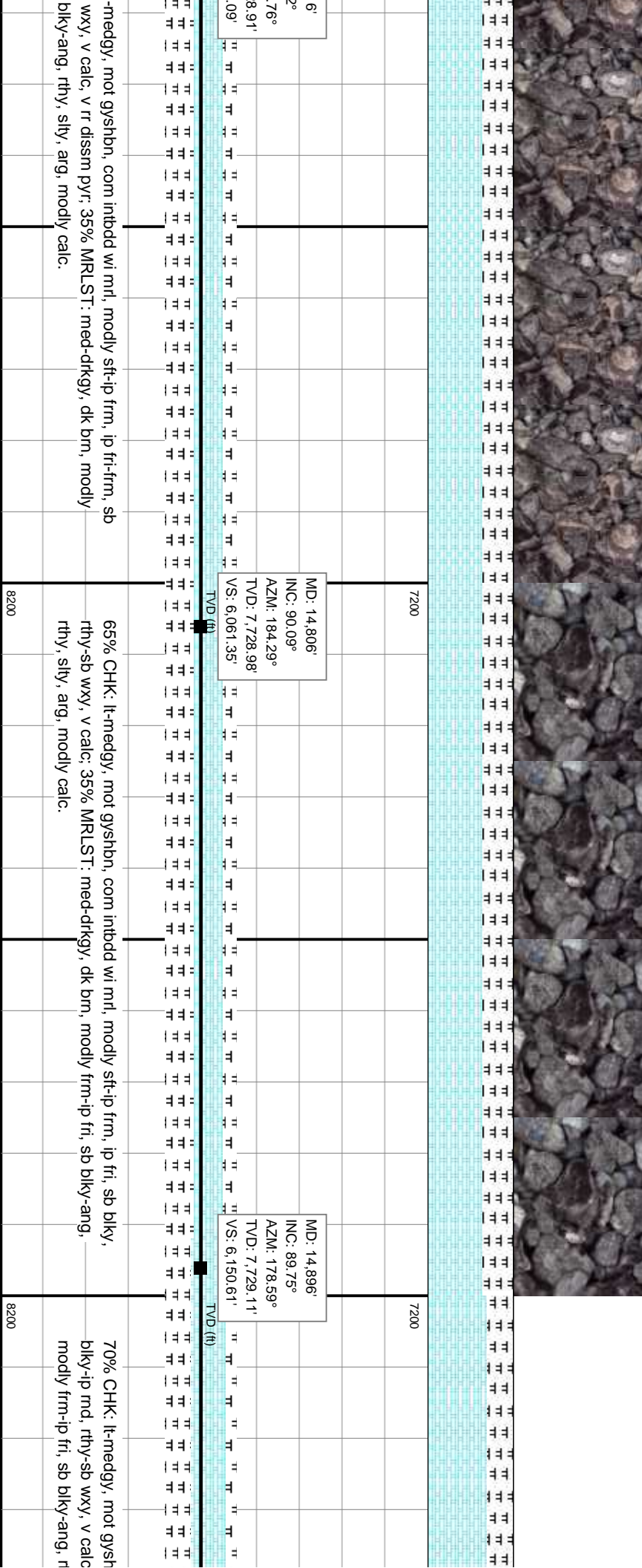
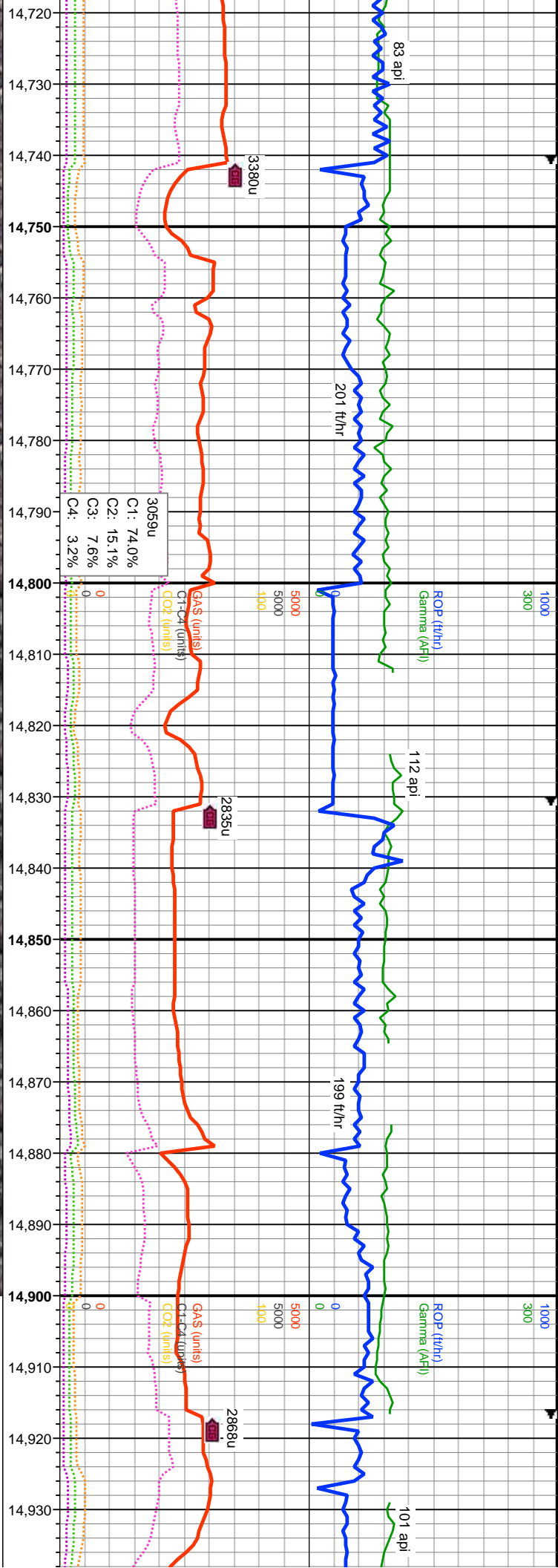


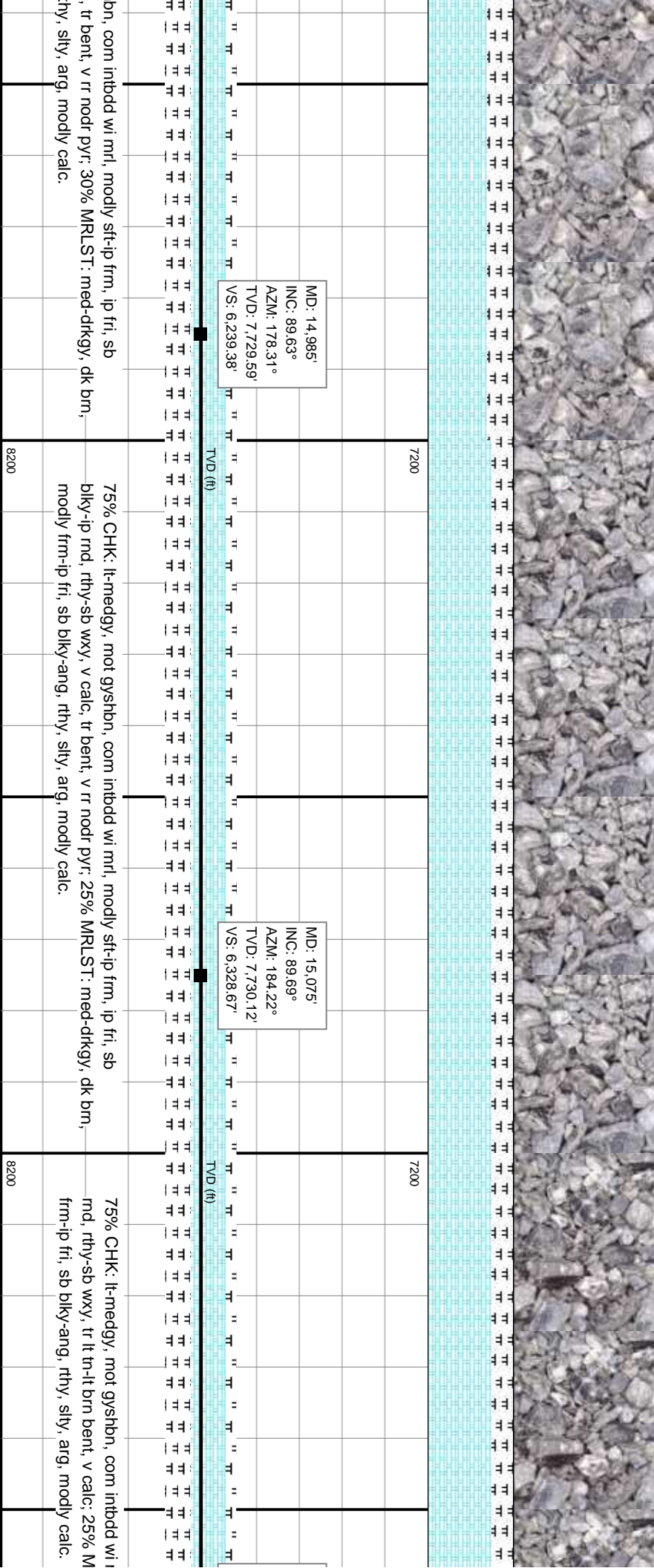
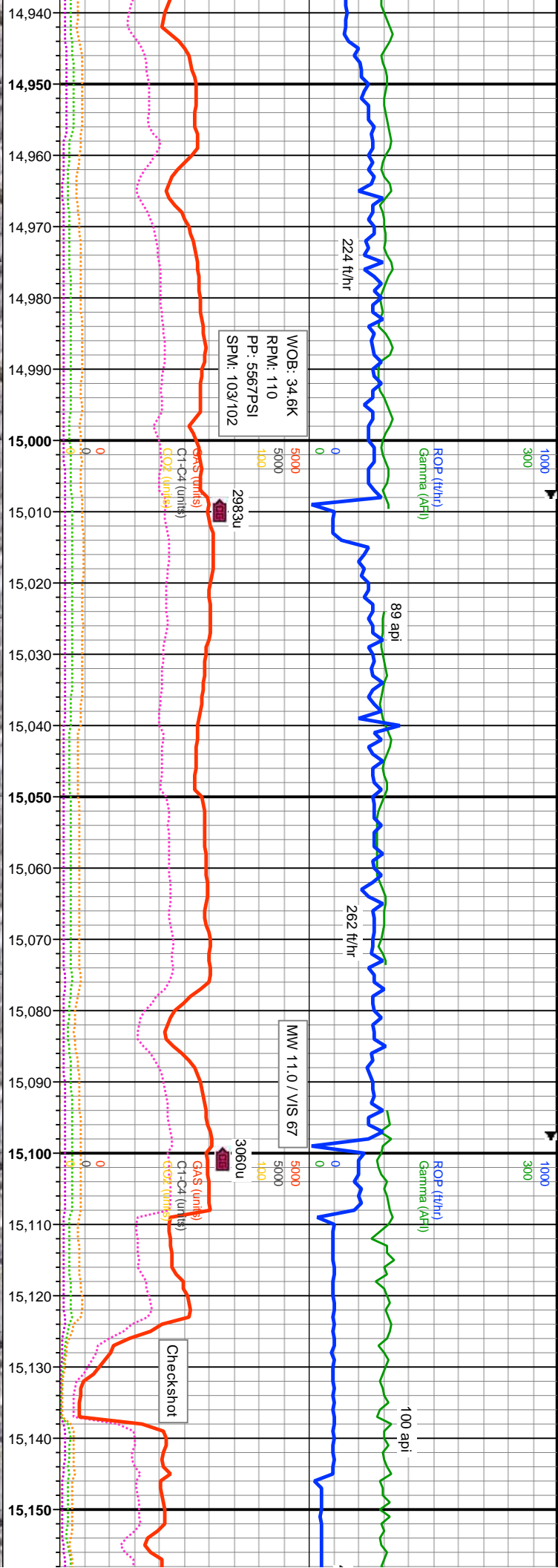


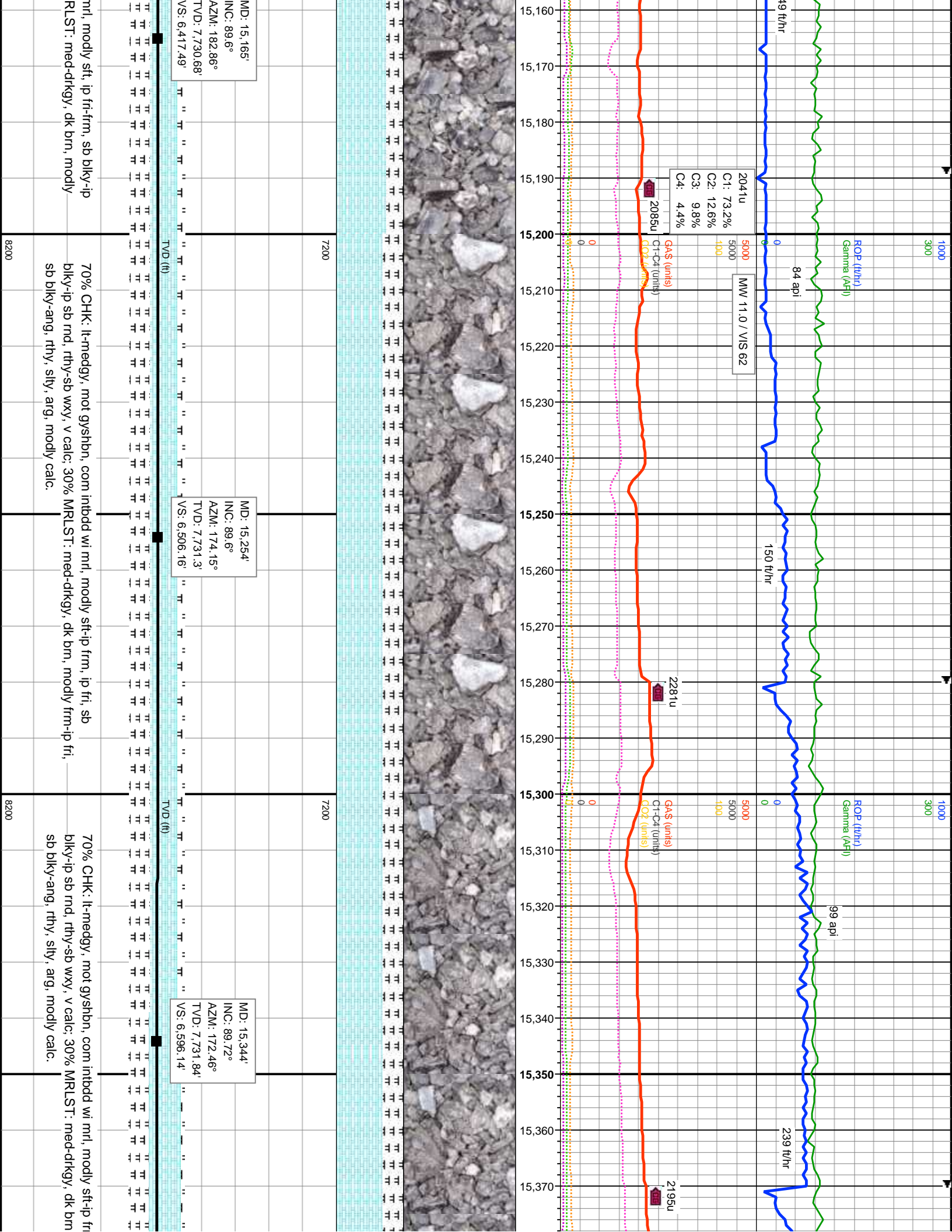


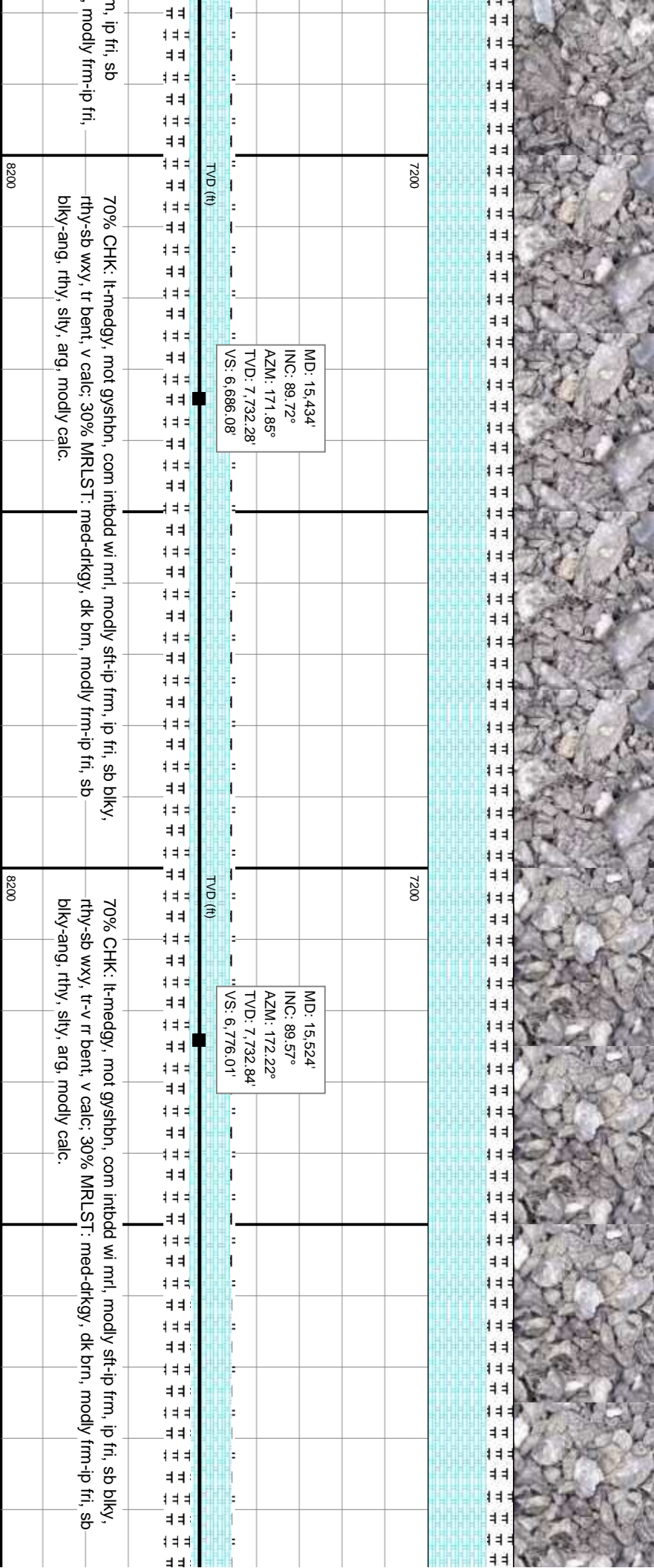
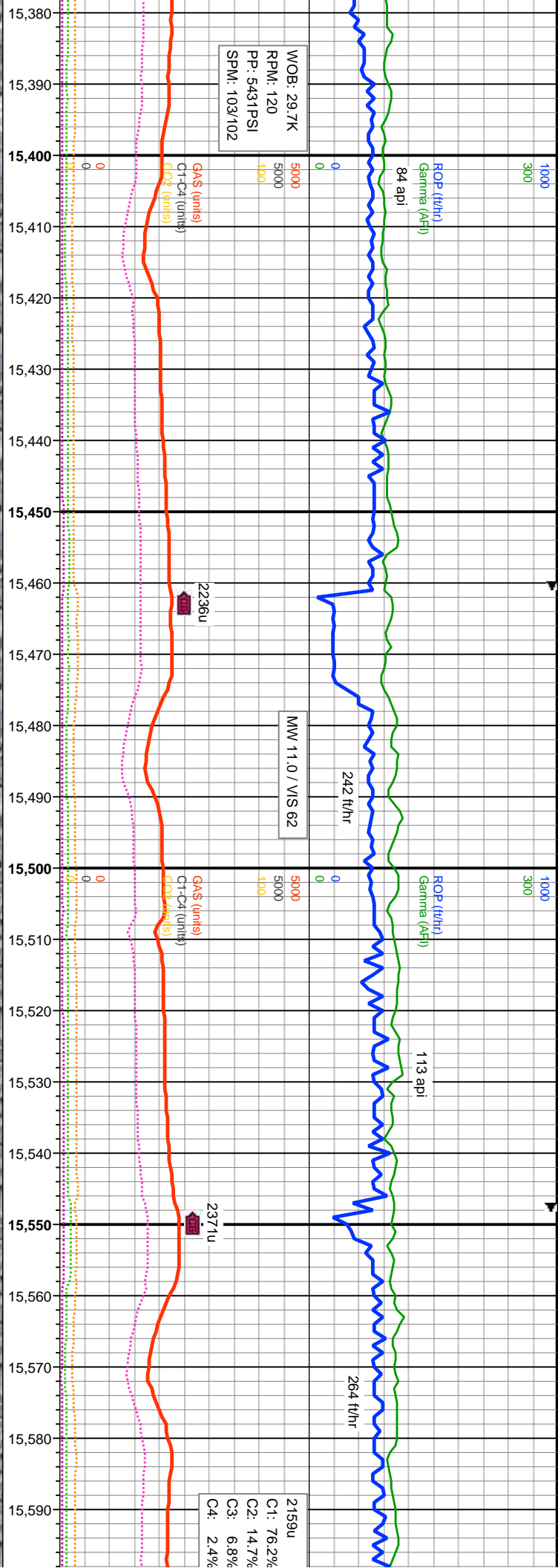


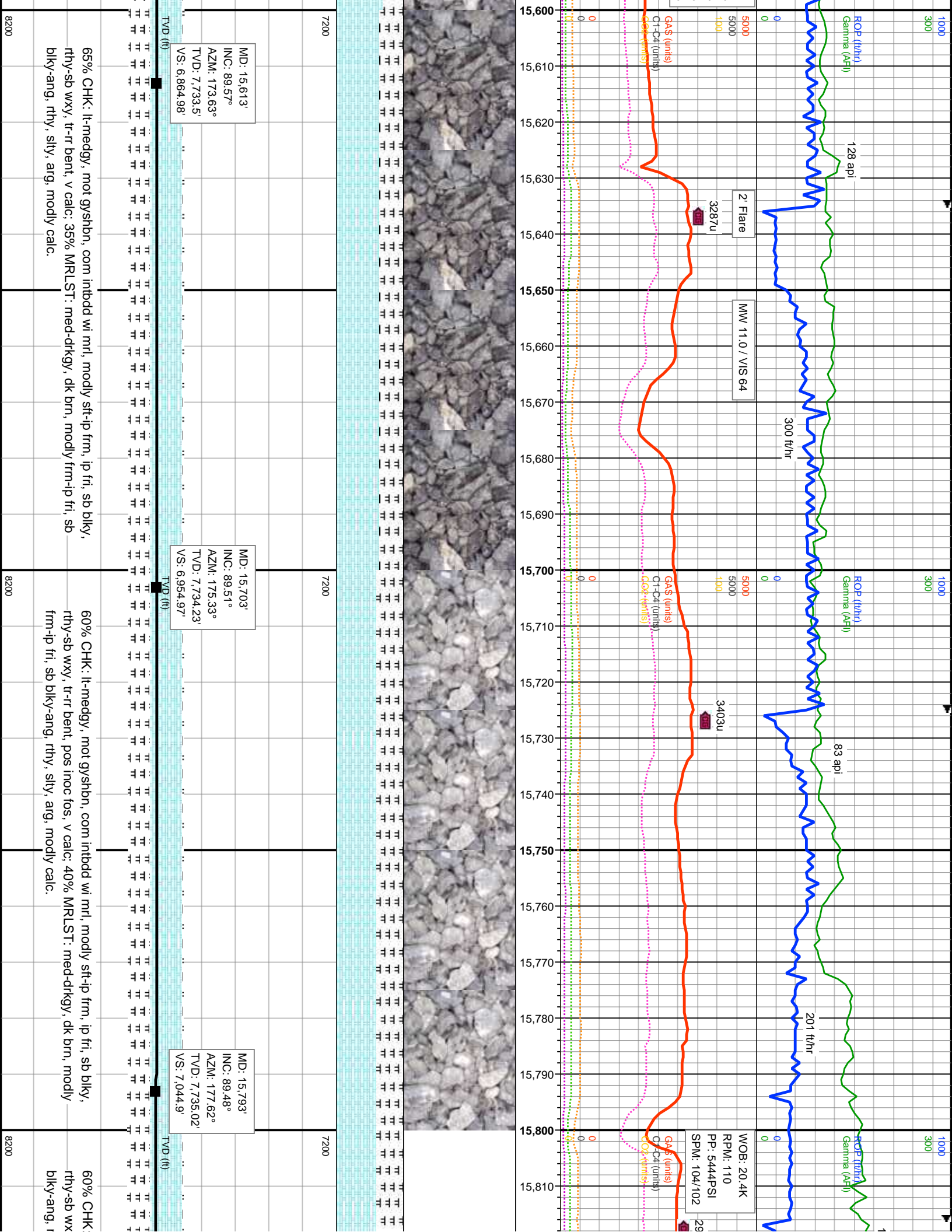


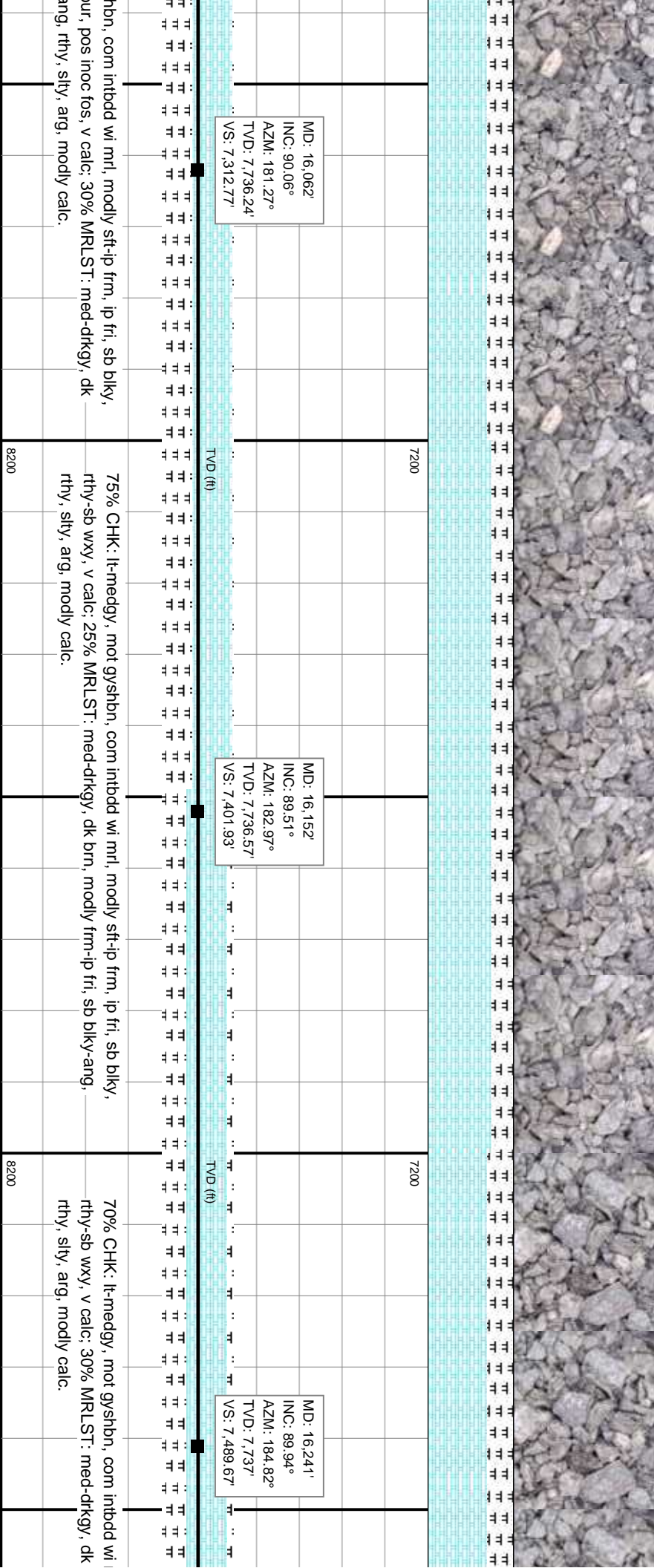
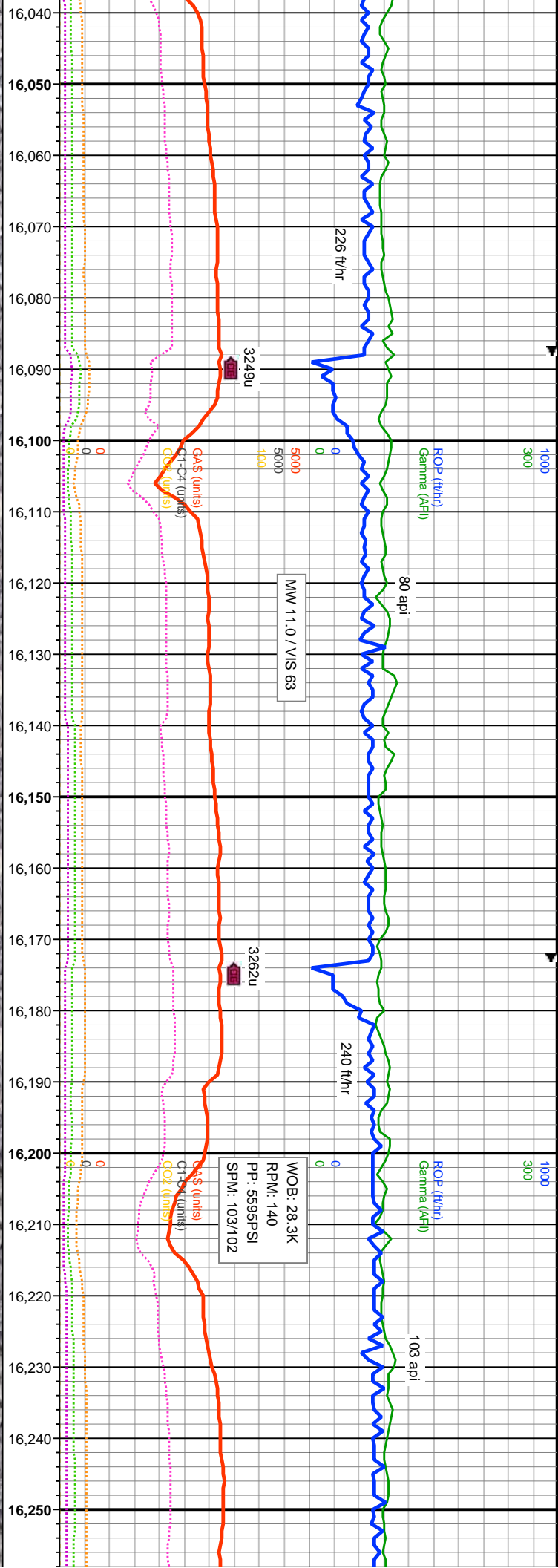


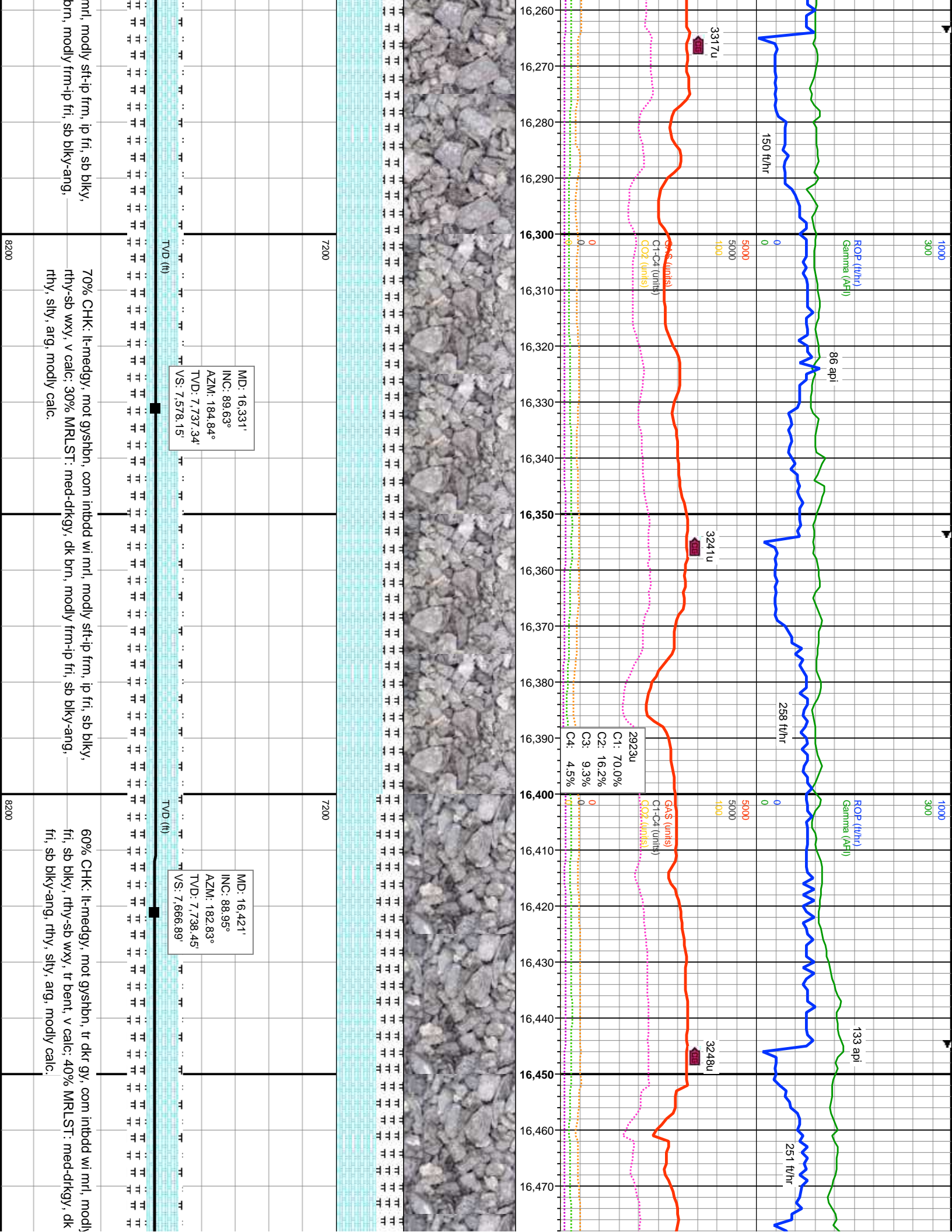


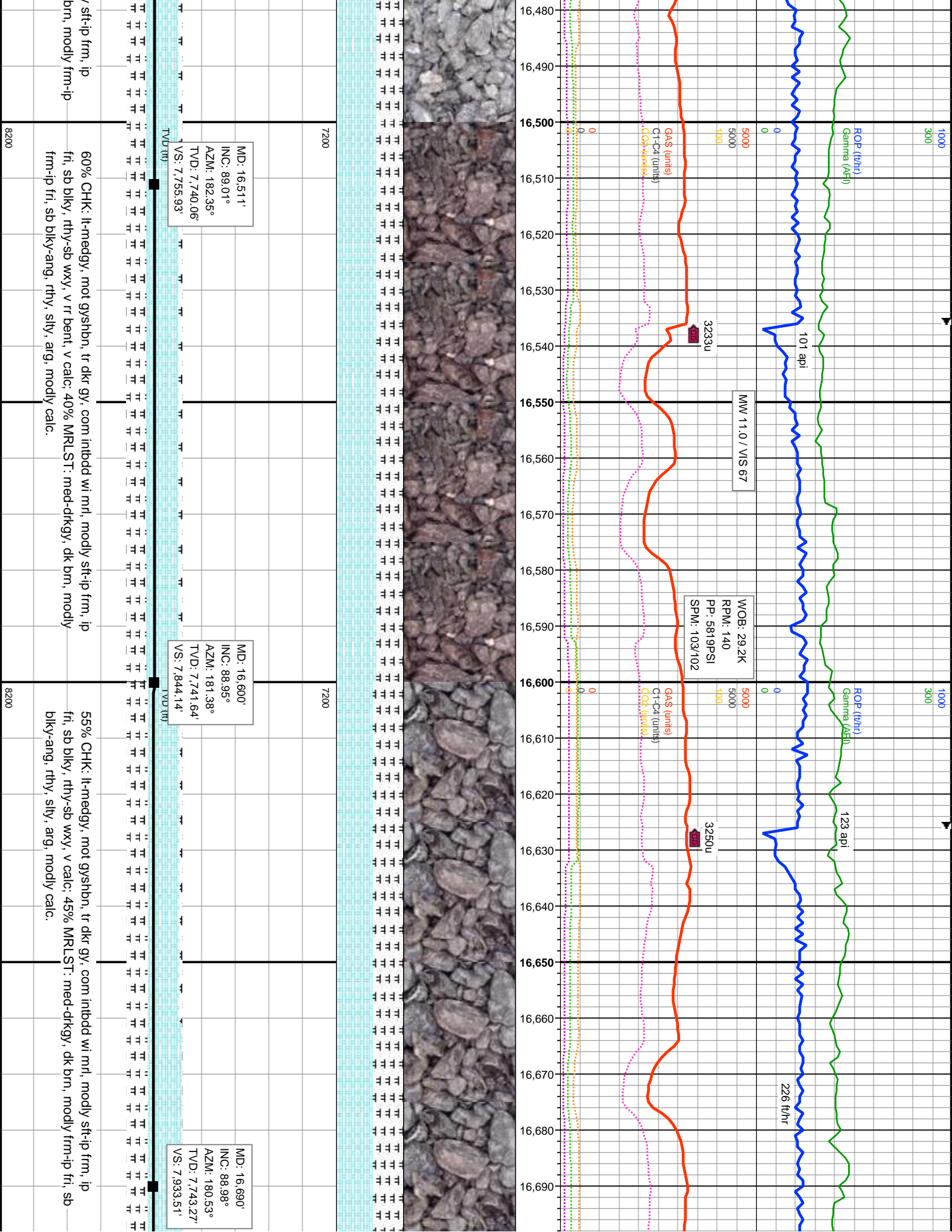


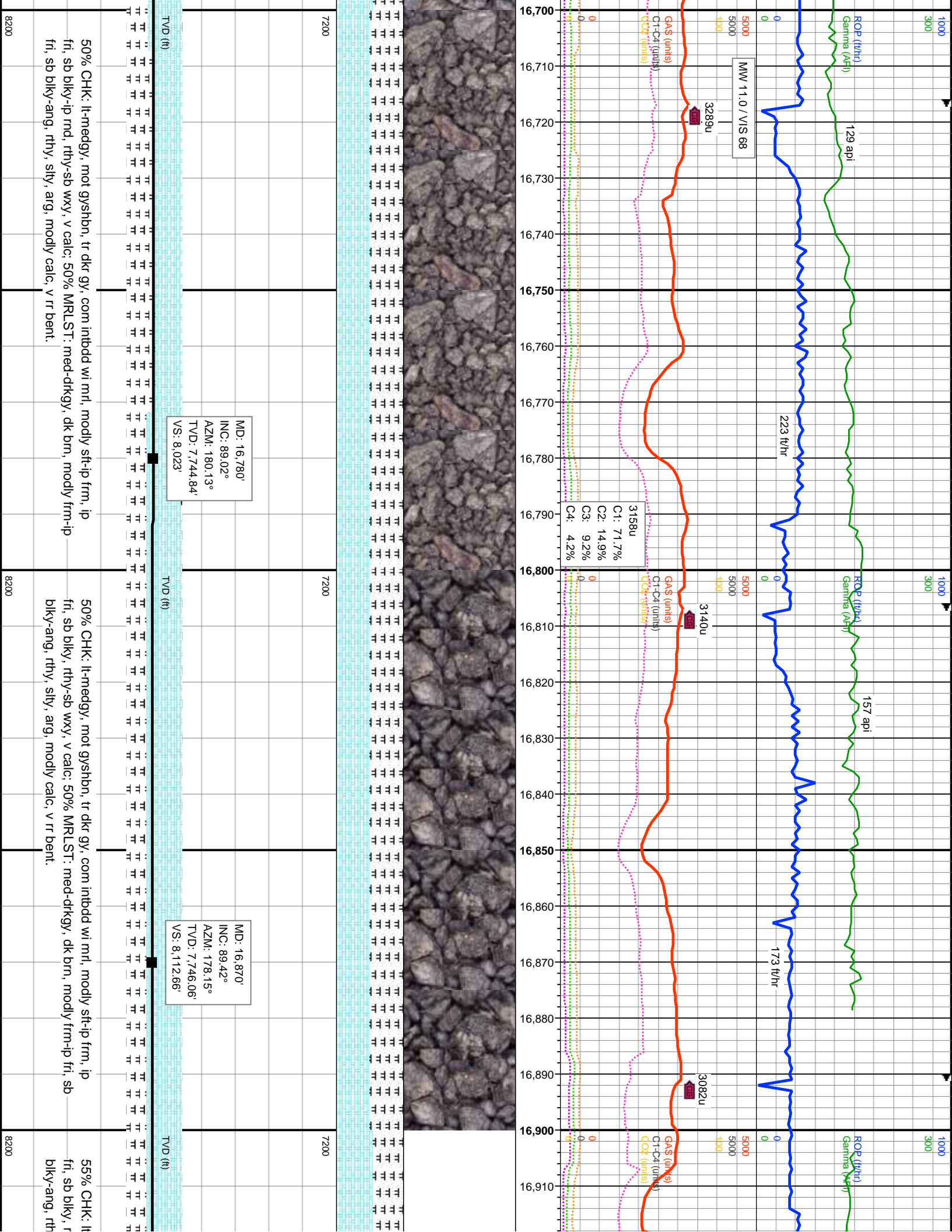


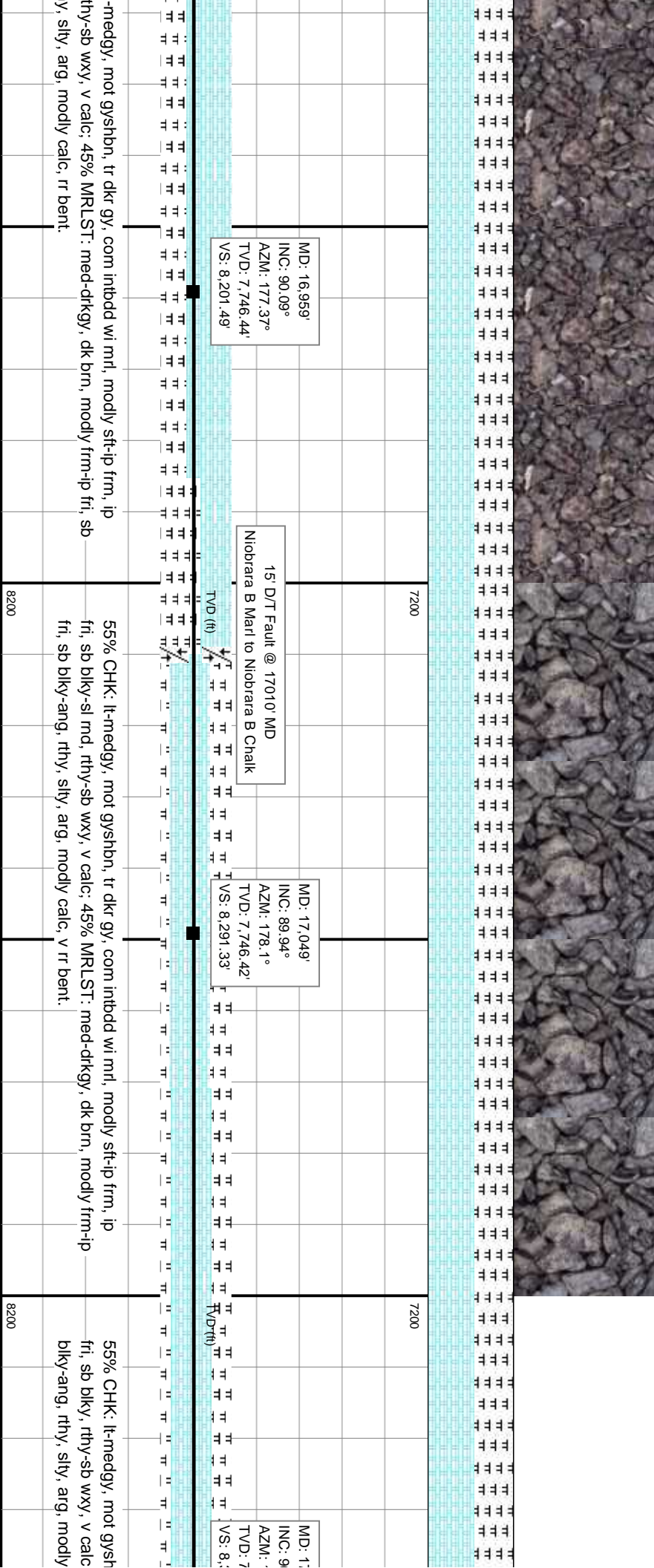
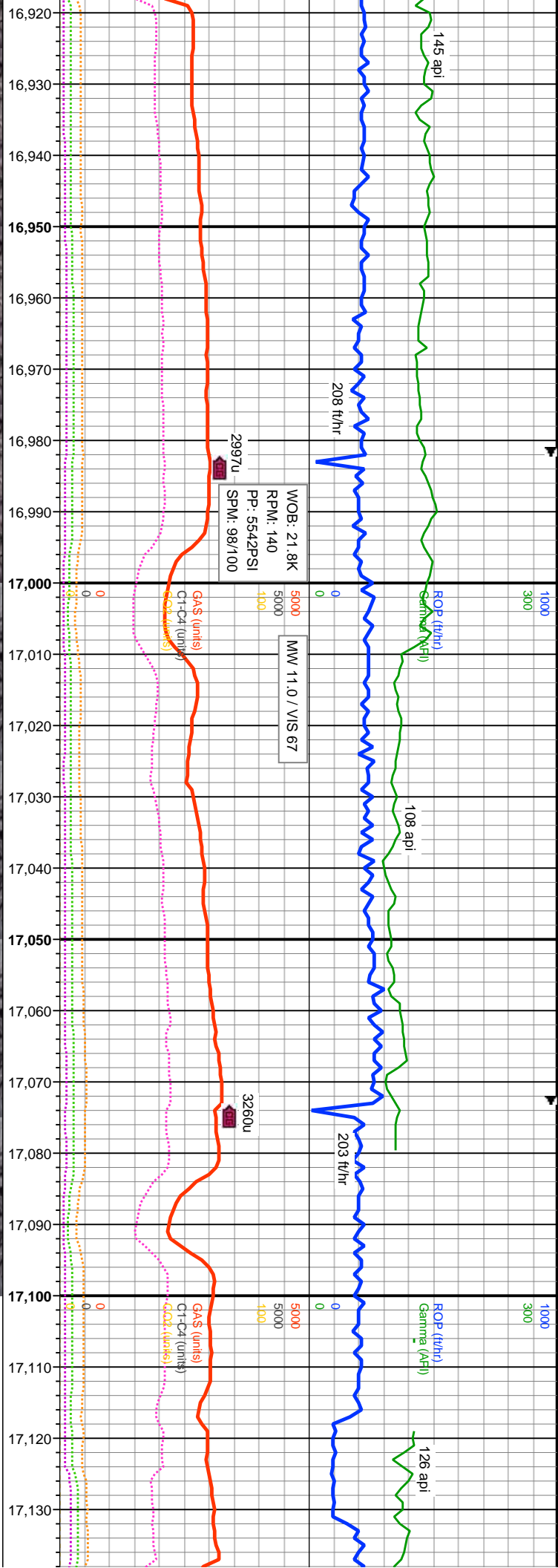


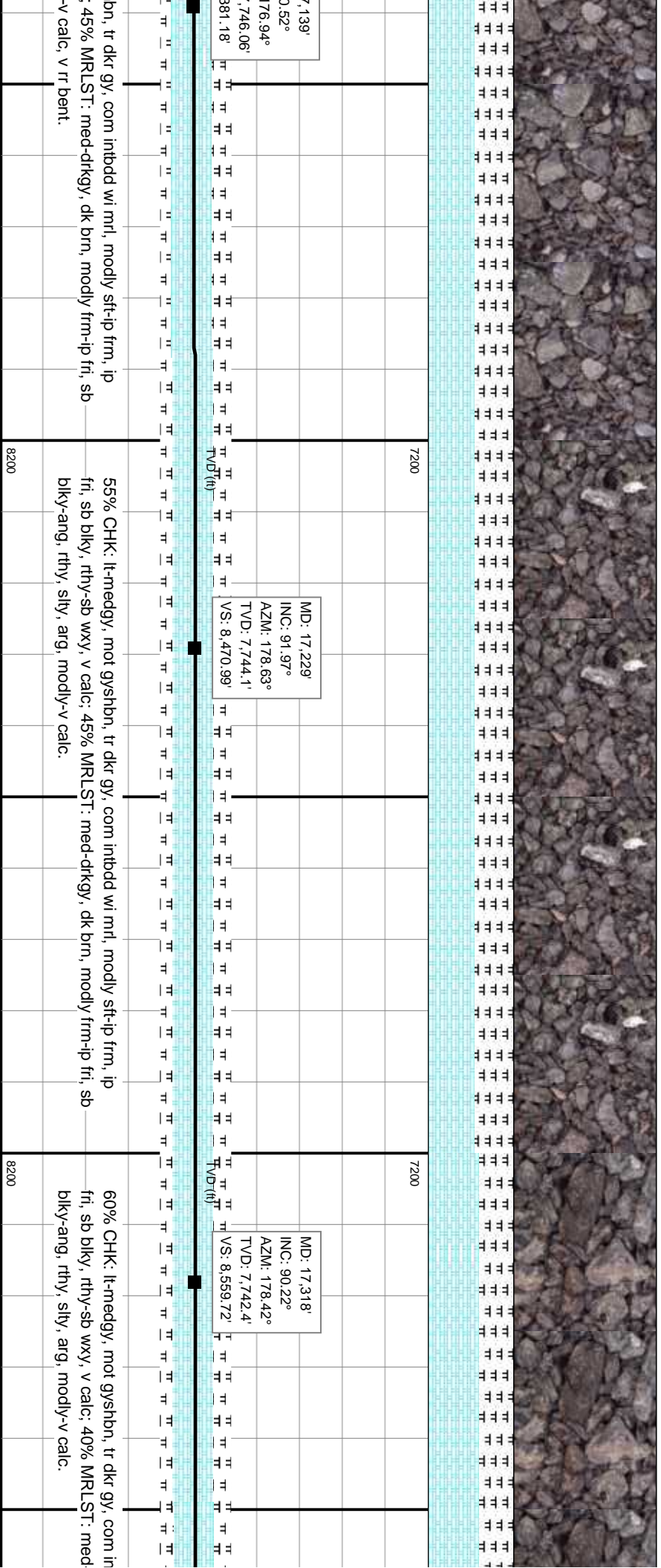
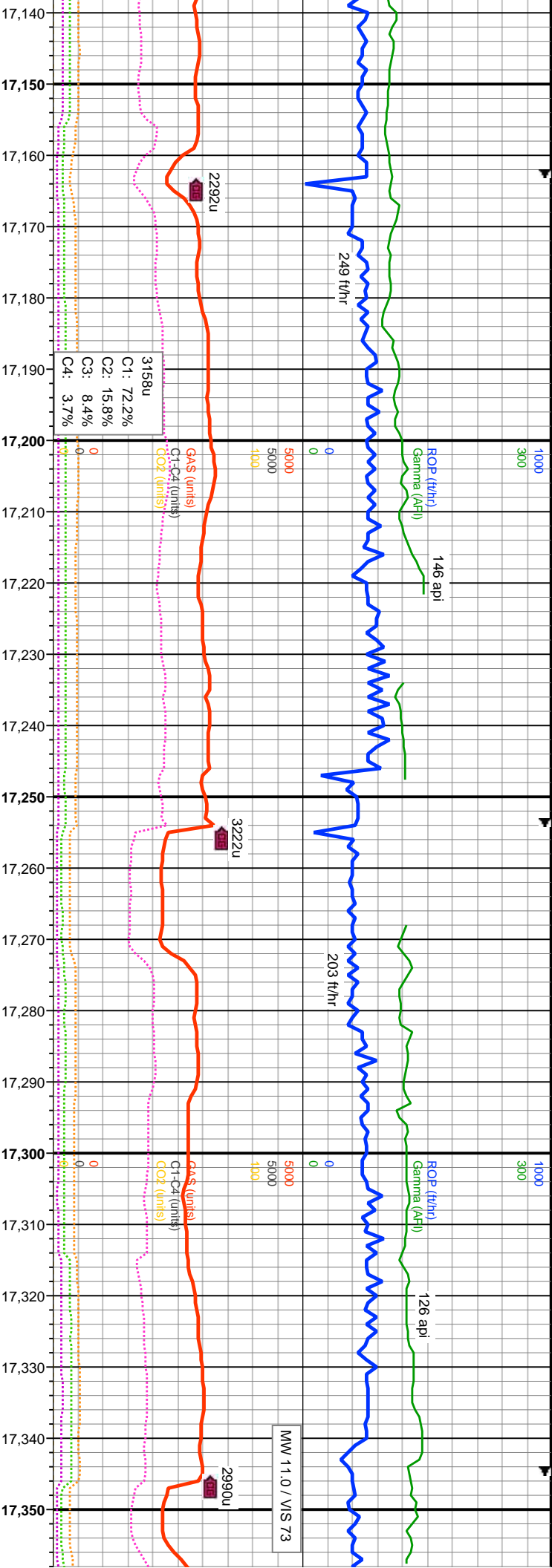


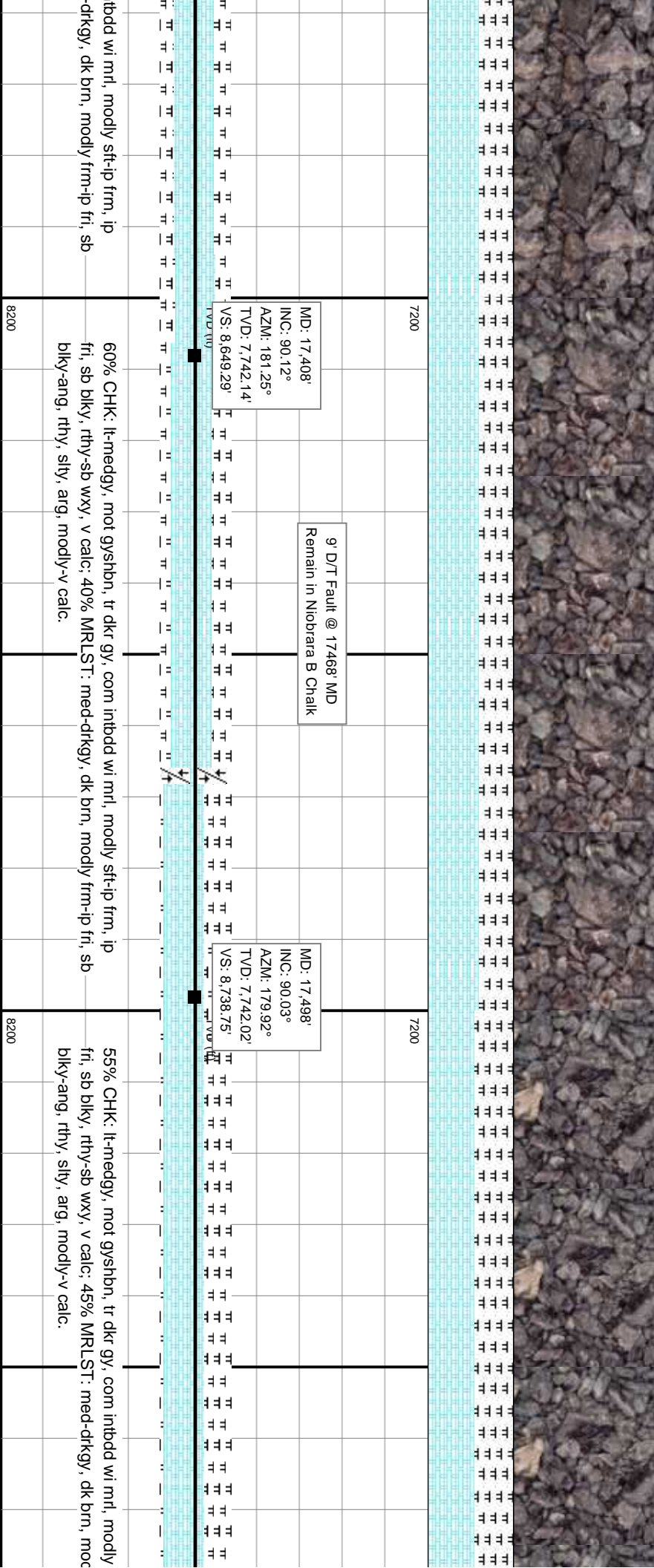
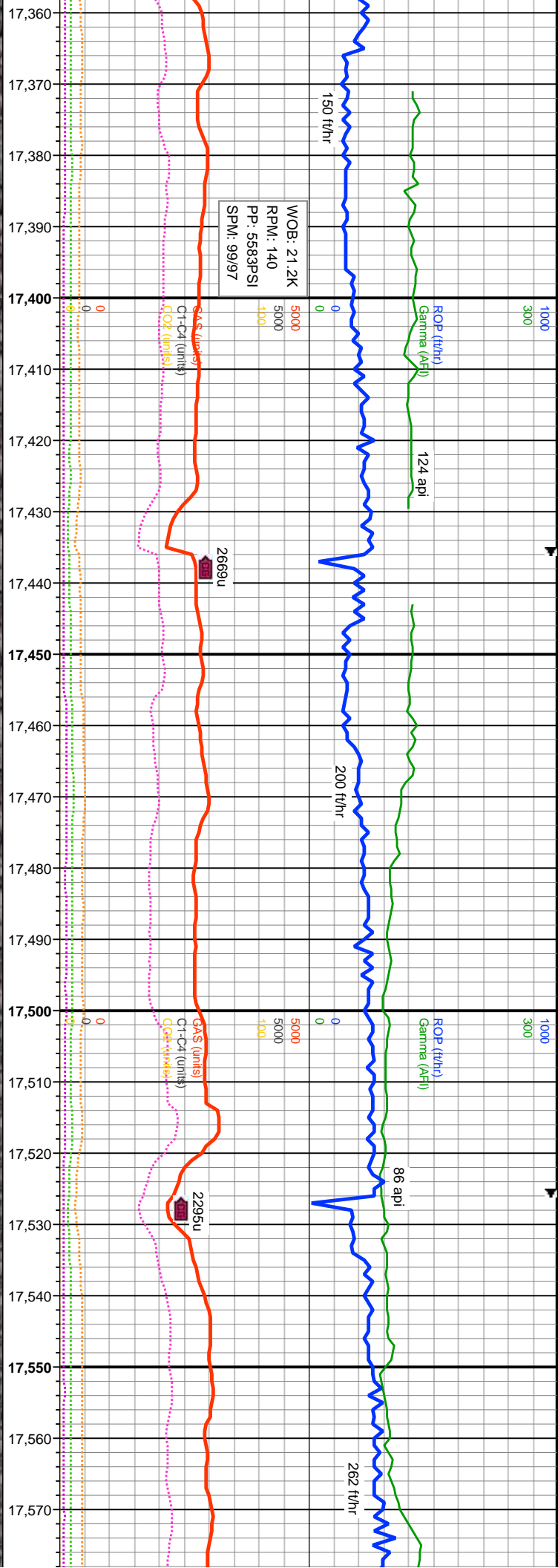


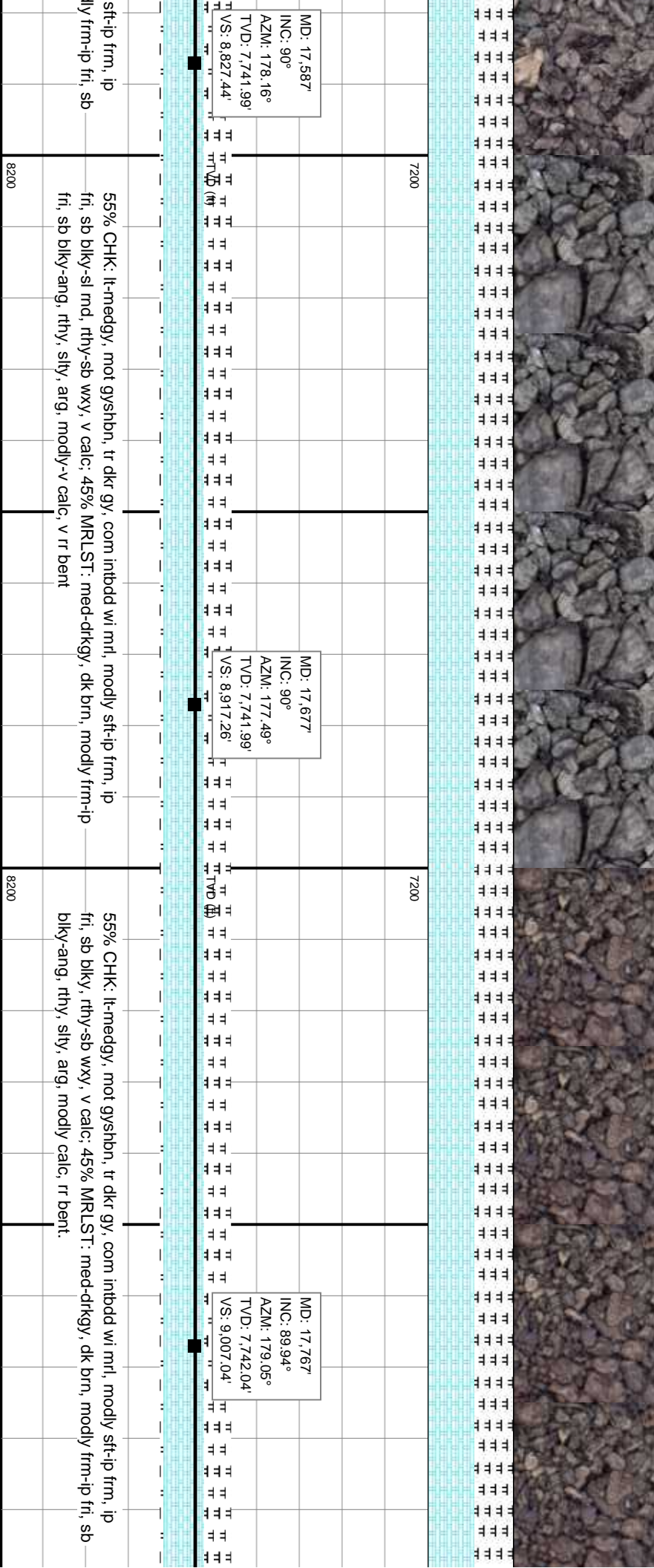
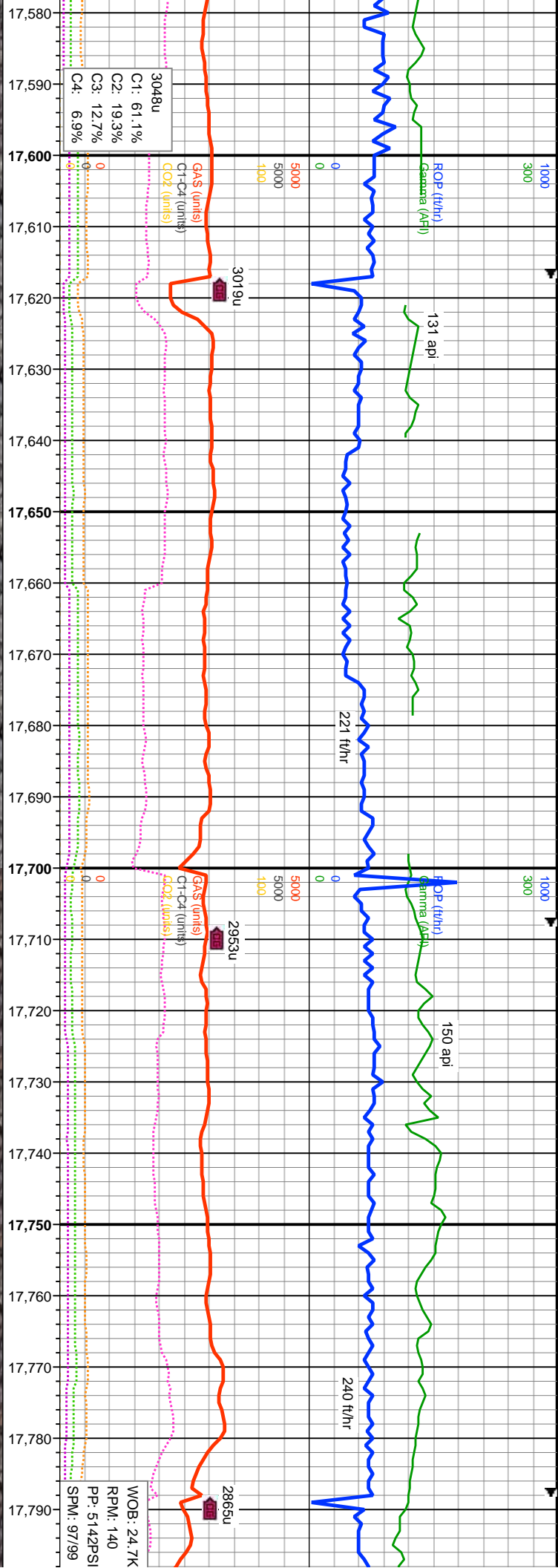


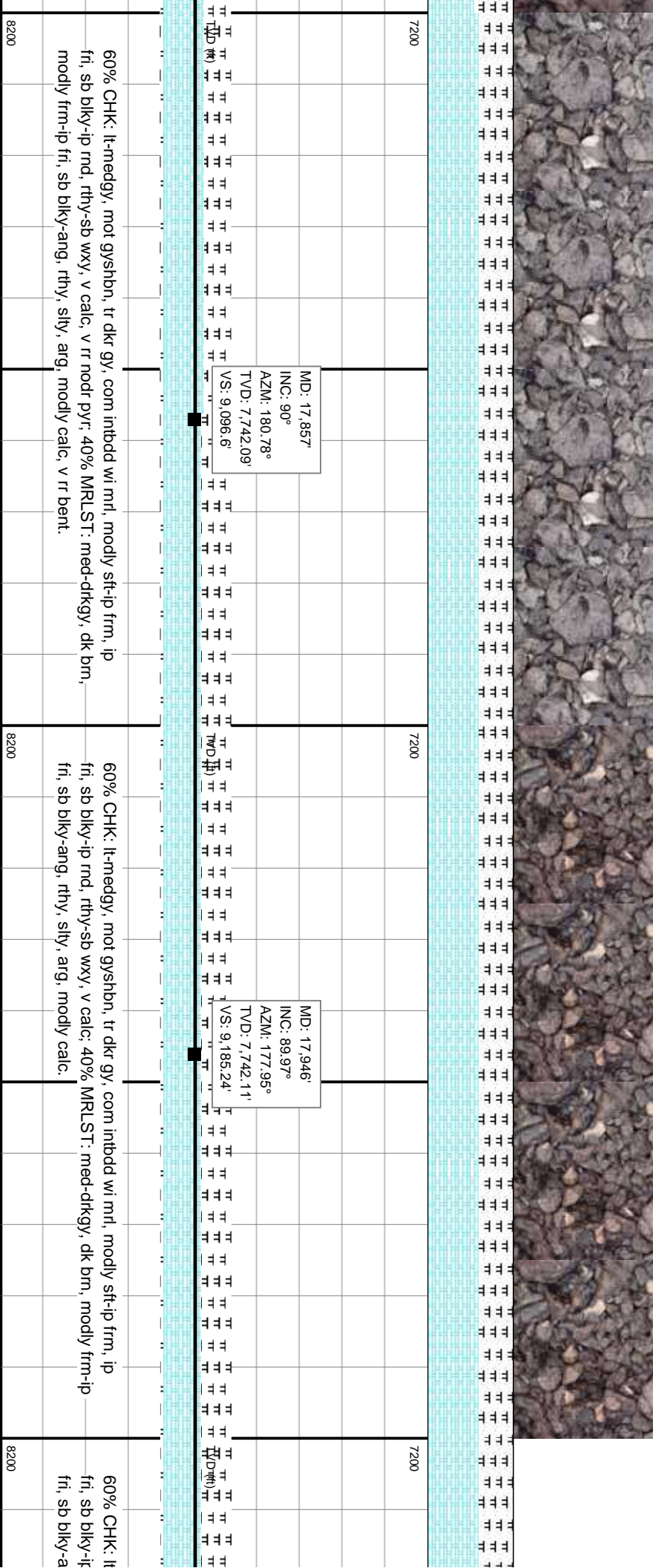
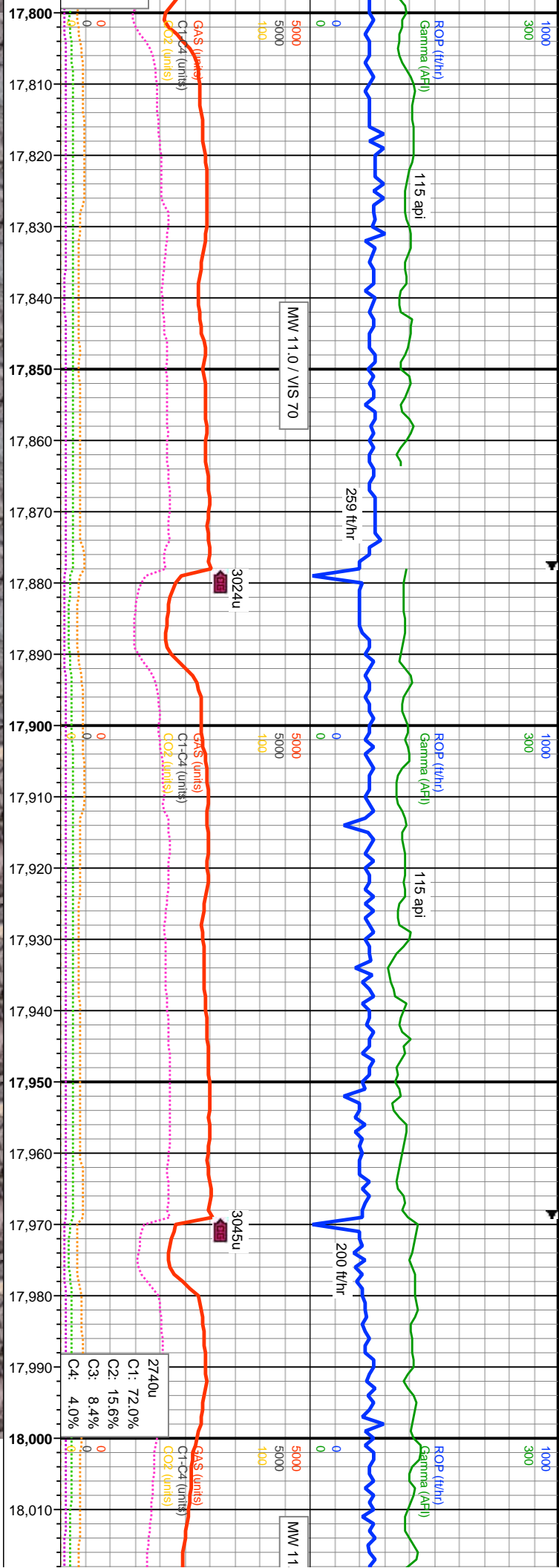


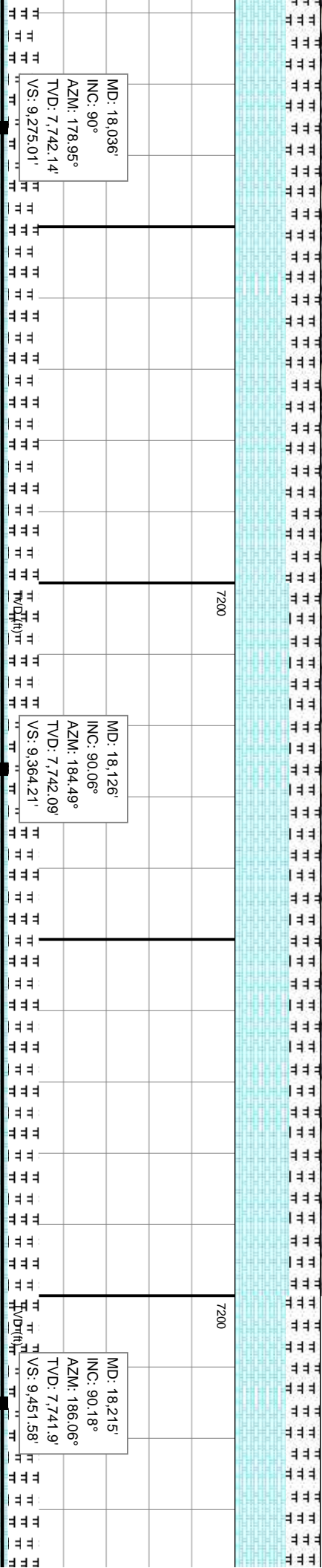
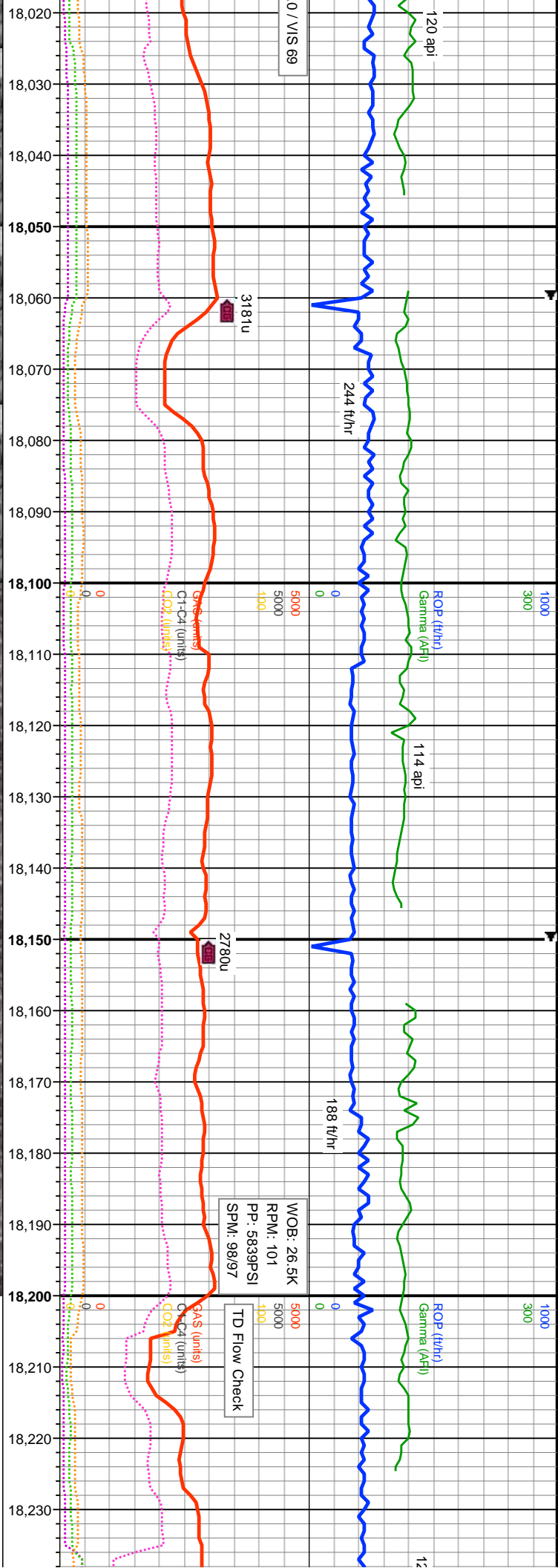












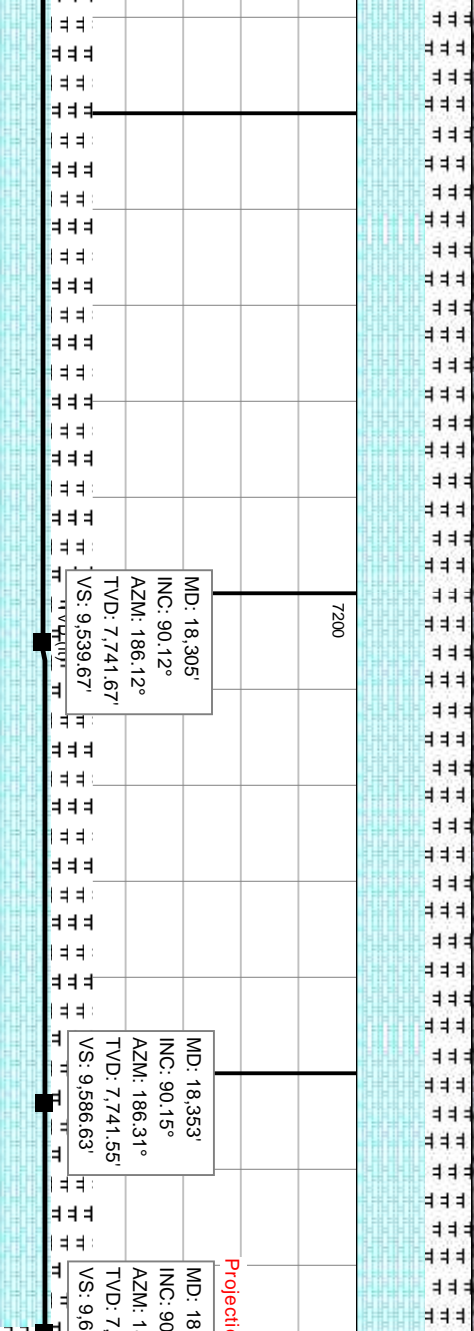
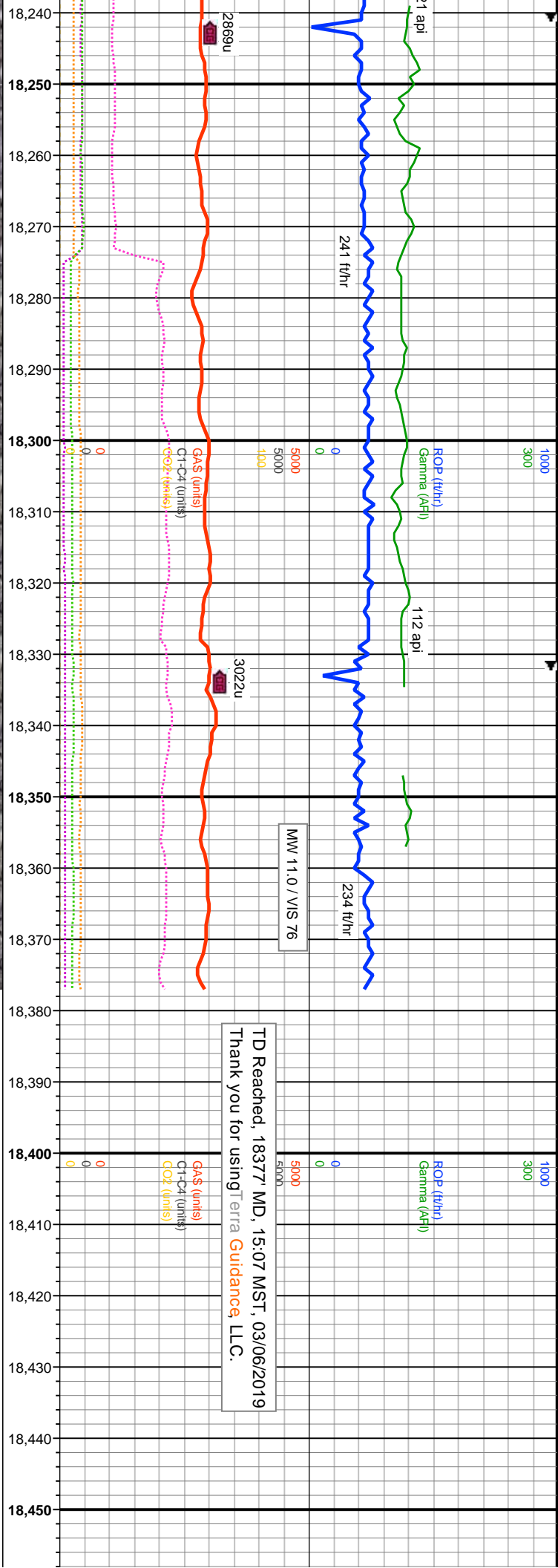
MD: 18.036'
INC: 90°
AZM: 178.95°
TVD: 7,742.14'
VS: 9,275.01'

MD: 18.126'
INC: 90.06°
AZM: 184.49°
TVD: 7,742.09'
VS: 9,364.21'

MD: 18.215'
INC: 90.18°
AZM: 186.06°
TVD: 7,741.9'
VS: 9,451.58'

65% CHK: lt-medgy, mot gysbhn, tr dkr gy, com intbdd wi mrl, modly sft-ip frm, ip fri, sb blkly-ip md, rthy-sb wxy, v calc, v r r dissn pyr, 35% MRLST: med-dfkg, dk brn, modly frm-ip fri, sb blkly-ang, rthy, slty, arg, modly calc, v r r bent.

60% CHK: lt-medgy, mot gysbhn, tr dkr gy, com intbdd wi mrl, modly sft-ip frm, ip fri, sb blkly-ip md, rthy-sb wxy, v calc, v r r dissn pyr, 35% MRLST: med-dfkg, dk brn, modly frm-ip fri, sb blkly-ang, rthy, slty, arg, modly calc, v r r bent.



Projection to Bit

FM Name	Excursion Depths
Sharon Springs	7701' MD
Niobrara	7865' MD
Ft Hays	
Codell	
Carlile	
Greenhorn	

bn, tr dkr gy, com inbddd wi mrl, modly sft-ip frm, ip
v calc, v r r dissm pyr; 40% MRLST: med-dkrky, dk
og, rthy, slty, arg, modly calc.

60% CHK: lt-medgy, mot gysbhn, tr dkr gy, com inbddd wi
mrl, modly sft-ip frm, ip fri, sb biky-ip rnd, rthy-sb wxy, v
calc; 40% MRLST: med-dkrky, dk brn, modly frm-ip fri, sb
biky-ang, rthy, slty, arg, modly calc.

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