



Scale: 5" / 100'  
Measured Depth Log

**Well Name** Postle IC 09-259HN

**Location** SWNW Section 11, T3N, R68W

**State** COLORADO

**Country** USA

**API Number** 05-123-46038-0000

**Geographic Region** DJ BASIN

**County** WELD

**Rig Number** PRECISION 460

**AFF #** 18DC0009

**Field** WATTENBERG

**Ground Elevation** 4977'

**K.B. Elevation** 4997'

**Logged Interval** 6000' MD To 18370' MD

**Total Depth** 18370' MD

**Formation** NIOBRARA B CHALK

**Type of Drilling Fluid** OIL BASED MUD

## Operator

**Company** Great Western Operating Company, LLC

**Address** 1801 Broadway, Ste 500  
Denver, CO 80202



## Geologist

**Name** Gabriel Rubio, Tim Bright

**Company** Terra Guidance

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



## Other

Mudlog Begin: 03/11/2018

Mudlog End: 03/15/2018

## Oil Show

ORGANIC

P PINPOINT

DEAD

V VUGGY

EVEN

QUESTIONABLE

## Engineering

SPOTTED STAINING BIT

## Porosity

CASING

CONNECTION (LEFT)

E EARTHY

CONNECTION (RIGHT)

F FENESTRAL

CONNECTION GAS

F FRACTURE

CORE - LOST

INTERCRYSTALLINE CORE - RECOVERED

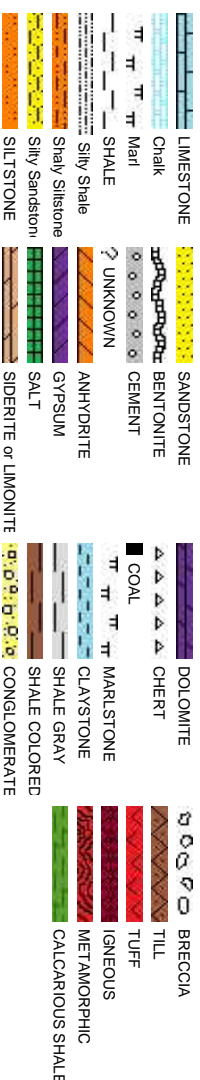
INTERROOTIC

DST INTERVAL

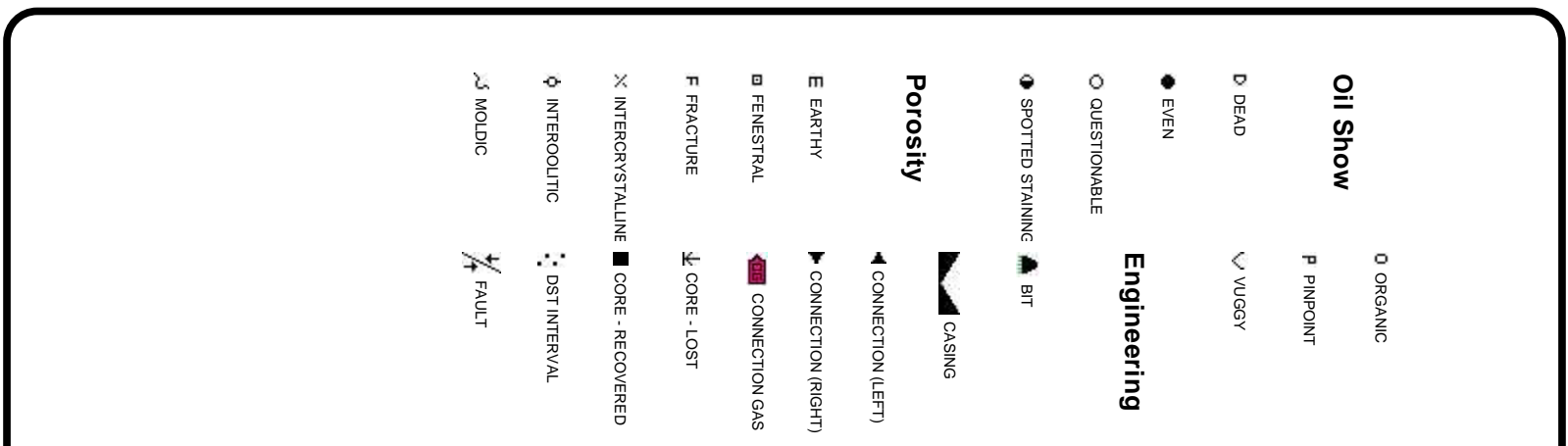
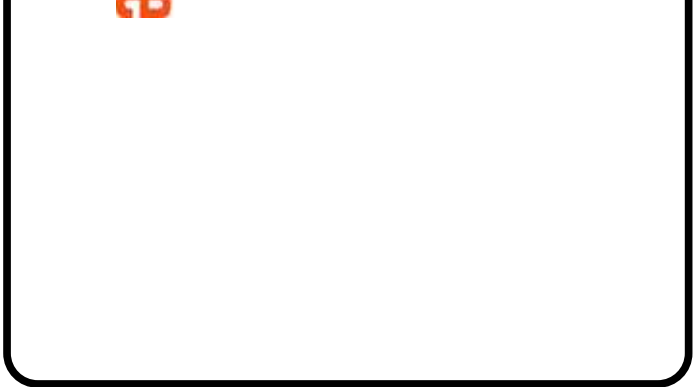
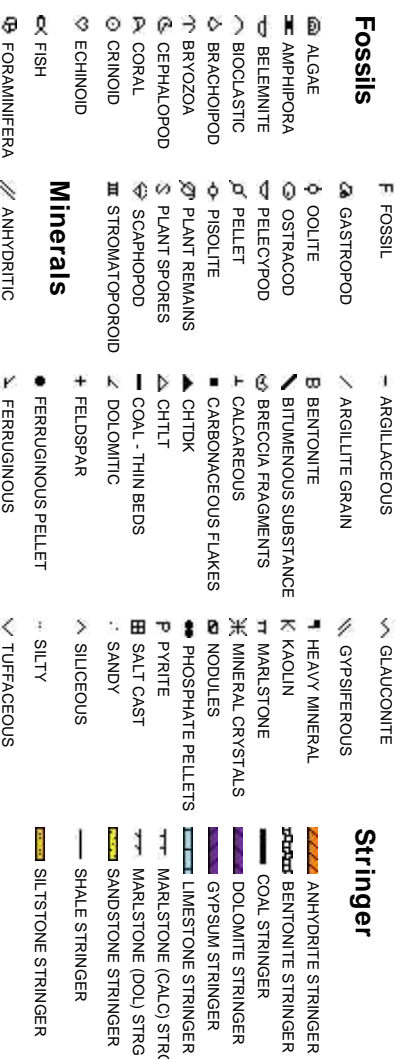
MOLDIC

FAULT

## Rock Types



## Accessories




# Other Symbols

 FORMATION TOP

L LITHOGRAPHIC

## Rounding

 GAS SHOW

 MICROXLN


 MIN DEPTH

 ANGULAR

 MUDSTONE


 NORMAL FAULT

 ROUNDED

 PACKSTONE

 OIL SHOW

 SUBANG

 WACKESTONE

 OVERTURNED STRATA

 SUBBRND


## Sorting

 REVERSE FAULT

## Textures

 SIDEWALL CORE (LEFT)

 MODERATE

 SIDEWALL CORE (RIGHT)

 BOUNDSTONE


 POOR

 SLIDE


 CHALKY

 WELL

 SURVEY

 CRYPTOXLN

## CALCARIUOS SHALE


 TRIP GAS


 EARTHY

 WIRELINE TESTED - LEFT

 FINELYXLN

## CALCARIOUS SHALE

 WIRELINE TESTED - RT

 GRAINSTONE

TERRA GUIDANCE  
BEGAN LOGGING @ 23:16 MST 03/11/2018  
BLOODHOUND GAS CHROMATOGRAPH #5053  
100' Sample Collection

ROP  
ROP  
Gamma

GAPS IN GAMMA DATA DUE  
TO HIGH RATES OF PENETRATION

BG: BACKGROUND GAS  
TG: TRIP GAS  
DTG: DOWNTIME GAS  
MG: MAX GAS

GAS  
C1  
C2  
C3  
C4  
CO2

Depth

5,960 5,970 5,980 5,990 6,000 6,010 6,020 6,030 6,040 6,050 6,060 6,070 6,080 6,090 6,100 6,110 6,120 6,130

Images



% Lithology



Well Bore  
TVD

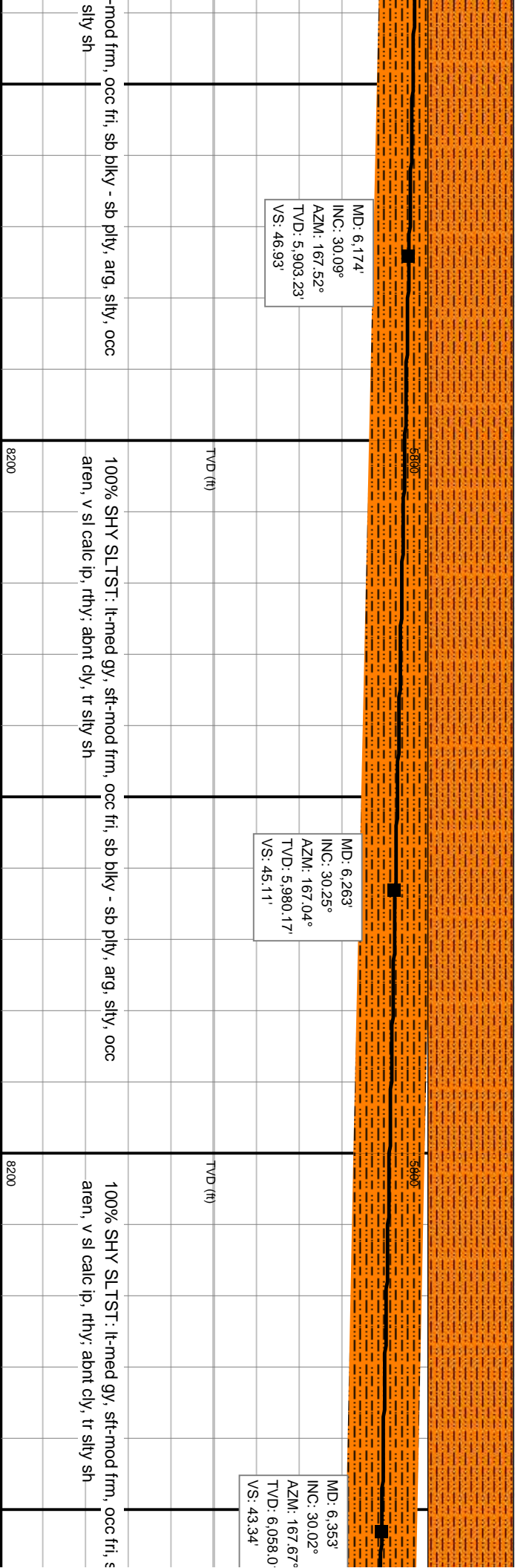
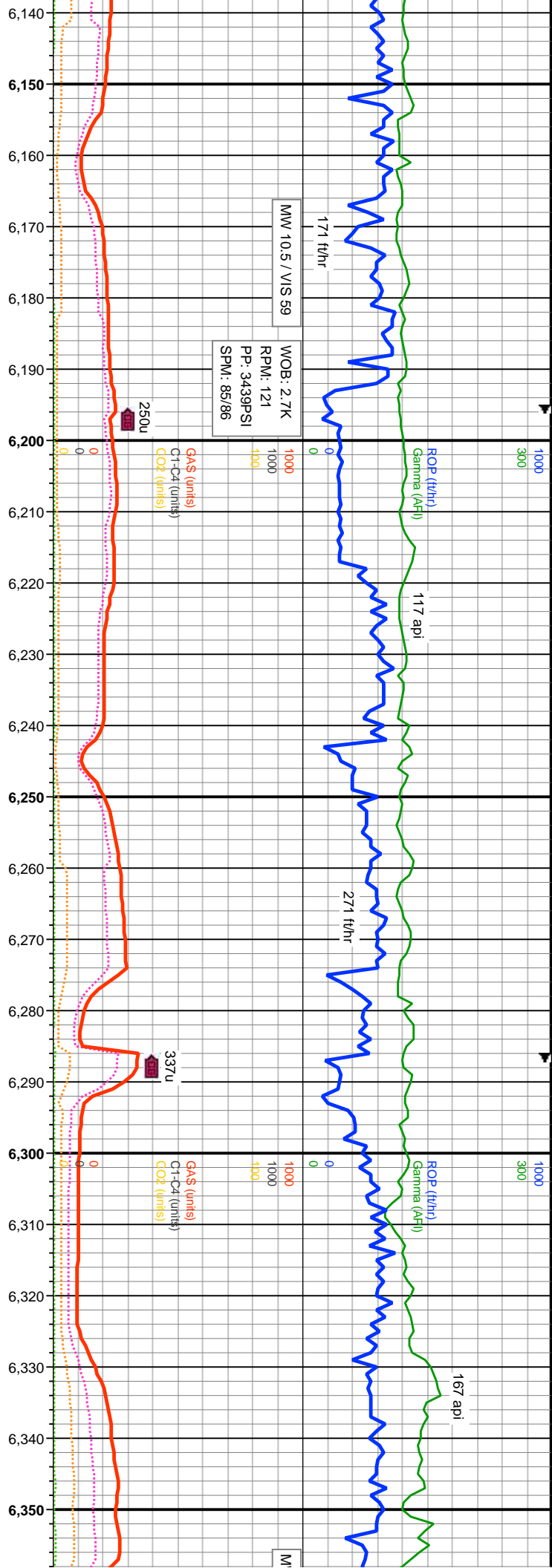
Bit #: 3  
Type: AT505F  
Size: 8.5  
Depth In: 5,577'  
Jets: 5x15  
S/N: 7163674

MD: 5,995'  
INC: 30.23°  
AZM: 173.71°  
TVD: 5,748.4'  
VS: 46.57'

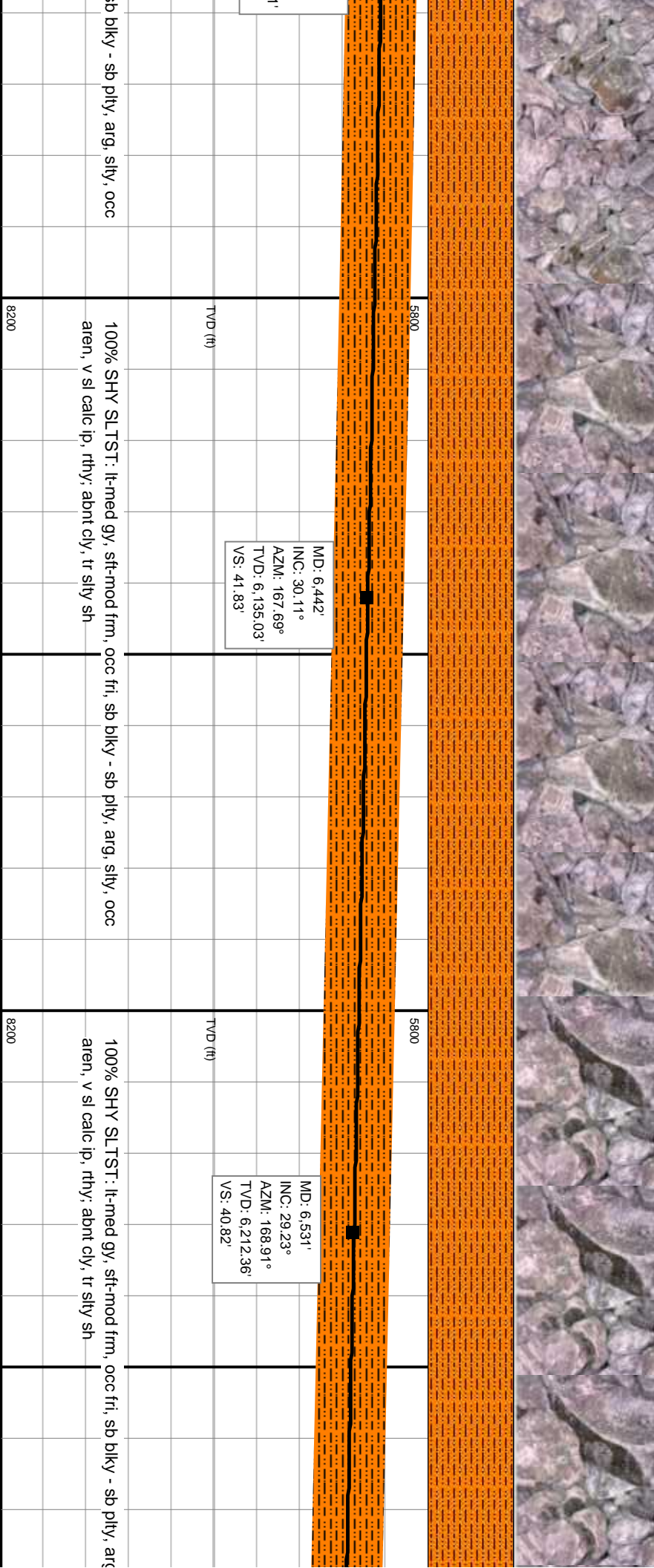
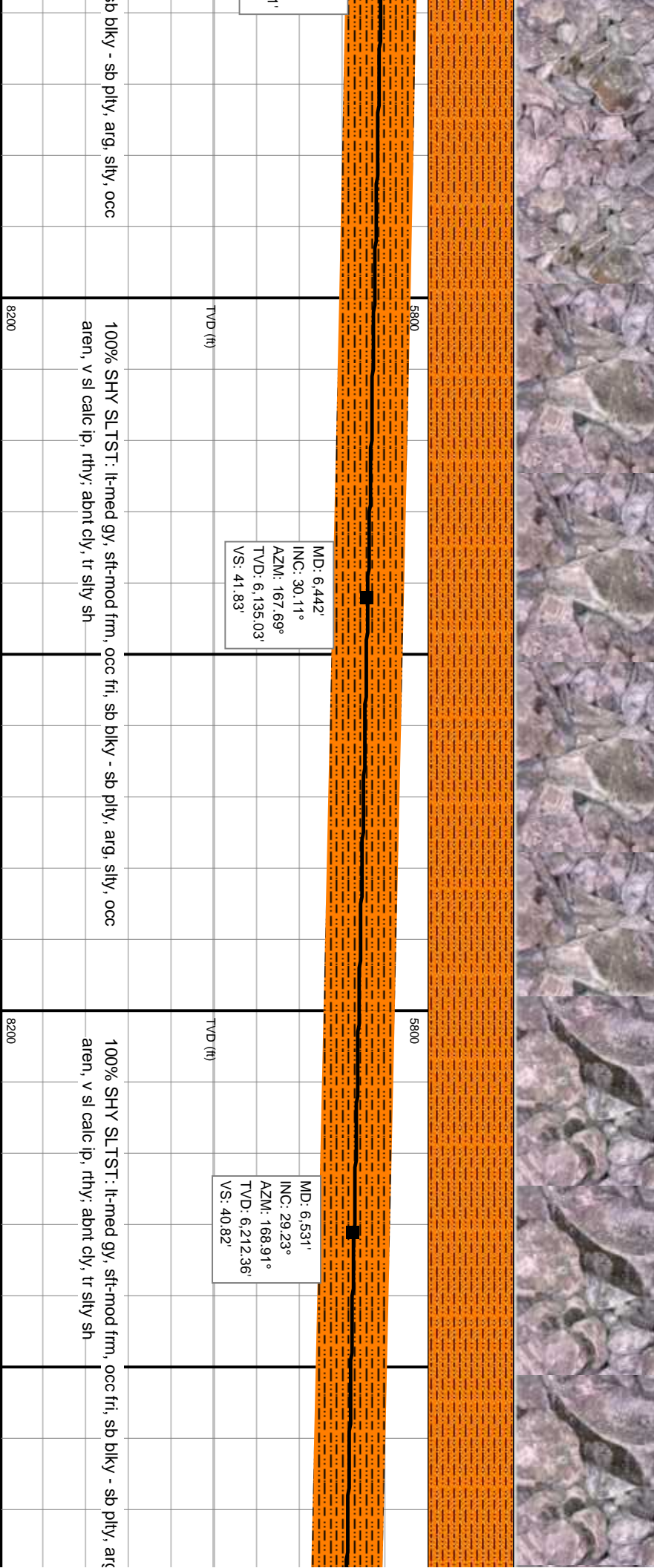
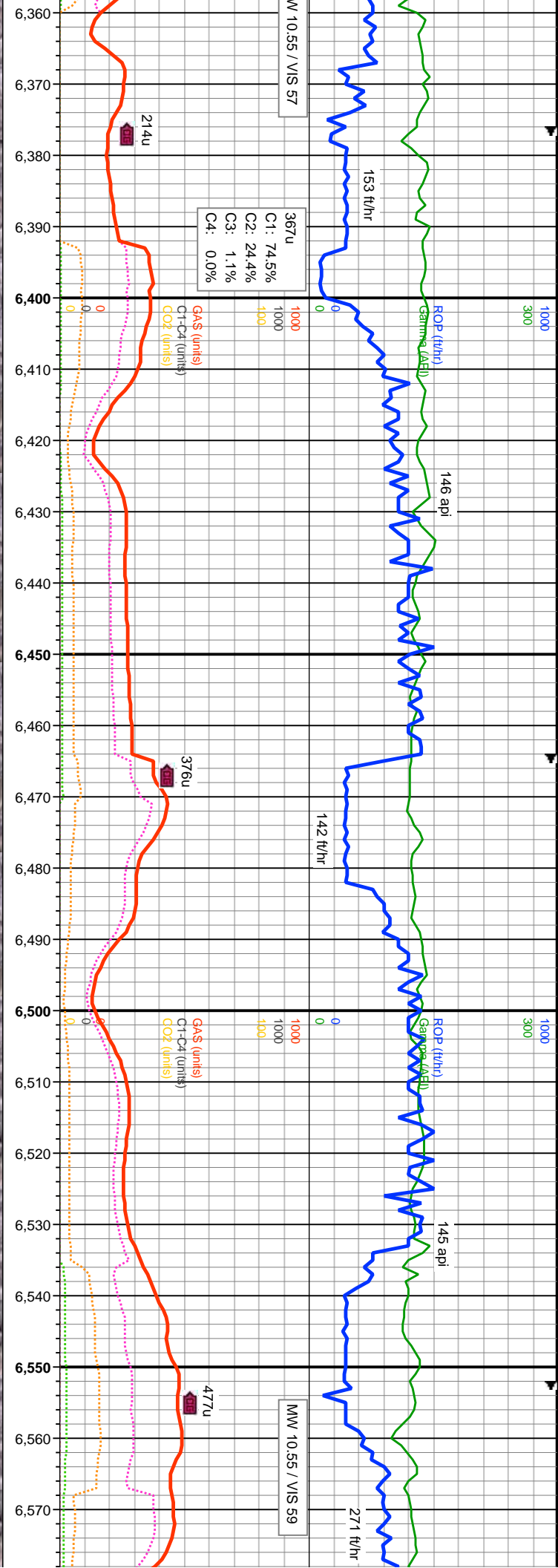
MD: 6,084'  
INC: 30.1°  
AZM: 169.08°  
TVD: 5,825.36'  
VS: 47.96'

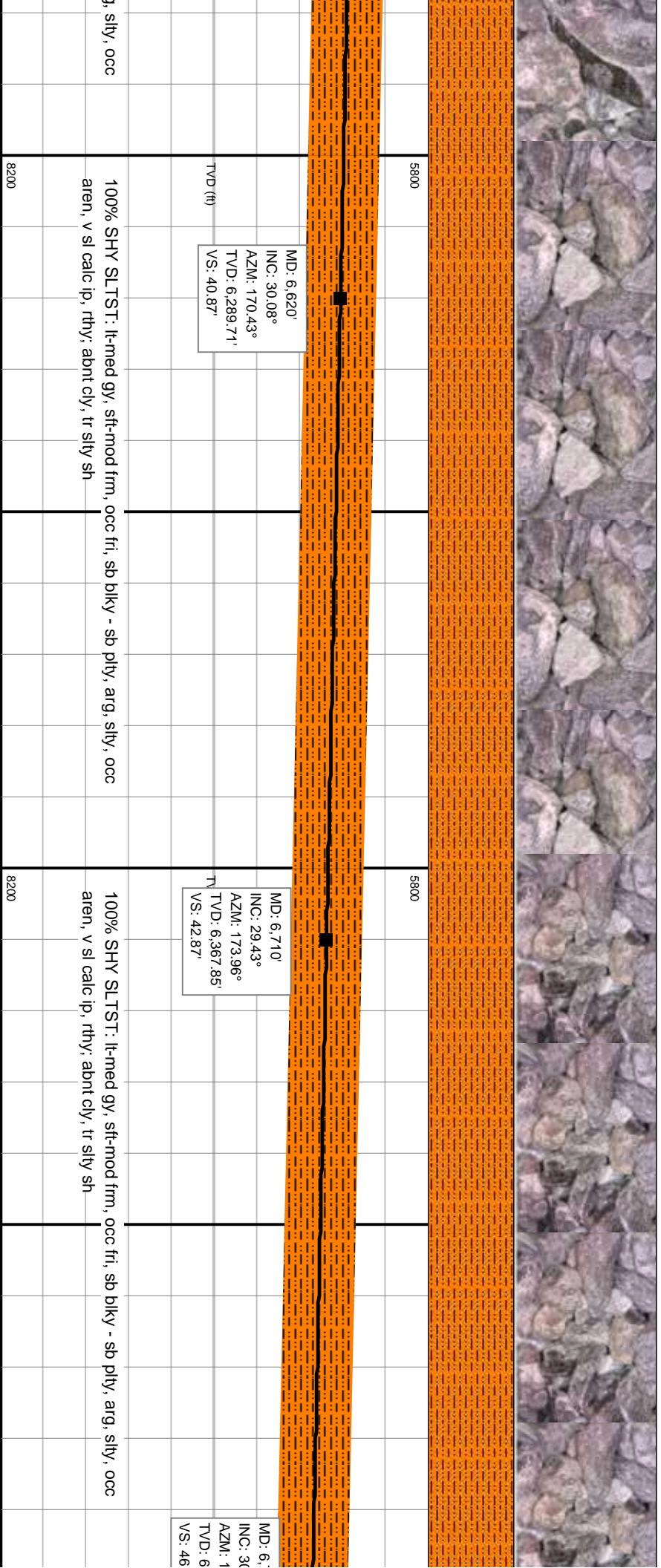
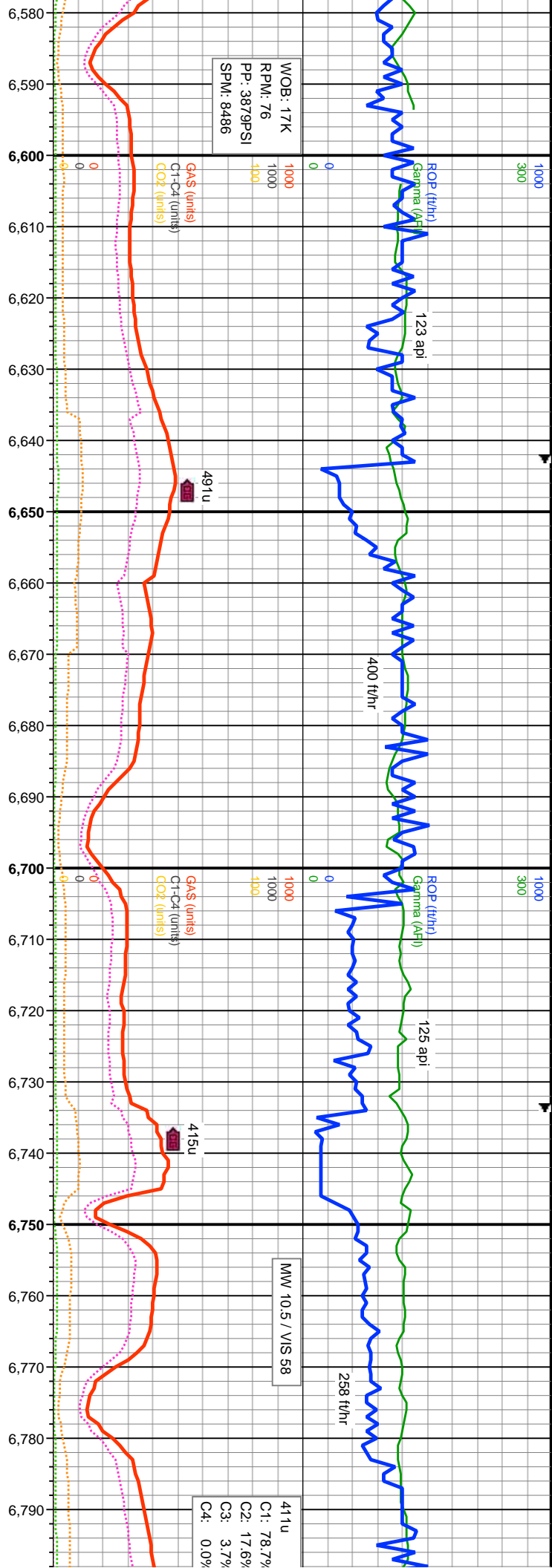
100% SHY SLTST: lt-med gy, sft-med frm, occ fri, sb blkly - sb plty, arg, silty, occ aren, v sl calc ip, rthy; abnt cly, tr silty sh

100% SHY SLTST: lt-med gy, sft-med frm, occ fri, sb blkly - sb plty, arg, silty, occ aren, v sl calc ip, rthy; abnt cly, tr silty sh

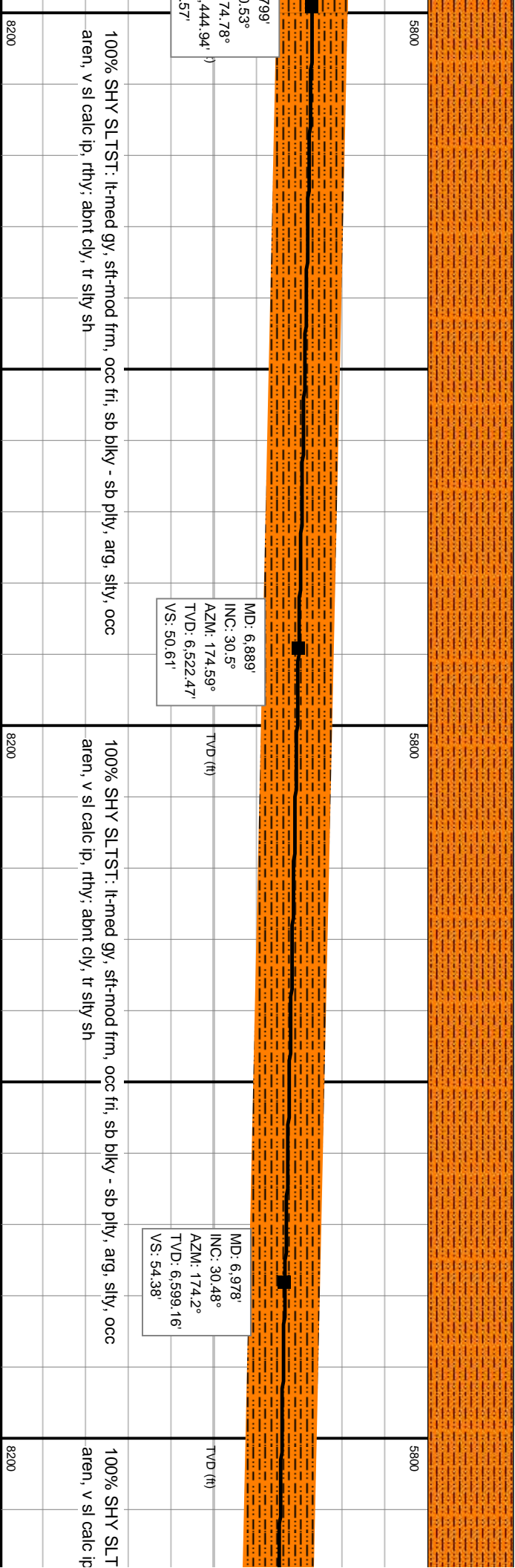
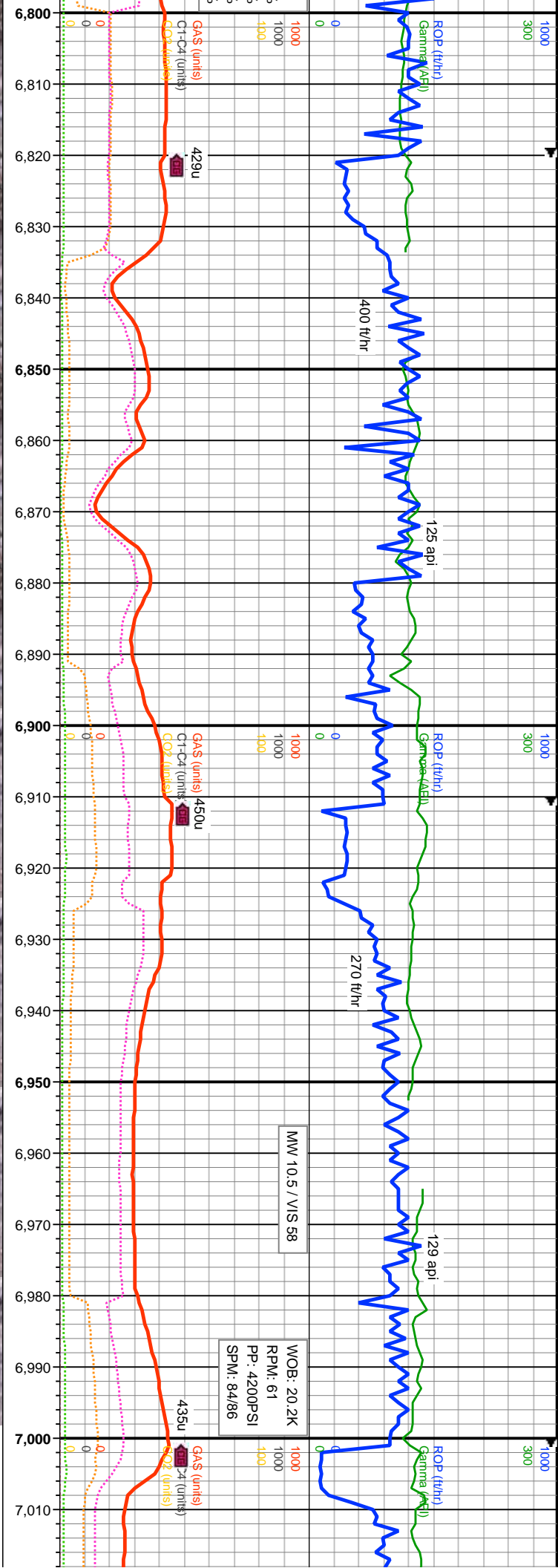




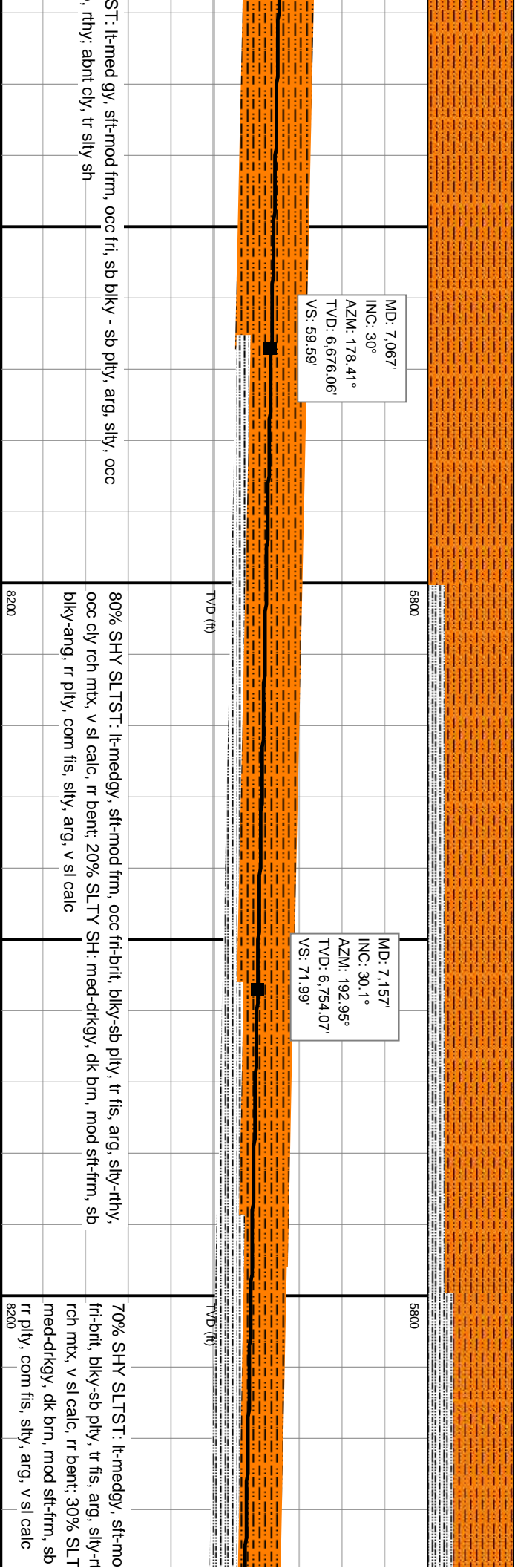
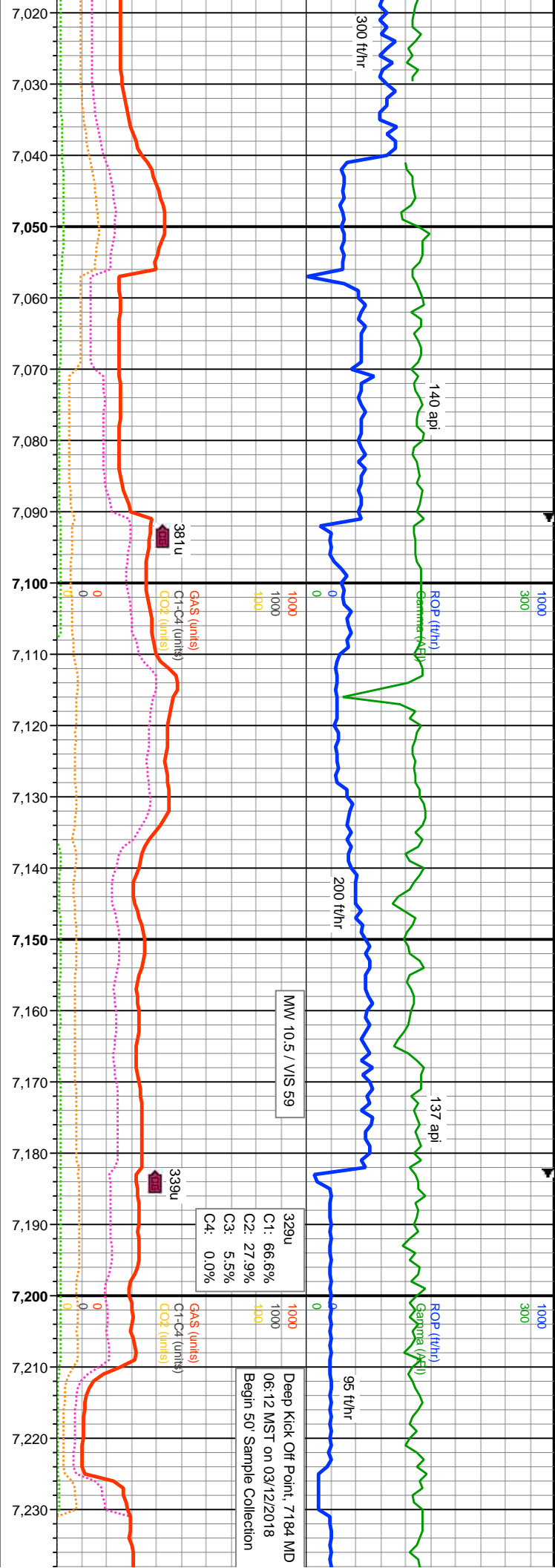


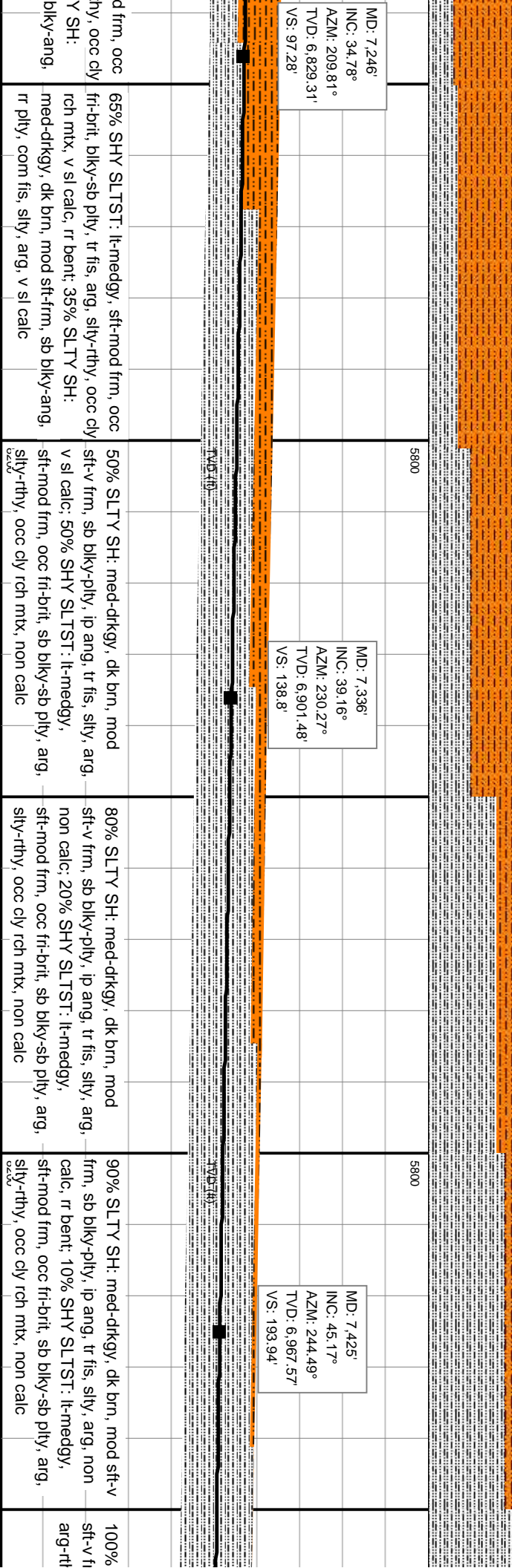
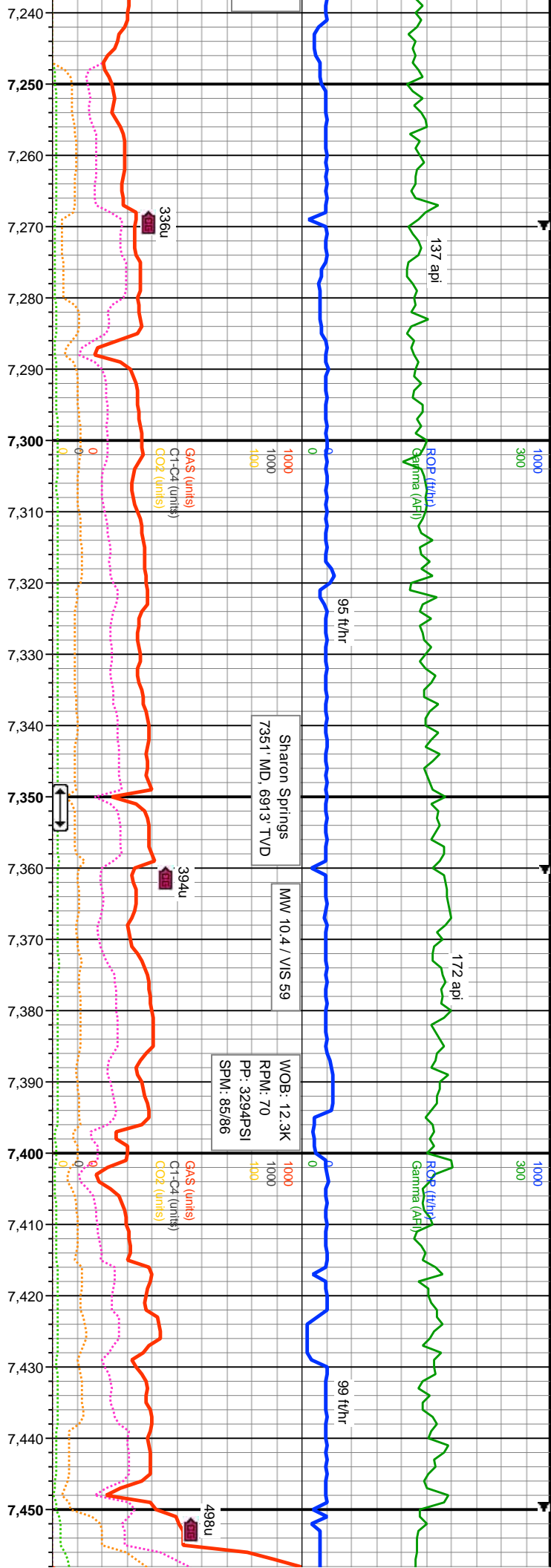




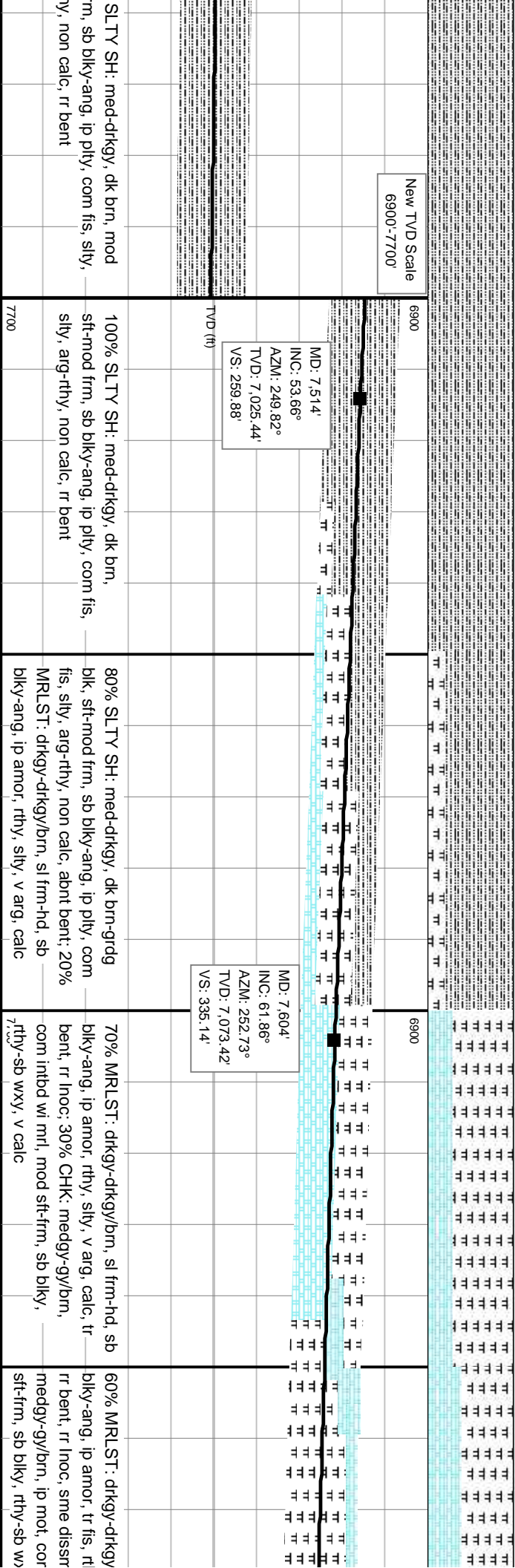
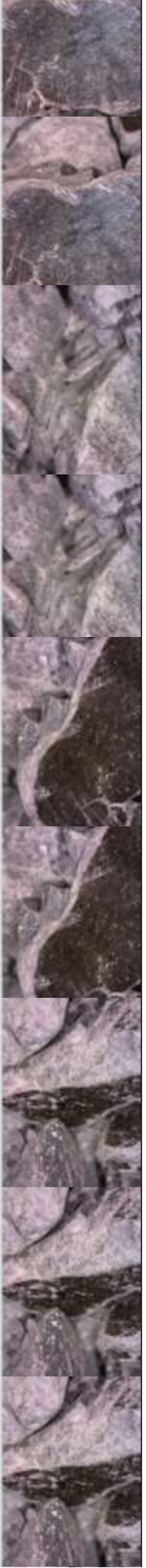
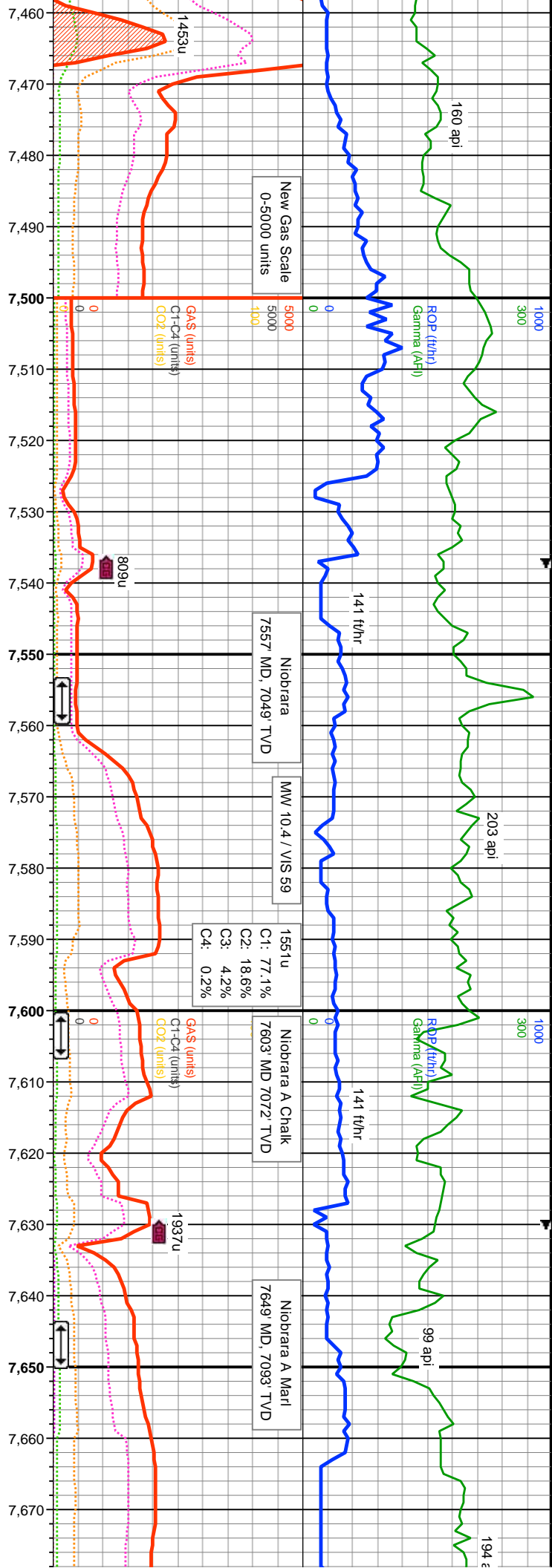




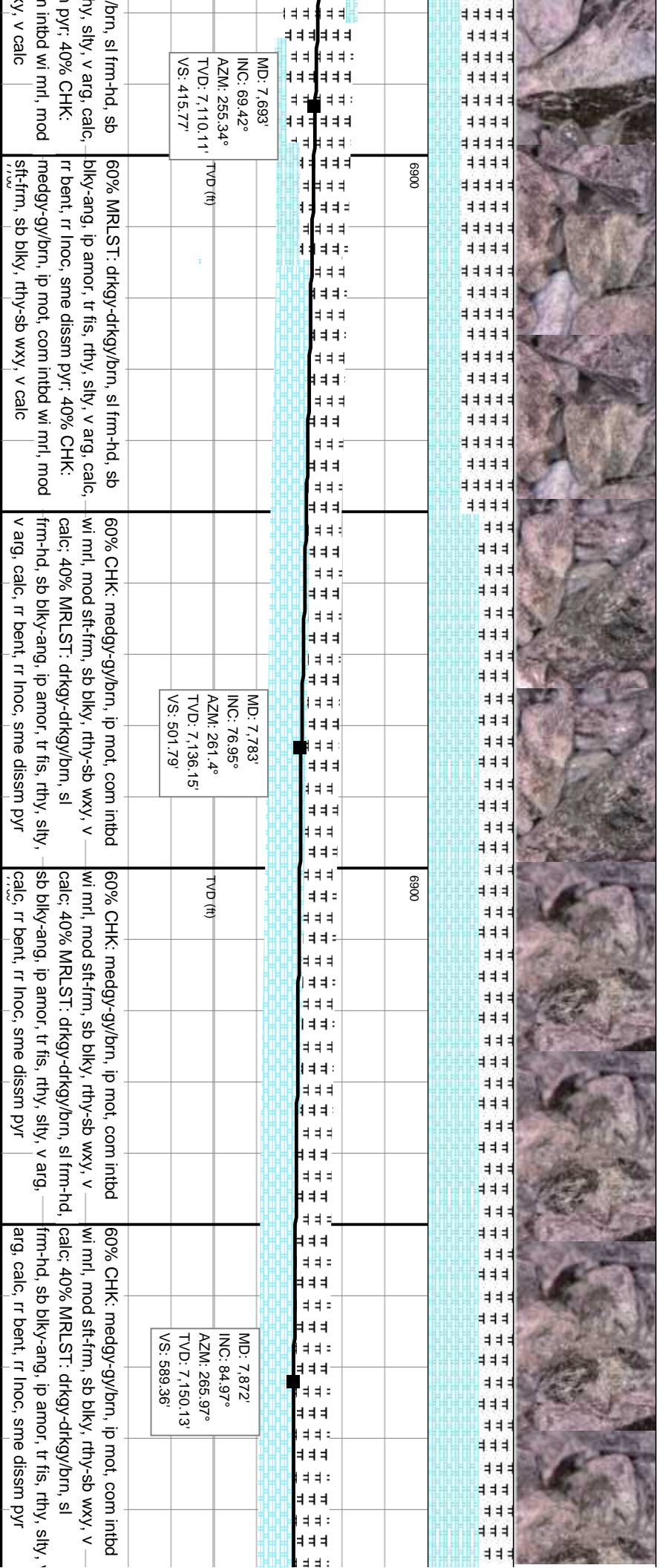
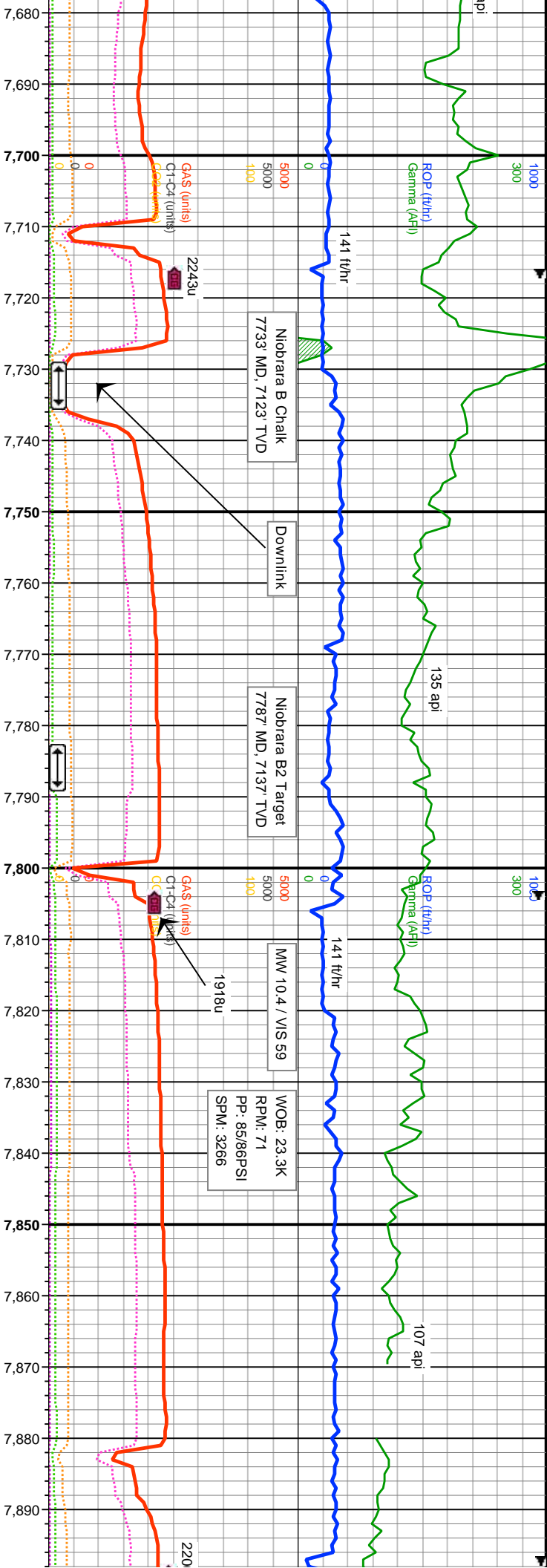


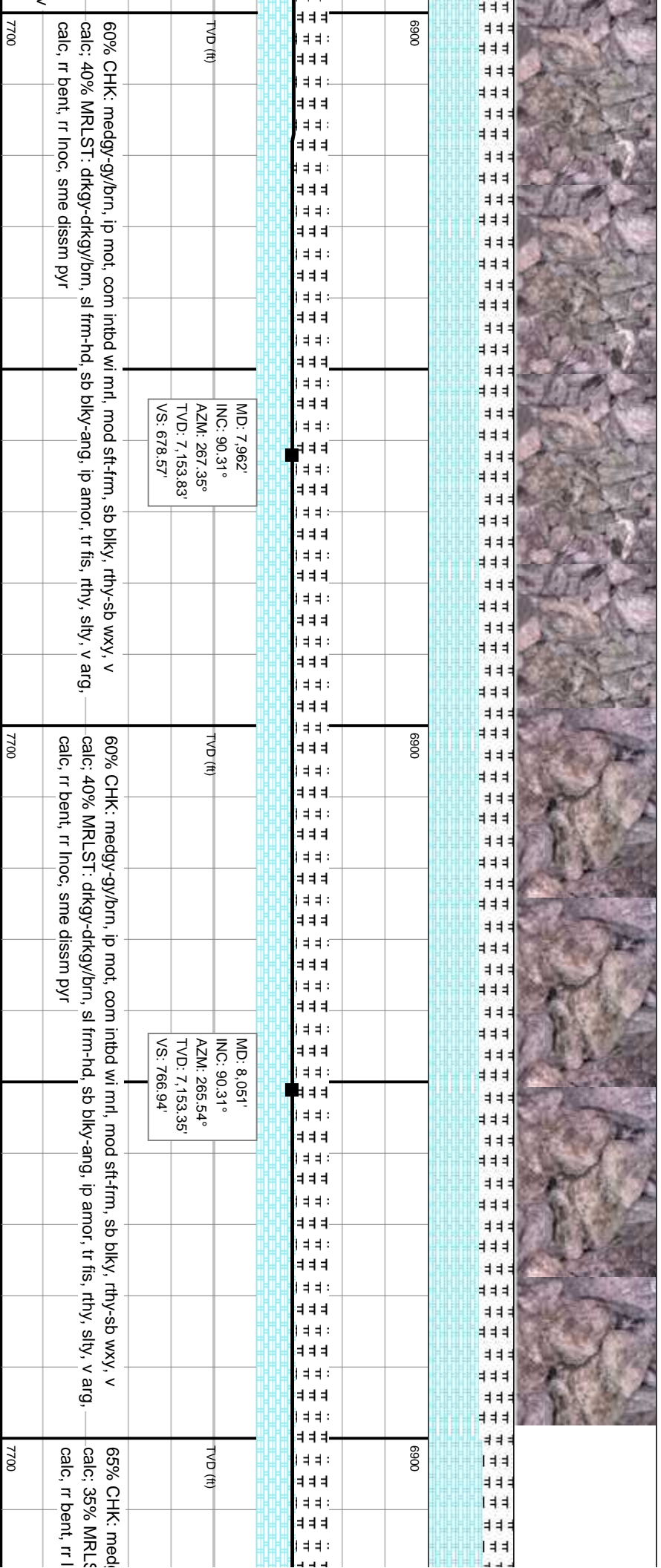
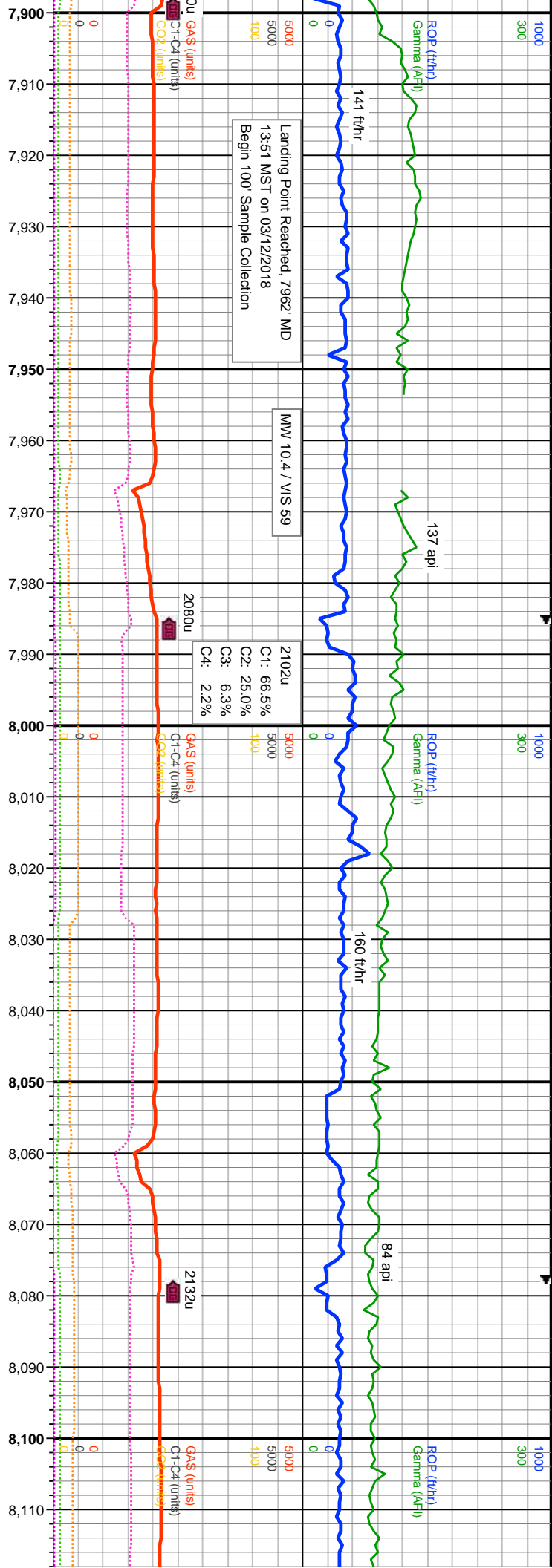




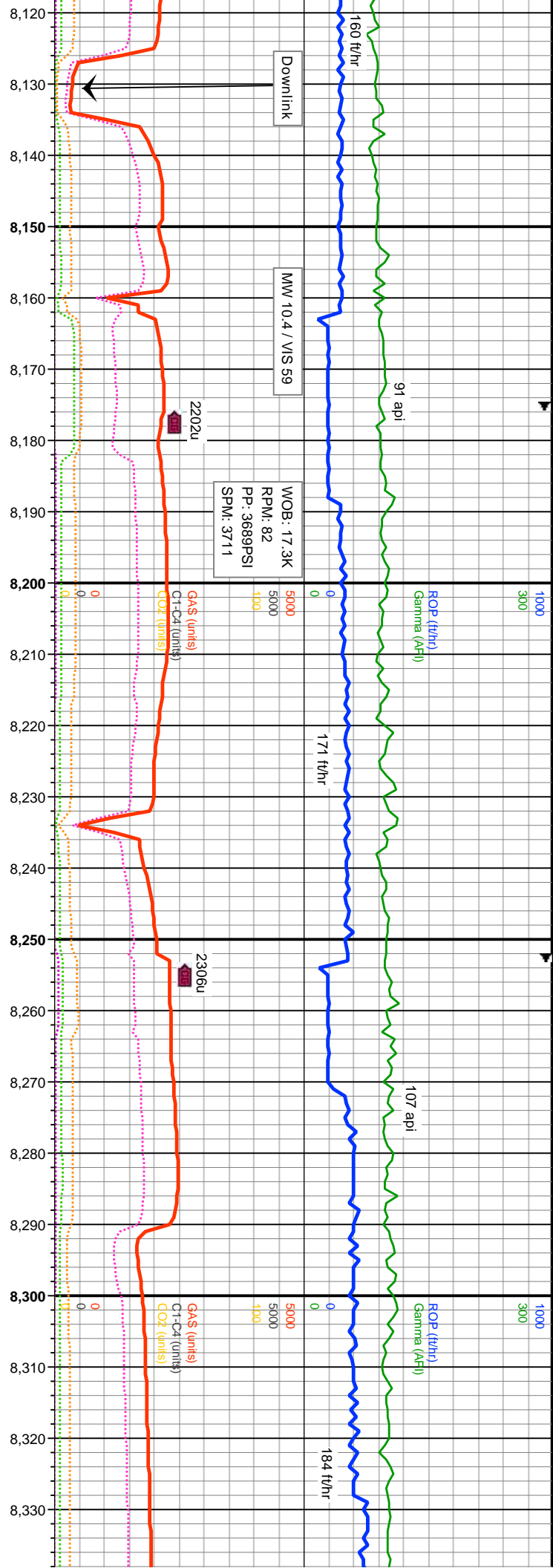






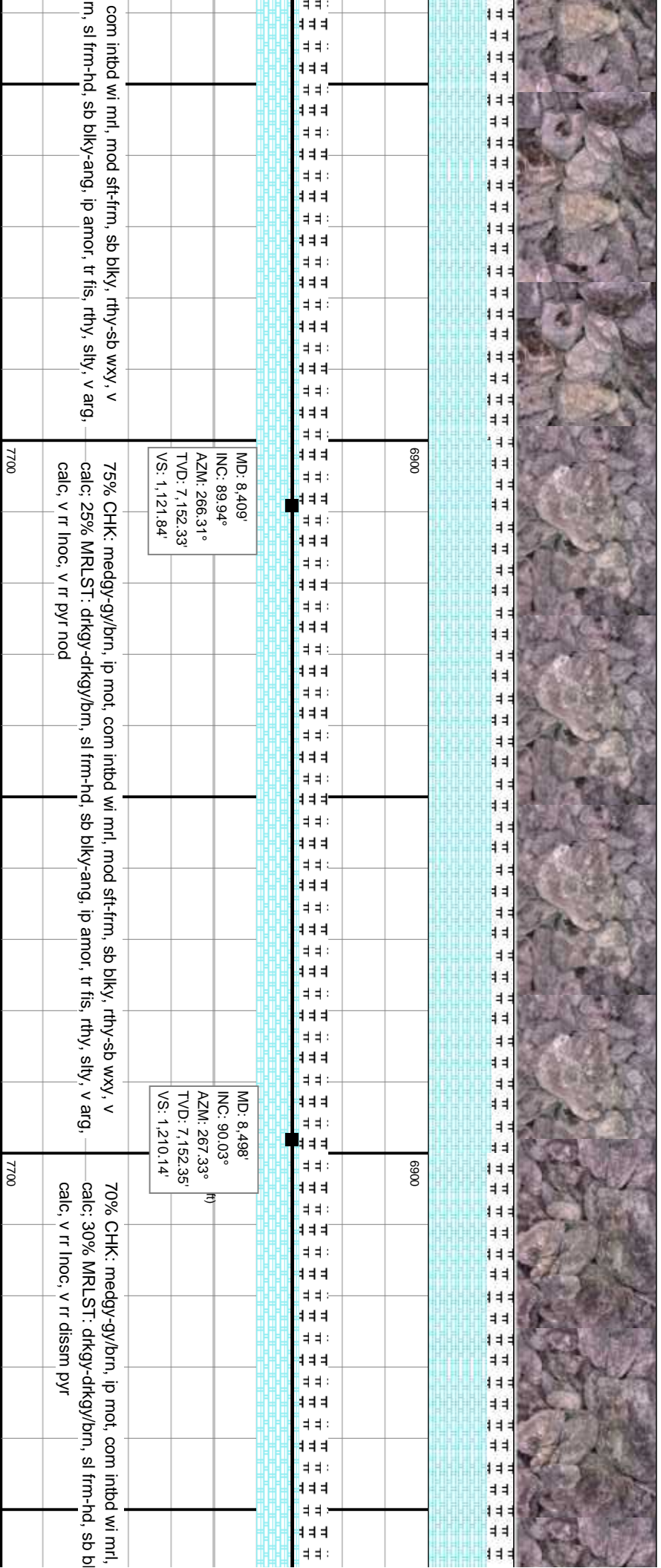
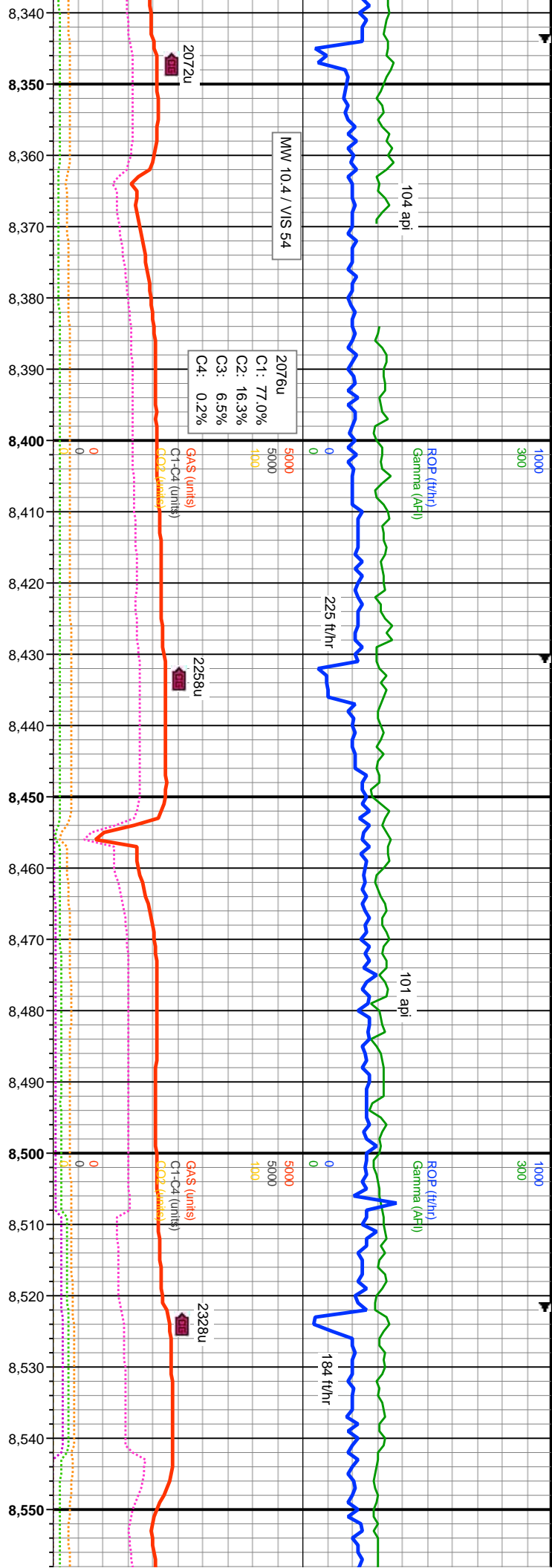


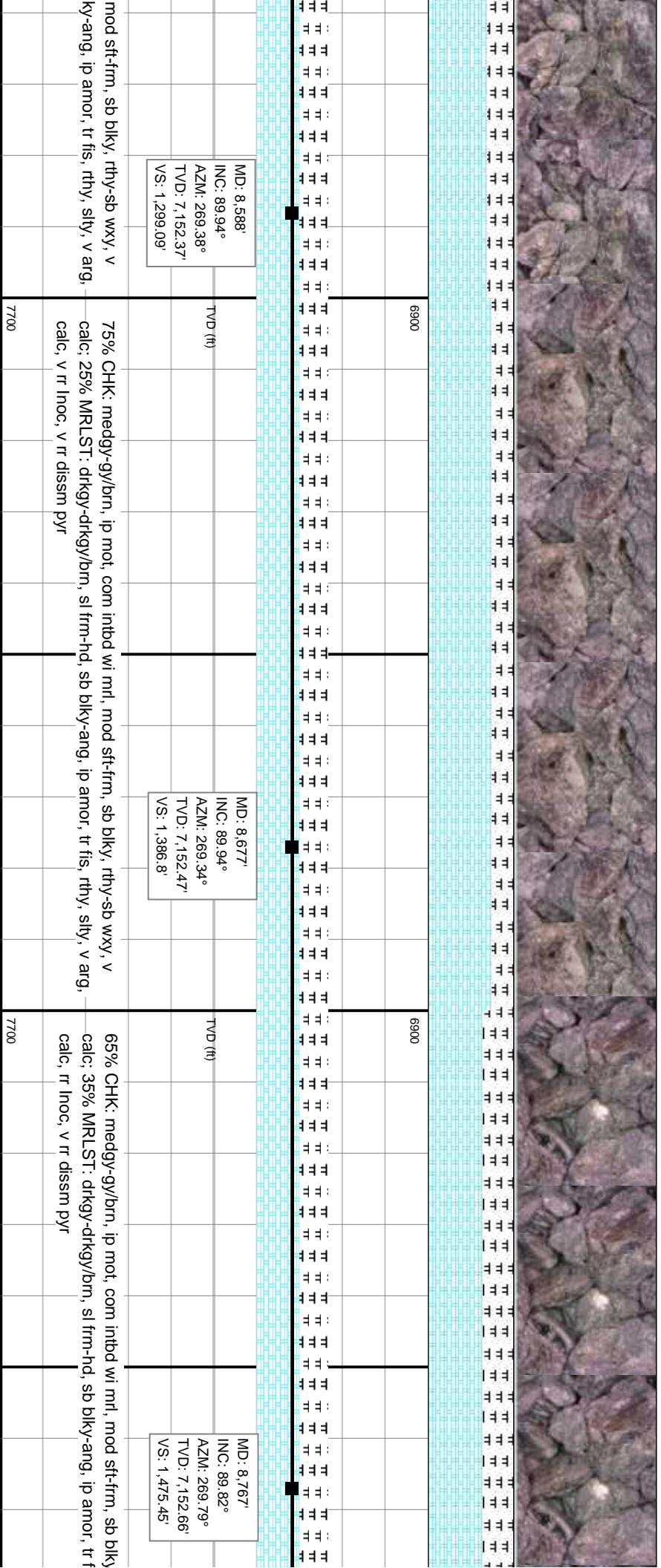
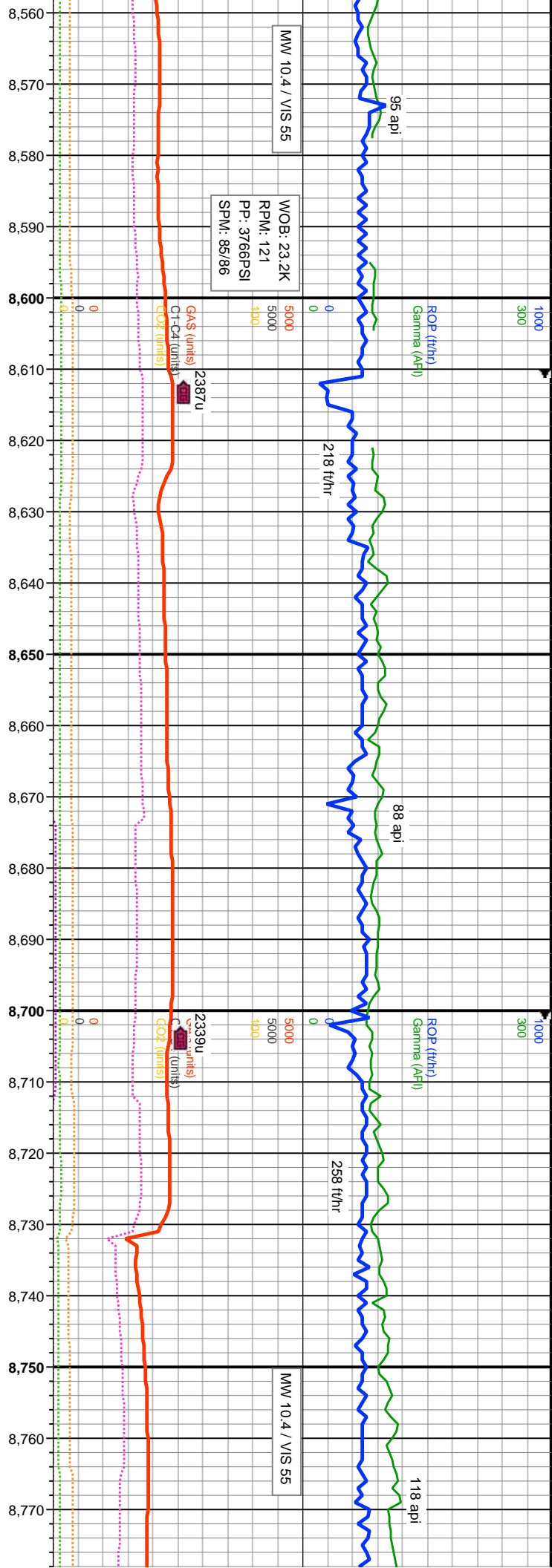




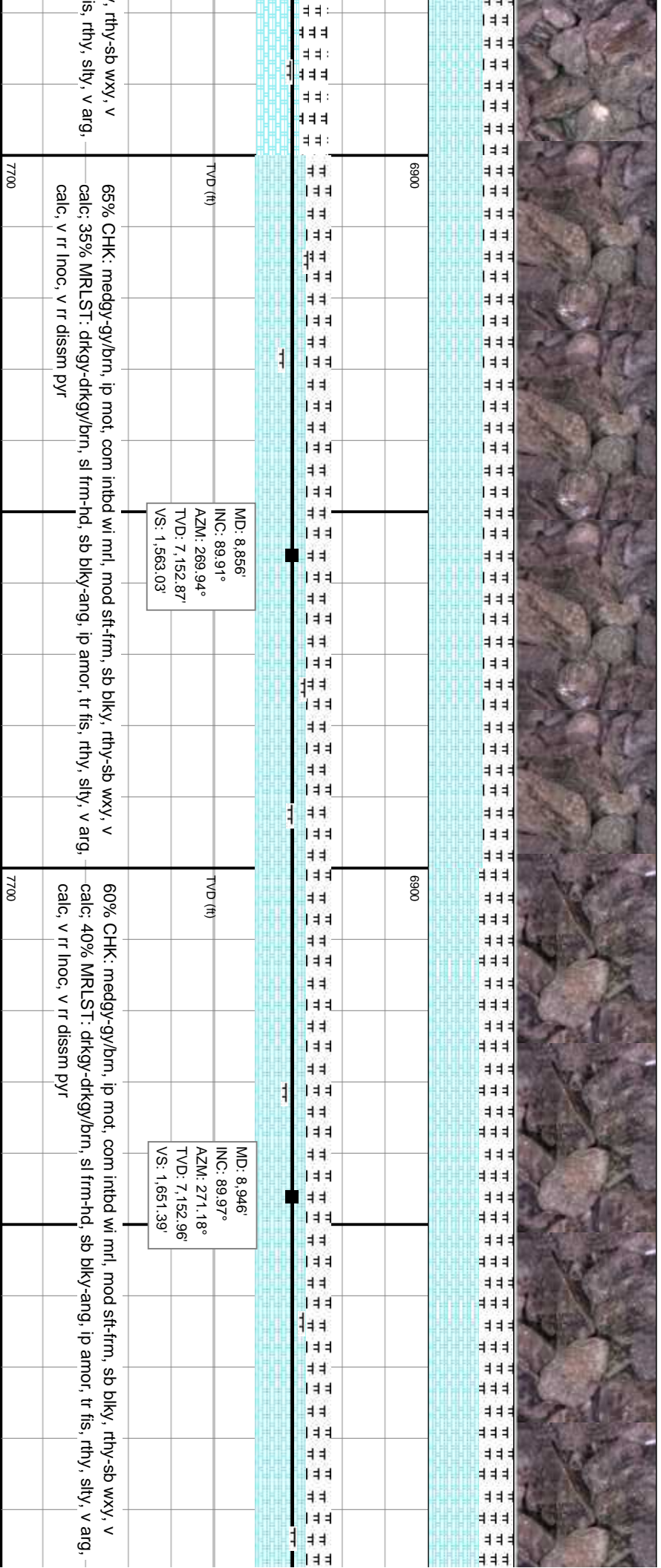
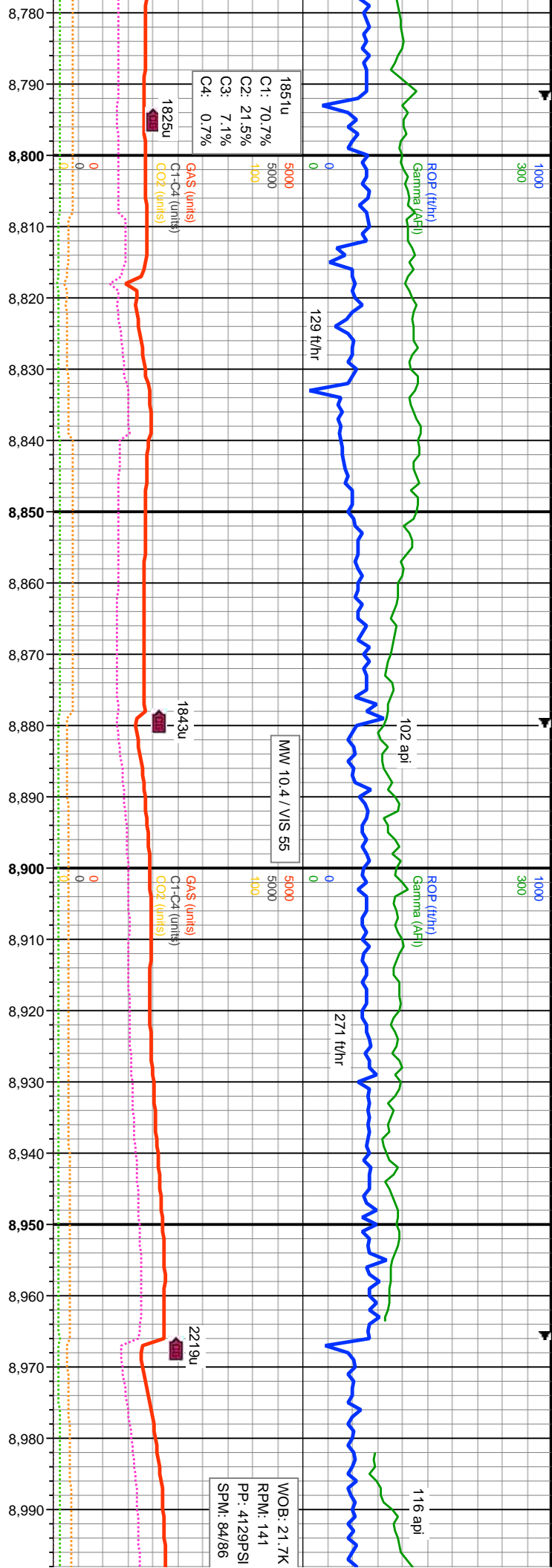
gy-gy/brn, ip mot, com intbd wi mrl, mod sft-frm, sb blk-y, rthy-sb wxy, v		7700	
51: drkgy-drkgy/brn, sl frm-hd, sb blk-y-ang, ip amor, tr fis, rthy, silty, v arg,		7700	
noc, sme dissim pyr		7700	
MD: 8,141'		6900	
INC: 90.28°		6900	
AZM: 265.94°		6900	
TVD: 7,152.89'		6900	
VS: 856.42'		6900	
MD: 8,230'		6900	
INC: 90.28°		6900	
AZM: 268.36°		6900	
TVD: 7,152.45'		6900	
VS: 944.64'		6900	
MD: 8,319'		7700	
INC: 89.97°		7700	
AZM: 268.1°		7700	
TVD: 7,152.26'		7700	
VS: 1,032.64'		7700	
75% CHK: medgy-gy/brn, ip mot, com intbd wi mrl, mod sft-frm, sb blk-y, rthy-sb wxy, v		7700	
calc: 25% MRLST: drkgy-drkgy/brn, sl frm-hd, sb blk-y-ang, ip amor, tr fis, rthy, silty, v arg,		7700	
calc, rr bent, rr inoc, rr dissim pyr		7700	
70% CHK: medgy-gy/brn, ip mot,		7700	
calc: 30% MRLST: drkgy-drkgy/b		7700	
calc, v rr inoc, v rr dissim pyr		7700	



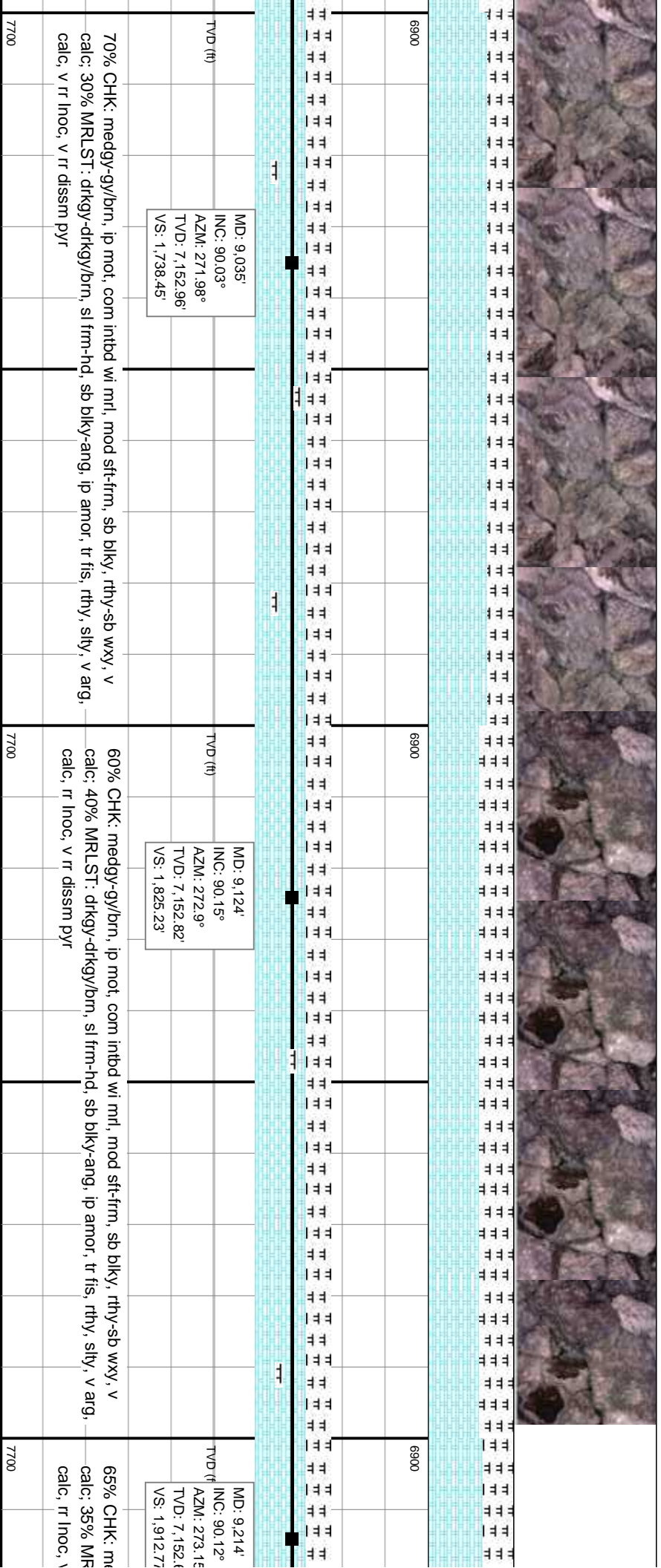
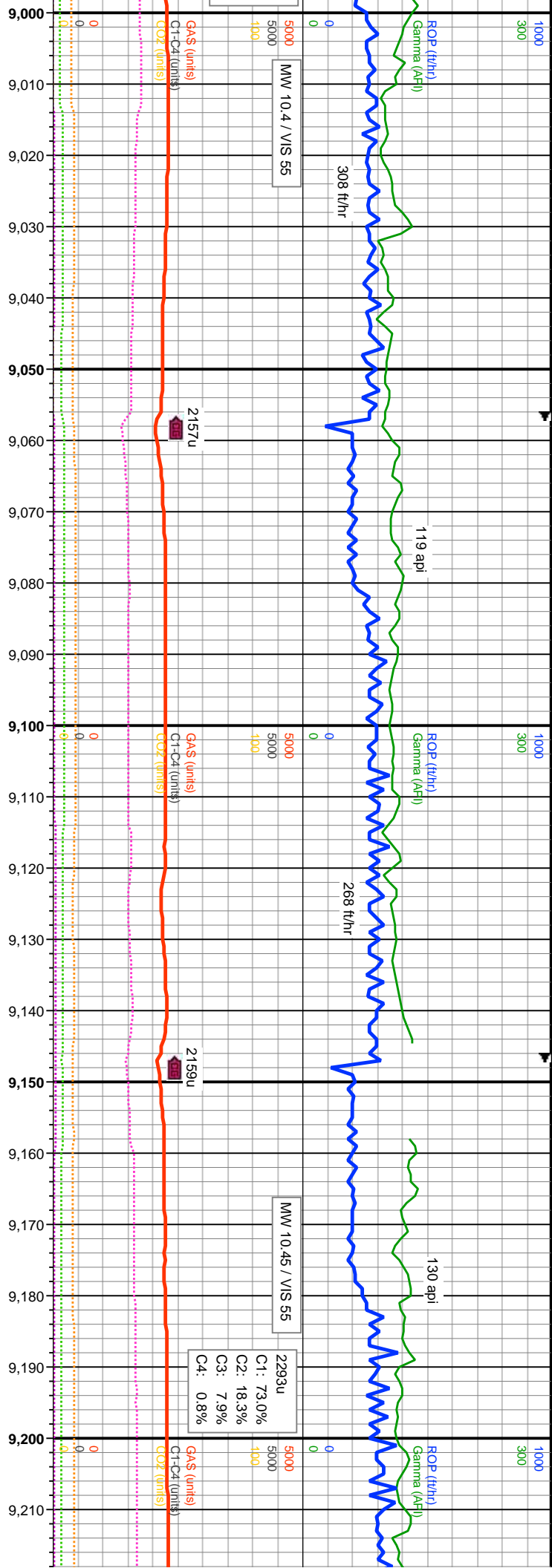












MD: 9,035'  
INC: 90.03°  
AZM: 271.98°  
TVD: 7,152.96'  
VS: 1,738.45'

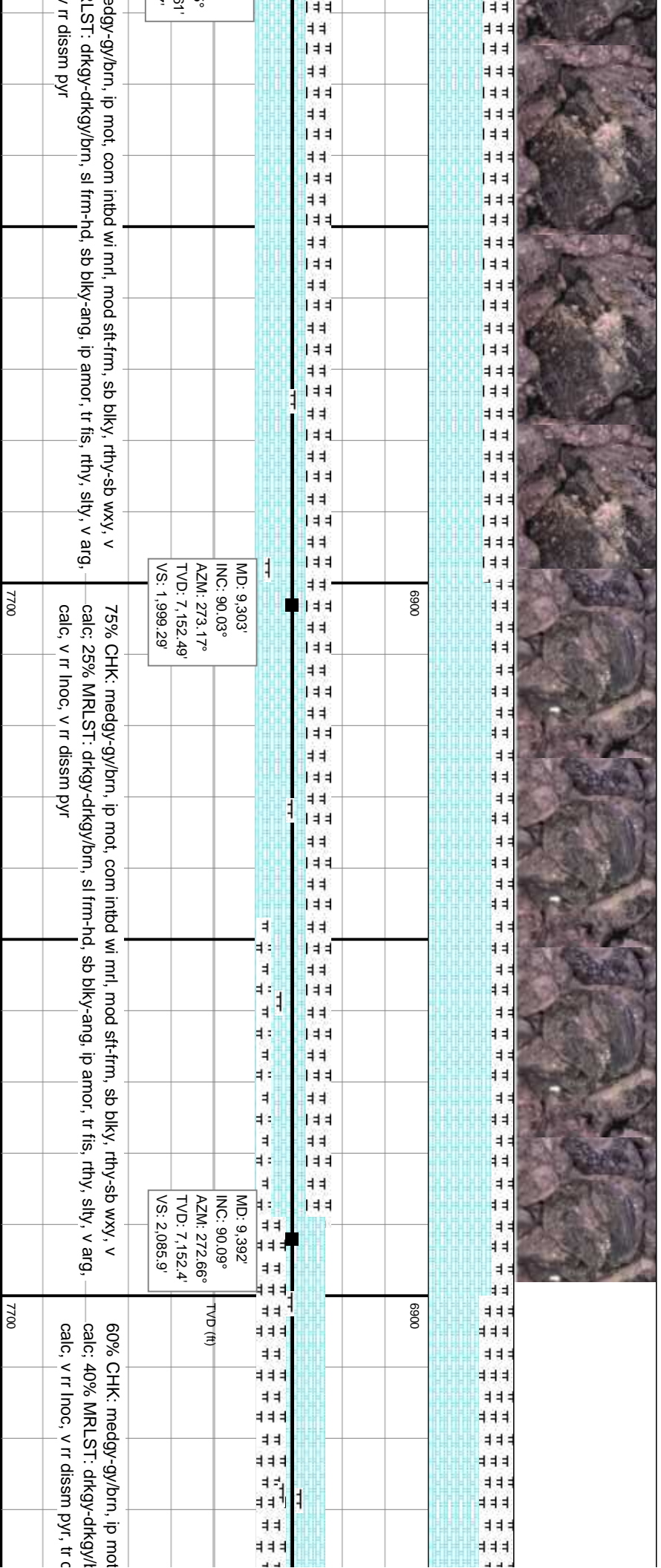
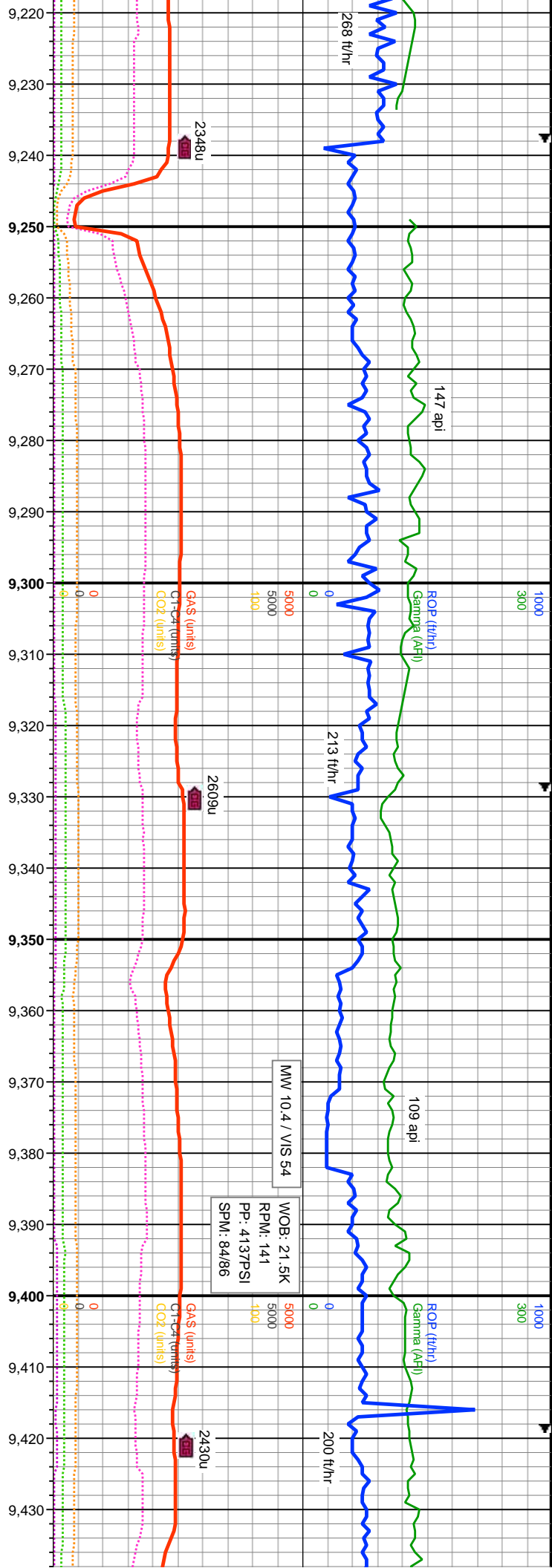
MD: 9,124'  
INC: 90.15°  
AZM: 272.9°  
TVD: 7,152.82'  
VS: 1,825.23'

MD: 9,214'  
INC: 90.12°  
AZM: 273.16°  
TVD: 7,152.6'  
VS: 1,912.77'

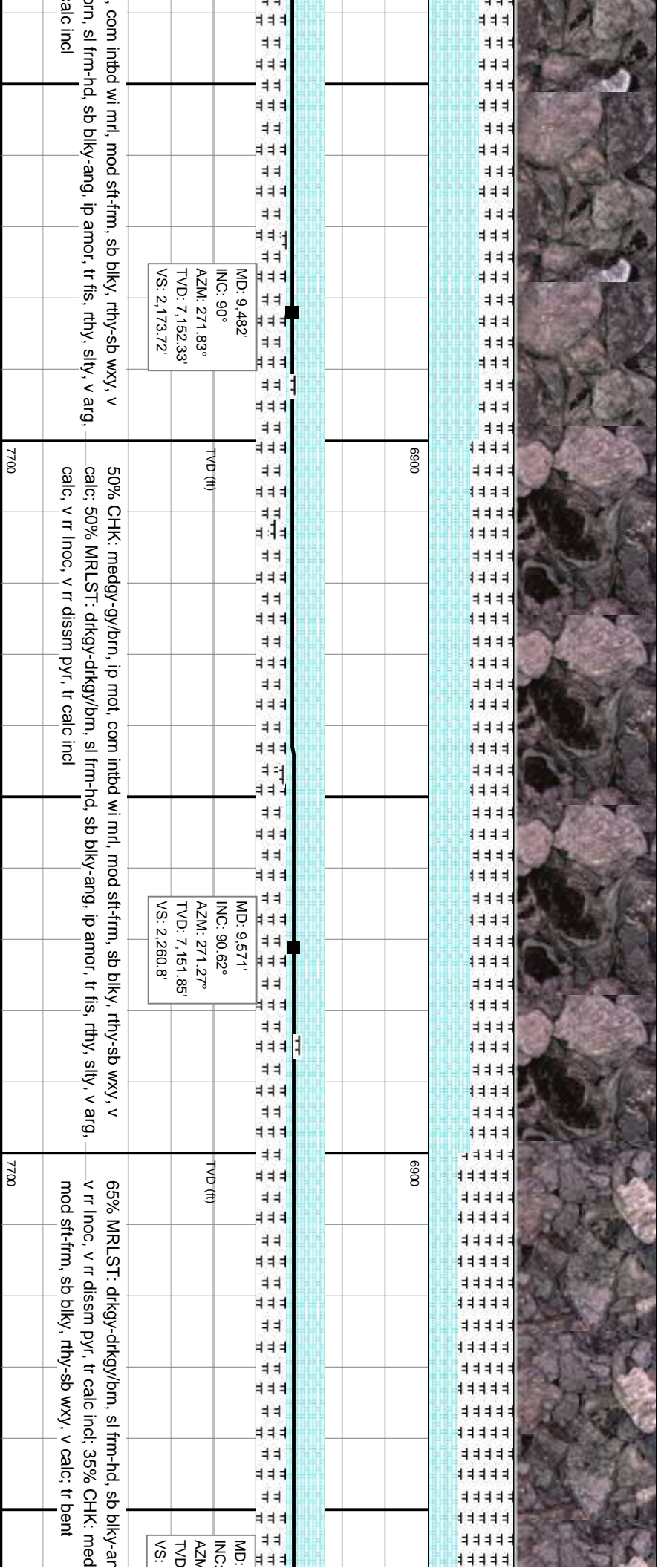
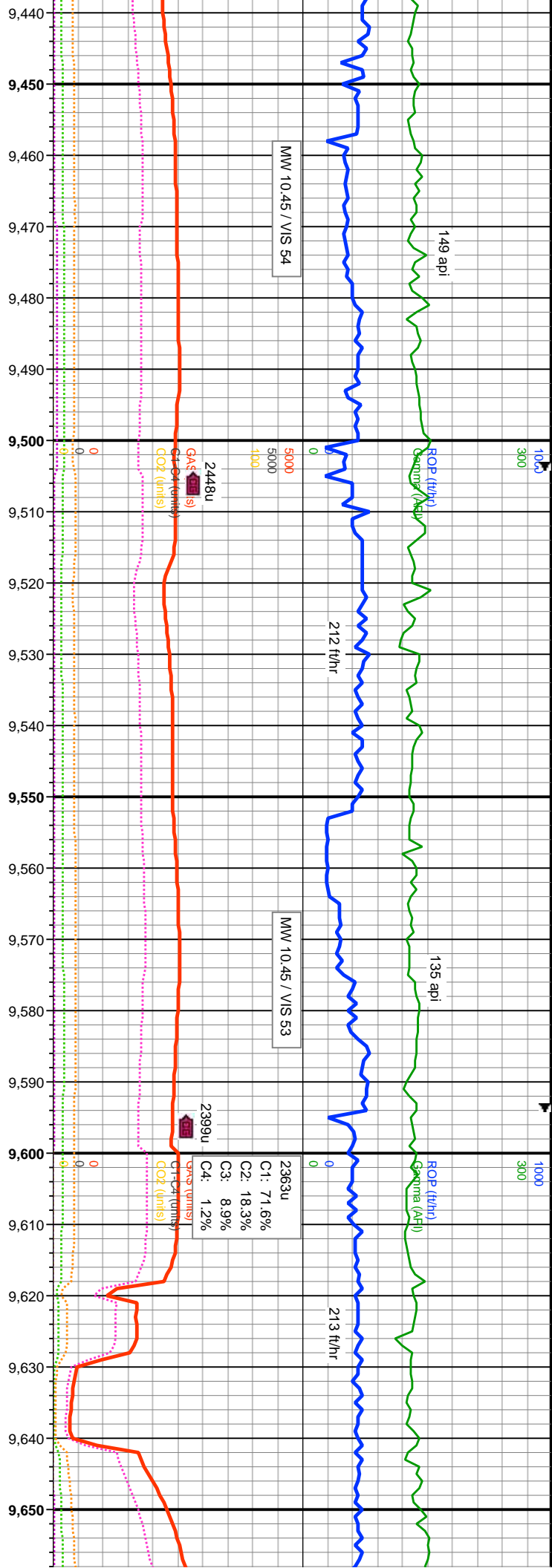
70% CHK: medgy-gy/brn, ip mot, com intbd wi mrl, mod sft-frn, sb blk-y, rthy-sb wxy, v  
calc, 30% MRLST: drkgy-drkgy/brn, sl frm-hd, sb blk-y-ang, ip amor, tr fis, rthy, slty, v arg,  
calc, v rr inoc, v rr dissn pyr

60% CHK: medgy-gy/brn, ip mot, com intbd wi mrl, mod sft-frn, sb blk-y, rthy-sb wxy, v  
calc, 40% MRLST: drkgy-drkgy/brn, sl frm-hd, sb blk-y-ang, ip amor, tr fis, rthy, slty, v arg,  
calc, rr inoc, v rr dissn pyr

65% CHK: m  
calc, 35% MR  
calc, rr inoc, v

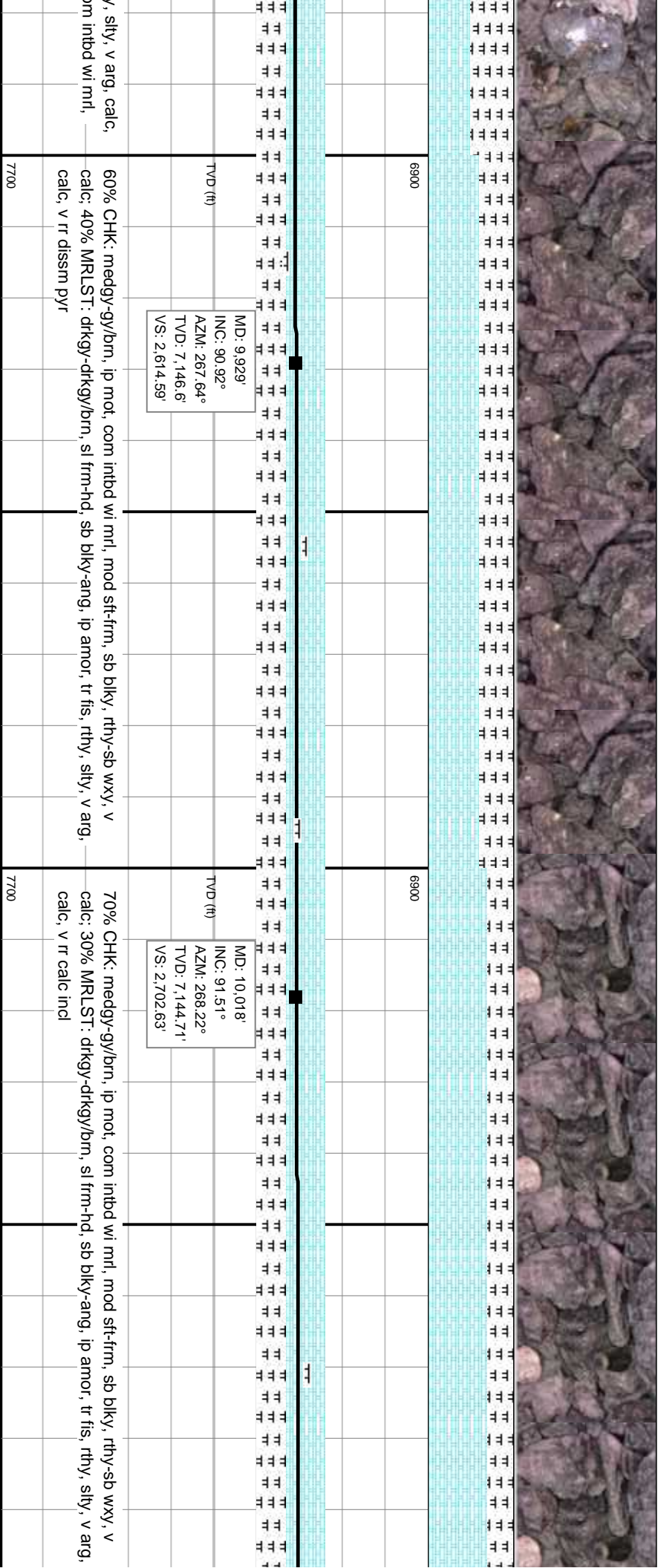
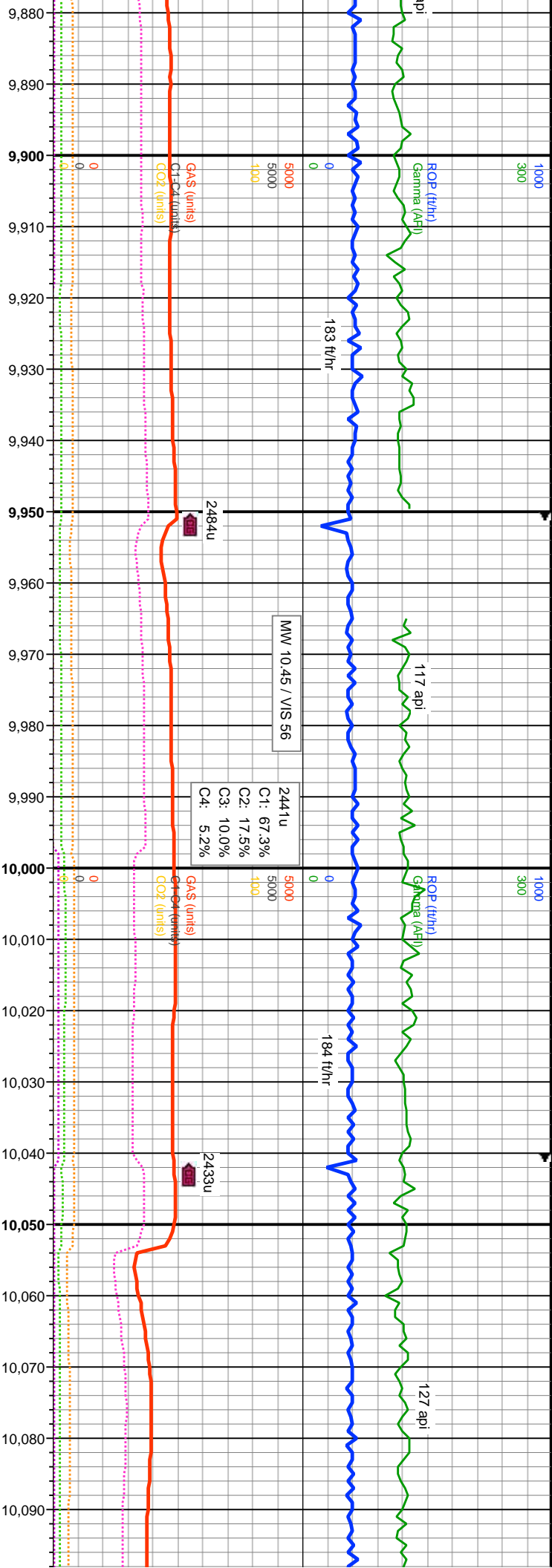




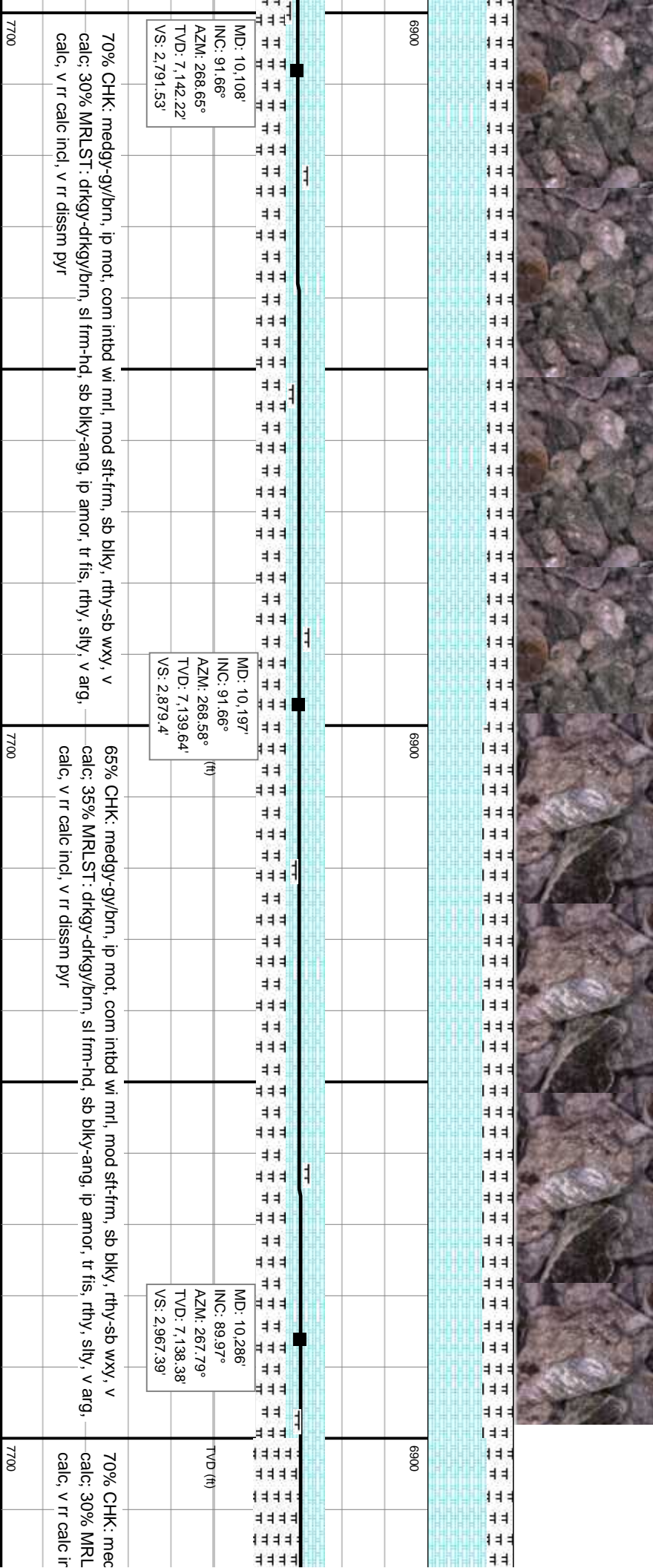
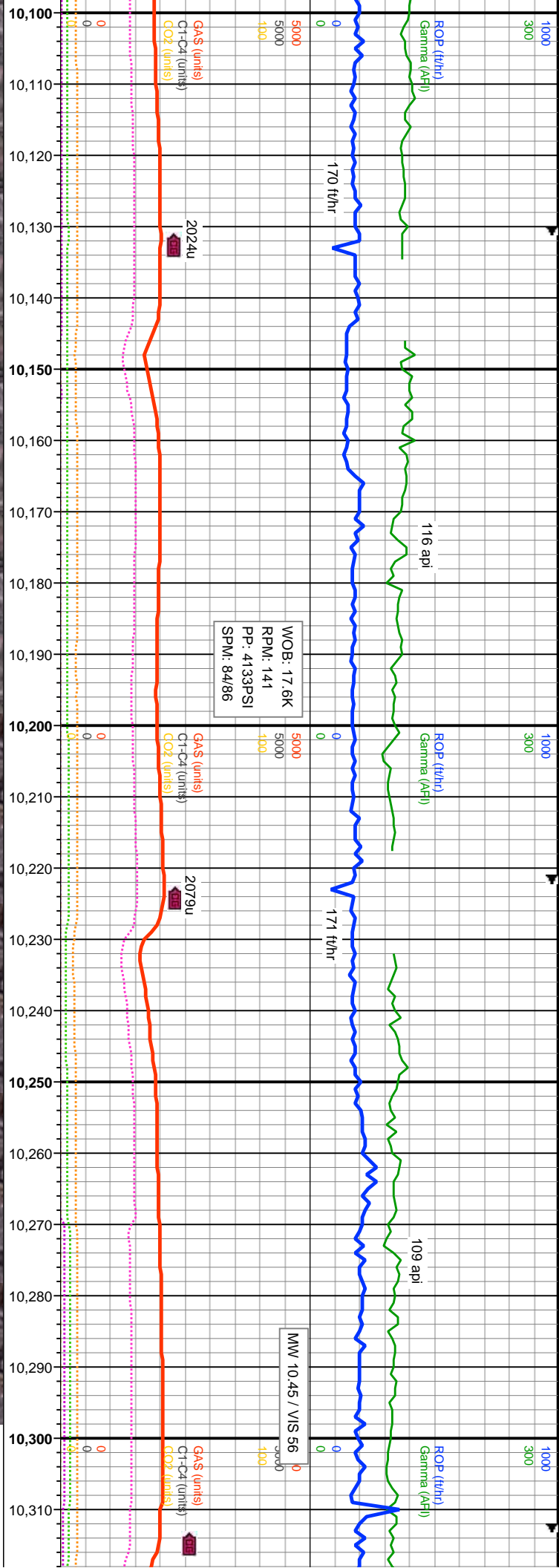




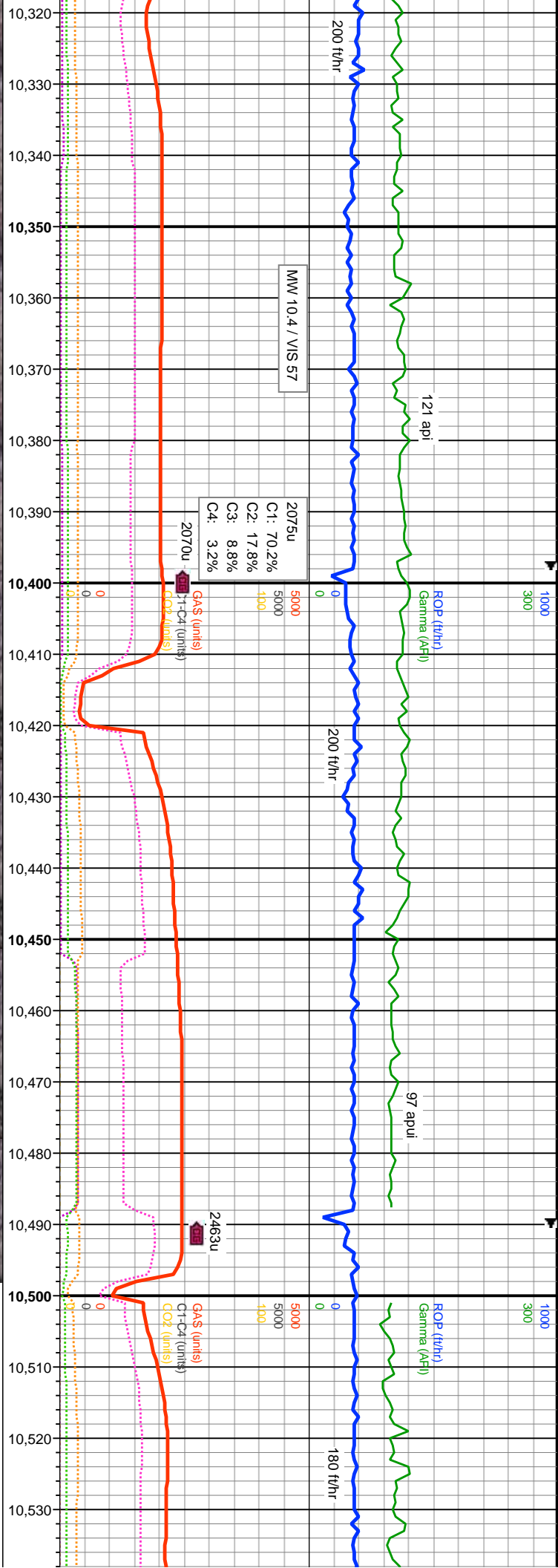












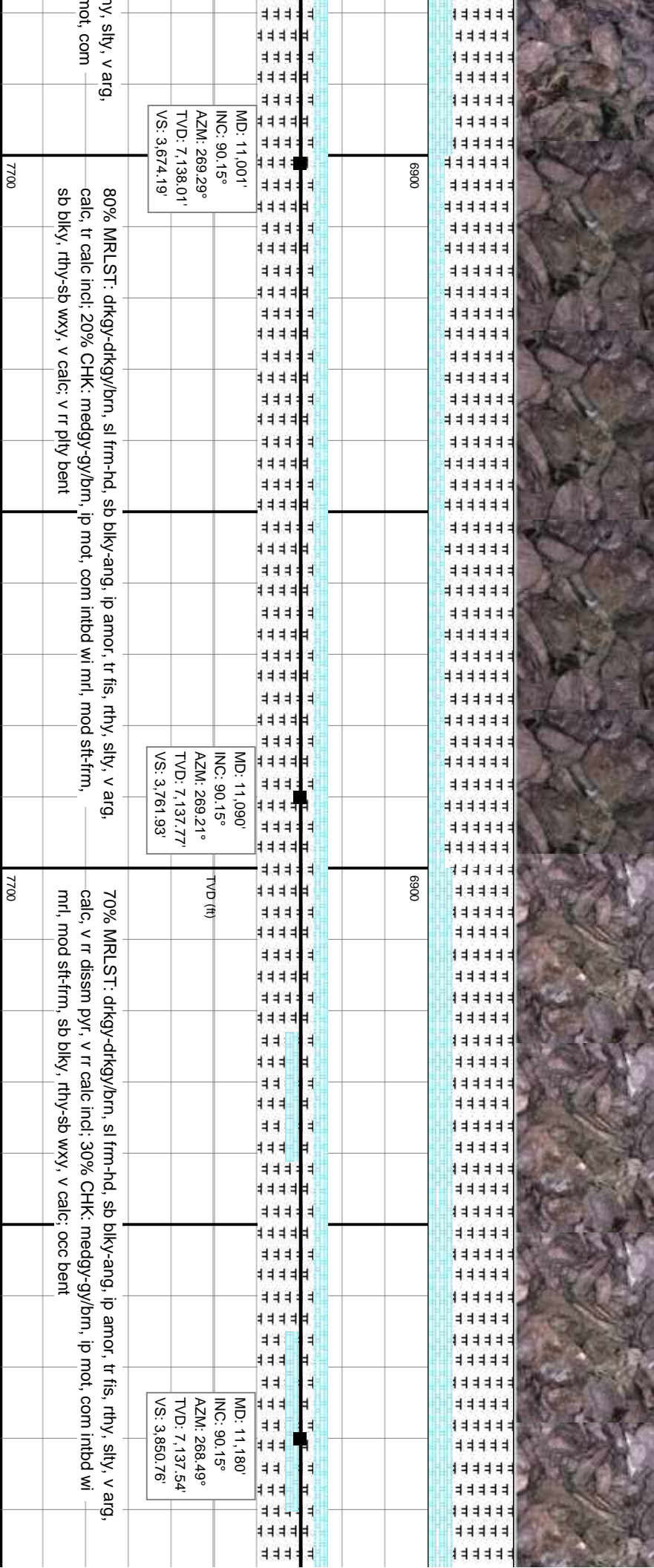
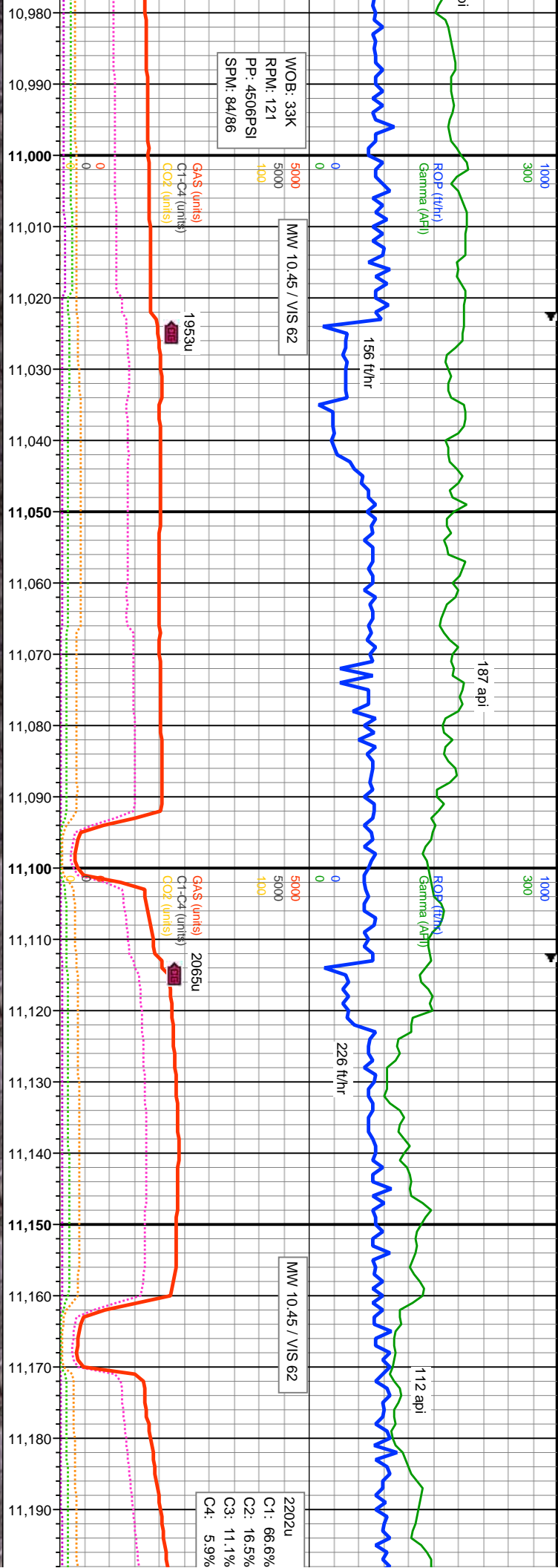
gy-gy/bm, ip mot, com intbd wi mrl, mod sft-fm, sb blk, rthy-sb wxy, v		70% CHK: medgy-gy/bm, ip mot, com intbd wi mrl, mod sft-fm, sb blk, rthy-sb wxy, v	
ST: drkggy-drkggy/brn, sl frm-hd, sb blk-ang, ip amor, tr fis, rthy, slty, v arg,		calc, 30% MRLST: drkggy-drkggy/brn, sl frm-hd, sb blk-ang, ip amor, tr fis, rthy, slty, v arg,	
cal, v rr dissn pyr		calc, v rr calc incl, v rr dissn pyr	
MD: 10,376'		MD: 10,466'	
INC: 89.94°		INC: 90.03°	
AZM: 267.75°		AZM: 267.71°	
TVD: 7,138.45'		TVD: 7,138.47'	
VS: 3,056.48'		VS: 3,145.58'	
TVD (ft)		TVD (ft)	
6900		6900	
7700		7700	

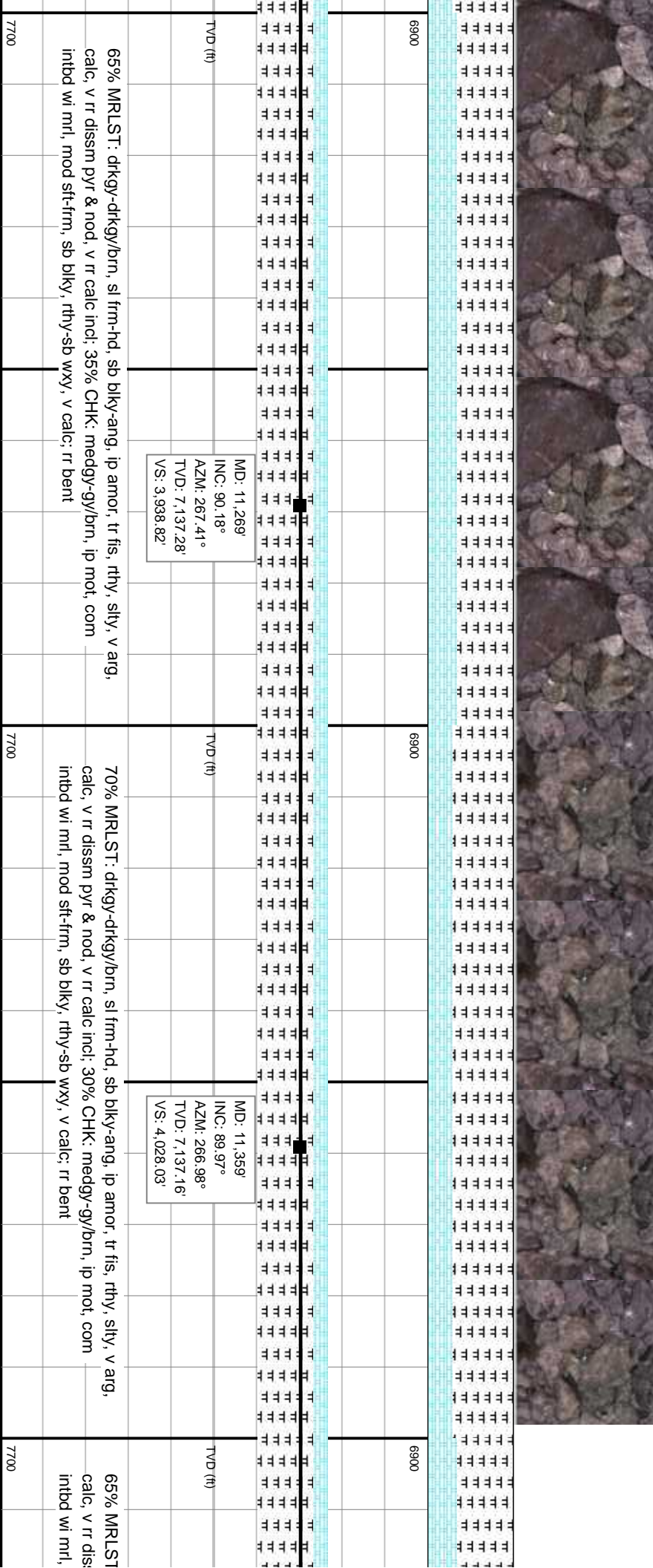
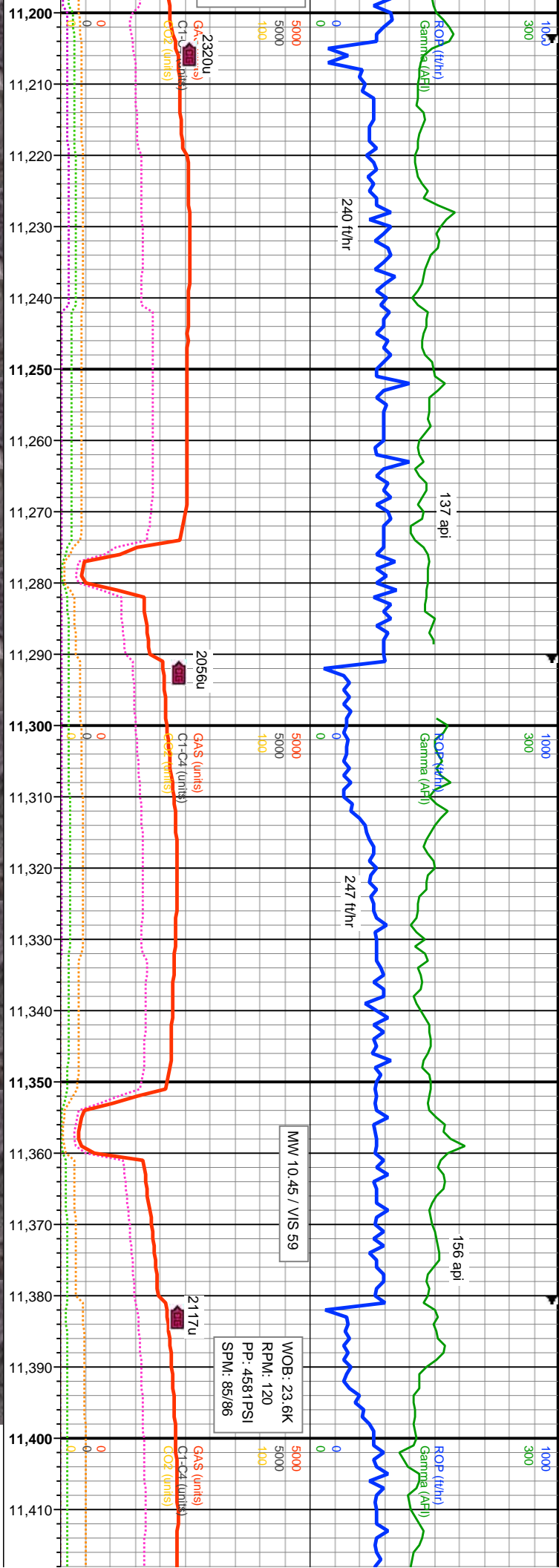








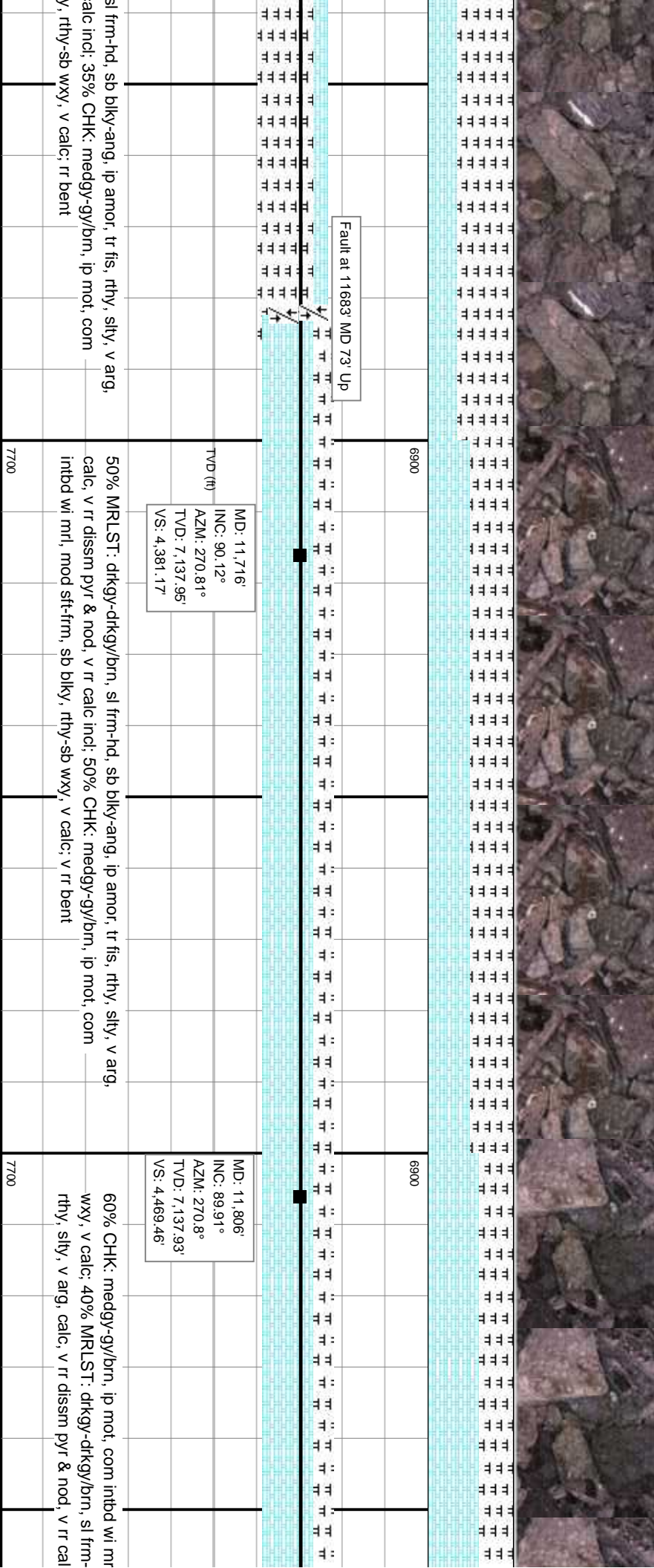
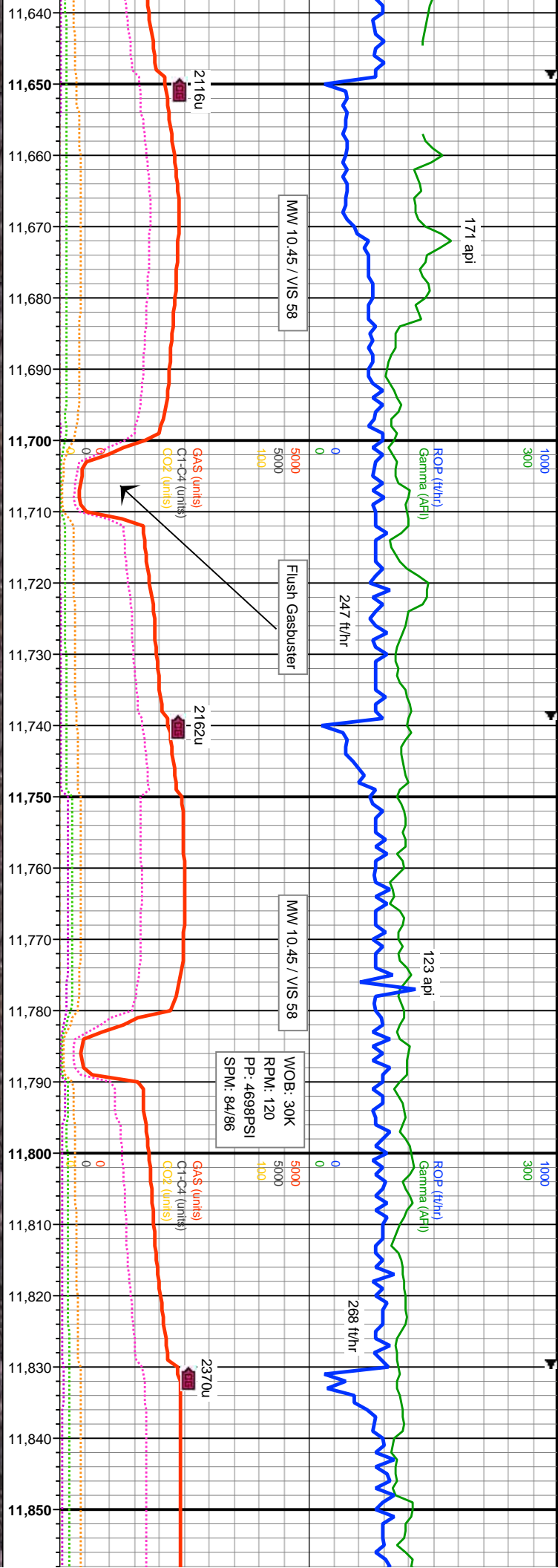


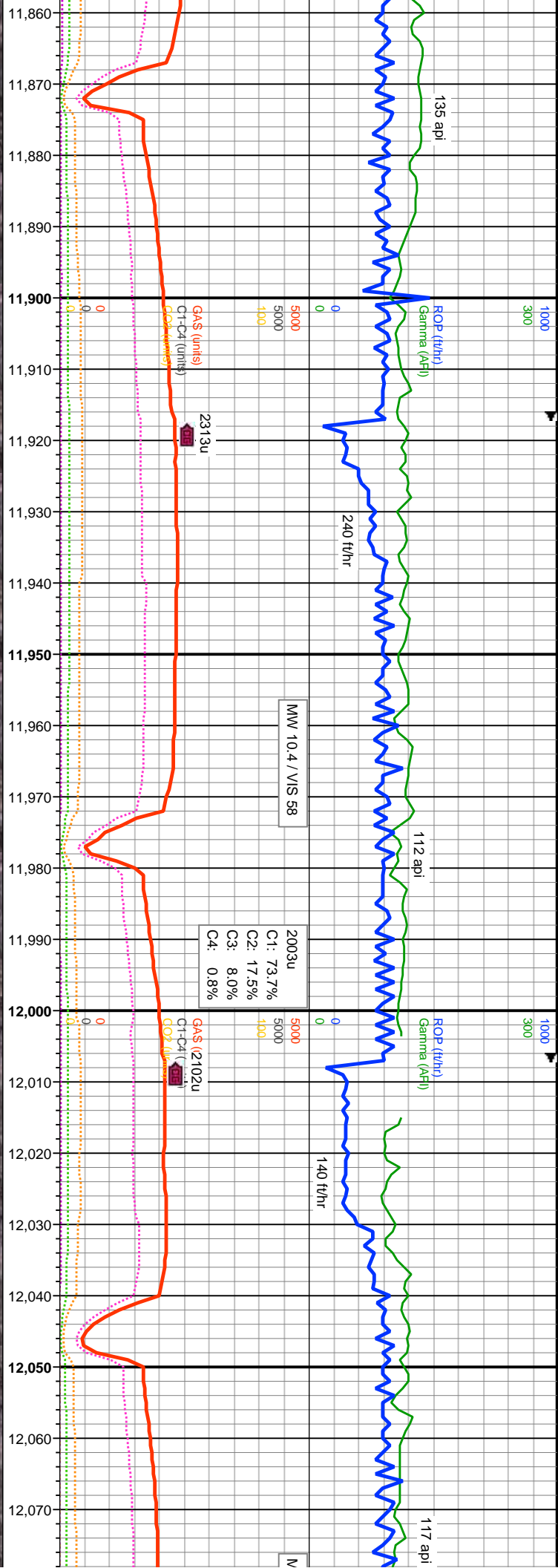






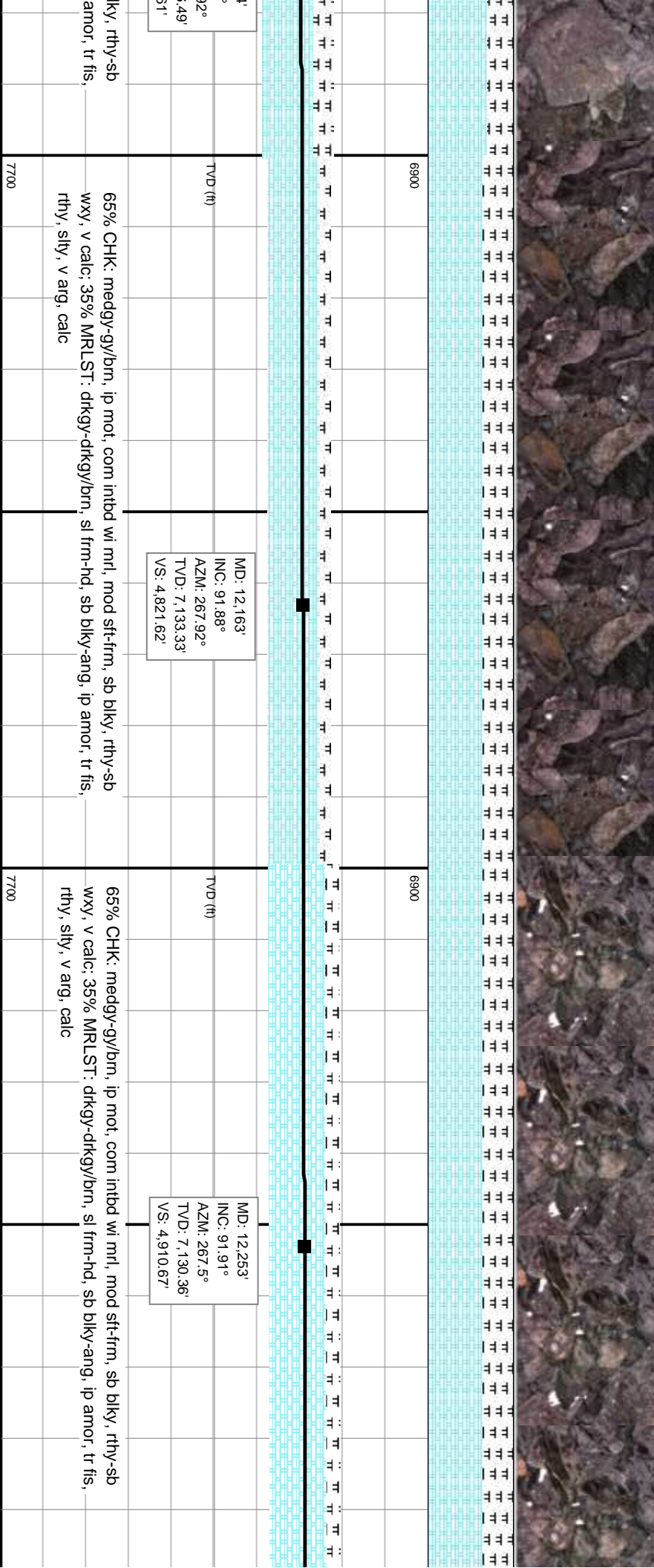
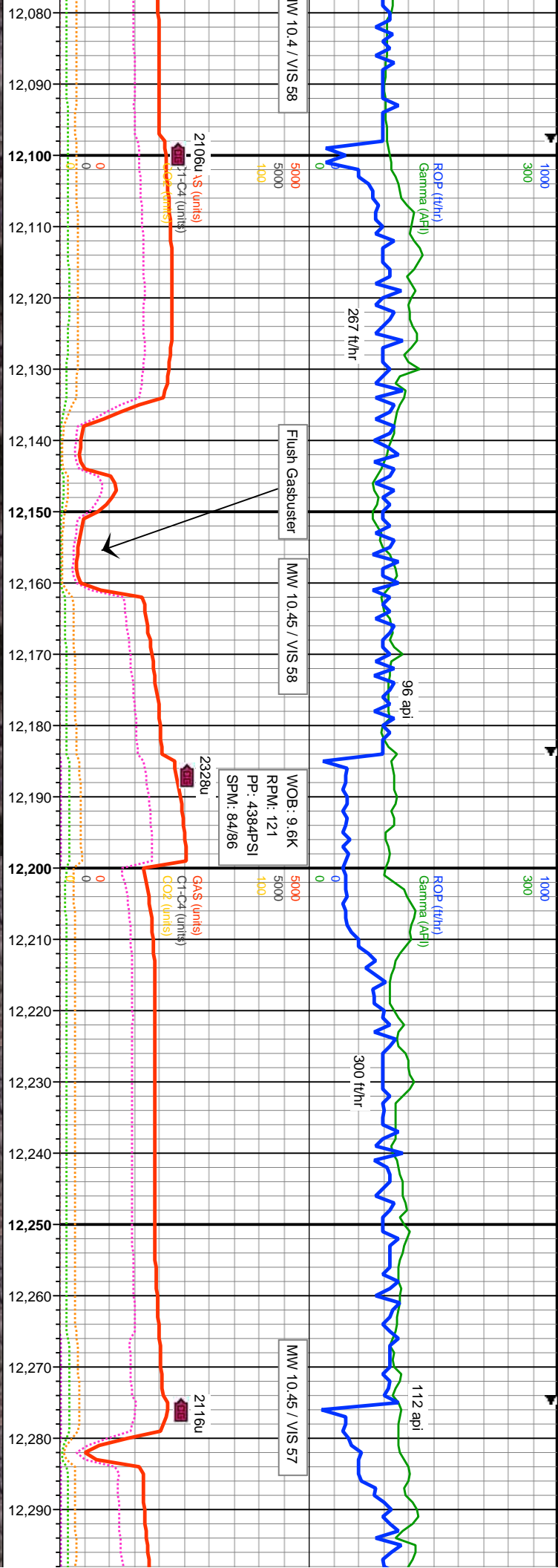




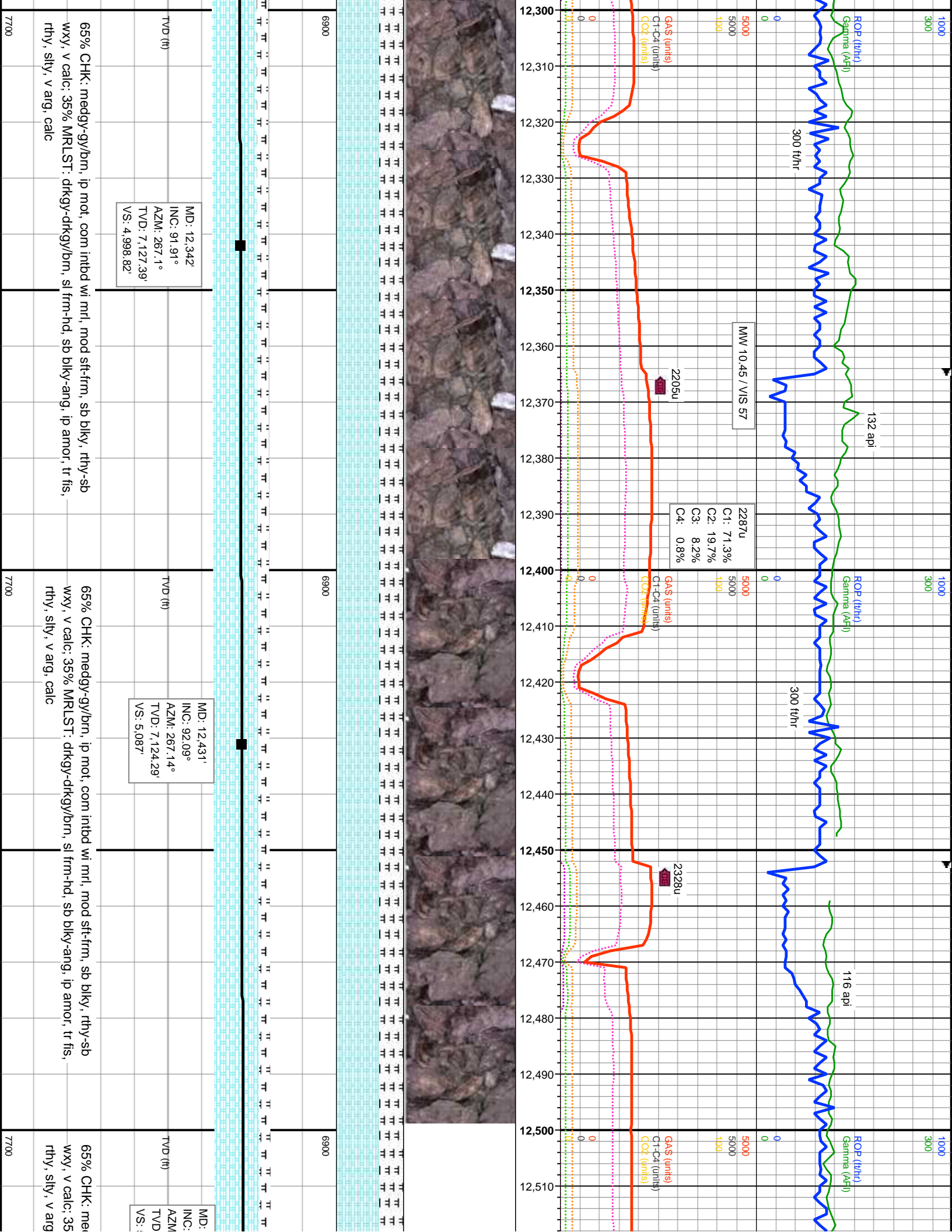


MD: 11,895'		INC: 89.75°		AZM: 269.79°		TVD: 7,138.19'		VS: 4,556.91'	
75% CHK: medgy-gy/brn, ip mot, com intbd wi mrl, mod sft-firm, sb blkly, rthy-sb wxy, v calc: 25% MRLST: drkgy-drkgy/brn, sl frm-hd, sb blkly-ang, ip amor, tr fls, rthy, slty, v arg, calc, v rr inoc fos frags		7700		6900		7700		6900	
MD: 11,984'		INC: 90.12°		AZM: 268.66°		TVD: 7,138.29'		VS: 4,644.66'	
70% CHK: medgy-gy/brn, ip mot, com intbd wi mrl, mod sft-firm, sb blkly-ang, ip wxy, v calc: 30% MRLST: drkgy-drkgy/brn, sl frm-hd, sb blkly-ang, ip rthy, slty, v arg, calc		7700		6900		7700		6900	
MD: 12,074'		INC: 92.18°		AZM: 267.5°		TVD: 7,136'		VS: 4,733.6'	



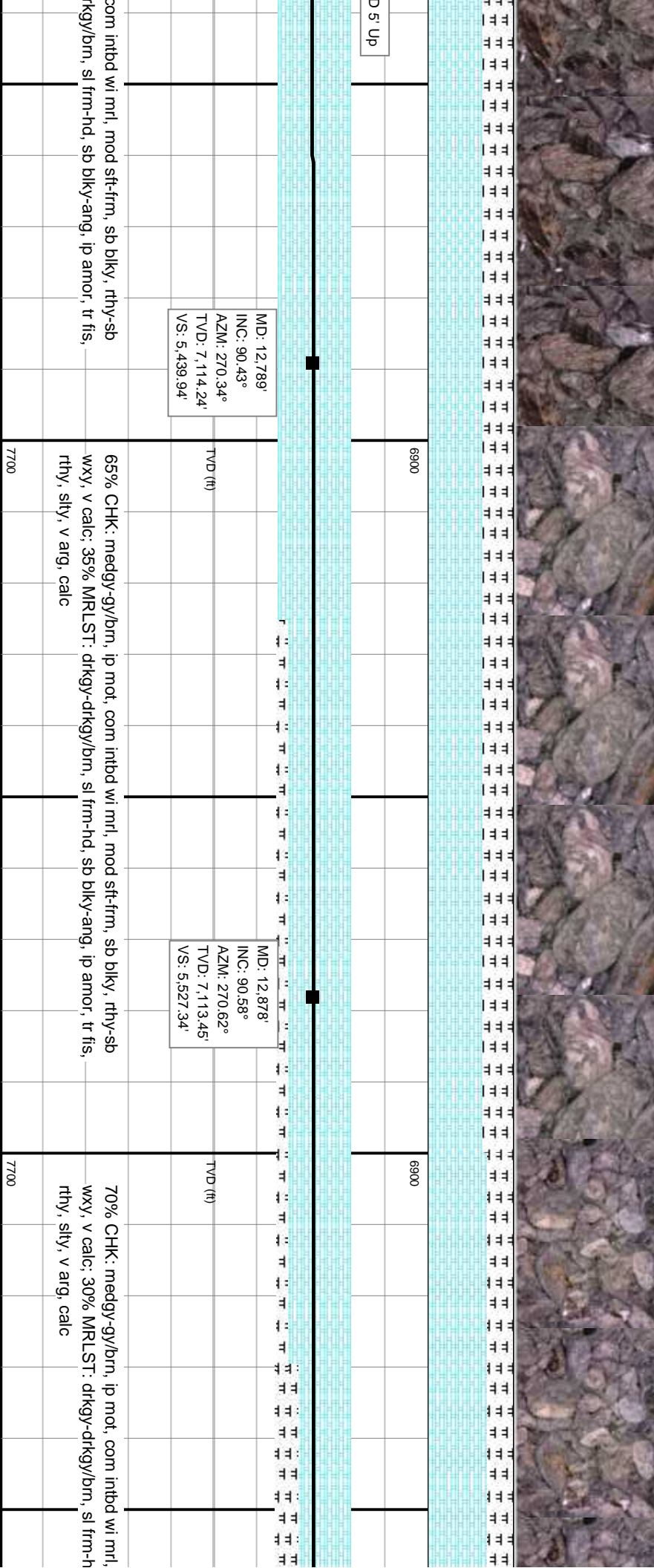
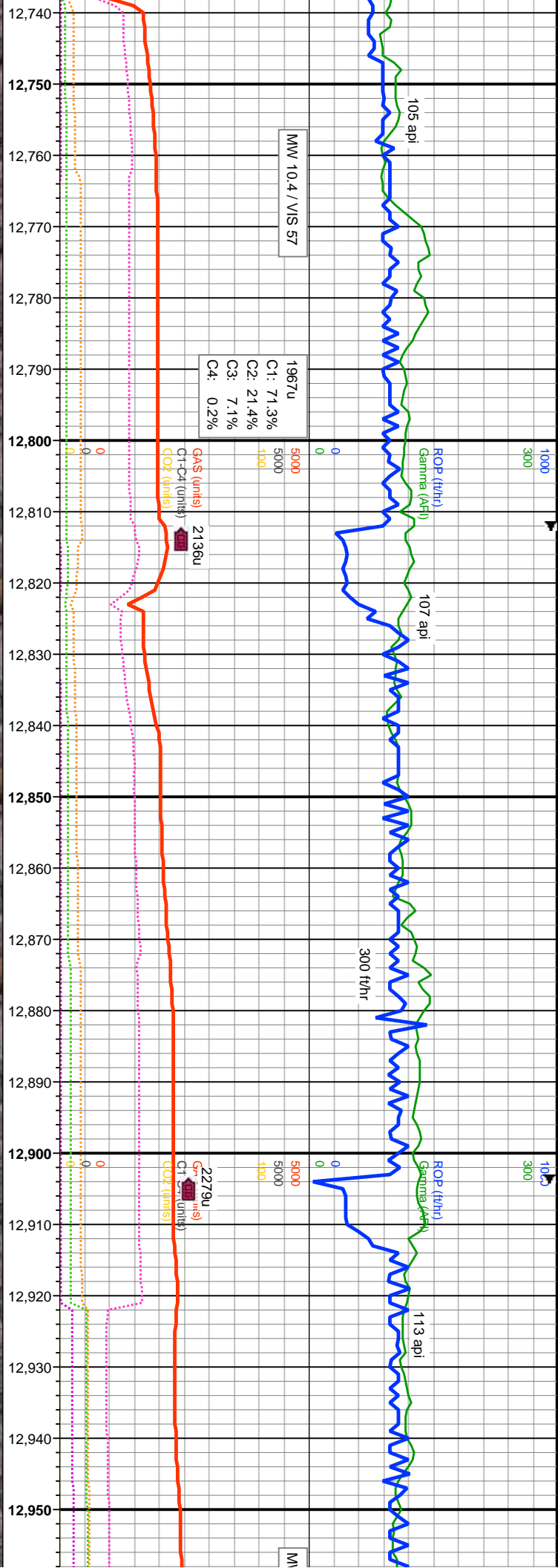






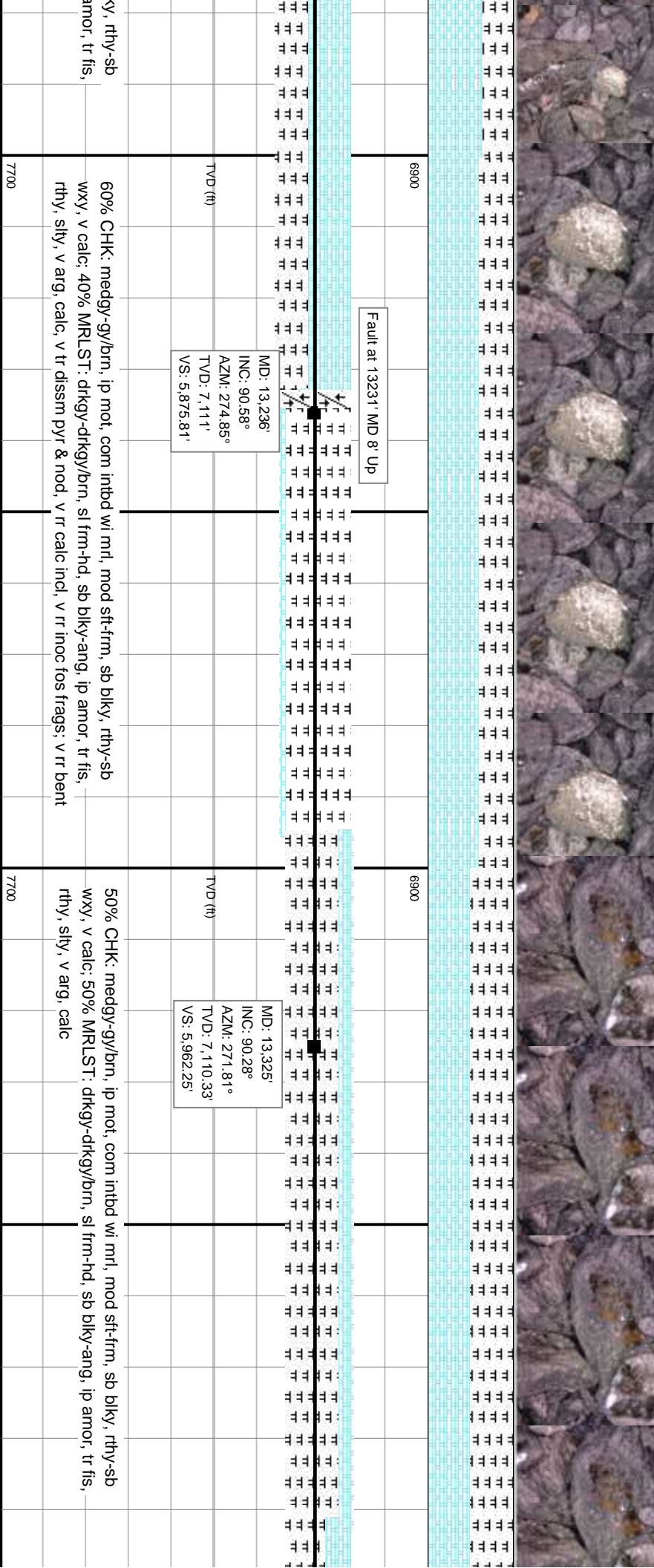
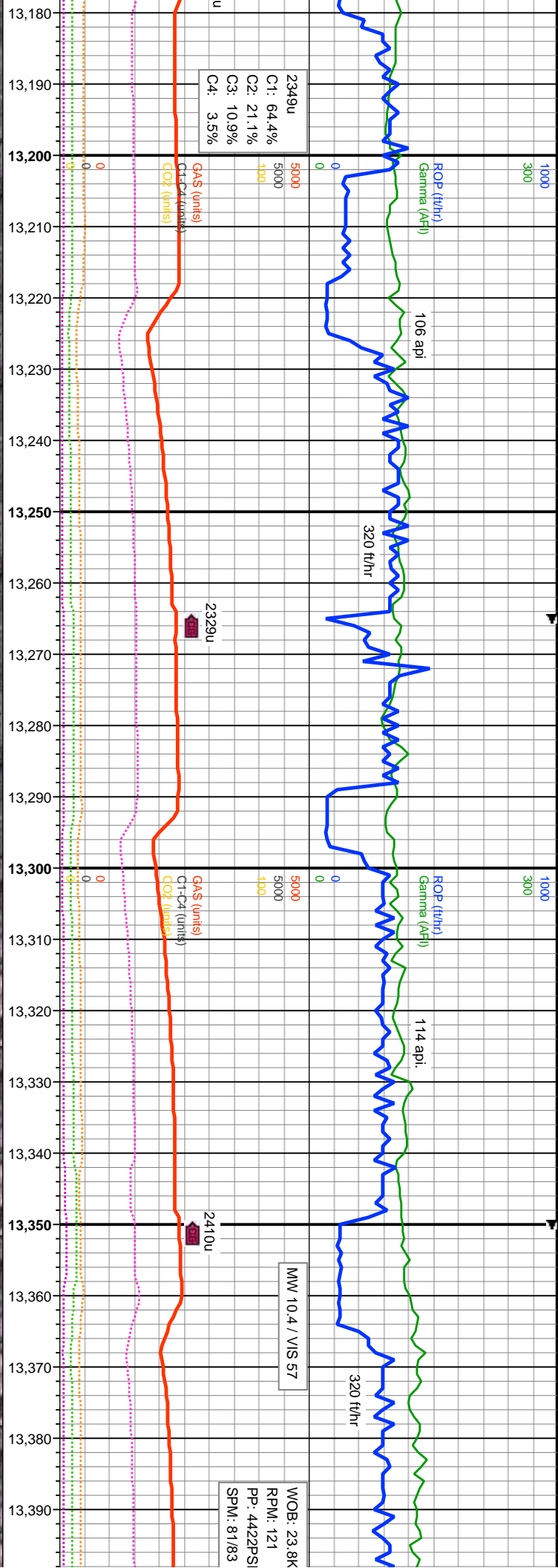






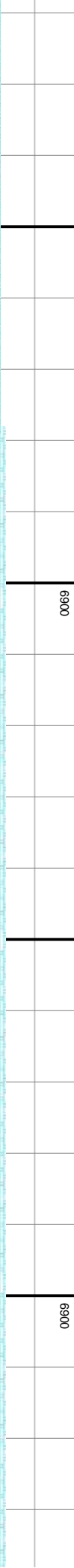
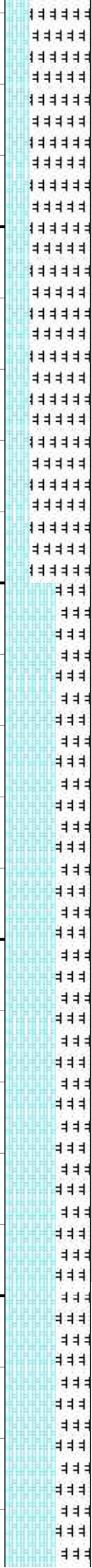
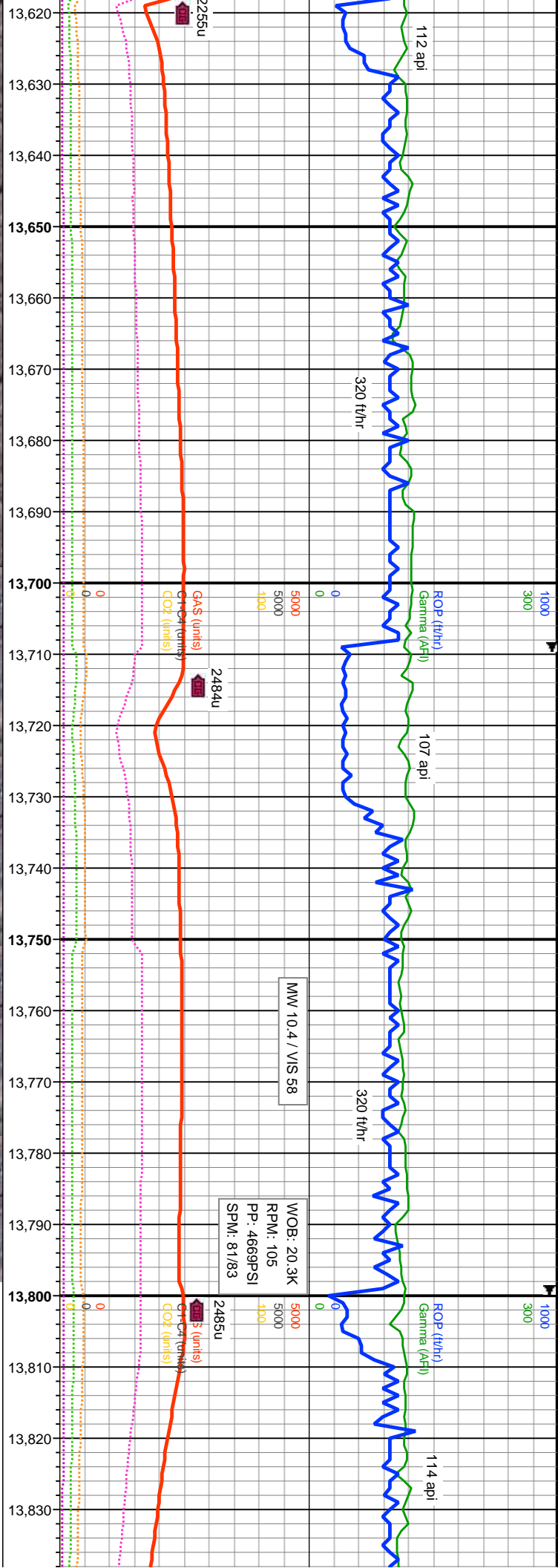












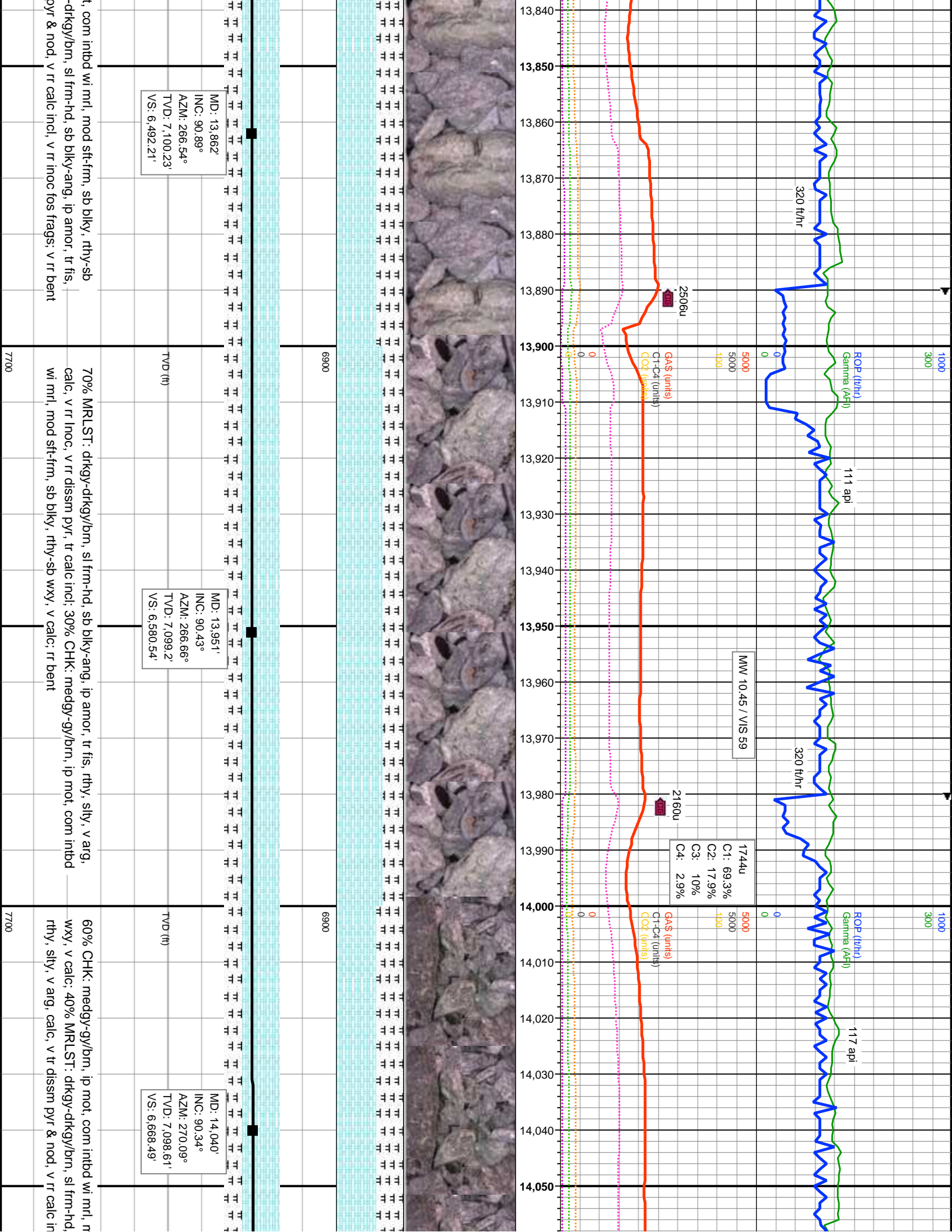
MD: 13.683'  
INC: 91.05°  
AZM: 268.8°  
TVD: 7,103.57'  
VS: 6,315.26'

MD: 13.772'  
INC: 91.17°  
AZM: 268.75°  
TVD: 7,101.85'  
VS: 6,403.11'

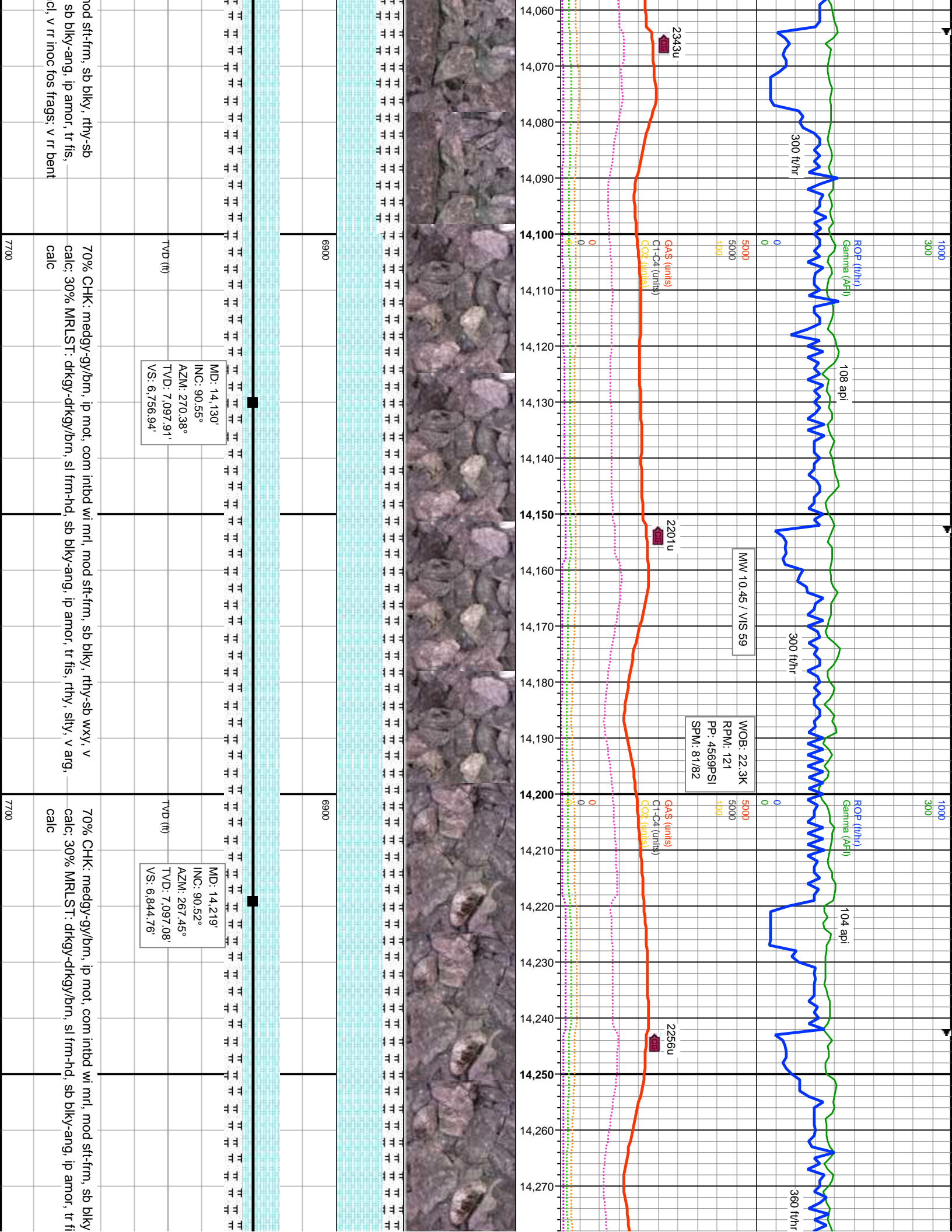
dkgy-dkgy/brn, sl frm-hd, sb blk-ang, ip amor, tr fis, rthy, silty, v arg,  
/ rr dissim pyr, tr calc incl: 30% CHK: medgy-gy/brn, ip mot, com intbd  
frm, sb blk, rthy-sb wxy, v calc, rr bent

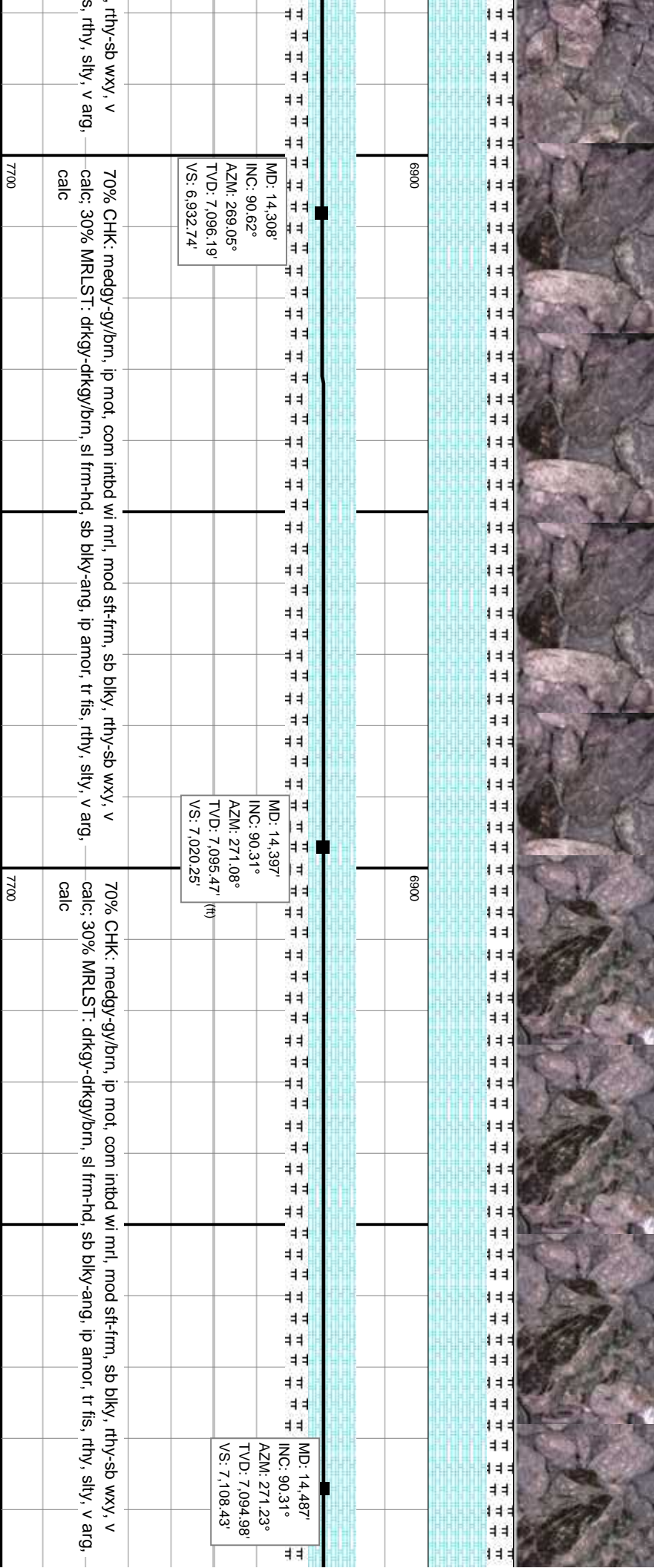
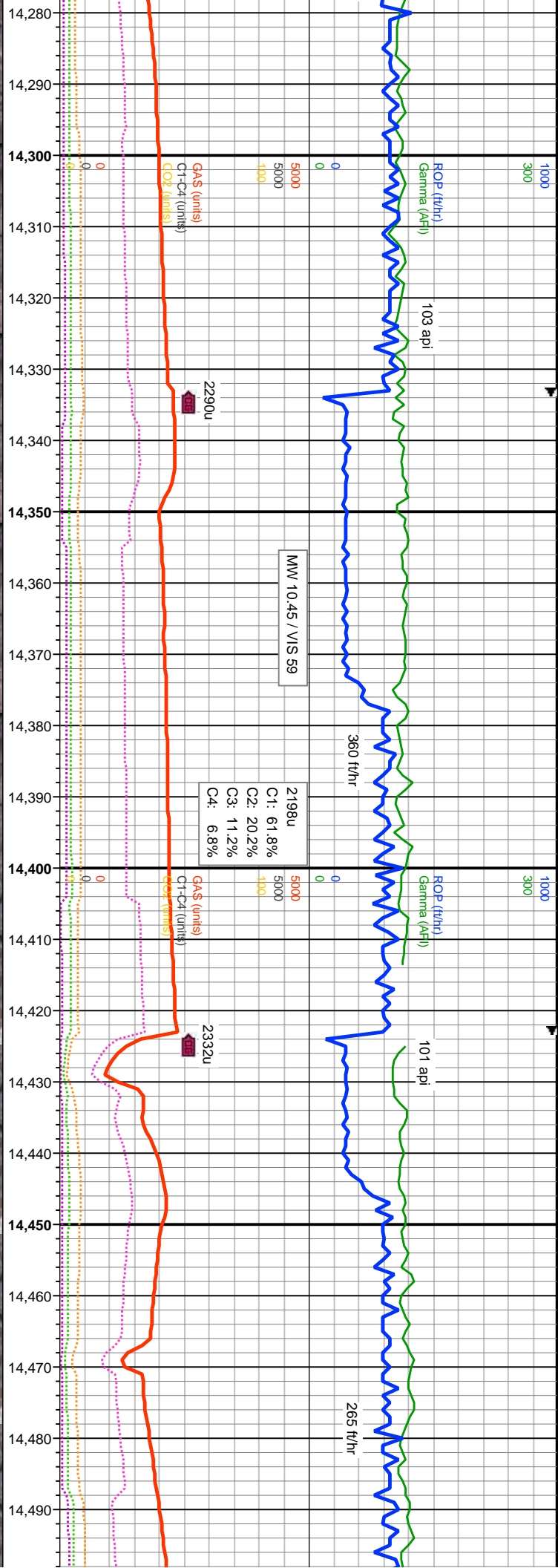
60% CHK: medgy-gy/brn, ip mot, com intbd wi mrl, mod sft-frm, sb blk, rthy-sb  
wxy, v calc, 40% MRLST: dkgy-dkgy/brn, sl frm-hd, sb blk-ang, ip amor, tr fis,  
rthy, silty, v arg, calc, v tr dissim pyr & nod, v rr calc incl, v rr inoc los frags: v rr bent

60% CHK: medgy-gy/brn, ip mo  
wxy, v calc: 40% MRLST: drkgy  
rthy, silty, v arg, calc, v tr dissim

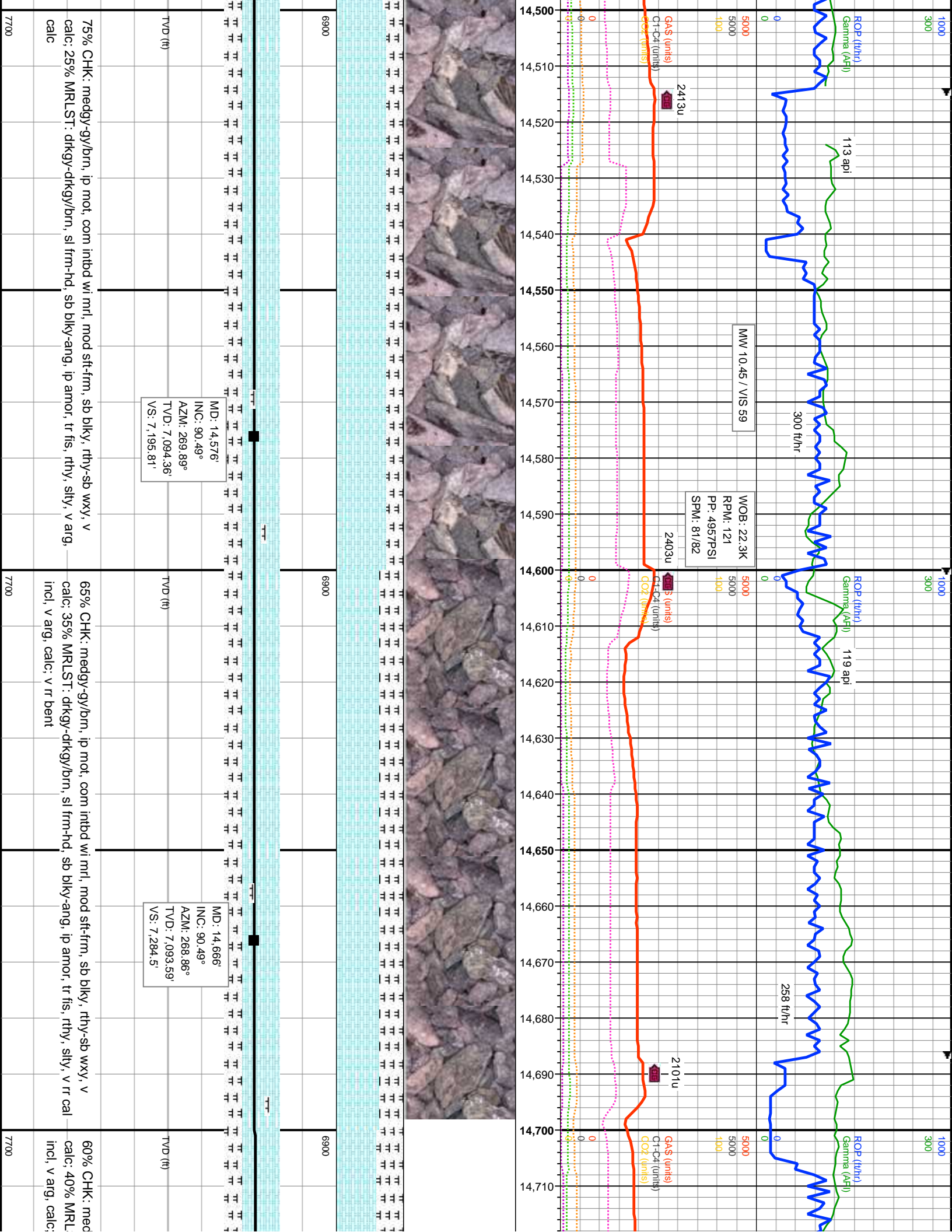


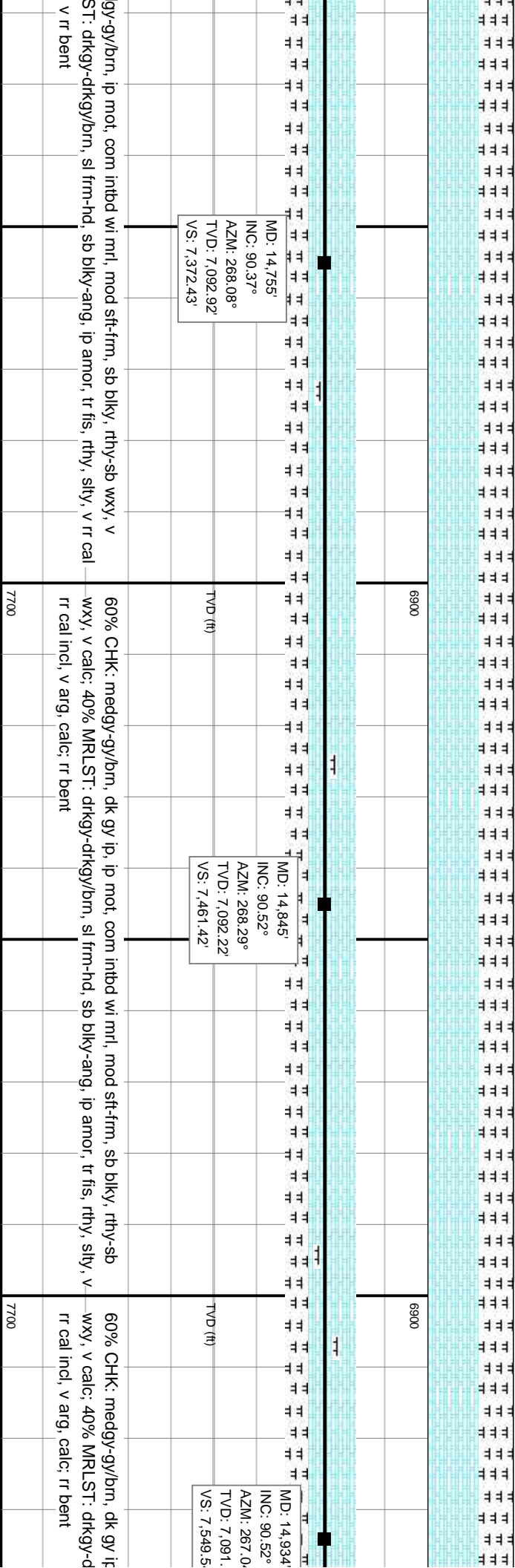
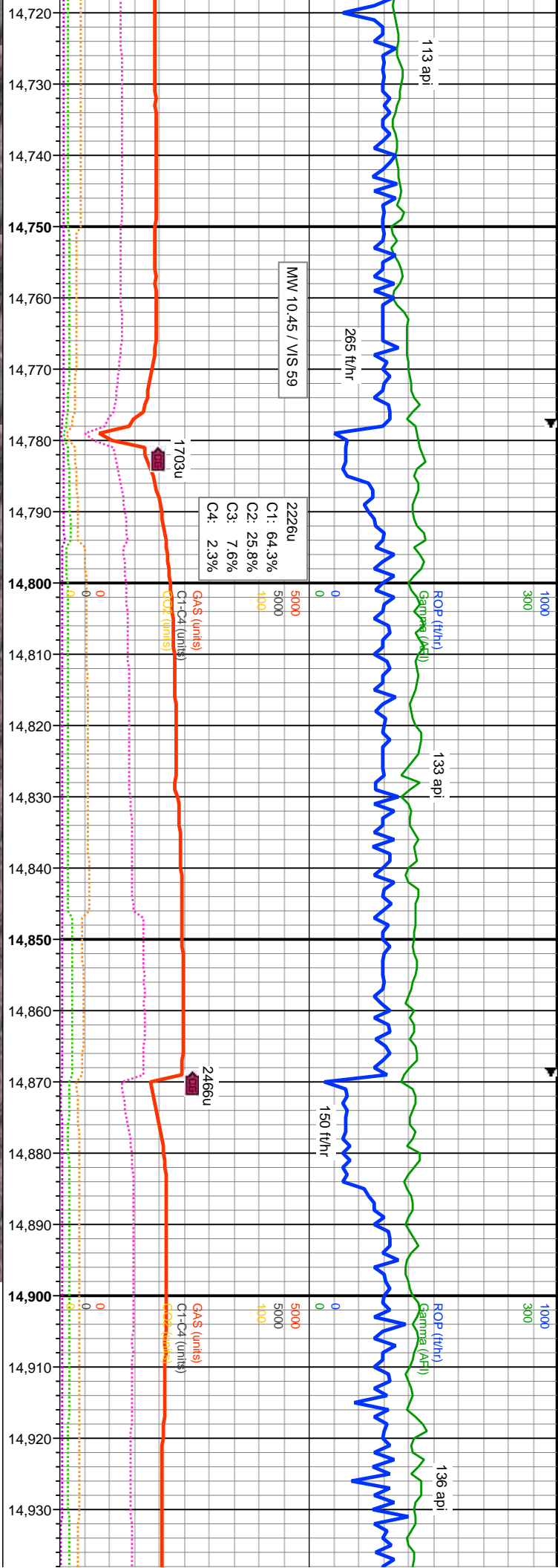




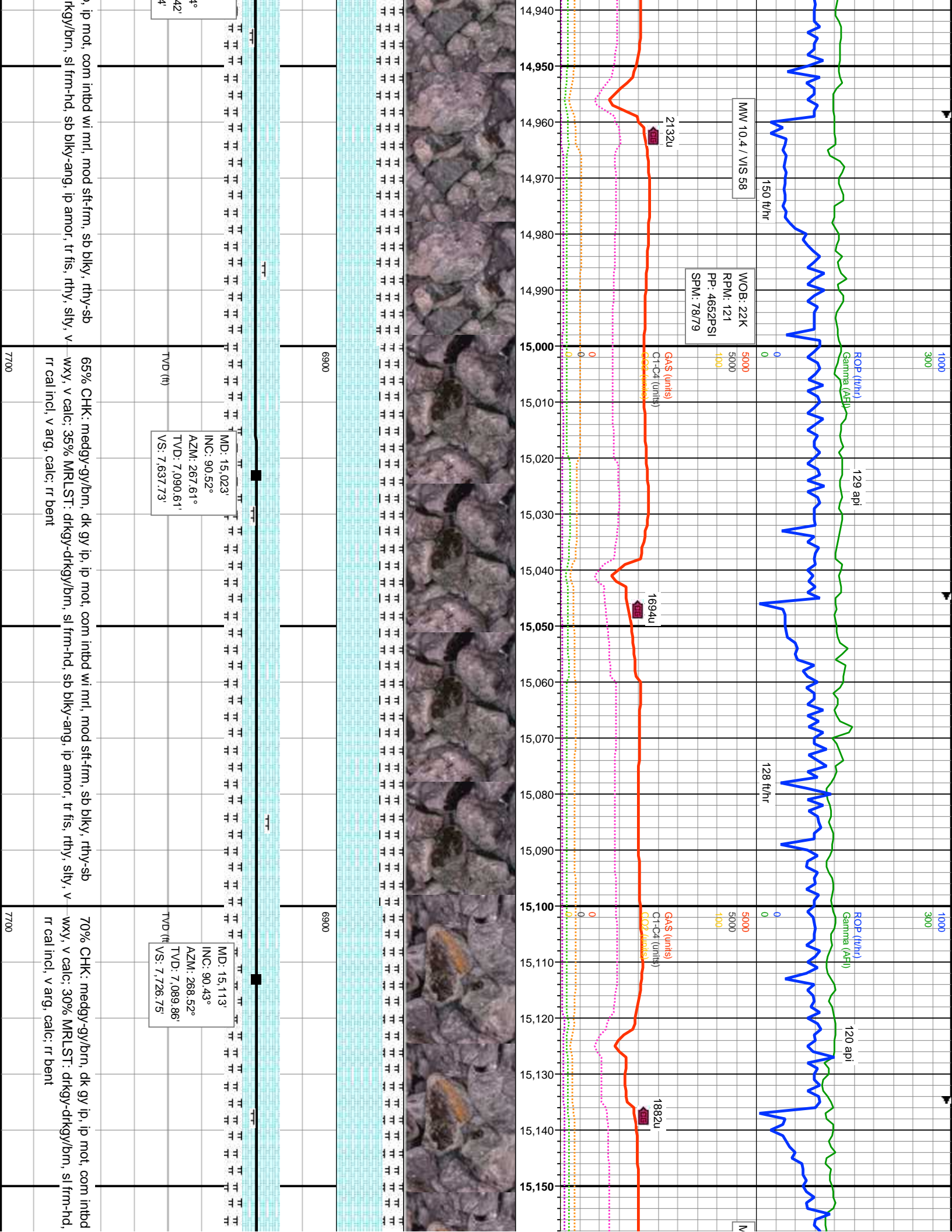


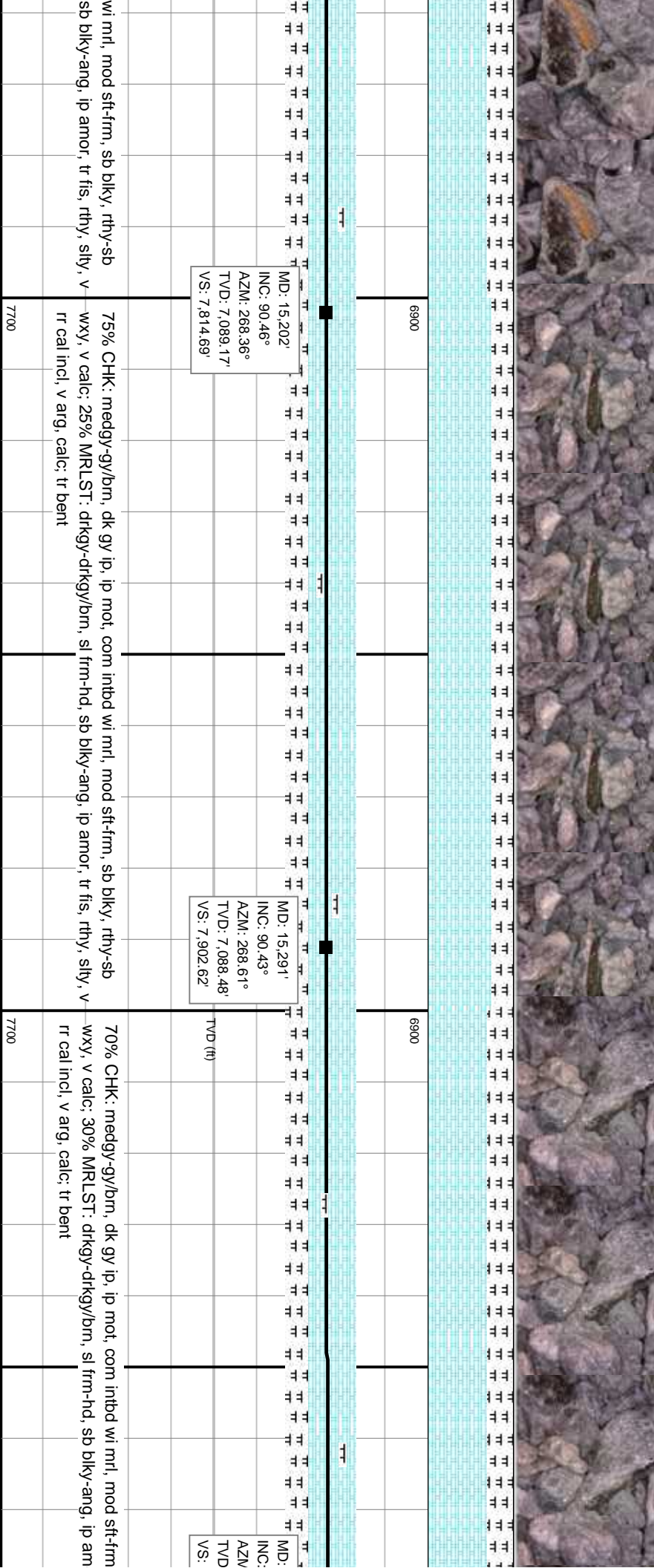
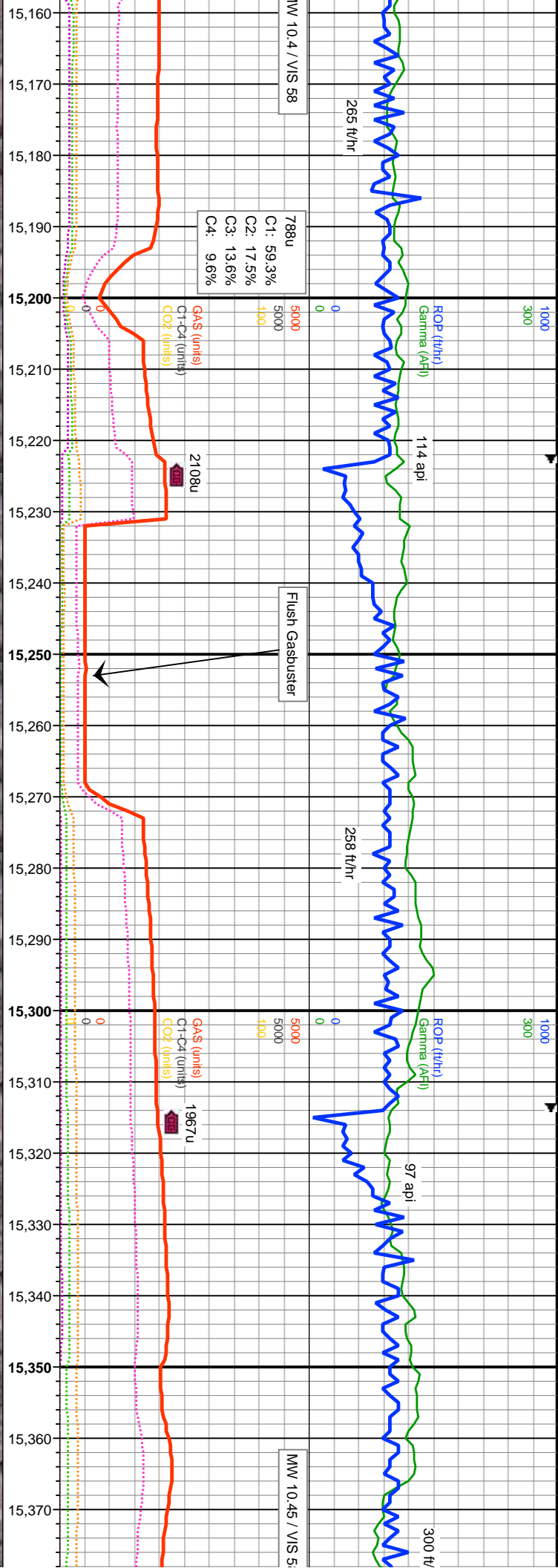




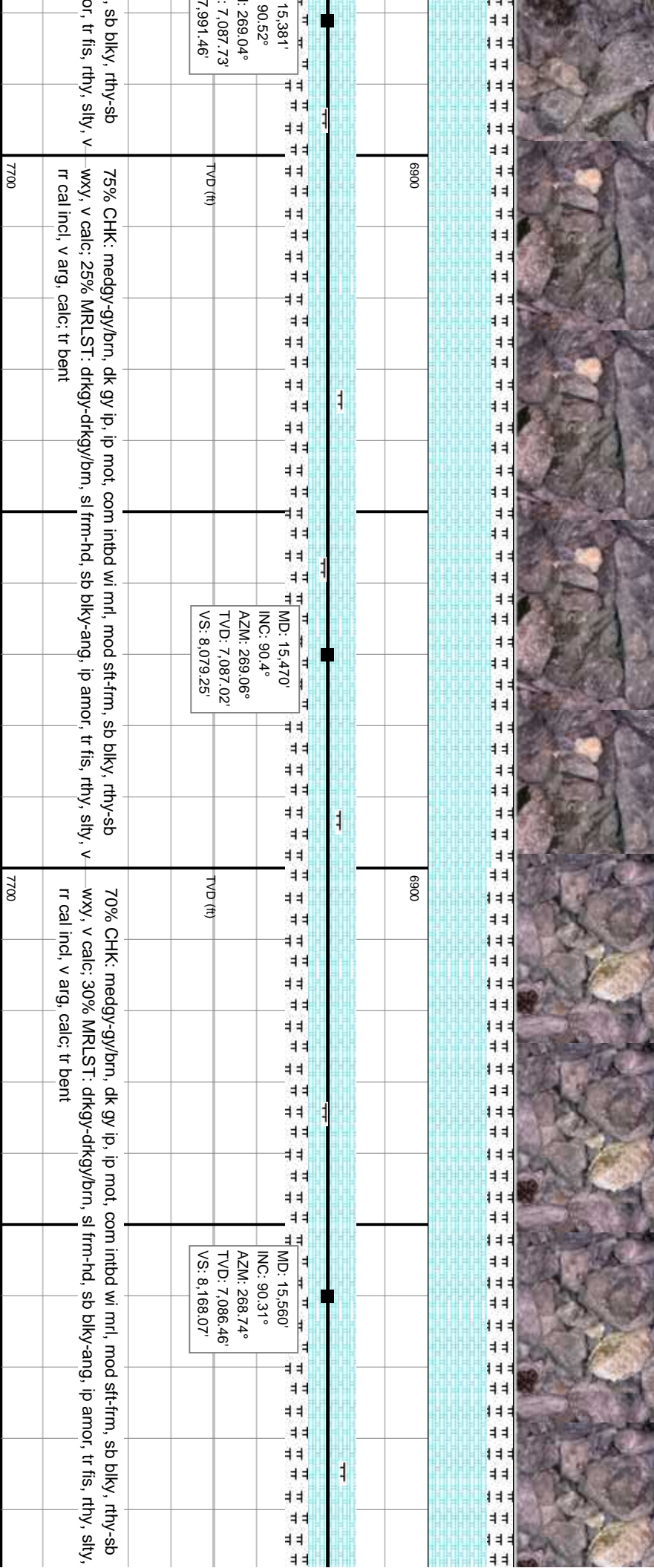
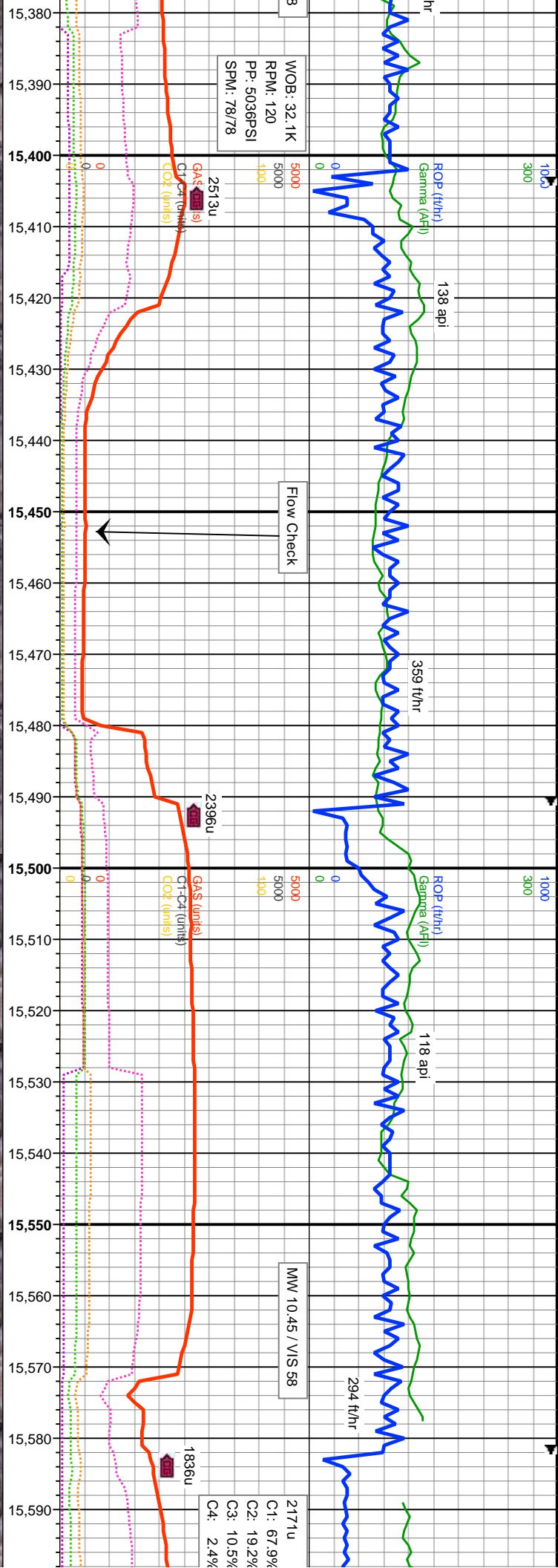


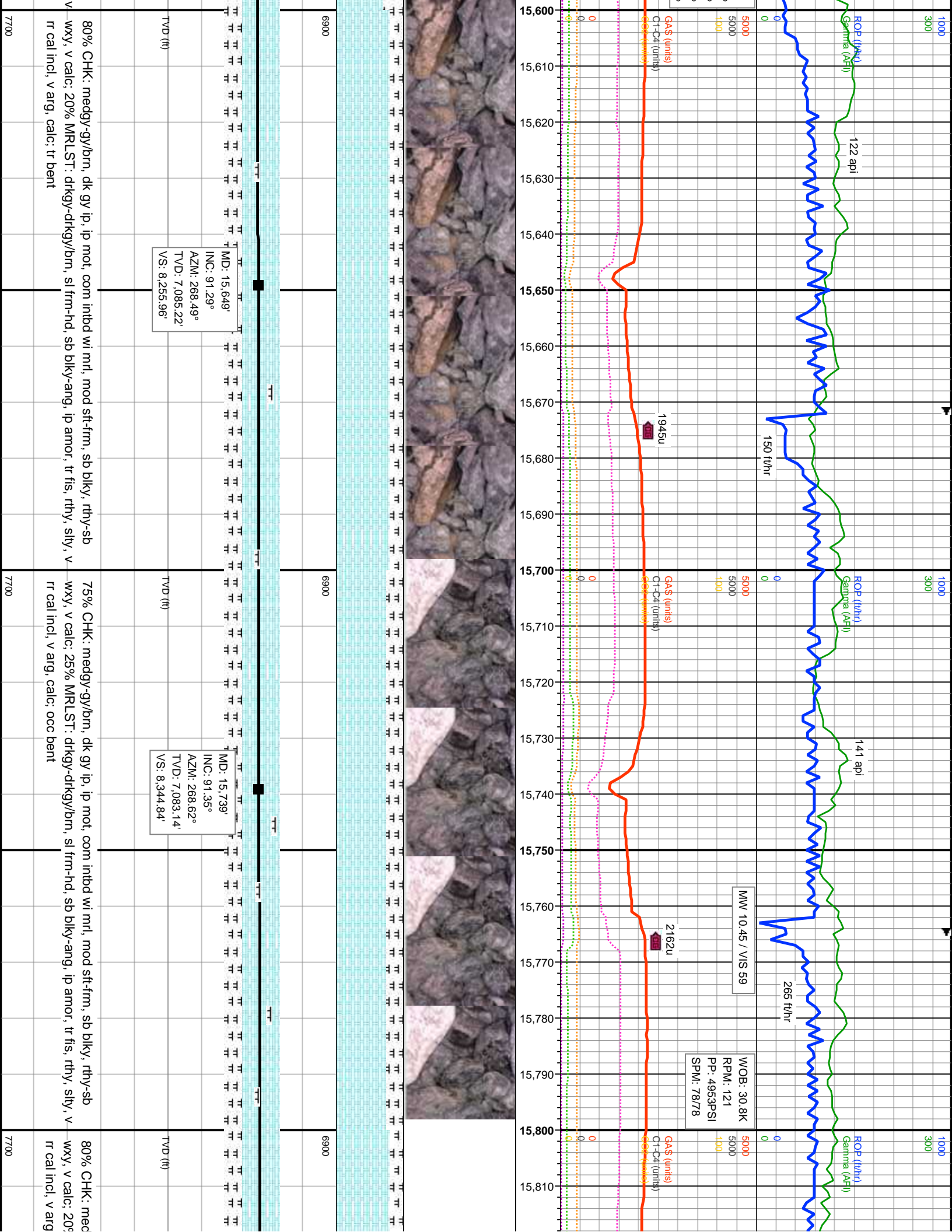




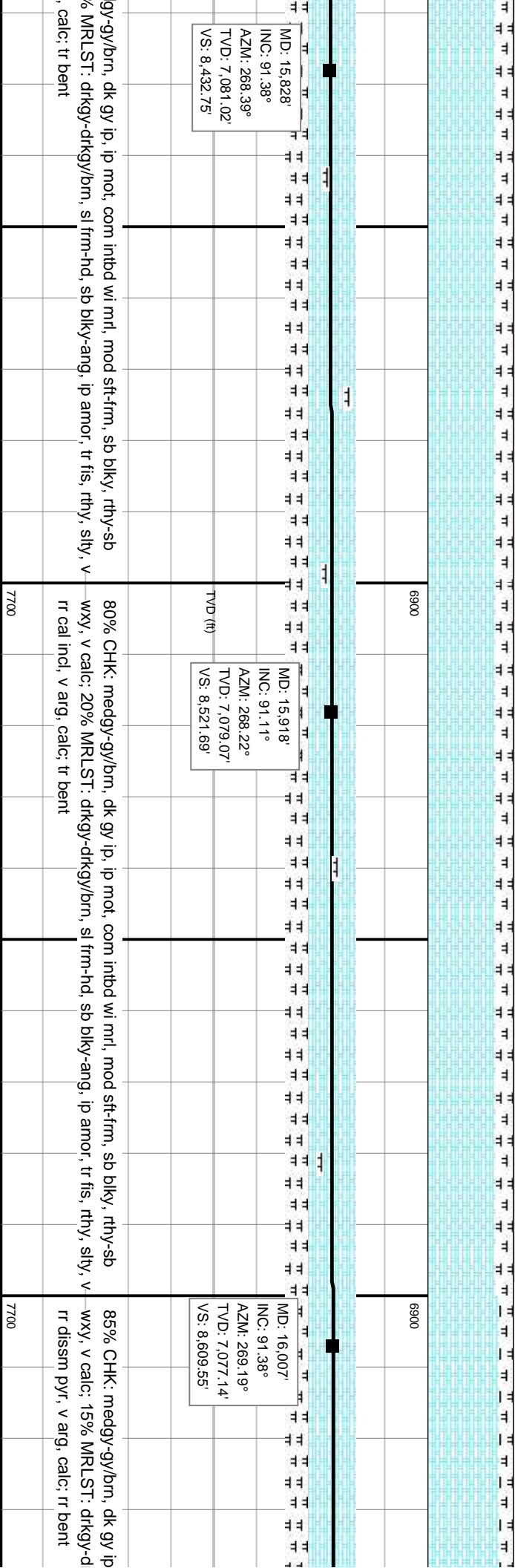
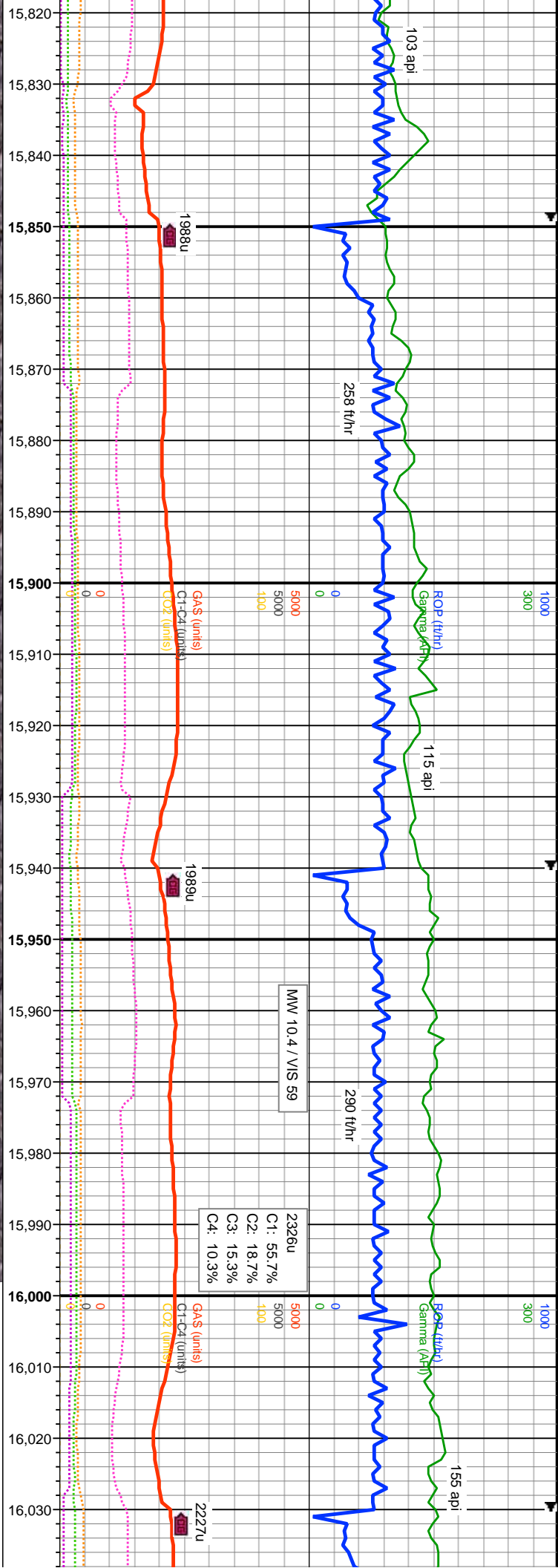


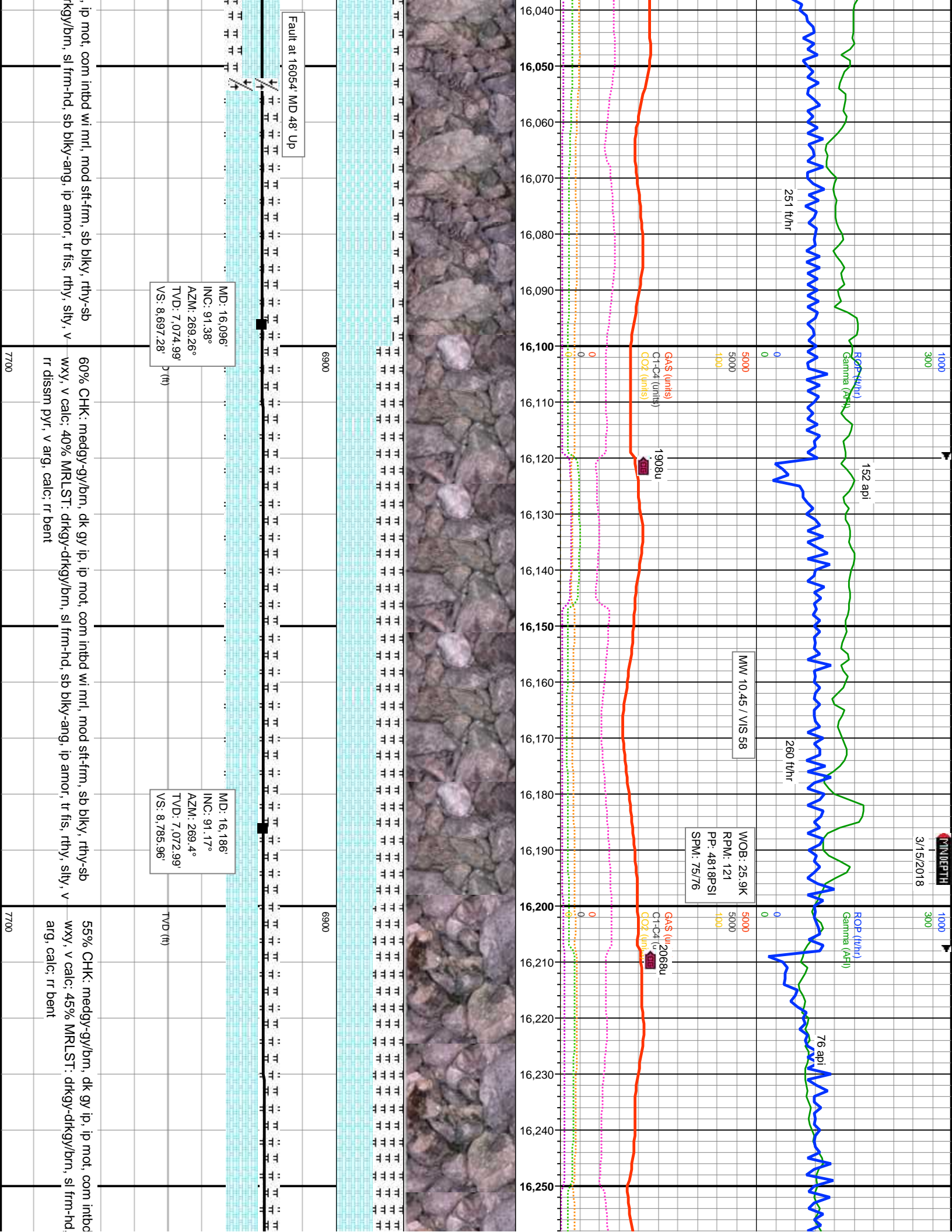




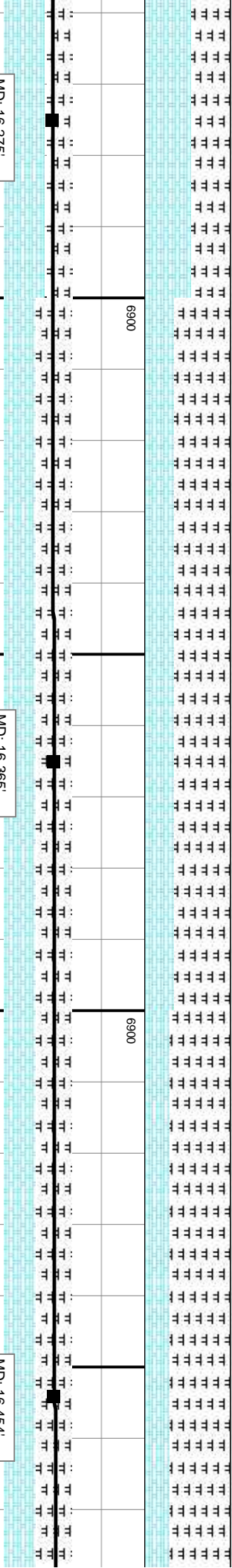
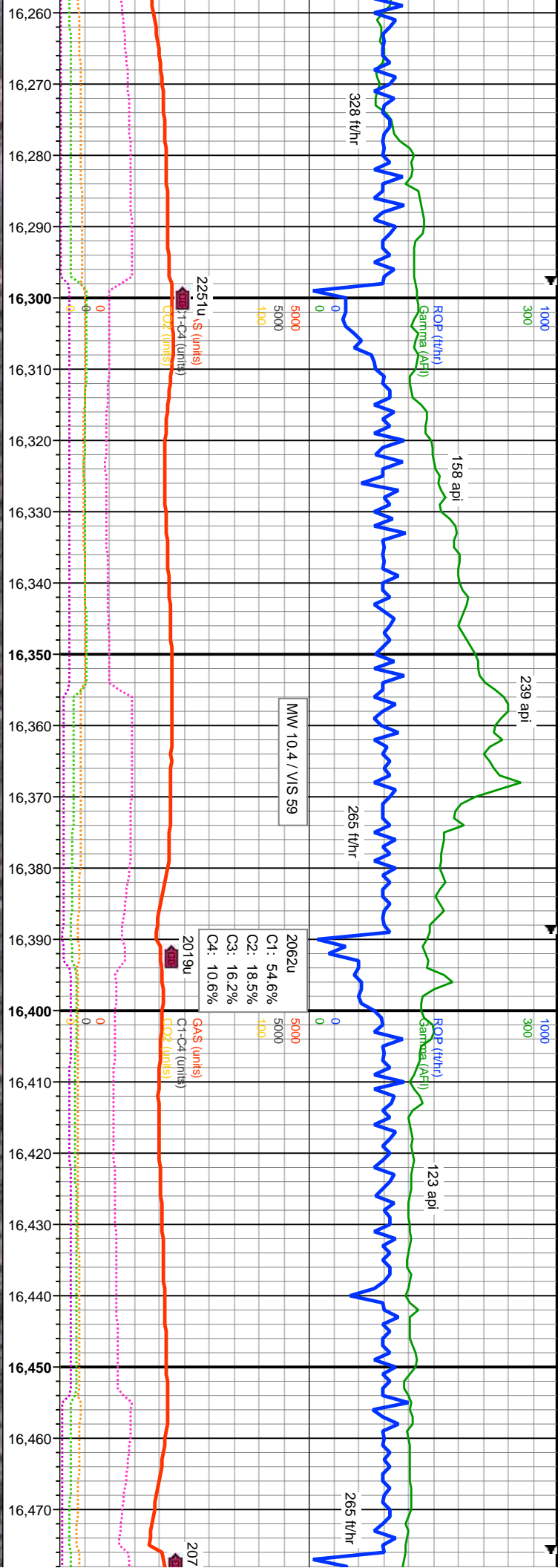












MD: 16,275'  
INC: 91.38°  
AZM: 269.99°  
TVD: 7,071.01'  
VS: 8,873.56'

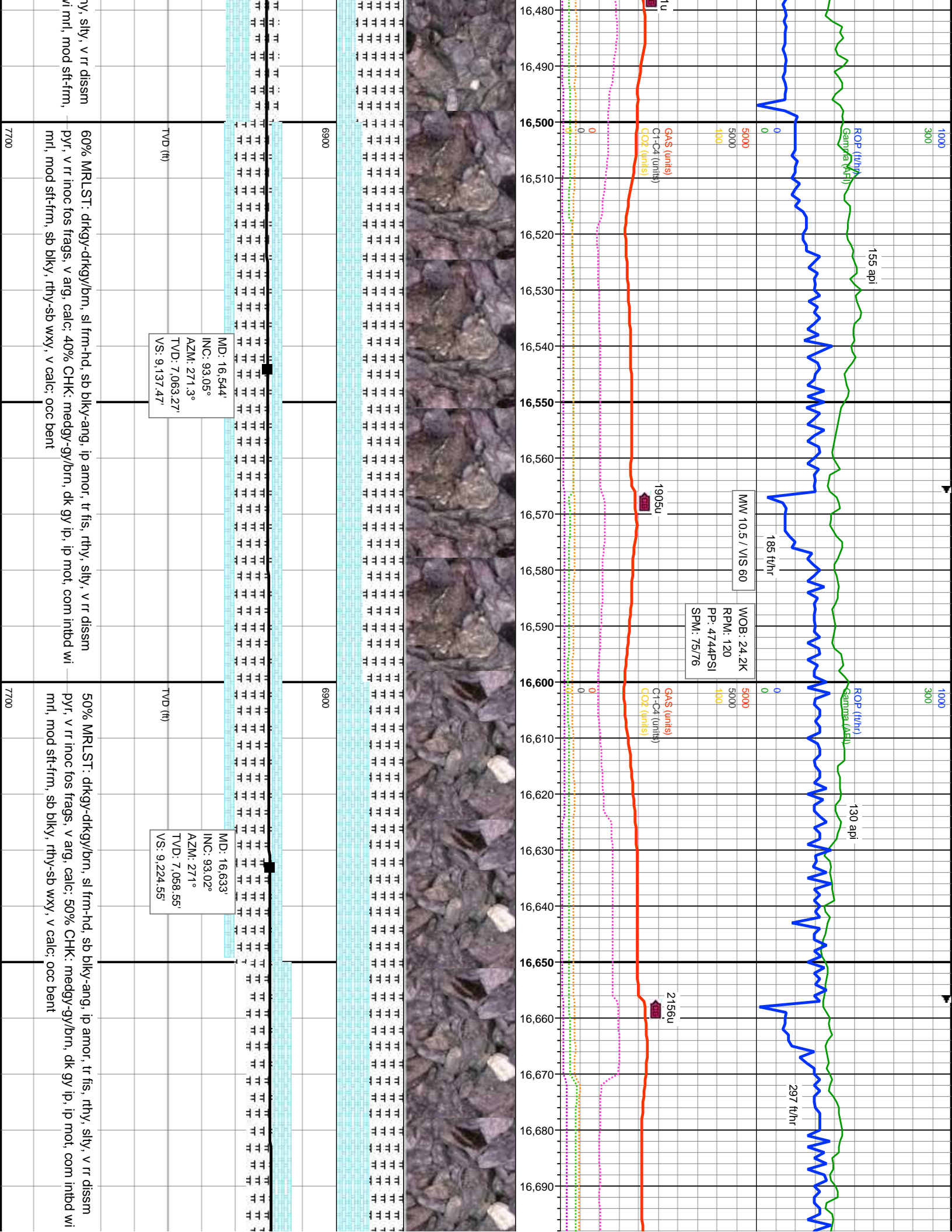
MD: 16,365'  
INC: 91.38°  
AZM: 270.24°  
TVD: 7,068.84'  
VS: 8,962.03'

MD: 16,454'  
INC: 91.35°  
AZM: 271.04°  
TVD: 7,066.72'  
VS: 9,049.36'

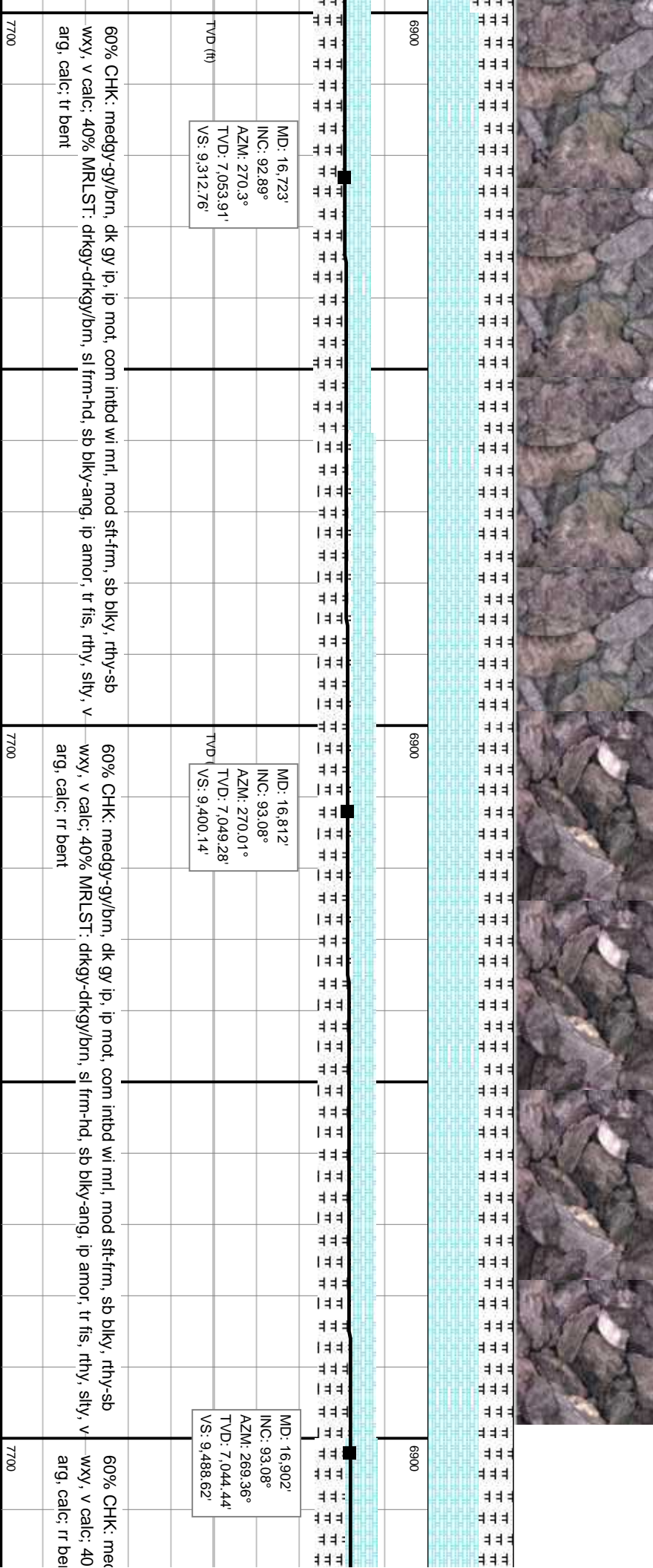
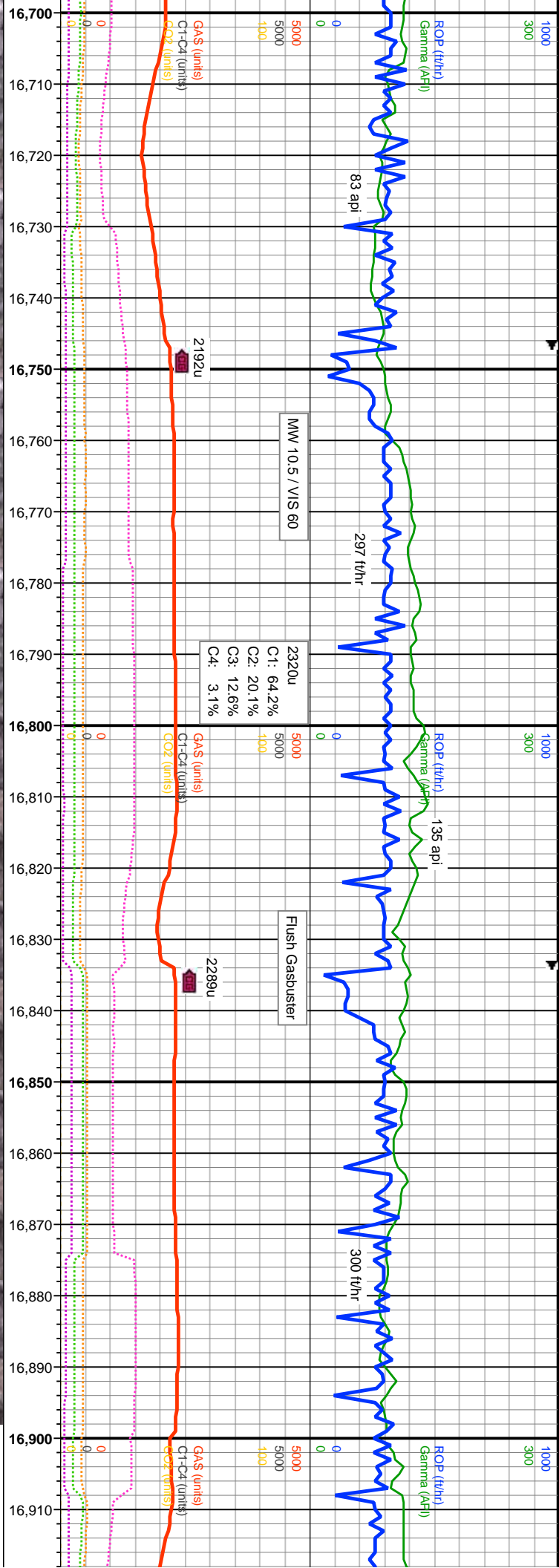
wi mrl, mod sft-fm, sb blk, rthy-sb  
pyr, v arg, calc: 35% CHK: medgy-gy/brn, dk gy ip, ip mot, com intbd wi mrl, mod sft-fm,  
sb blk, rthy-sb wxy, v calc: occ bent

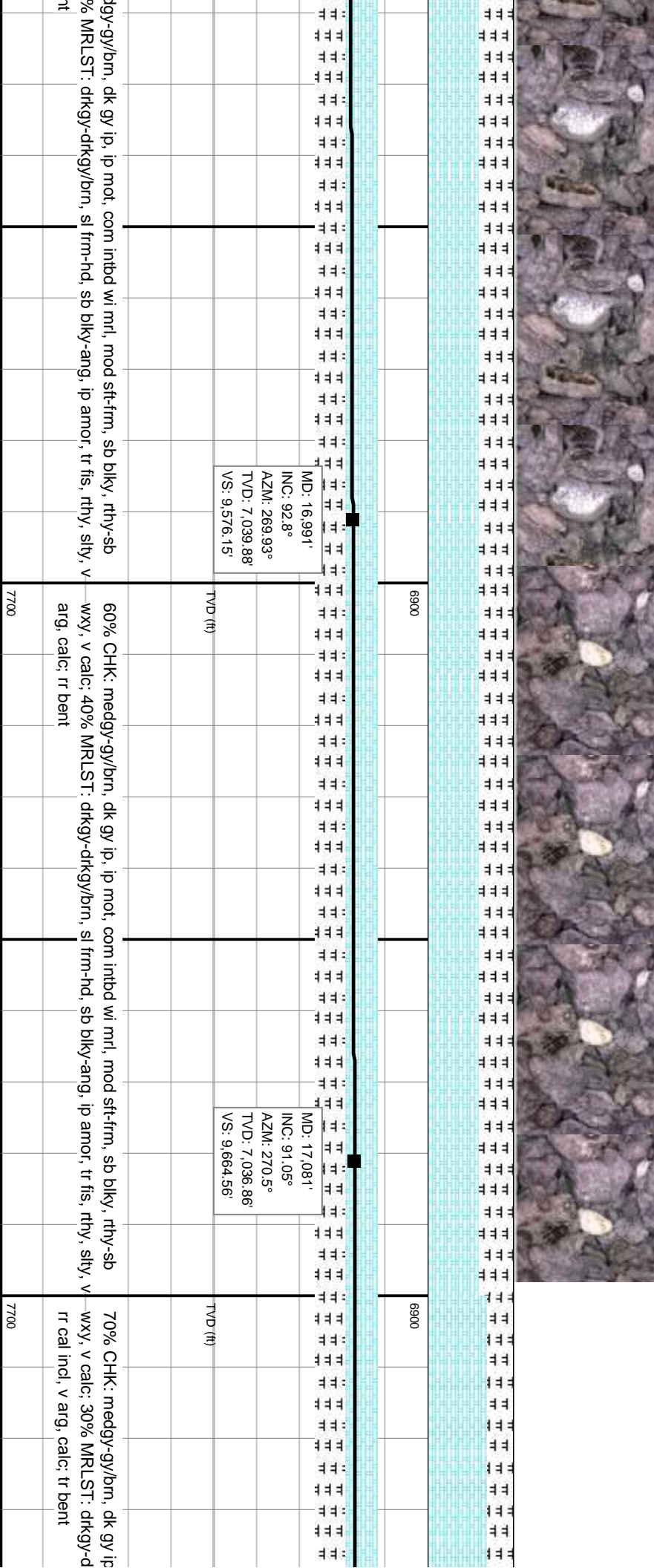
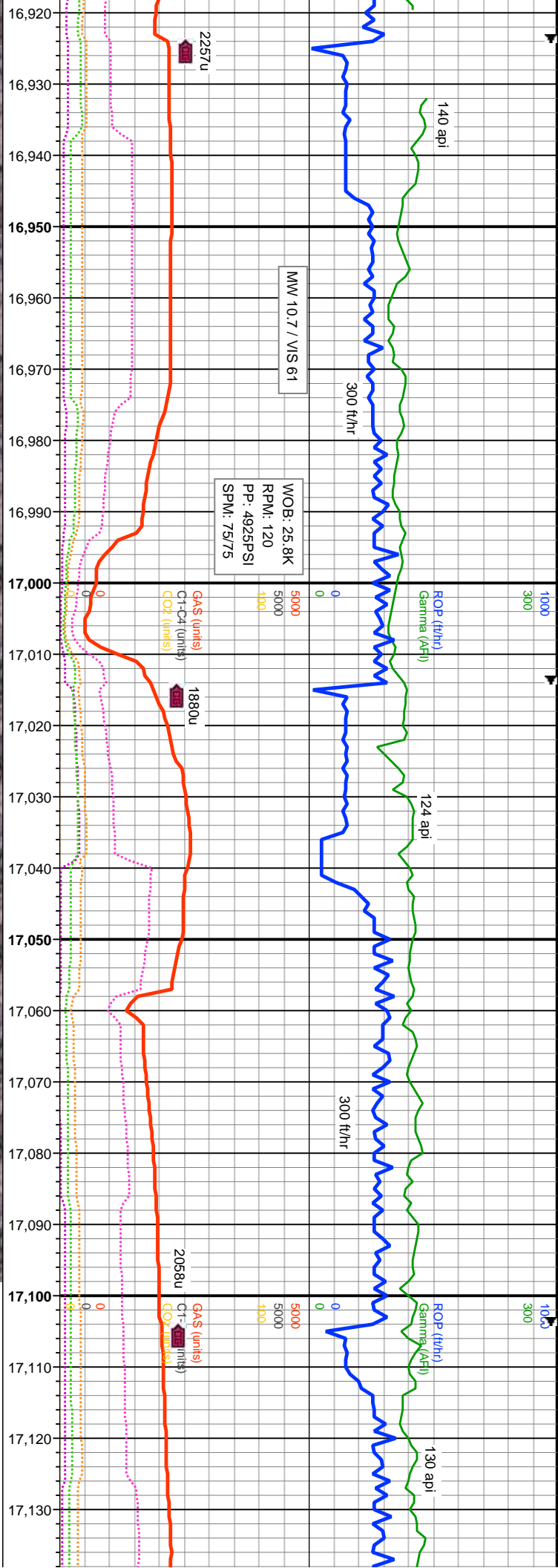
65% MRLST: drkg-dkgy/brn, sl frm-hd, sb blk-ang, ip amor, tr fis, rthy, silty, v rr dissm  
pyr, v arg, calc: 35% CHK: medgy-gy/brn, dk gy ip, ip mot, com intbd wi mrl, mod sft-fm,  
sb blk, rthy-sb wxy, v calc: occ bent

70% MRLST: drkg-dkgy/bm, sl frm-hd, sb blk-ang, ip amor, tr fis, rth  
pyr, v arg, calc: 30% CHK: medgy-gy/brn, dk gy ip, ip mot, com intbd v  
sb blk, rthy-sb wxy, v calc: occ bent

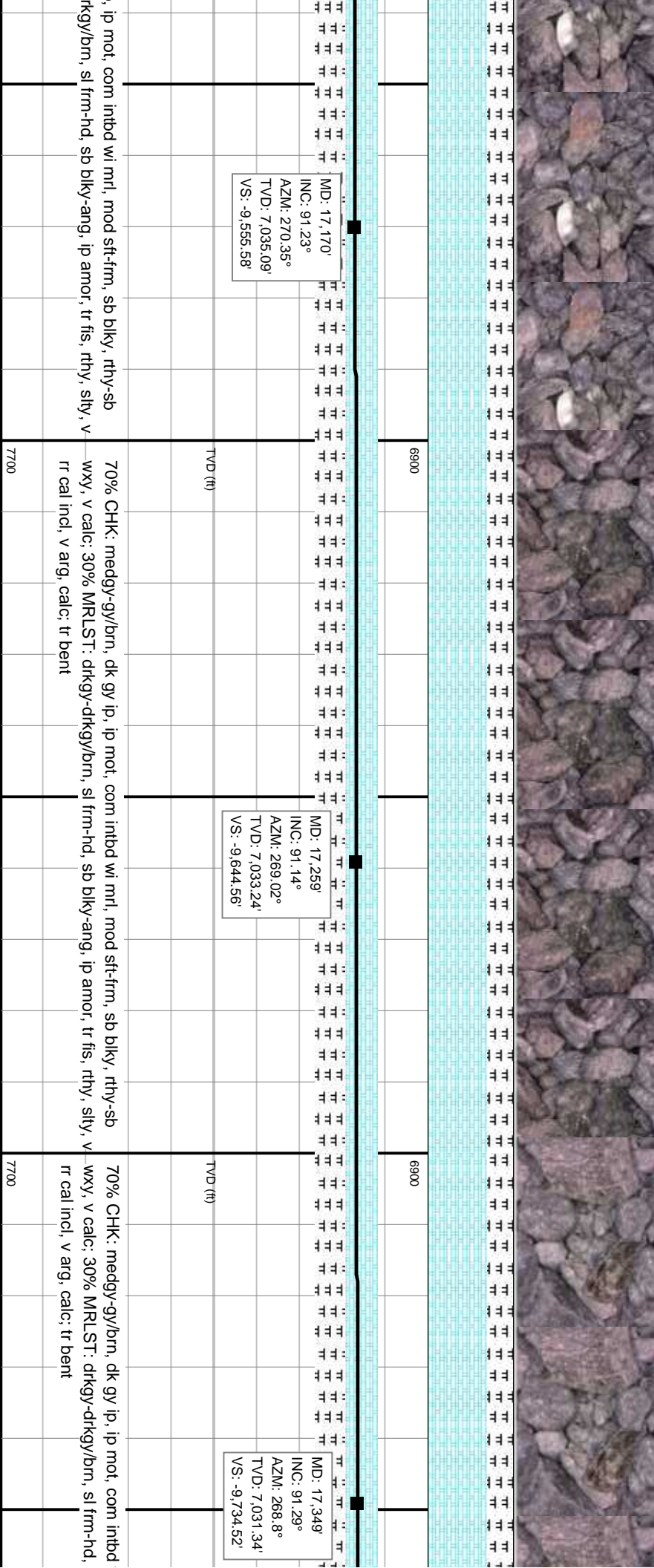
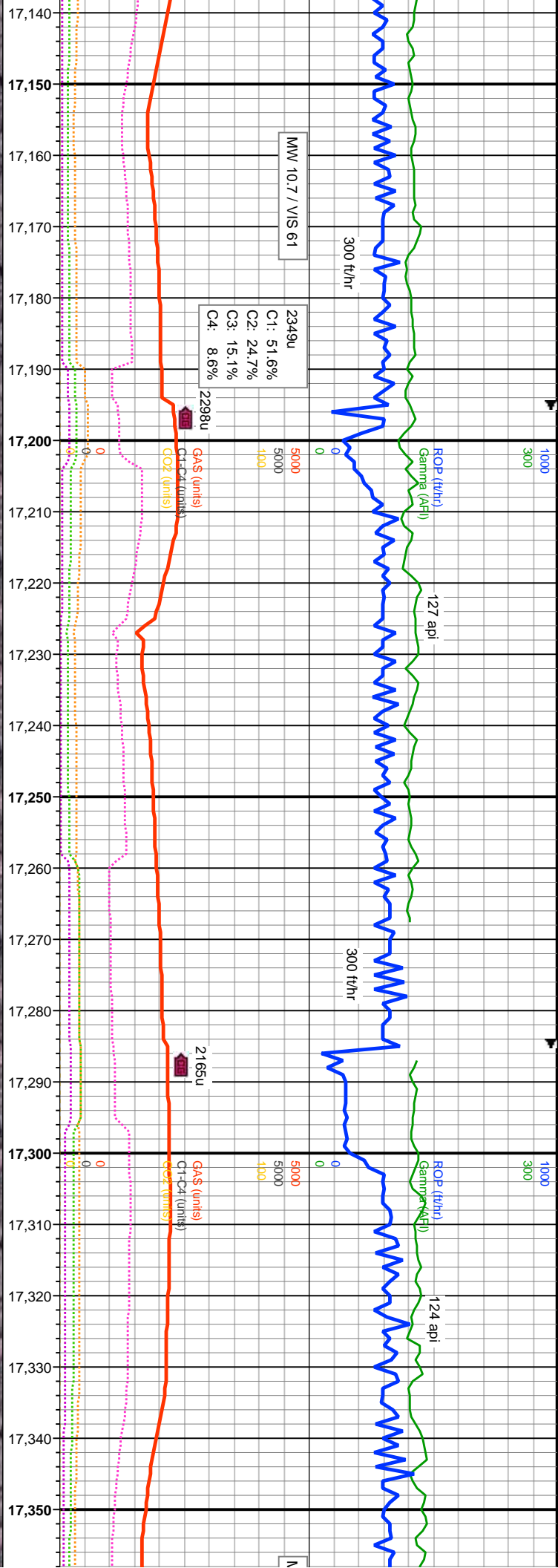


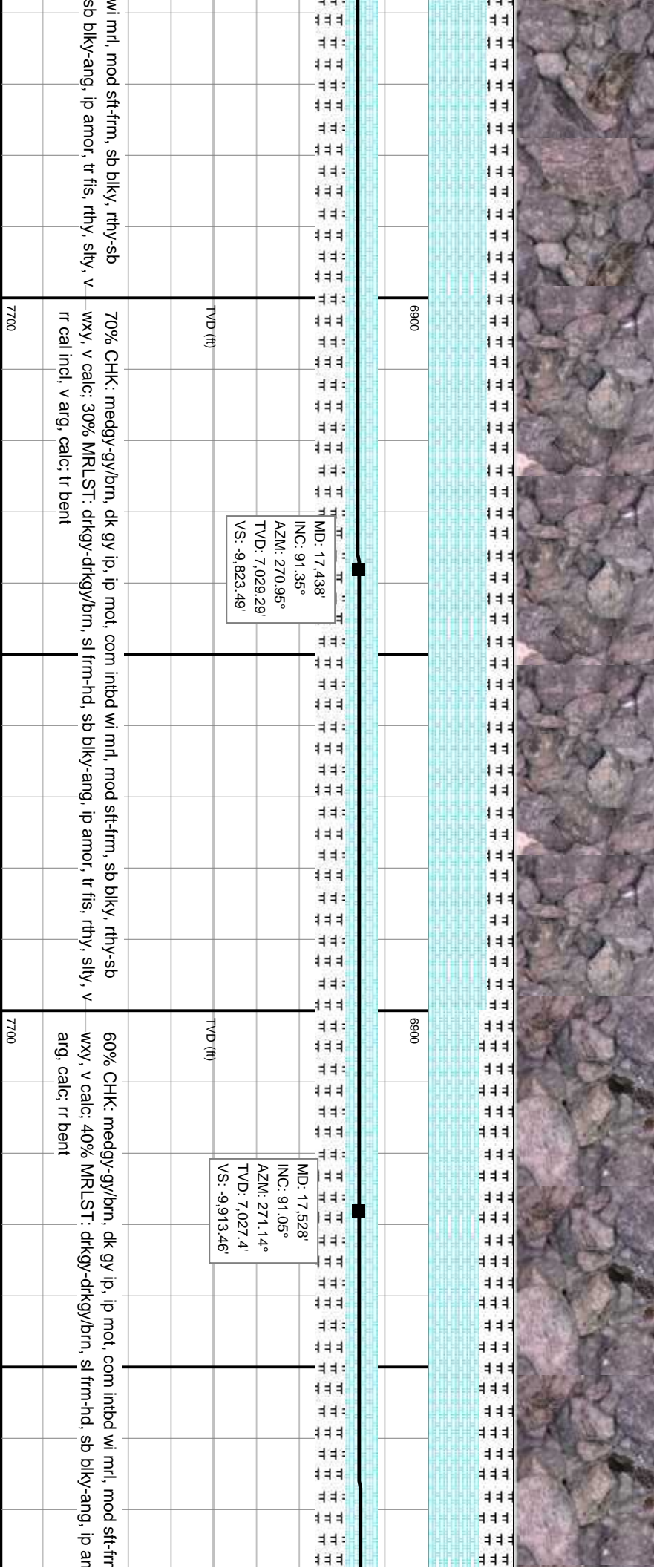
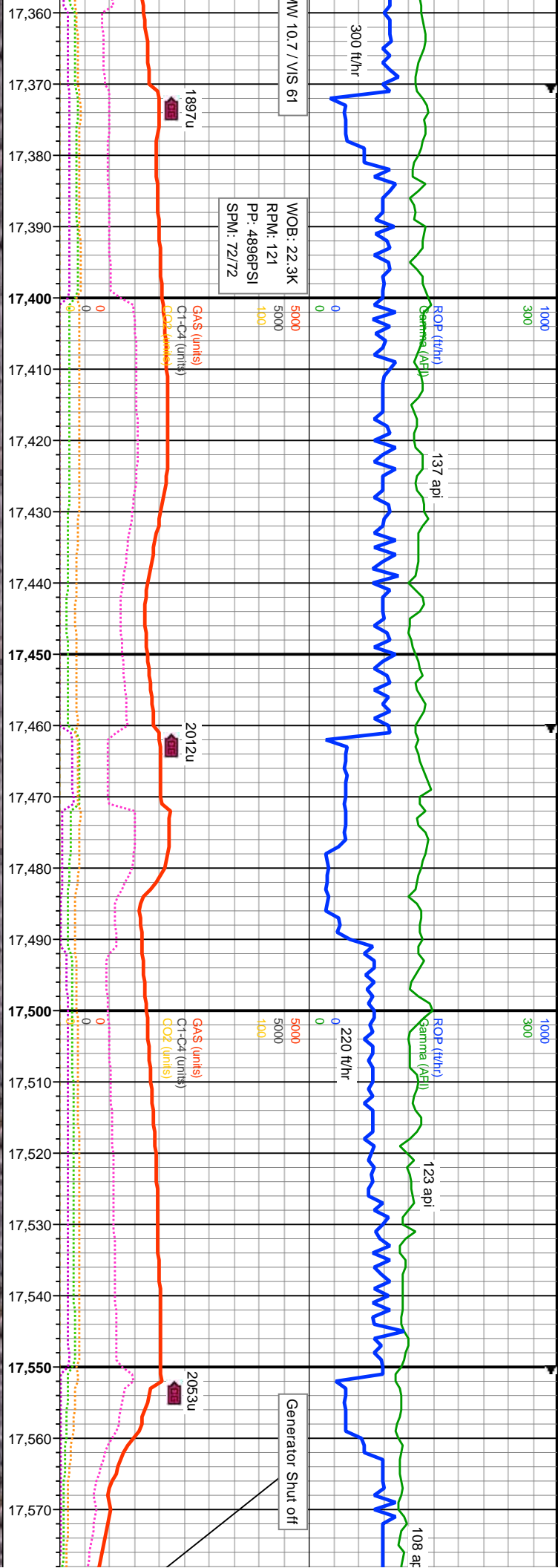




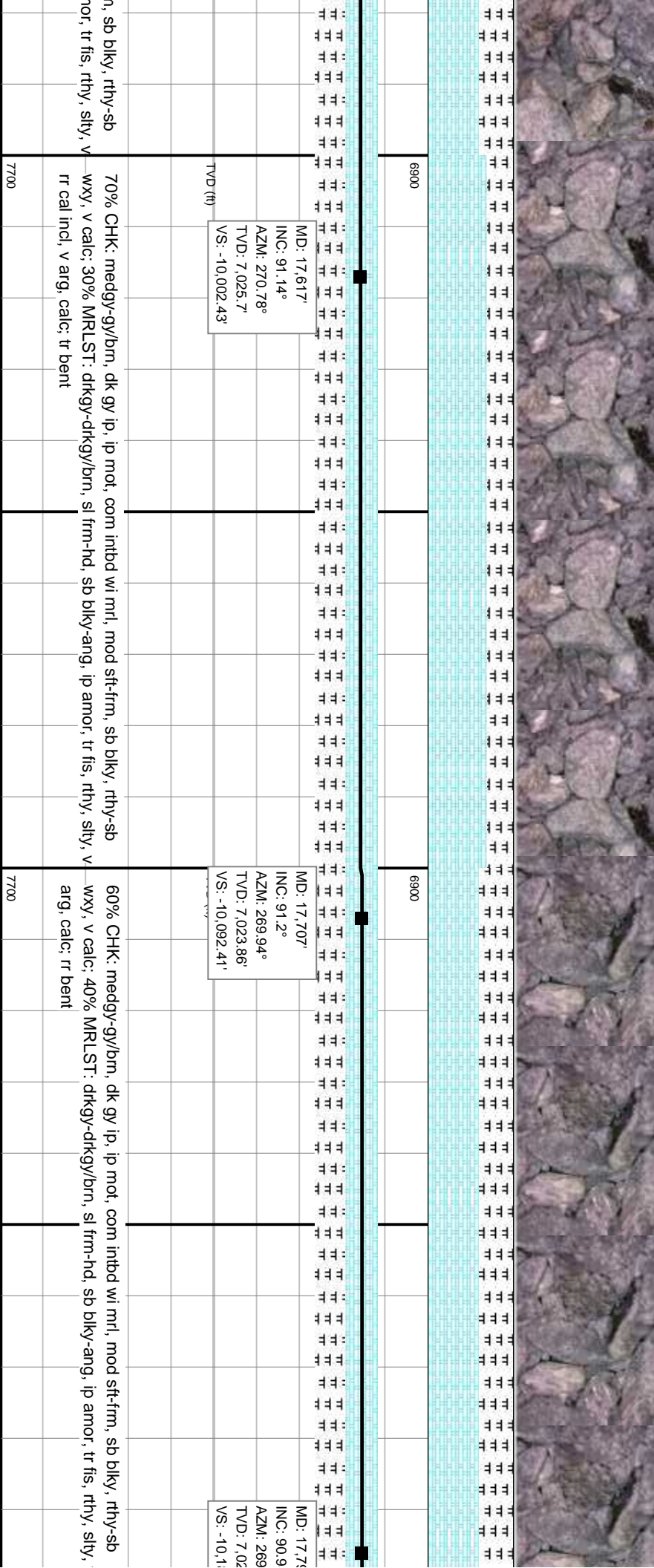
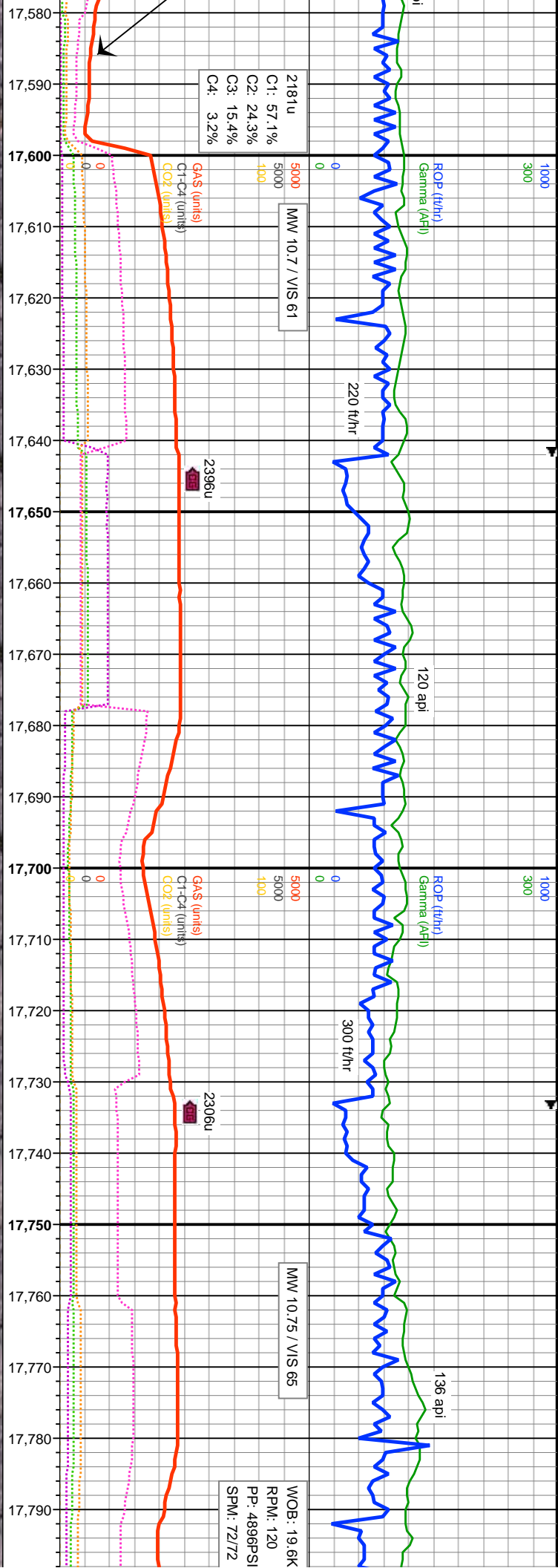


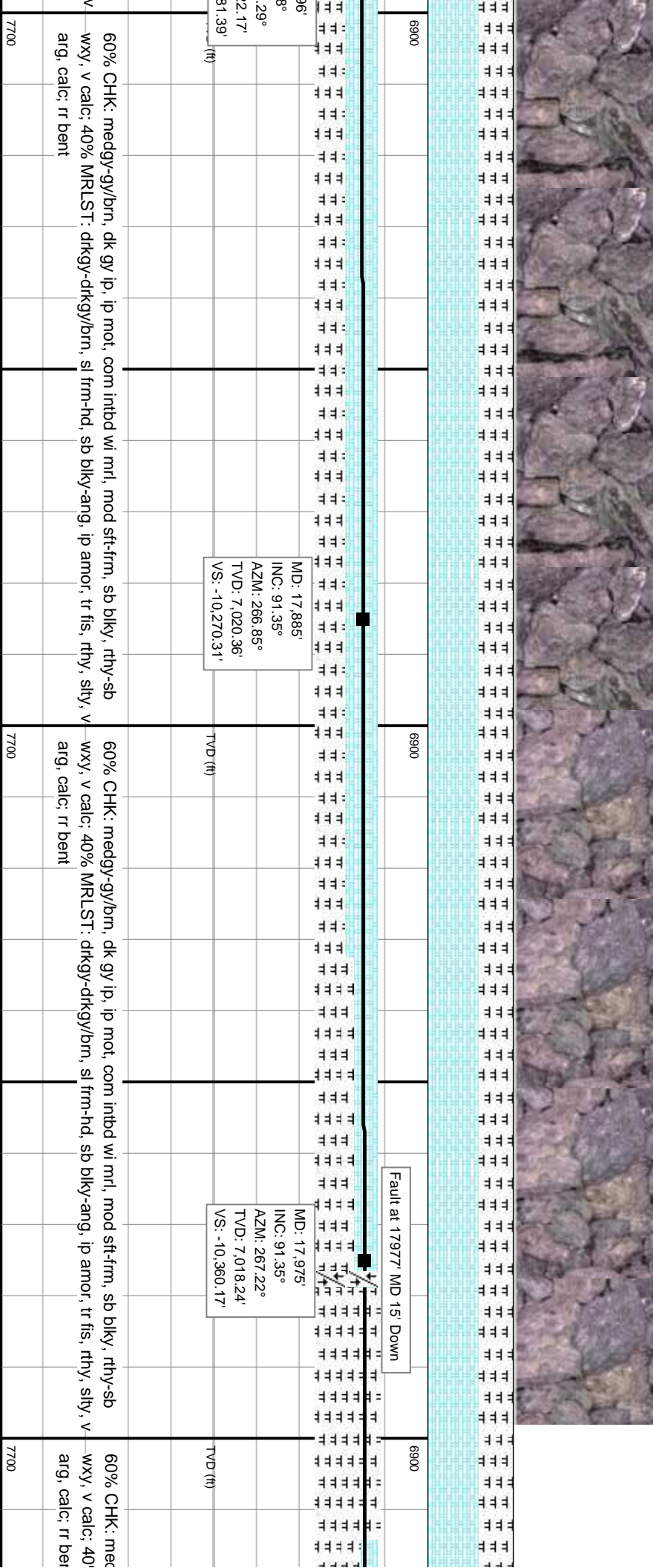
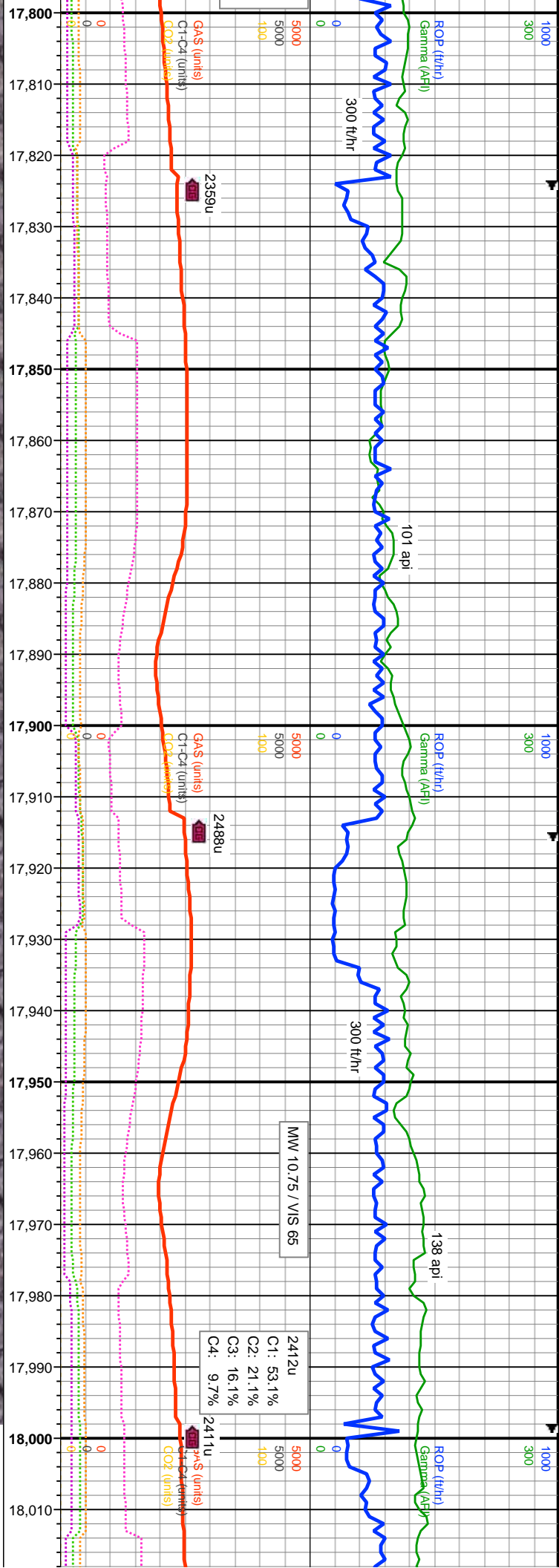




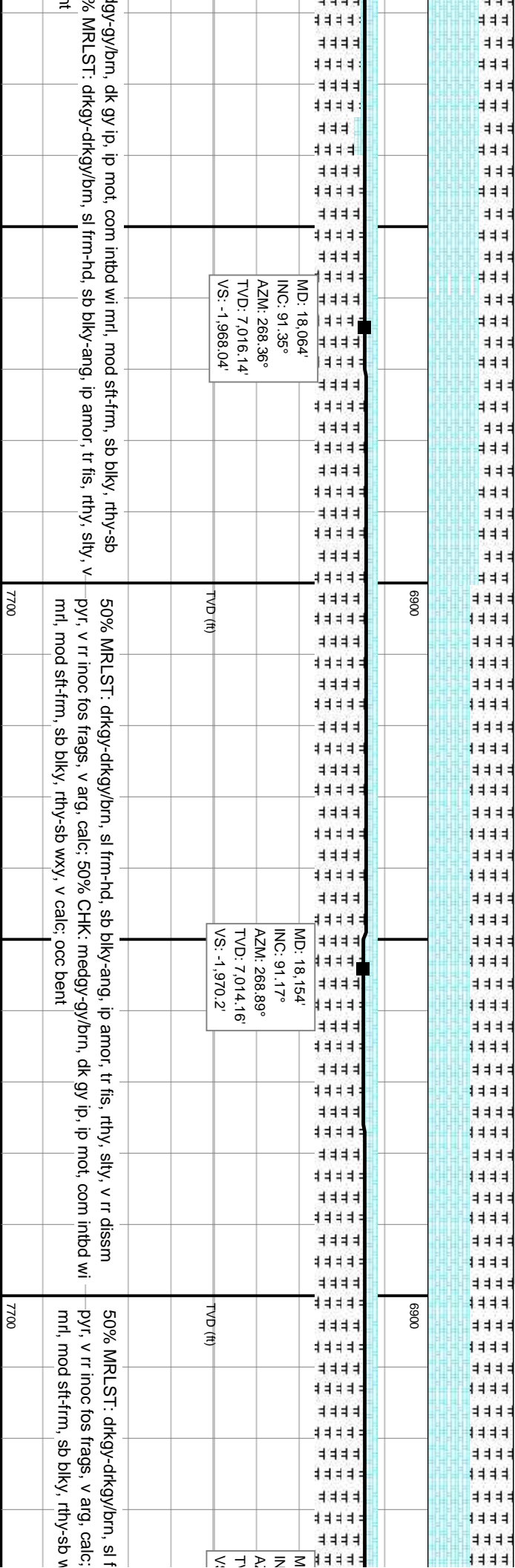
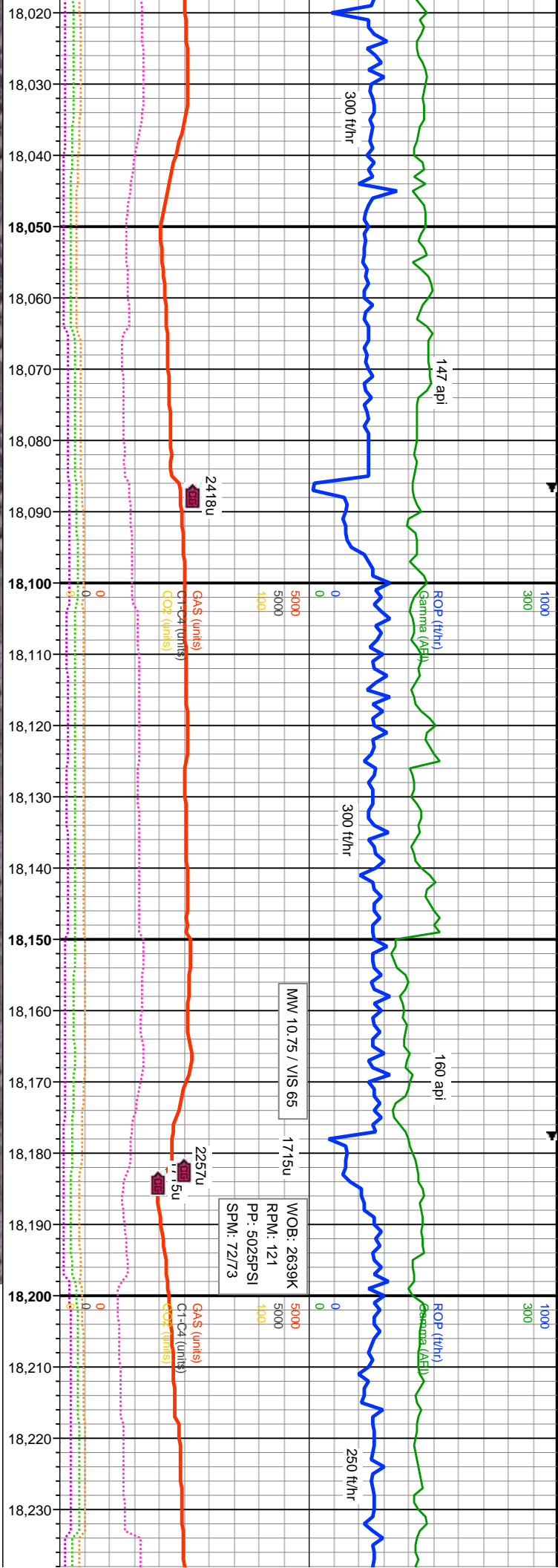


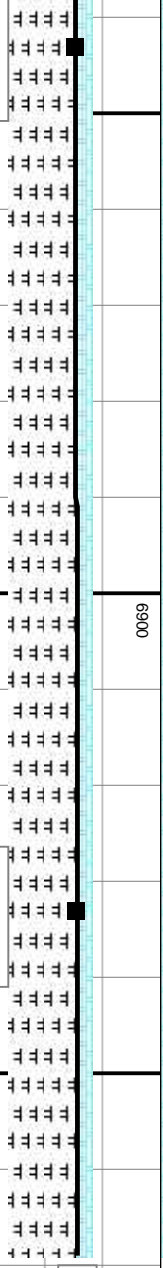
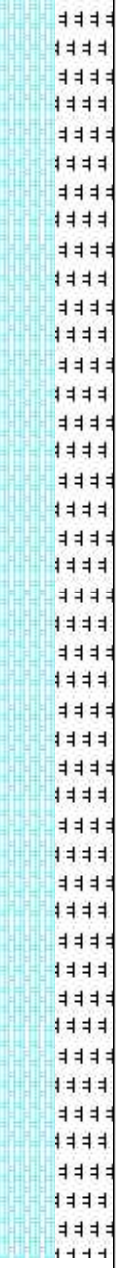
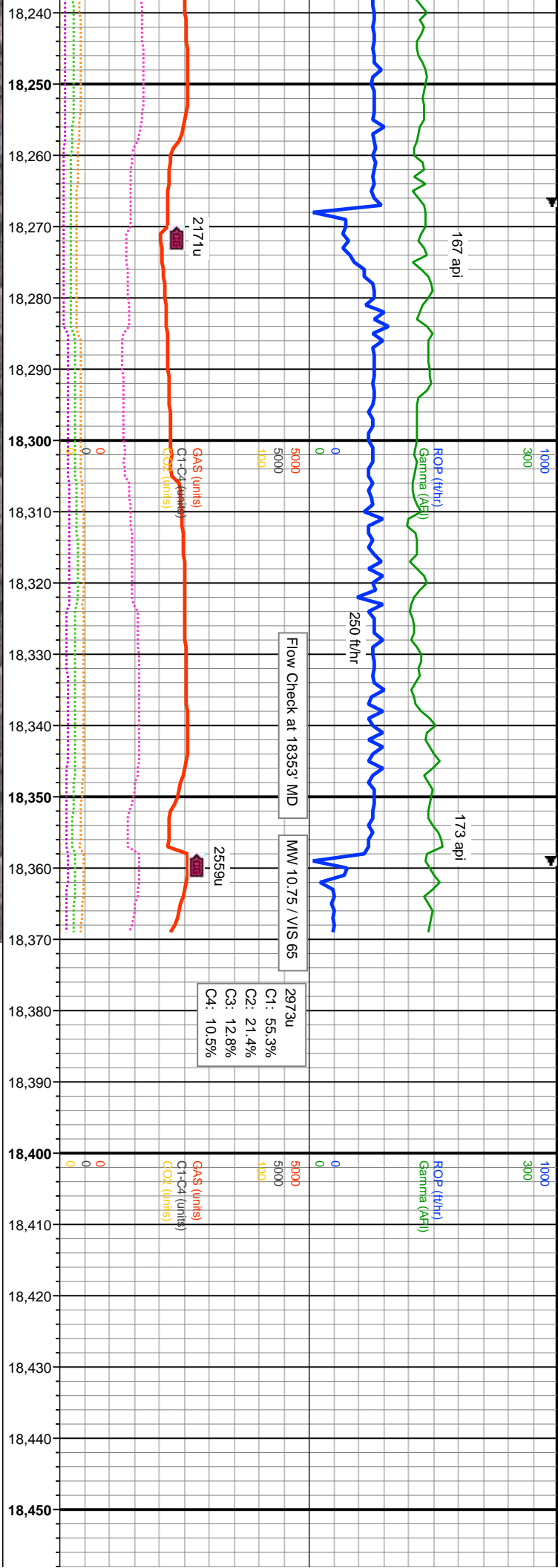












D: 18,243'  
C: 91.29°  
ZM: 269.67°  
D: 7,012.25'  
S: -1,971.32'

MD: 18,333'  
INC: 91.2°  
AZM: 270.82°  
TVD: 7,010.3'  
VS: -1,970.93'

TD Reached, 18370' MD, 11:38 MST, 03/15/2018  
Thank you for using Terra Guidance, LLC.

Projection to Bit

50% CHK: medgy-gy/brn, dk gy ip, ip mot, com intbd wi  
xy, v calc; occ bent

50% MRLST: drkgy-drkgy/brn, sl frm-hd, sb blk-y-ang, ip amor, tr fis, rthy, silty, v rr diss  
pyr, v rr inoc fos frags, v ang, calc; 50% CHK: medgy-gy/brn, dk gy ip, ip mot, com intbd wi  
mrl, mod stf-frm, sb blk-y, rthy-sb wxy, v calc; occ bent

TVD (ft)

TVD (ft)

6900

6900

7700

7700




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