



Scale: 5" / 100'
Measured Depth Log

Well Name Dugite 13C-35HZ

Location SEC.23-T2N-R67W

State COLORADO

County WELD

Country USA

Rig Number H&P 307

API Number 05123393300000

AFE # 2089195

Region DJ BASIN

Field WATTENBERG

Spud Date 6/23/2014

Drilling Completed 7/4/2014

Surface Coordinates 1020' FSL & 560' FWL

Bottom Hole Coordinates RELATIVE TO WELLHEAD:
10626.83' S & 11.36' E

Ground Elevation 4994'

K.B. Elevation 5019'

Logged Interval 7500' To 17863

Total Depth 17863

Formation CODELL

Type of Drilling Fluid FRESH WATER

Operator

Company Anadarko

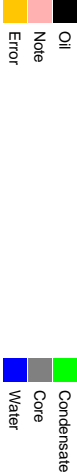
Address 1099 18th St, Suite 1800
Denver , CO 80202

Geologist

Name Jim Frank, Tom Wright















































Company COLUMBINE LOGGING INC.
Address 2385 S. Lipan St.
Denver, CO 80223

Zone Color Coding



Rock Types



Fossils	
 GASTROPOD	 ARGILLITE GRAN
 INOCERAMUS	 B BENTONITE
 ALGAE	 BITUMINOUS SUBSTANCE
 AMPHIPORA	 BRECCIA FRAGMENTS
 BELEMNITE	 CALCAREOUS
 BIOCLASTIC	 CARBONACEOUS FLAKES
 BRACHIOPOD	 CHERT
 BRYOZOA	 CHERT
 CEPHALOPOD	 COAL - THIN BEDS
 CORAL	 DOLomite
 CRINOID	 FELDSPAR
 ECHINOID	 FERRUGINOUS PELLET
 FISH	 FERRUGINOUS
 FORAMINIFERA	 GLAUCONITE
 F FOSSIL	 GYPSIFEROUS
<h2>Minerals</h2>	
 ANHYDRITIC	 SILTY
 ARGILLACEOUS	 TUFFACEOUS
<h2>Stringer</h2>	
 ANHYDRITE STRINGER	 LIMESTONE STRINGER
 BENTONITE STRINGER	 MARLSTONE (CAL) STRINGER
 COAL STRINGER	 MARLSTONE (DOL) STRINGER
 DOLomite STRINGER	 SANDSTONE STRINGER
 GYPSUM STRINGER	 SHALE STRINGER
 LIMESTONE STRINGER	 SILTSTONE STRINGER

Gas
Pressure
Seal

☐ D DEAD

☒ E EVEN

☐ QUESTIONABLE

BIT

SPOTTED STAINING: CONNECTION (UP)

Rounding

CONNECTION (DOWN)

MIN DEPTH (DOWN)

ANGIII AP

DE BACKSTONE

E EARTHY

CONNECTION GA

↑ OVERTURNED STRATA

SUBANG

■ **ЕВНЕСТРАИ**

TRIP GAS

REVERSE FALLT

CLIPBOARD

Sorting

FRACTURE

TRIP GAS (LEFT)

CASING

M MODERATE

X INTERCRYS

DTG
DOWN TIME GAS

SIDEWALL CORE (LEFT)

• • • • •

F POOR

INTEROOLITIC

DOWN TIME GAS (LEFT)

SIDEWALL CORE (RIGHT)

BS BOUNDSTONE

W WELL

MOLDIC

↓ CORE-LOST

SLIDE

C CHALKY

ORGANIC

■ CORE - RECOVERED

50
SURVEY

CRYPTOXLN

Slide/Rotate

ROP

ROP
GAMMA

Total Gas & Chromatograph

GAS
C1
C3

Depth Labels

% Lith

Well Bore
TVD

Oil Show

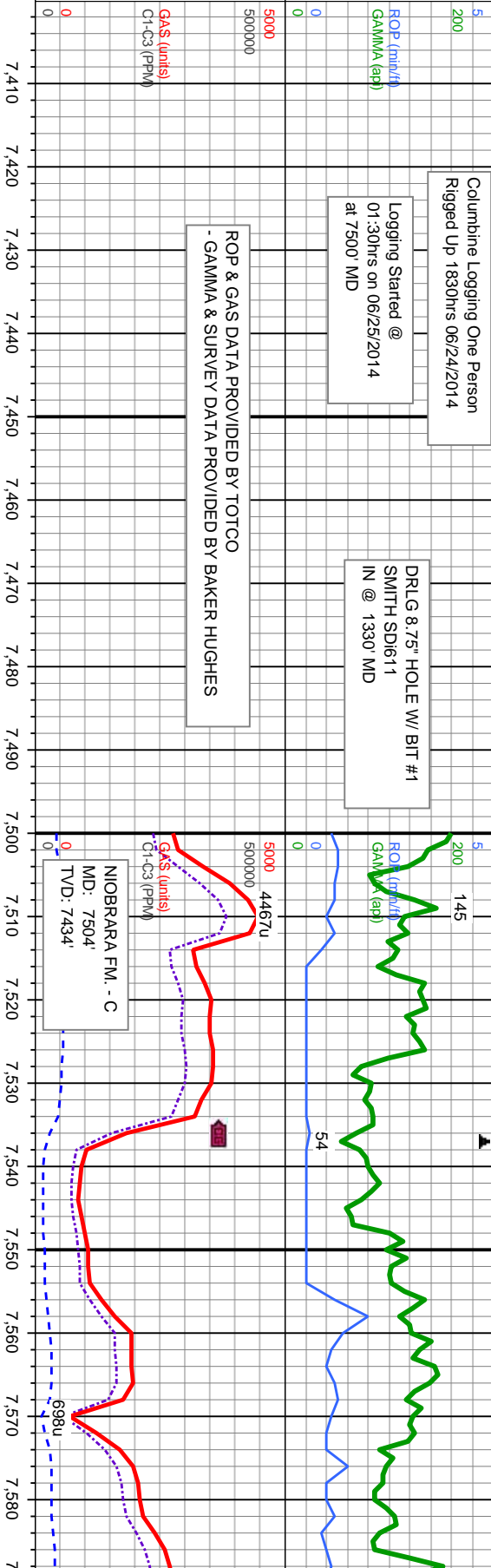
Images

Columbine Logging One Person
Rigged Up 1830hrs 06/24/2014

Logging Started @
01:30hrs on 06/25/2014
at 7500' MD

DRLG 8.75' HOLE W/ BIT #1
SMITH SD611
IN @ 1330 MD

ROP & GAS DATA PROVIDED BY TOTCO
- GAMMA & SURVEY DATA PROVIDED BY BAKER HUGHES



SHARON SPRINGS FM.
MD: 7,243
TVD: 7,224'

NIOBRARA FM. - A
MD: 7,331'
TVD: 7,301'

NIOBRARA FM. - B
MD: 7,411'
TVD: 7,365'

MD: 7,488 '
TVD: 7,422.21 '
Inclination: 44.22 °
Azimuth: 175.39 °
VS: 304.19 '

NIOBRARA FM. - C
MD: 7,504'
TVD: 7,434'

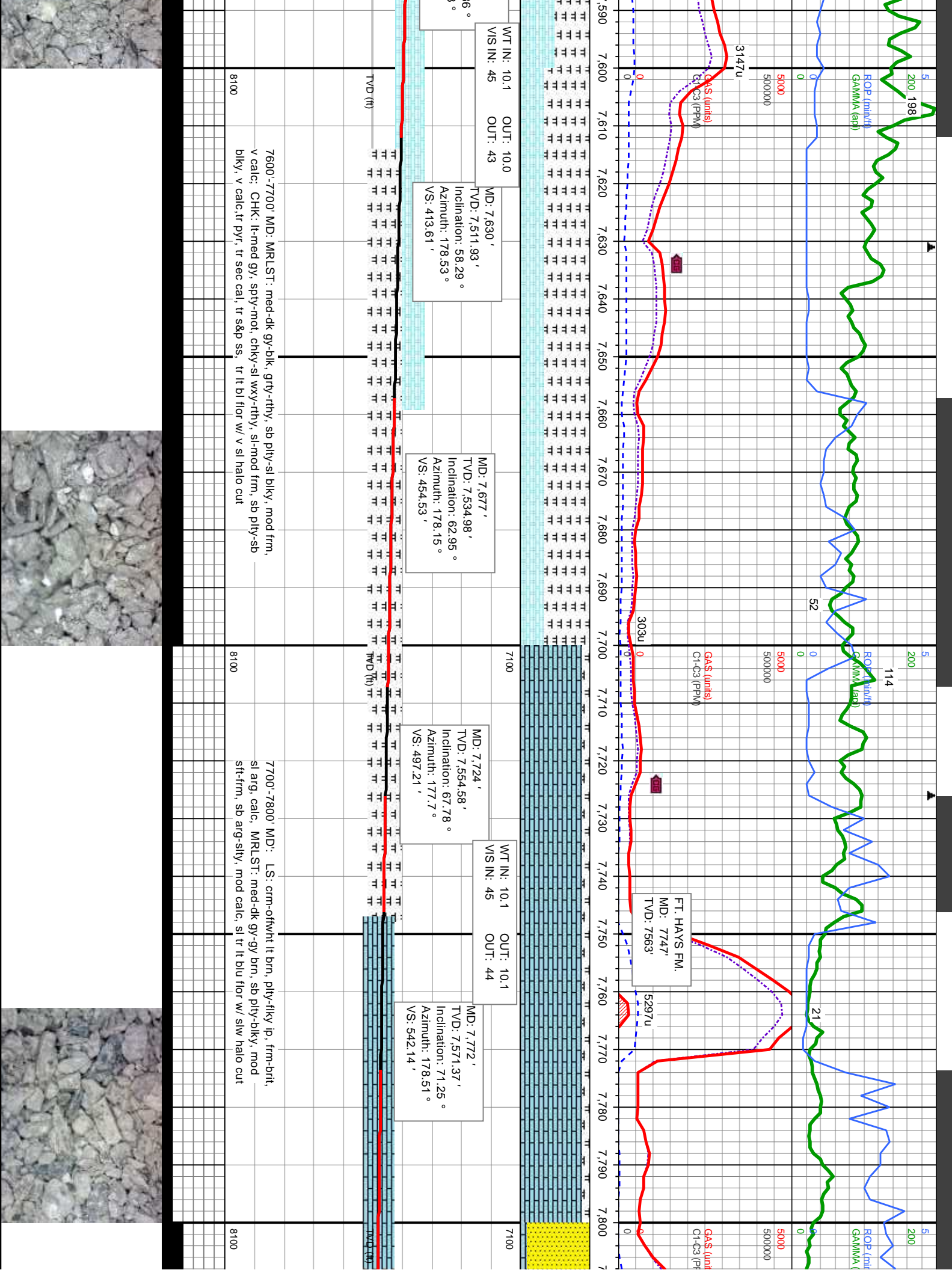
MD: 7,535 '
TVD: 7,454.79 '
Inclination: 47.97 °
Azimuth: 176.55 °
VS: 337.95 '

MD: 7,583 '
TVD: 7,485.37 '
Inclination: 52.8 °
Azimuth: 177.66 °
VS: 374.88 '

7500'-7600' MD: MRLST: m-dk gy- m gy brn, sbply-s blk, mod sft-sl
frm, sb arg-sly, calc, CHK: lt-med gy, mot, sbply-sbply, sft-sl frm,
fri, chky-sb wxy, v calc, tr lt bl flwr w/ slw strng mlky cut

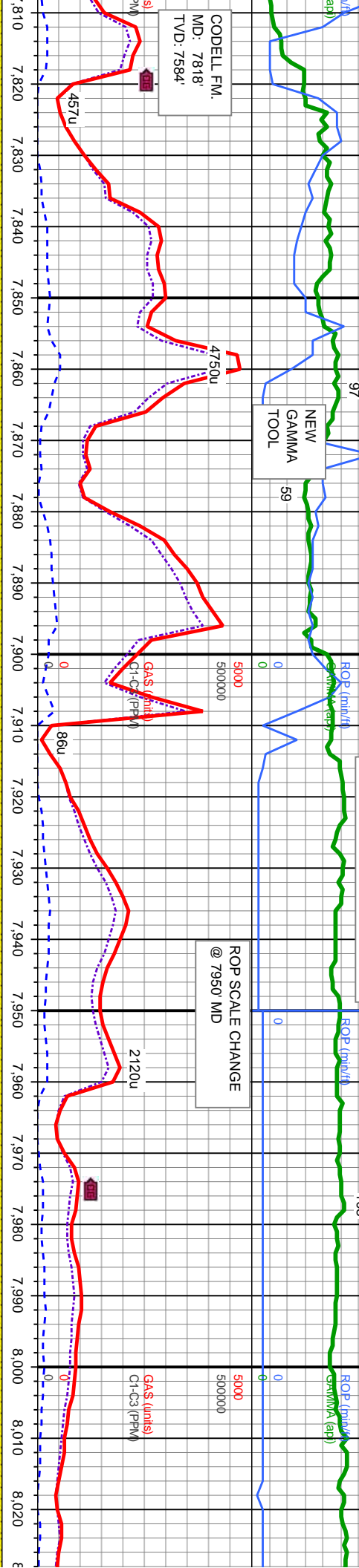
EGMT
ST





7" CASING SET @ 7913 MD
6/25+26/14
7913 MD
DRLG 6.125" HOLE W/ NB #2
ULTRERA U5'133 IN @ 7913 MD,
OB # 1 DRLD 6396' IN 44 HRS

MINDEPTH



CODELL FM.
MD: 7818'
TVD: 7584'

MD: 7,819 '
TVD: 7,583.99 '
Inclination: 77.58 °
Azimuth: 179.16 °
VS: 587.37 '

MD: 7,866 '
TVD: 7,591.64 '
Inclination: 83.66 °
Azimuth: 179.95 °
VS: 633.72 '

MD: 7,919 '
TVD: 7,594.7 '
Inclination: 89.72 °
Azimuth: 179.11 °
VS: 686.6 '

MD: 8,013 '
TVD: 7,594.46 '
Inclination: 90.58 °
Azimuth: 178.76 °
VS: 780.58 '

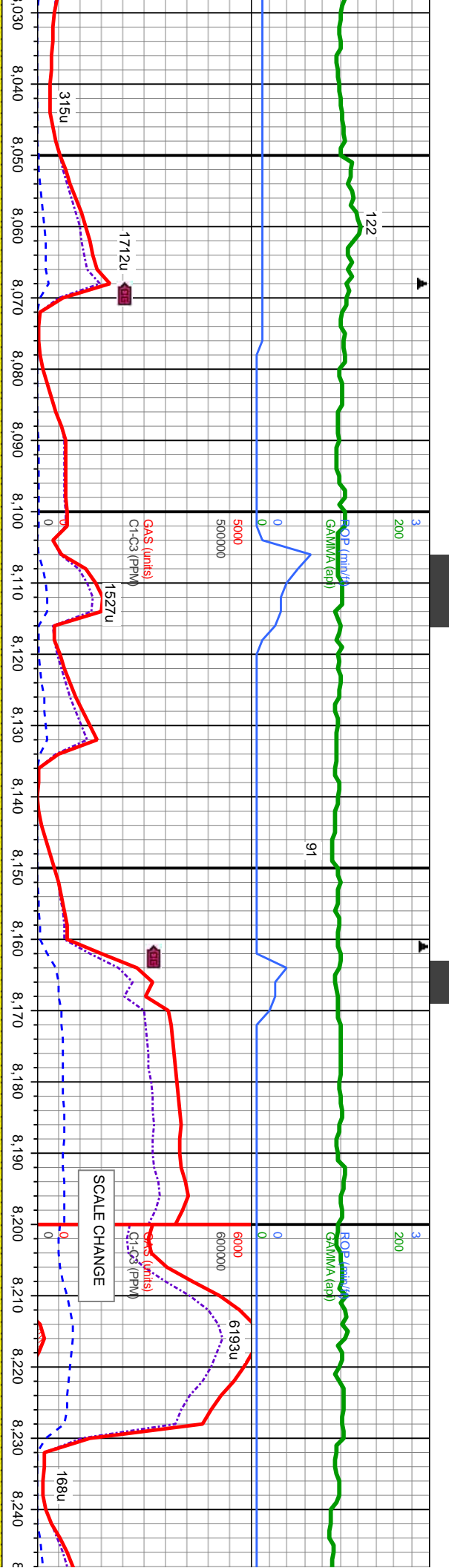
WT IN: 10.1
VIS IN: 48
OUT: 10.1
OUT: 45

WT IN: 9.9
VIS IN: 43
OUT: 9.9+
OUT: 47

7800'-7913' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v frm, sbnd-rnd, m-w
strd, p-m cons w/ v sl calc cmt, LS: crm-offwht lt brn, ply-flky ip,
frm-brlt, crpxln-micxln, v sl arg, calc, bent, tr lt bl flwr w/ sl halo cut

7913'-8000' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc
cmt, p vis intgrn por, tr lt bl flwr w/ sl halo cut





MD: 8,108 '
TVD: 7,593.47 '
Inclination: 90.61 °
Azimuth: 179.44 °
VS: 875.55 '

MD: 8,202 '
TVD: 7,592.75 '
Inclination: 90.27 °
Azimuth: 178.53 °
VS: 969.53 '

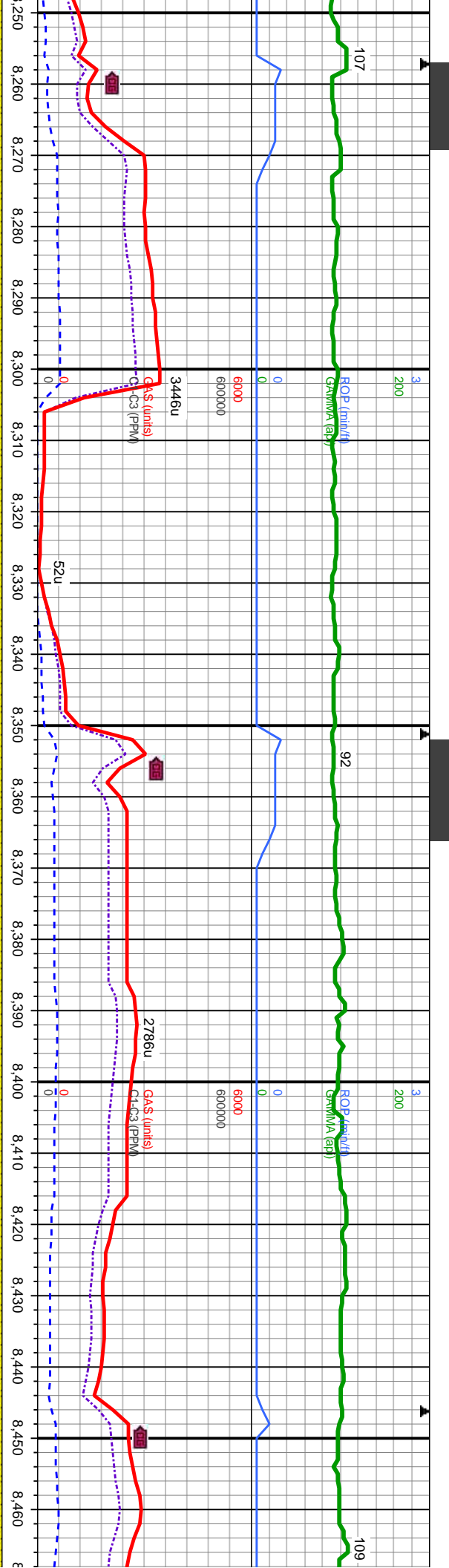
WT IN: 9.8 OUT: 9.8
VIS IN: 40 OUT: 42

00'-8100' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frn, sbnd-rnd, m-w strd, p-m cons w/ v sl calc
cmf, p vis intrgrn por, tr lt bl flwr w/ sl halo cut

8100'-8200' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frn, sbnd-rnd, m-w strd, p-m cons w/ v sl calc
cmf, p vis intrgrn por, tr lt bl flwr w/ sl halo cut

8200'-8300' MD: SS: lt b
frn, sbnd-rnd, m-w strd
cmf, p vis intrgrn por, tr





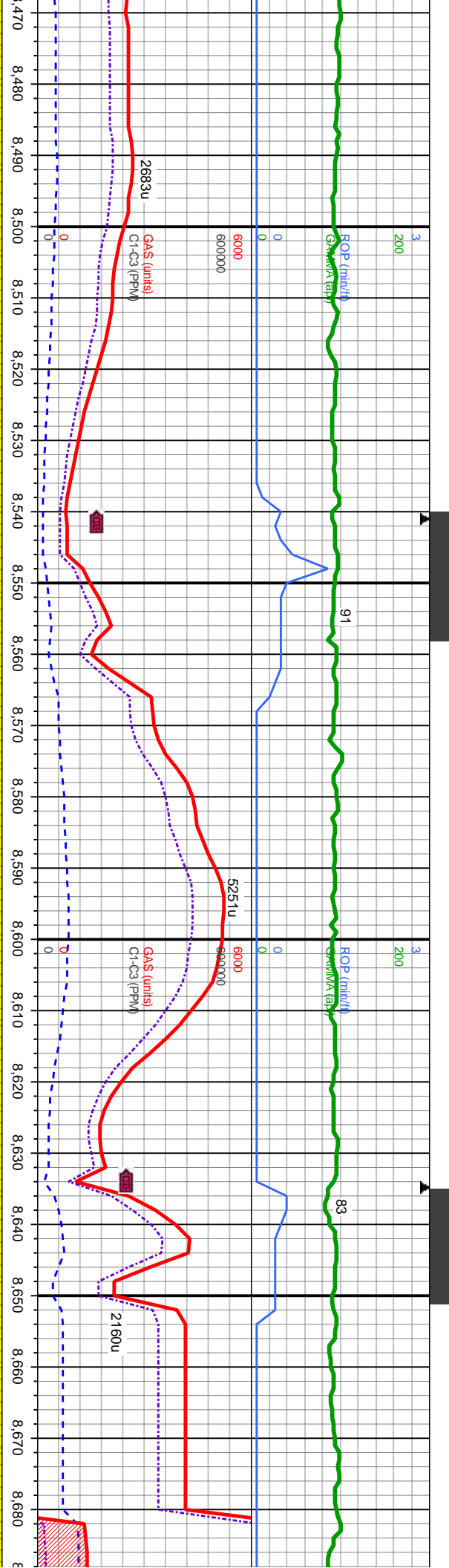
MD: 8,297'
 TVD: 7,592.4'
 Inclination: 90.15 °
 Azimuth: 178.65 °
 VS: 1,064.49'

WT IN: 9.6+ OUT: 9.7
 VIS IN: 40 OUT: 42

MD: 8,391'
 TVD: 7,592.36'
 Inclination: 89.9 °
 Azimuth: 178.26 °
 VS: 1,158.45'

frn-dk brn-mot, vf-f gr, m-v	8300'-8400' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v	8400'-8500' MD: SS: lt brn-dk brn-mot, vf-f gr,
p-m cons w/ v sl calc	frm, sbrrnd-rnd, m-w strd, p-m cons w/ v sl calc	frm, sbrrnd-rnd, m-w strd, p-m cons w/ v sl calc
lt bl flwr w/ sl halo cut	cmf, p vis intrgrn por, tr lt bl flwr w/ sl halo cut	cmf, p vis intrgrn por, tr lt bl flwr w/ sl halo cut
8100	8100	

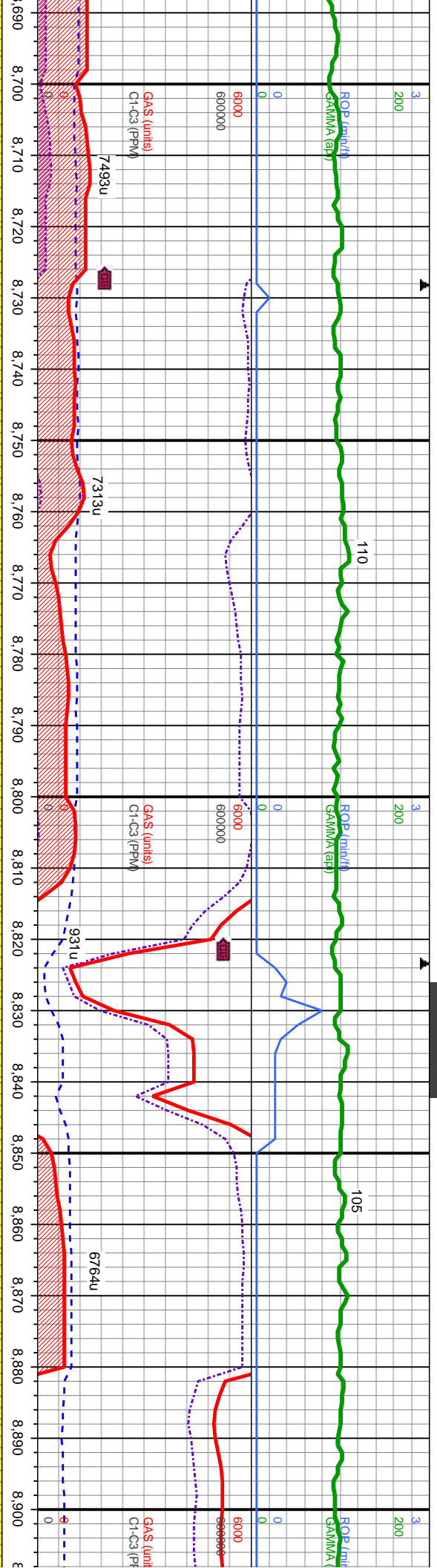




8500'-8600' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc
cmt, p vis intrgrn por, tr lt bl flwr w/ sl halo cut

8600'-8700' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc
cmt, p vis intrgrn por, tr lt bl flwr w/ sl halo cut





WT IN: 9.5 OUT: 9.5+
VIS IN: 39 OUT: 40

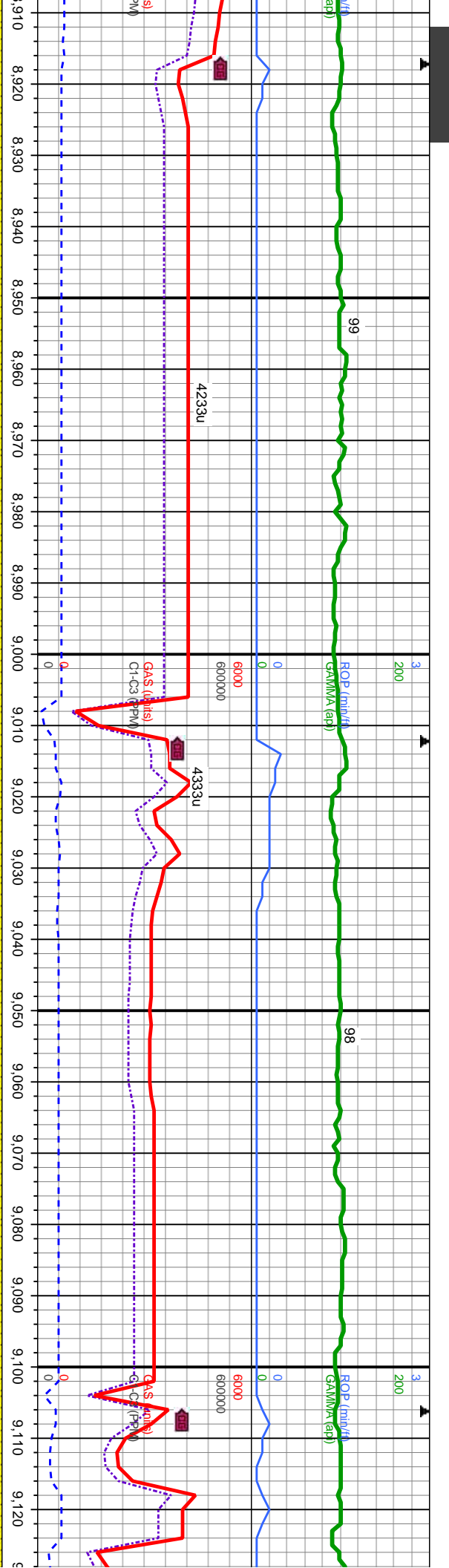
MD: 8,768 '
TVD: 7,592.74 '
Inclination: 89.84 °
Azimuth: 178.59 °
VS: 1,535.27 '

MD: 8,863 '
TVD: 7,593.05 '
Inclination: 89.78 °
Azimuth: 179.64 °
VS: 1,630.25 '

8700'-8800' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frm, sbnd-nd, m-w strd, p-m cons w/ v sl calc
cmf, p vis intrgrn por, tr lt bl flwr w/ sl halo cut

8800'-8900' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frm, sbnd-nd, m-w strd, p-m cons w/ v sl calc
cmf, p vis intrgrn por, tr lt bl flwr w/ sl halo cut





MD: 8.957 '
TVD: 7,593.04 '
Inclination: 90.24 °
Azimuth: 178.84 °
VS: 1,724.24 '

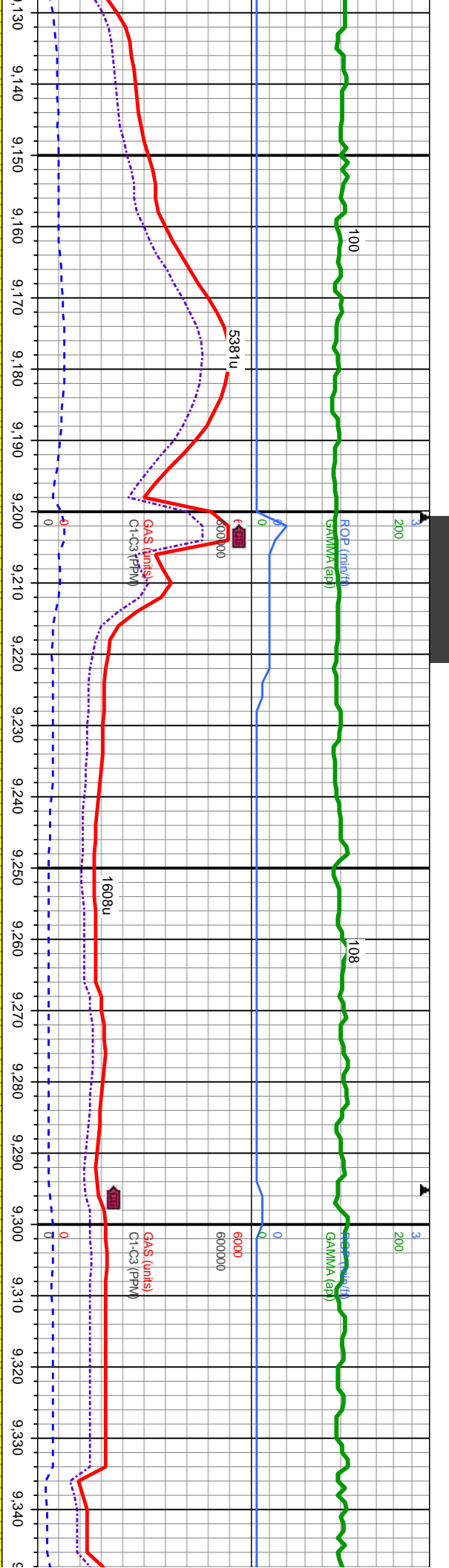
MD: 9.051 '
TVD: 7,592.97 '
Inclination: 89.84 °
Azimuth: 178.8 °
VS: 1,818.21 '

WT IN: 9.2 OUT: 9.3
VIS IN: 39 OUT: 39

8900'-9000' MD: SS: lt brn-dk brn-mot, v-fd gr, m-v
frm, sbmnd-rnd, m-w srd, p-m cons w/ v sl calc
cmt, p vis intrgrn por, tr lt bl flwr w/ sl halo cut

9000'-9100' MD: SS: lt brn-dk brn-mot, v-fd gr, m-v
frm, sbmnd-rnd, m-w srd, p-m cons w/ v sl calc
cmt, p vis intrgrn por, tr lt bl flwr w/ sl halo cut





MD: 9,146'
 TVD: 7,592.67'
 Inclination: 90.52°
 Azimuth: 178.11°
 VS: 1,913.17'

MD: 9,240'
 TVD: 7,592.58'
 Inclination: 89.59°
 Azimuth: 178.23°
 VS: 2,007.11'

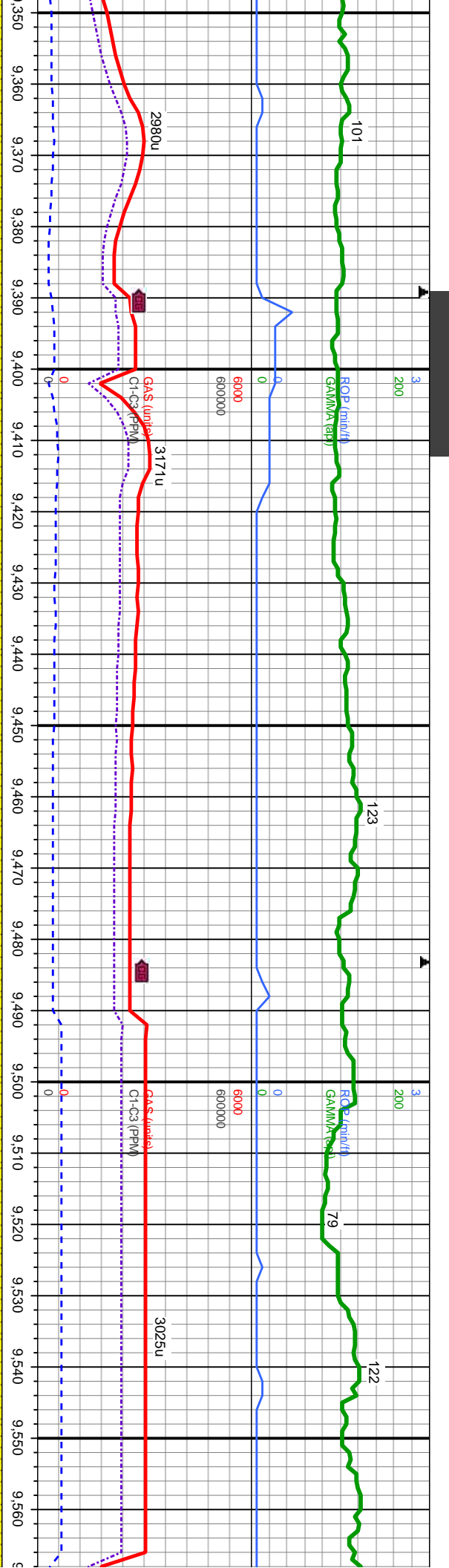
MD: 9,334'
 TVD: 7,592.59'
 Inclination: 90.4°
 Azimuth: 178.27°
 VS: 2,101.05'

9,130'-9,200' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
sbrnd-rnd, m-w strd, p-m cons w/ v sl calc cmt,
s intrgrn por, tr lt bl flwr w/ sl halo cut

9,200'-9,300' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frm, sbrnd-rnd, m-w strd, p-m cons w/ v sl calc
cmt, p vis intrgrn por, tr lt bl flwr w/ sl halo cut

9,300'-9,400' MD: SS: lt b
frm, sbrnd-rnd, m-w strd
cmt, p vis intrgrn por, tr





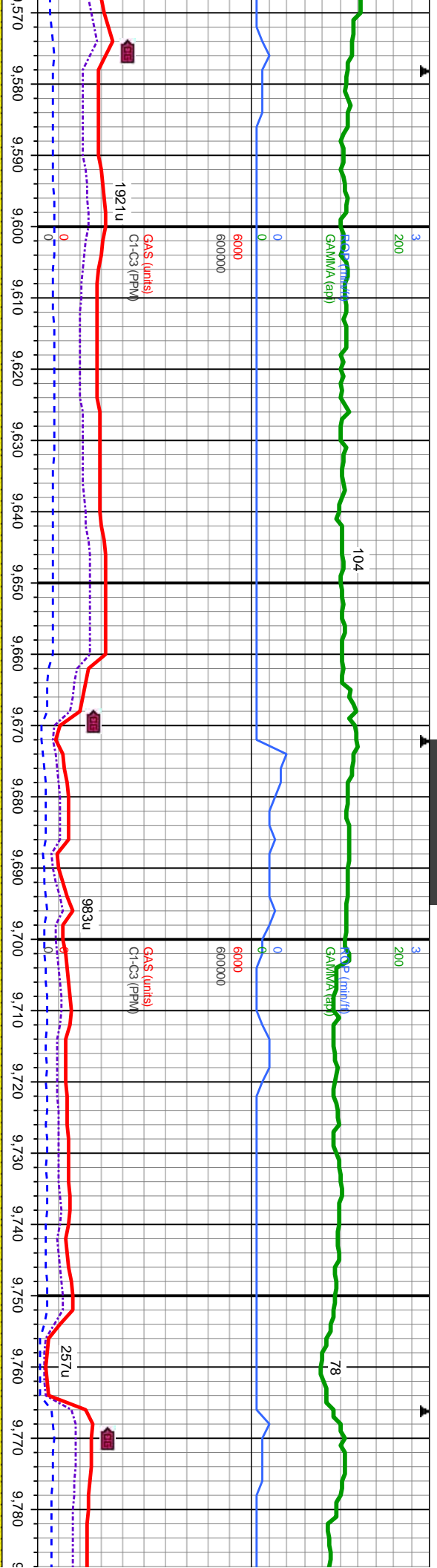
IN: 9.3	OUT: 9.5
IN: 42	OUT: 44

MD: 9,429 '
TVD: 7,593.18 '
Inclination: 88.89 °
Azimuth: 178.77 °
VS: 2,196.01 '

MD: 9,523 '
TVD: 7,594.09 '
Inclination: 90 °
Azimuth: 178.85 °
VS: 2,289.97 '

m-dk brn-mot, vf-f gr, m-v	9400'-9500' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v	9500'-9600' MD: SS: lt brn-dk brn-mot, vf-f gr
p-m cons w/ v sl calc	frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc	frm, sbnd-rnd, m-w strd, p-m cons w/ v sl ca
lt bl flwr w/ sl halo cut	cnt, p vis intgrn por, tr lt bl flwr w/ sl halo cut	cnt, p vis intgrn por, tr lt bl flwr w/ sl halo c





MD: 9.617 '
TVD: 7,593.38 '
Inclination: 90.86 °
Azimuth: 179.15 °
VS: 2,383.95 '

WT IN: 9.4 OUT: 9.4
VIS IN: 46 OUT: 43

9600'-9700' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frm, sbmnd-rnd, m-w strd, p-m cons w/ v sl calc
cmt, p vis intrgrn por, tr lt bl flr w/ sl halo cut

MD: 9.712 '
TVD: 7,592.73 '
Inclination: 89.93 °
Azimuth: 179.81 °
VS: 2,478.94 '

9700'-9800' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frm, sbmnd-rnd, m-w strd, p-m cons w/ v sl calc
cmt, p vis intrgrn por, tr lt bl flr w/ sl halo cut



6/28/14
9862' MD

3
200
GAMMA (api)

101

3
200
GAMMA (api)

ROP (ft/hr)
GAMMA (api)

ROP (ft/hr)
GAMMA (api)

ROP (ft/hr)
GAMMA (api)

60000
600000

60000
600000

60000
600000

GAS (units)
CI-C3 (PPM)

GAS (units)
CI-C3 (PPM)

GAS (units)
CI-C3 (PPM)

1358u

1346u

1309u

0

0

0

9,790 9,800 9,810 9,820 9,830 9,840 9,850 9,860 9,870 9,880 9,890 9,900 9,910 9,920 9,930 9,940 9,950 9,960 9,970 9,980 9,990 10,000

7100
WT IN: 9.3
VIS IN: 43
OUT: 9.3
OUT: 43

7100
WT IN: 9.5
VIS IN: 45
OUT: 9.5
OUT: 45

7100

MD: 9.806 '
TVD: 7.592.24 '
Inclination: 90.67 °
Azimuth: 179.31 °
VS: 2.572.93 '

MD: 9.901 '
TVD: 7.592.32 '
Inclination: 89.23 °
Azimuth: 179.77 °
VS: 2.667.92 '

MD: 9.995 '
TVD: 7.592.62 '
Inclination: 90.4 °
Azimuth: 179.69 °
VS: 2.761.92 '

TVD (ft)

TVD (ft)

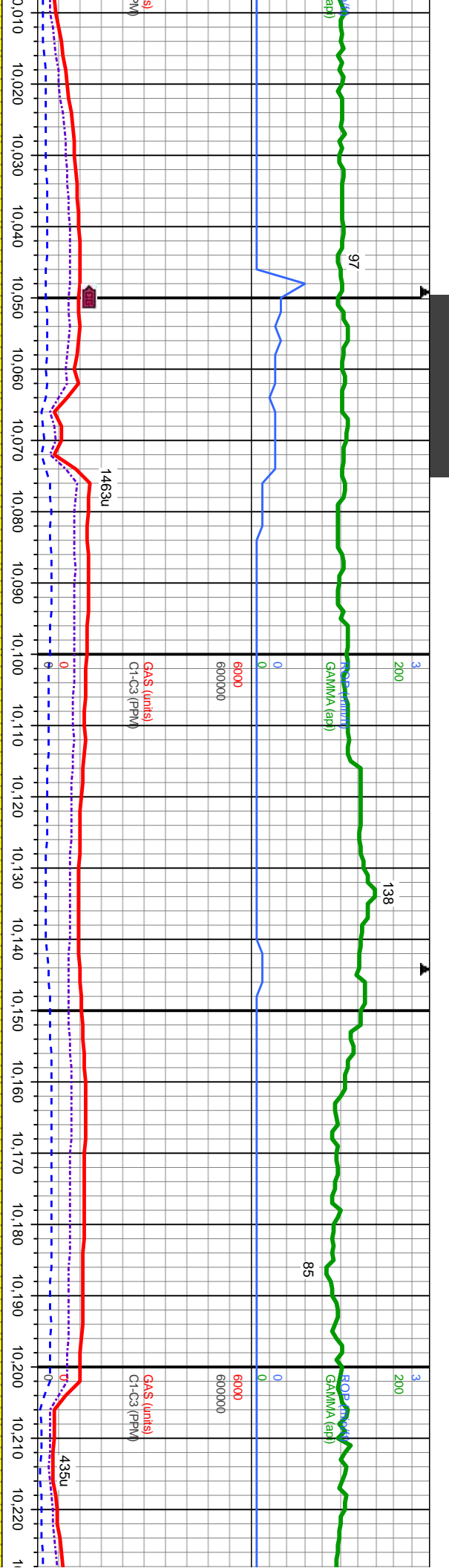
TVD (ft)

9800'-9900' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frm, sbnd-rnd, m-w std, p-m cons w/ v sl calc
cmt, p vis intrgrn por, tr lt bl flwr w/ sl halo cut

9900'-10000' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v
frm, sbnd-rnd, m-w std, p-m cons w/ v sl calc cmt,
p vis intrgrn por, tr lt bl flwr w/ sl halo cut

8100





WT IN: 9.4 OUT: 9.5
VIS IN: 55 OUT: 48

MD: 10,089 '
TVD: 7,592.71 '
Inclination: 89.5 °
Azimuth: 180.76 °
VS: 2,856.92 '

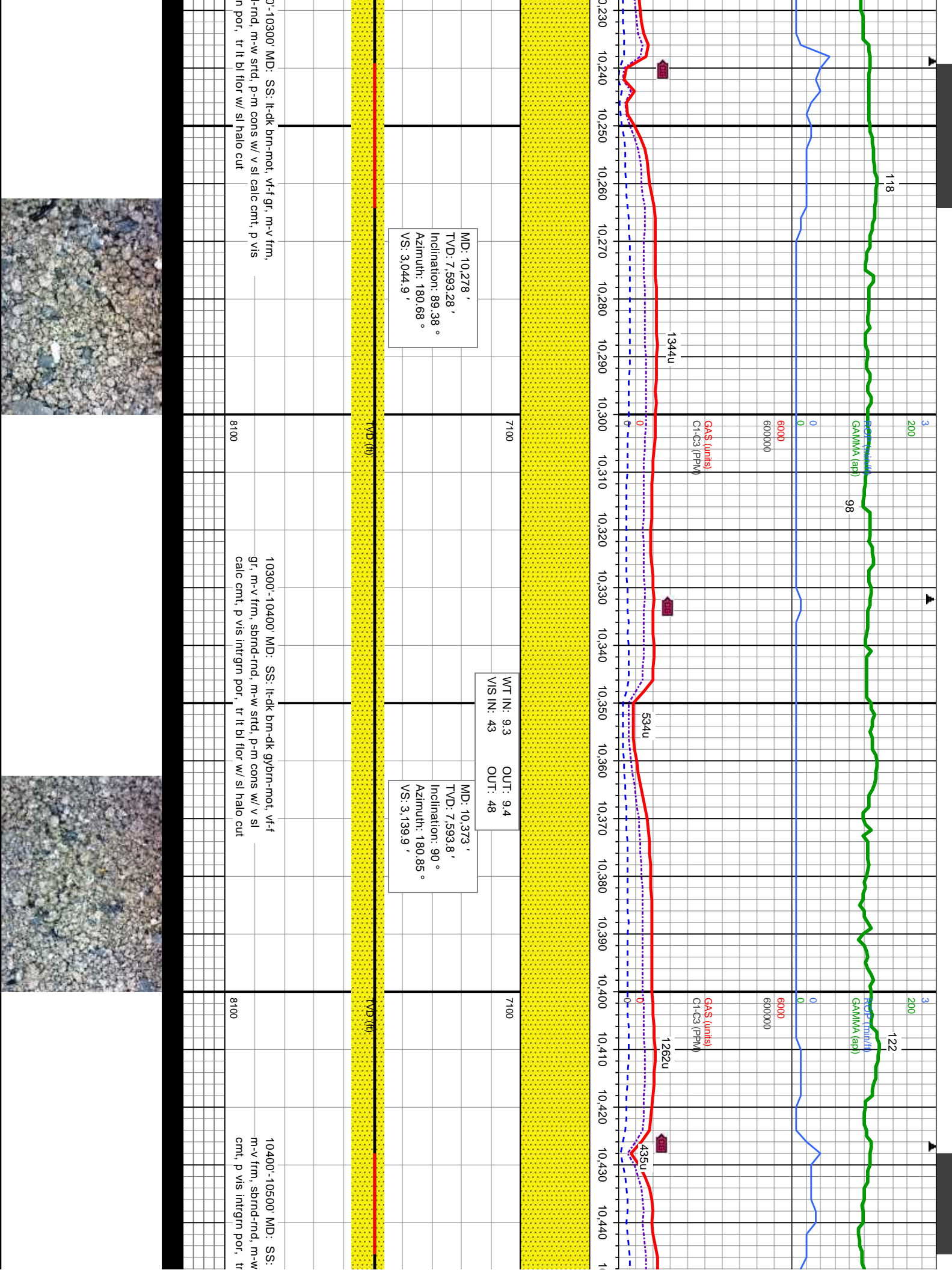
MD: 10,184 '
TVD: 7,592.95 '
Inclination: 90.21 °
Azimuth: 180.74 °
VS: 2,950.91 '

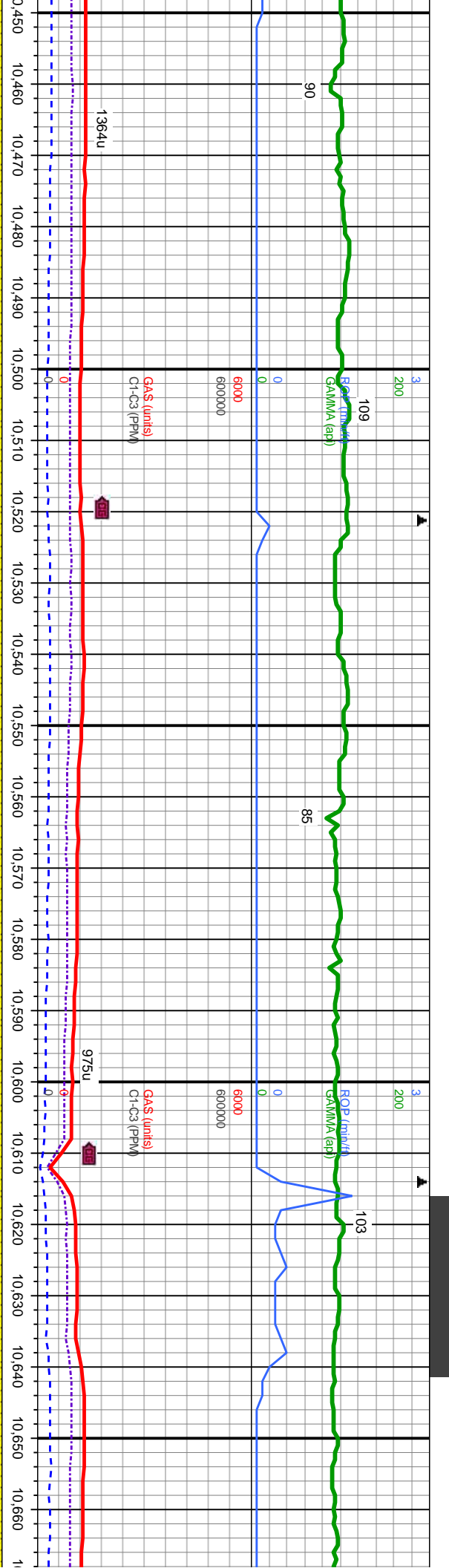
10000'-10100' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v frm, sbnd-rnd, m-w std, p-m cons w/ v sl calc cnt, p vis intrgrm por, tr lt bl flwr w/ sl halo cut

10100'-10200' MD: SS: lt-dk brn-mot, vf-f gr, m-v frm, sbnd-rnd, m-w std, p-m cons w/ v sl calc cnt, p vis intrgrm por, tr lt bl flwr w/ sl halo cut

10200'-10201' MD: SS: lt brn-dk brn-mot, vf-f gr, m-v frm, sbnd-rnd, m-w std, p-m cons w/ v sl calc cnt, p vis intrgrm por, tr lt bl flwr w/ sl halo cut







MD: 10,467 '
TVD: 7,593.85 '
Inclination: 89.93 °
Azimuth: 180.51 °
VS: 3,233.89 '

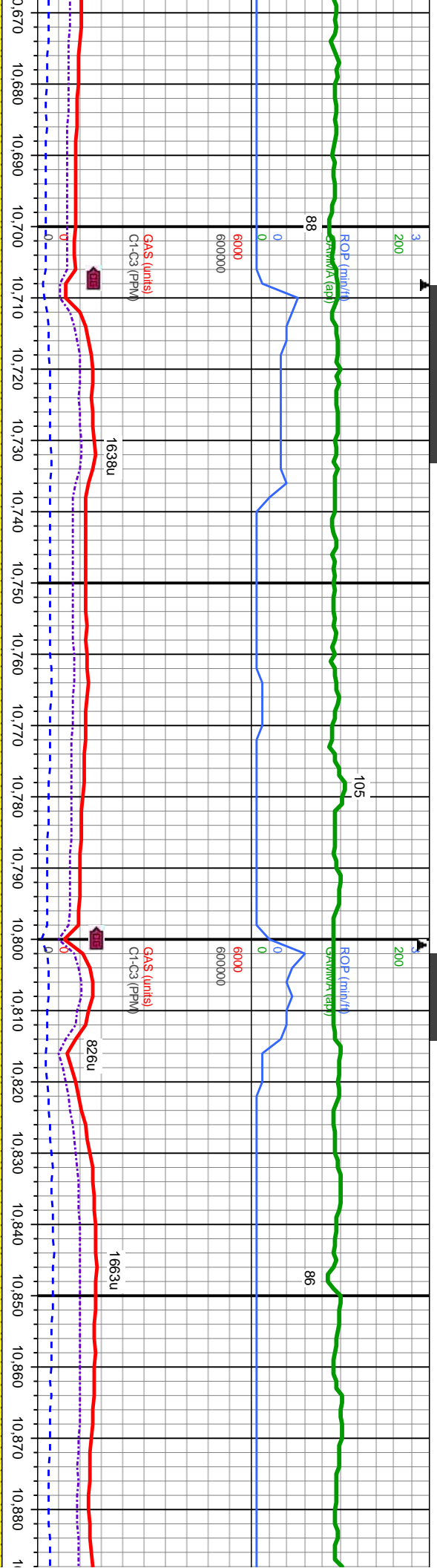
WT IN: 9.4 OUT: 9.5
VIS IN: 45 OUT: 50

MD: 10,561 '
TVD: 7,593.49 '
Inclination: 90.52 °
Azimuth: 180.35 °
VS: 3,327.89 '

MD: 10,653 '
TVD: 7,592.6 '
Inclination: 90.58 °
Azimuth: 179.38 °
VS: 3,419.89 '

It-dk brn-dk gybrn-mot, vf-f gr, std, p-m cons w/ v sl calc	8100	10500'-10600' MD: SS: It-dk brn-dk gybrn-mot, vf-f gr, m-v frm, sbnd-nd, m-w std, p-m cons w/ v sl calc cm, p vis intgrn por, tr It bl flr w/ sl halo cut	8100	10600'-10700' MD: SS: It-dk brn-dk gybrn-mot, m-v frm, sbnd-nd, m-w std, p-m cons w/ v sl cm, p vis intgrn por, tr It bl flr w/ sl halo cut	8100
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MD: 10,747 '
TVD: 7,592.71 '
Inclination: 89.29 °
Azimuth: 178.65 °
VS: 3,513.86 '

MD: 10,840 '
TVD: 7,594.32 '
Inclination: 88.73 °
Azimuth: 177.96 °
VS: 3,606.8 '

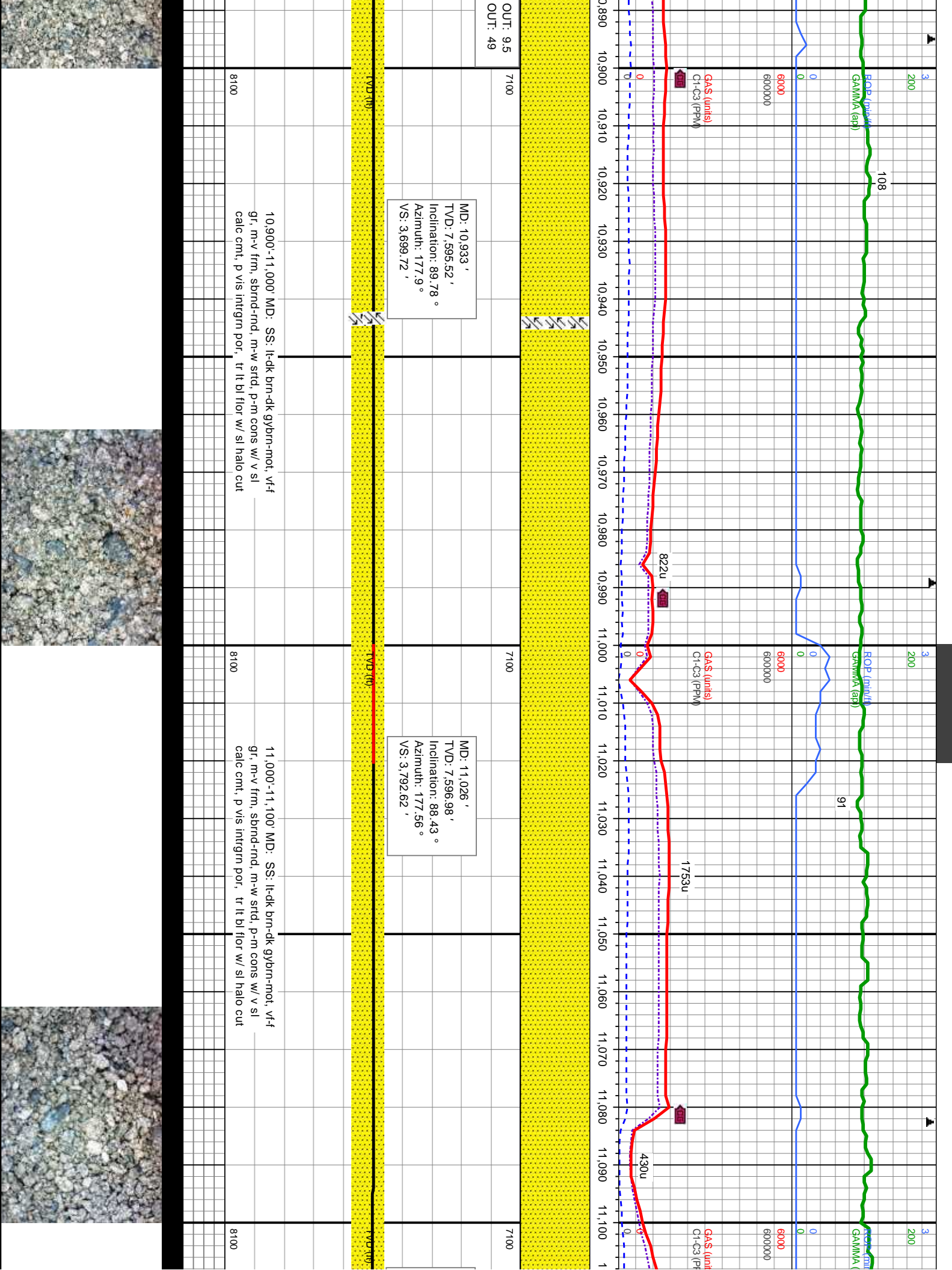
WT IN: 9.6 OUT: 9.7
VIS IN: 47 OUT: 48

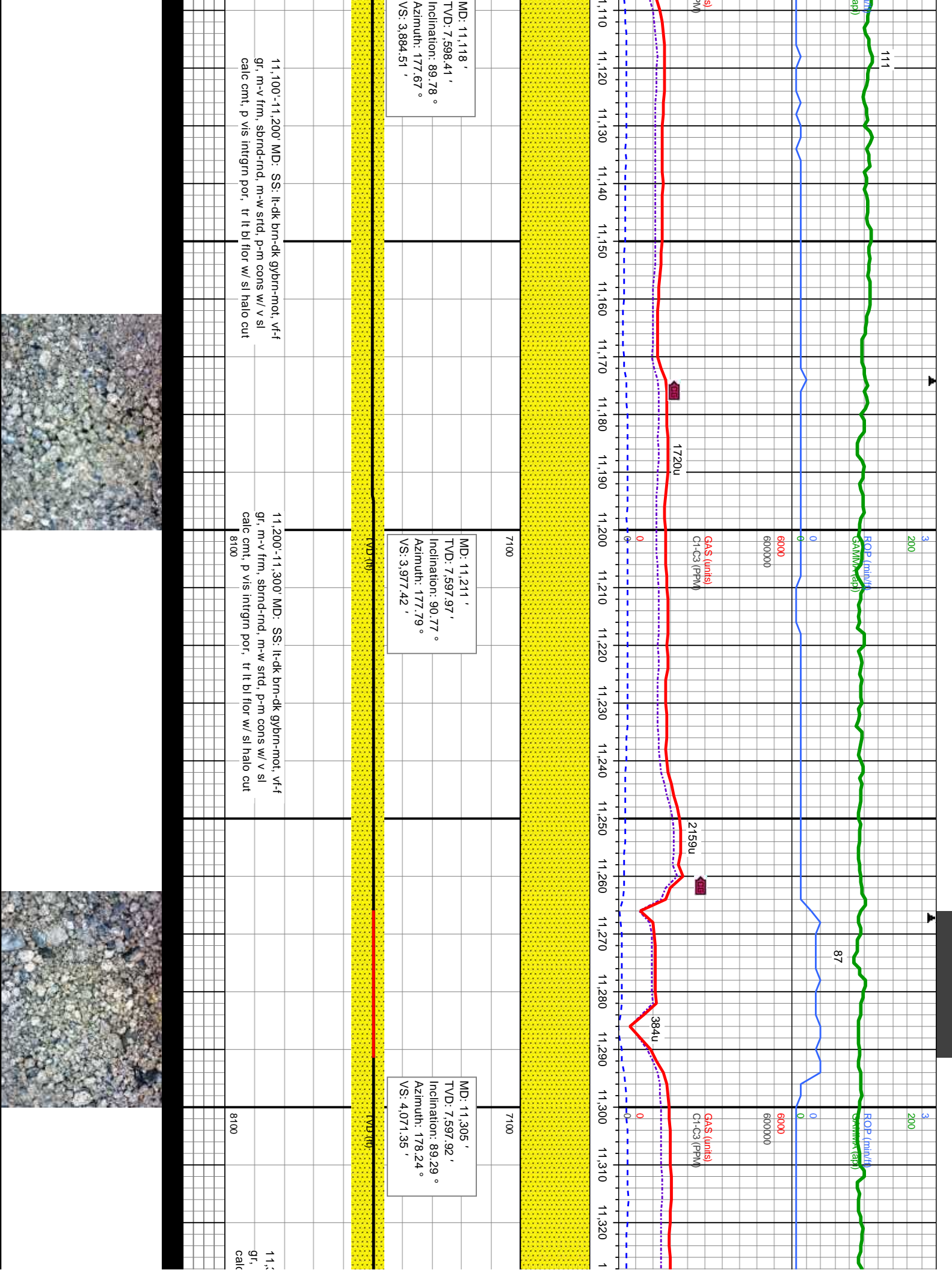
WT IN: 9.5+
VIS IN: 50

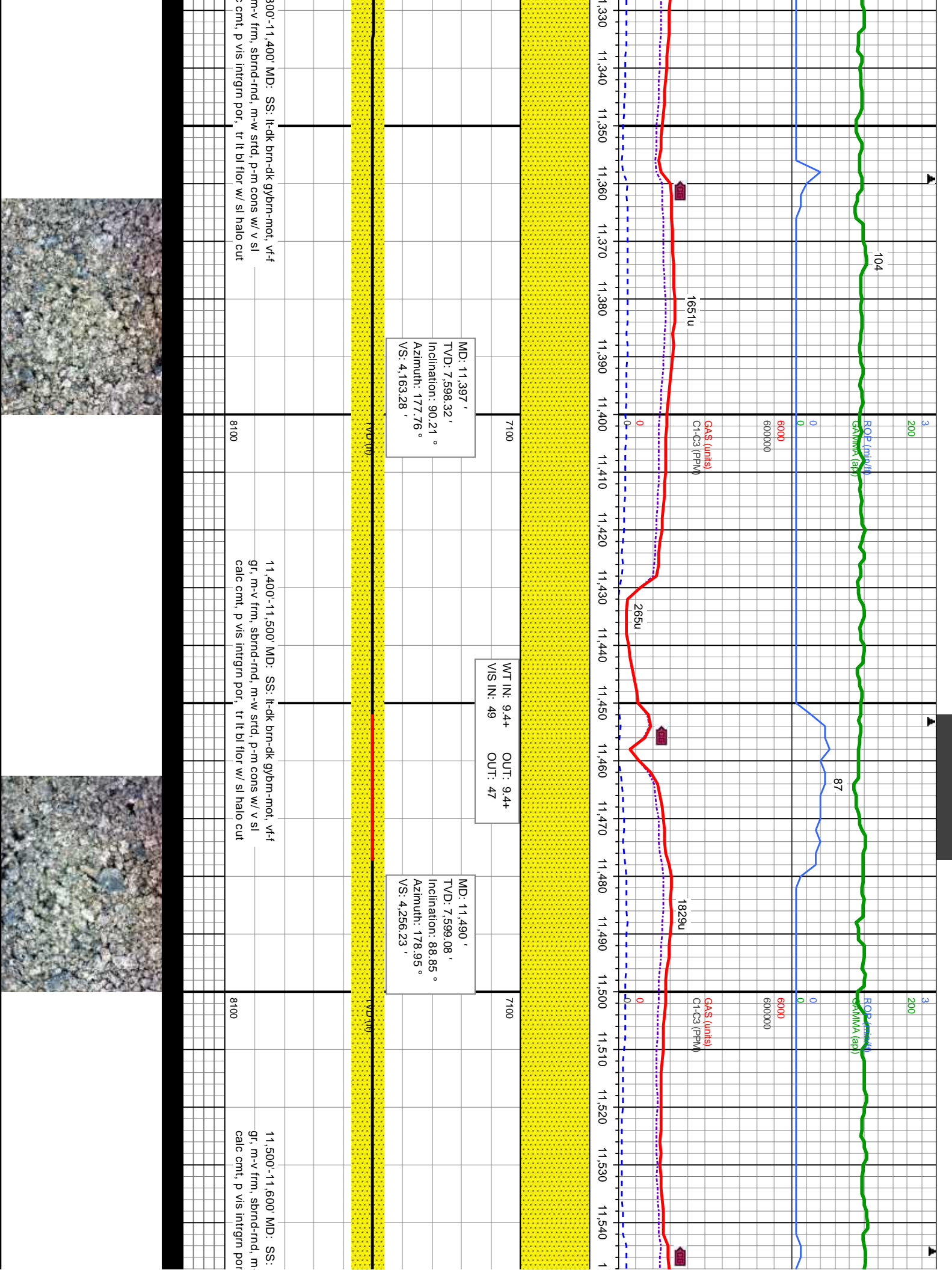
10700'-10800' MD: SS: lt-dk brn-dk gybrn-mot, vf-f gr, m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc cmf, p vis intrgrn por, tr lt bl flwr w/ sl halo cut

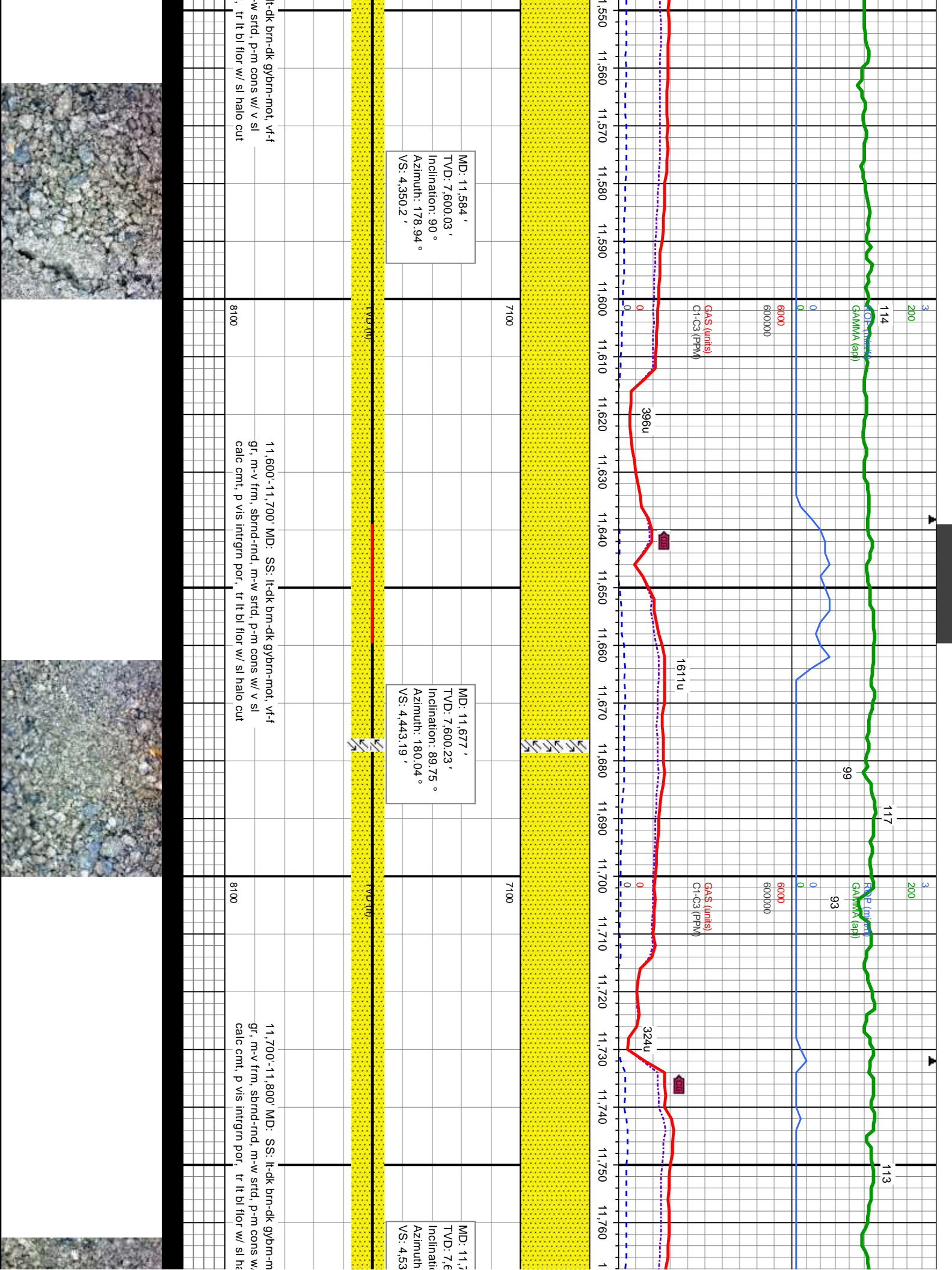
10800'-10900' MD: SS: lt-dk brn-dk gybrn-mot, vf-f gr, m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc cmf, p vis intrgrn por, tr lt bl flwr w/ sl halo cut

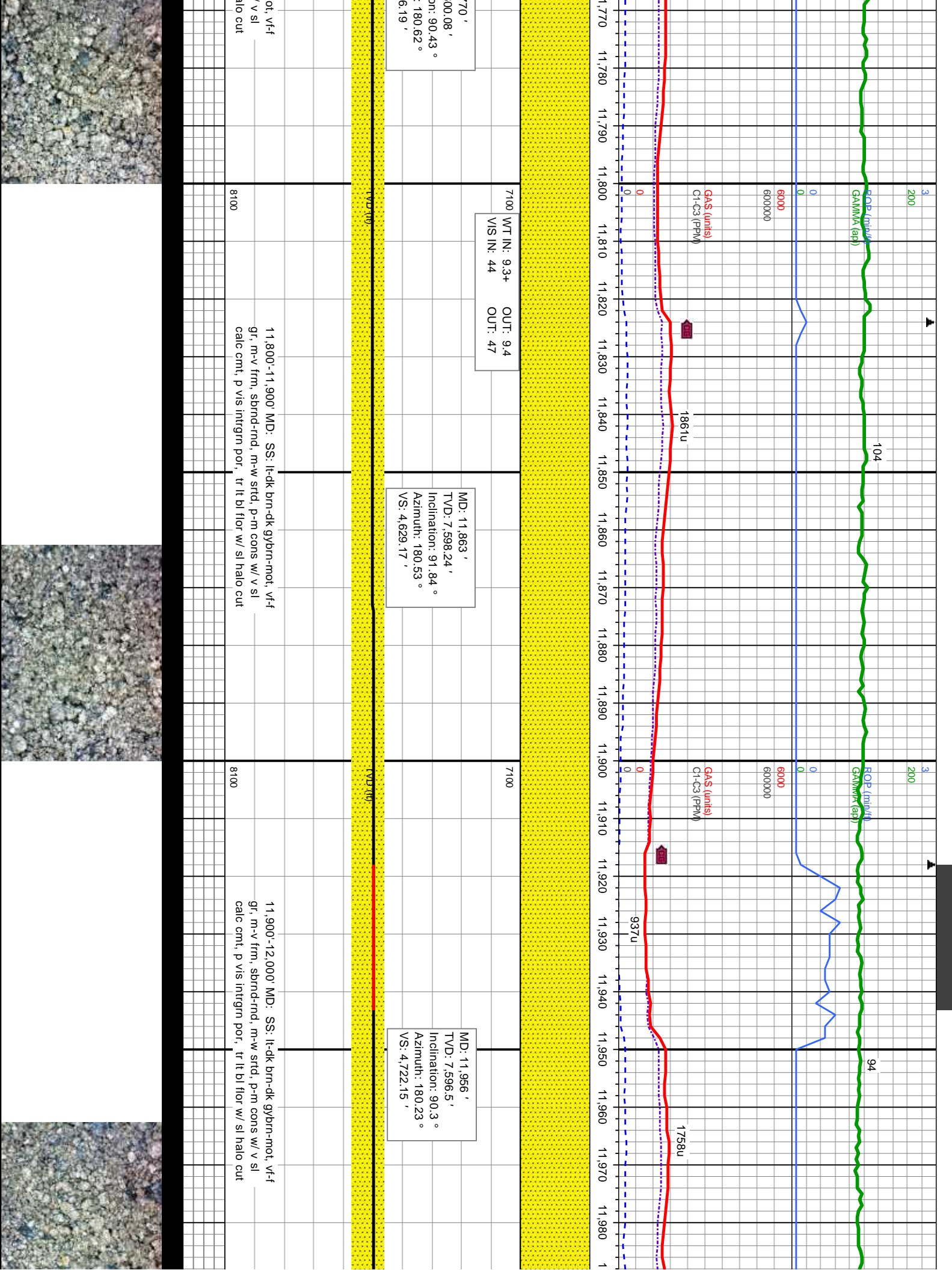


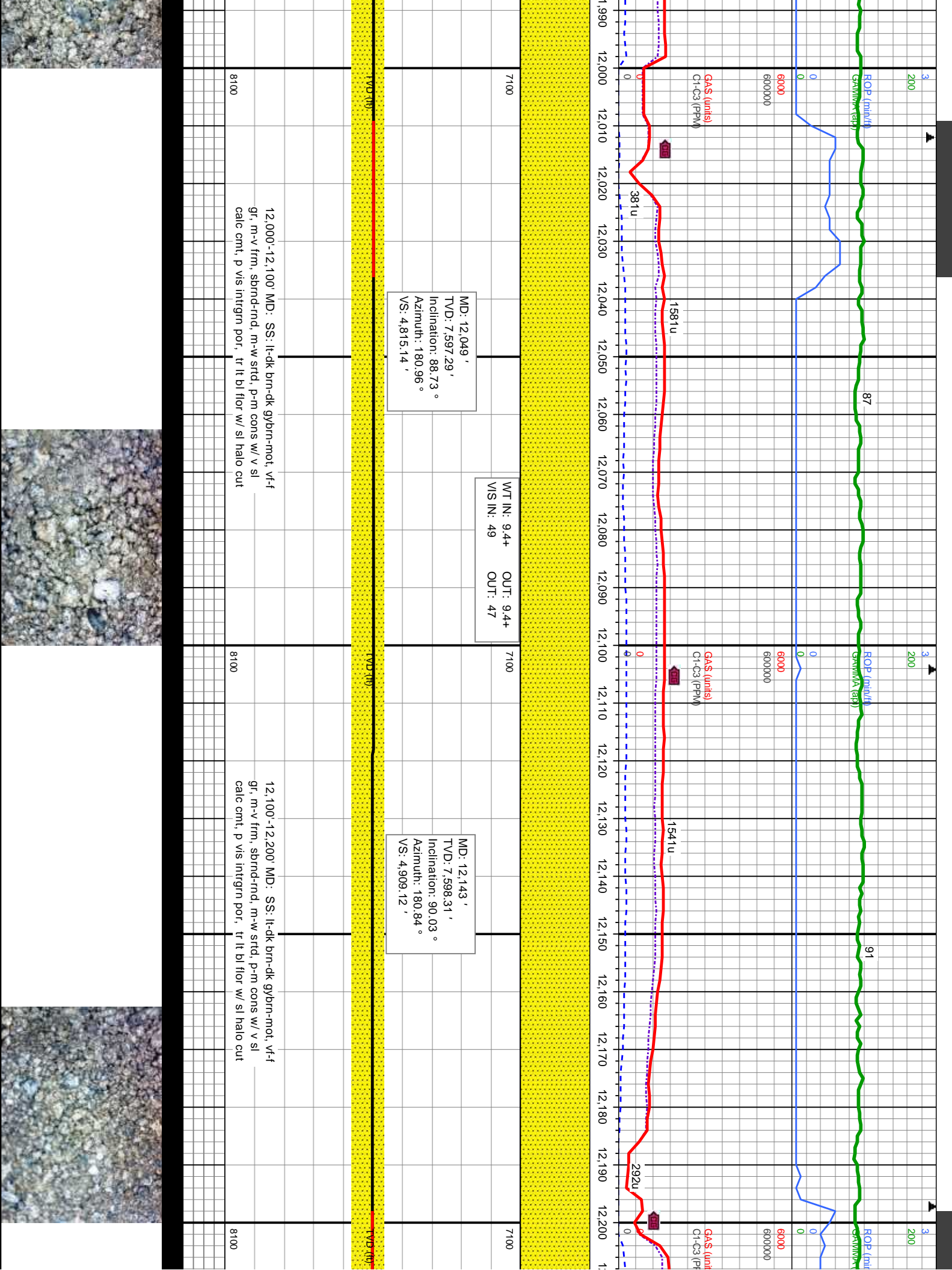


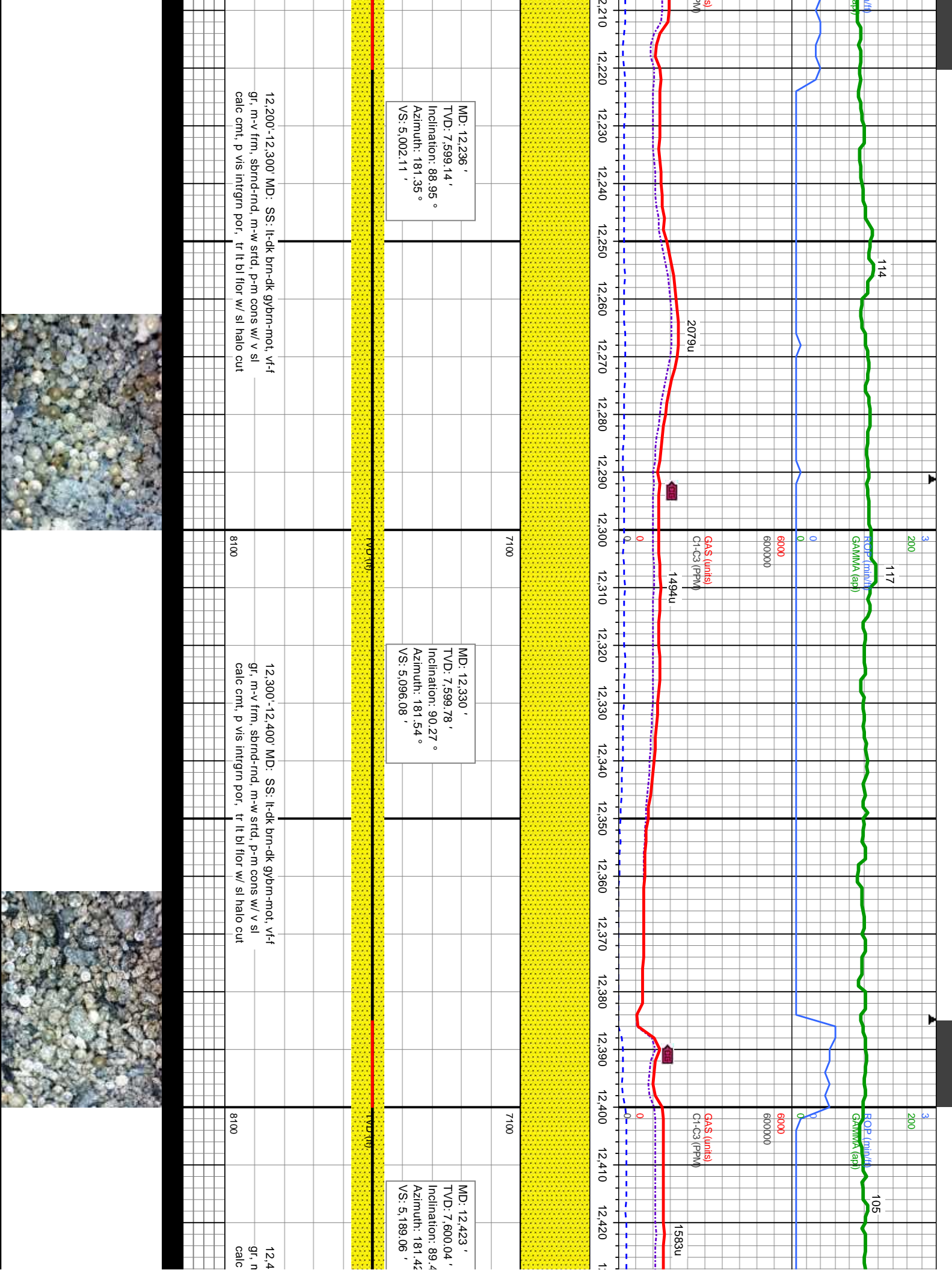


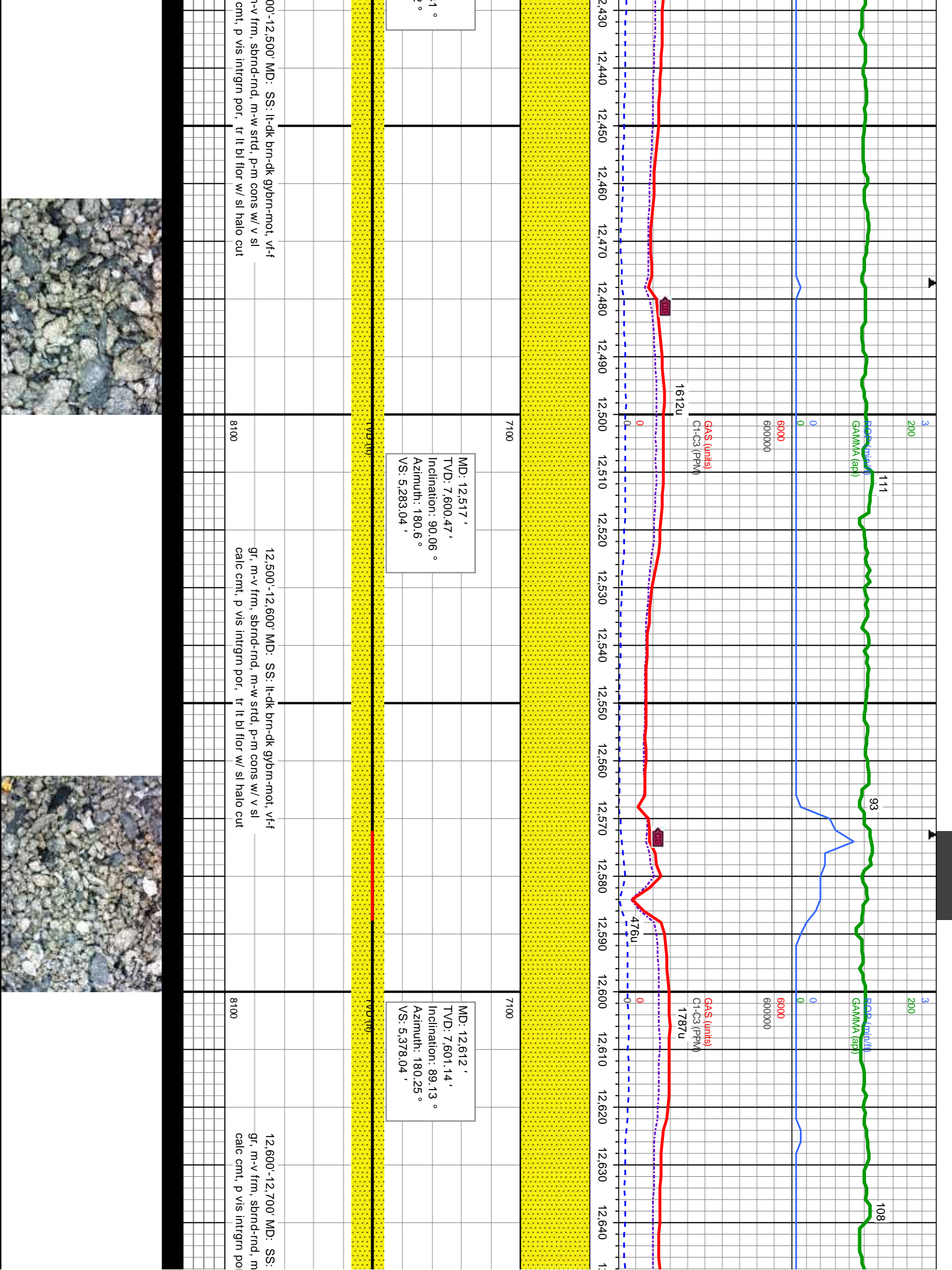


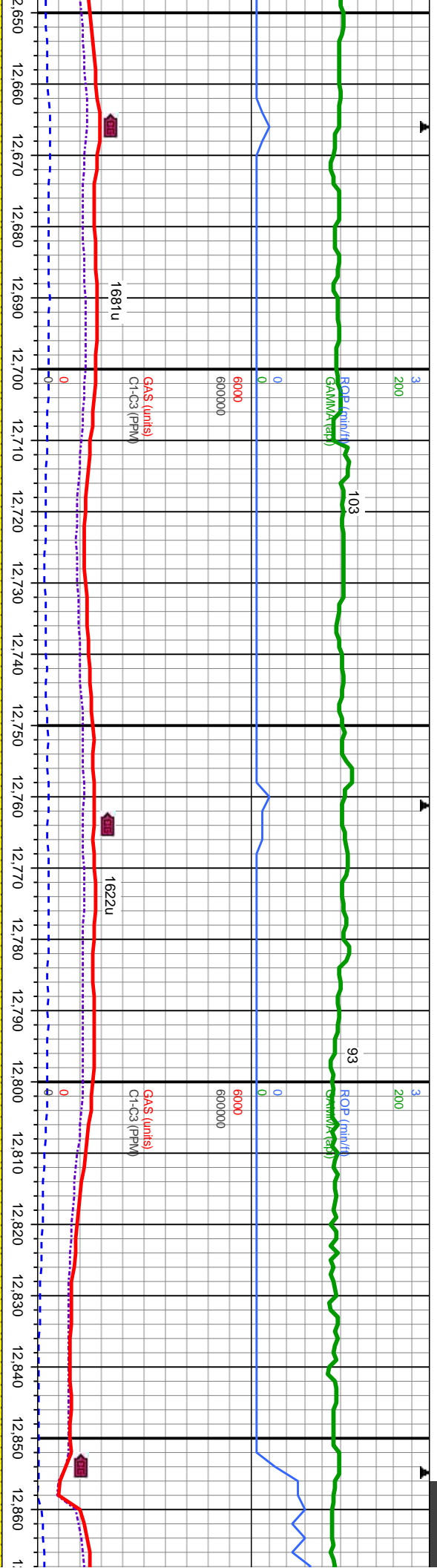












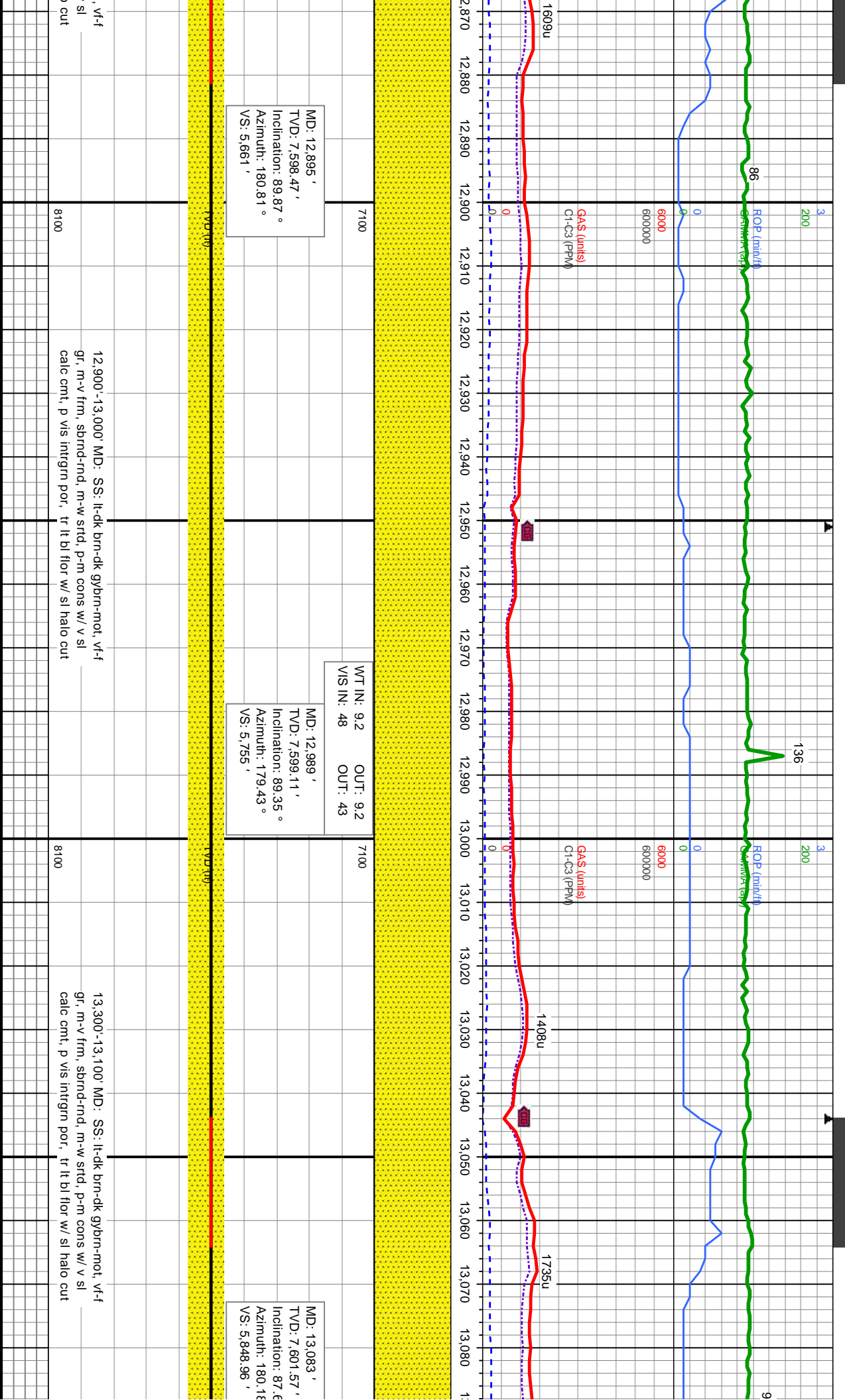
MD: 12,706 '
TVD: 7,601.5 '
Inclination: 90.43 °
Azimuth: 180.38 °
VS: 5.472.04 '

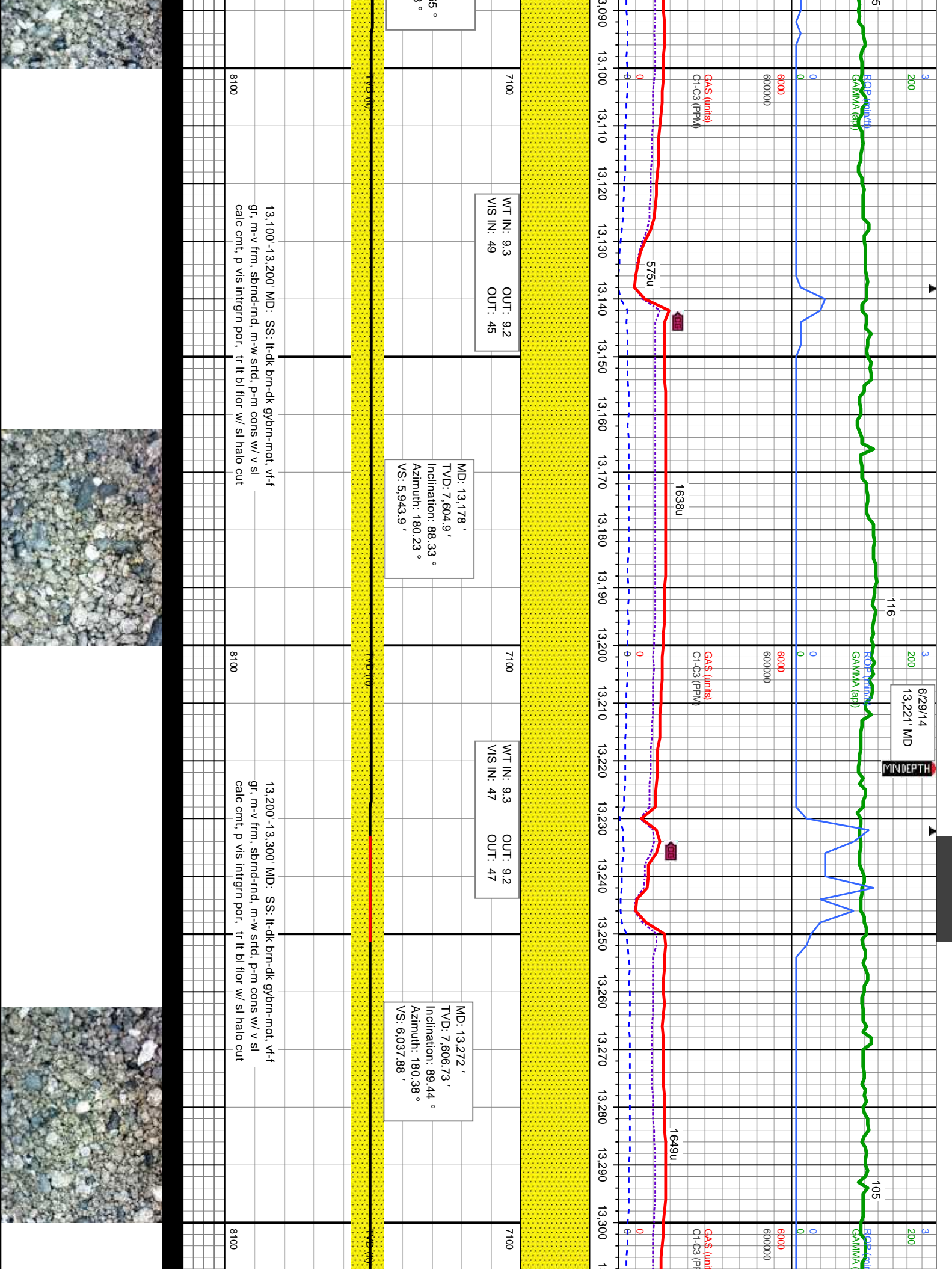
MD: 12,801 '
TVD: 7,599.75 '
Inclination: 91.69 °
Azimuth: 180.44 °
VS: 5.567.02 '

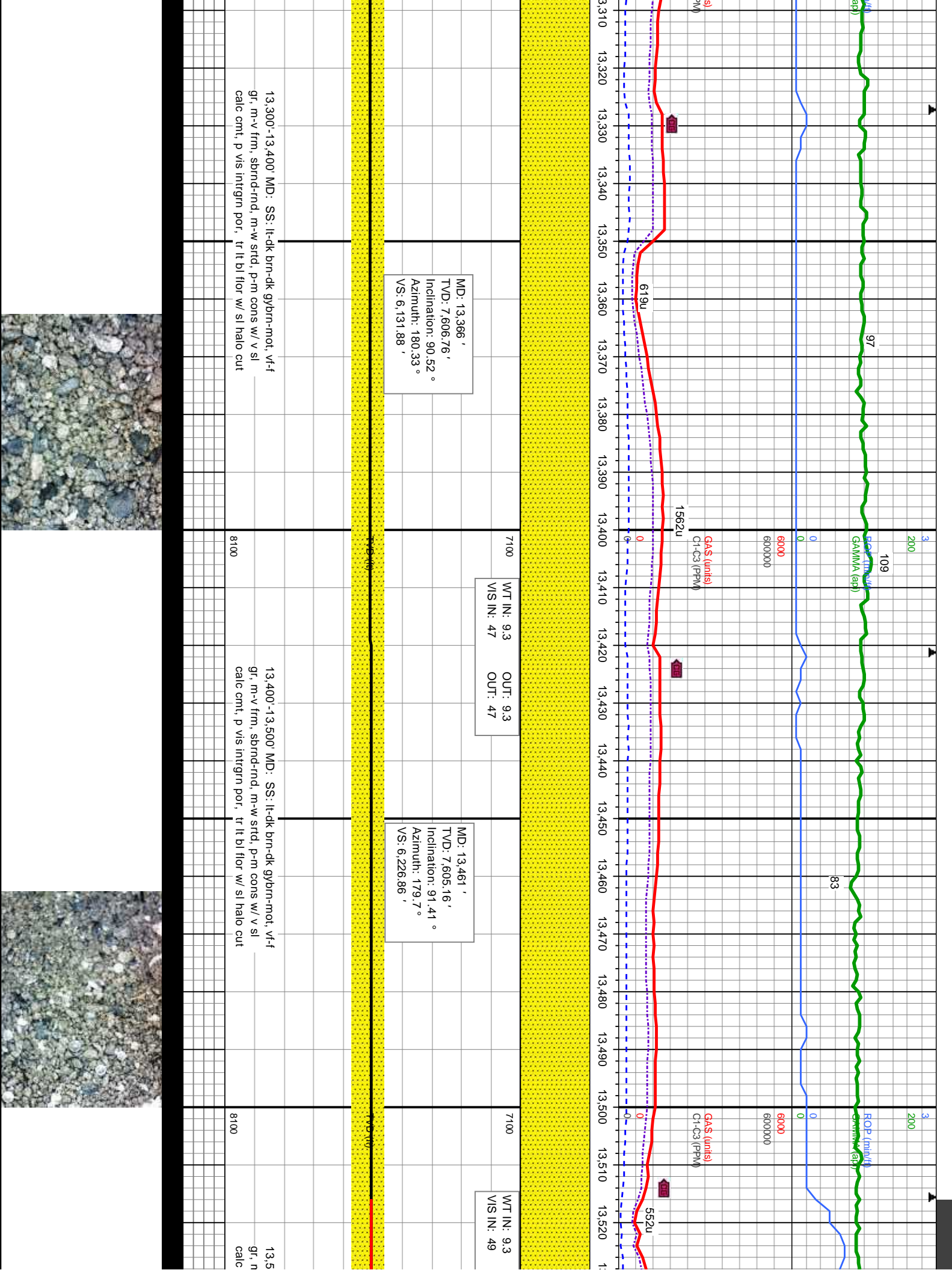
WT IN: 9.3 OUT: 9.3
VIS IN: 60 OUT: 46

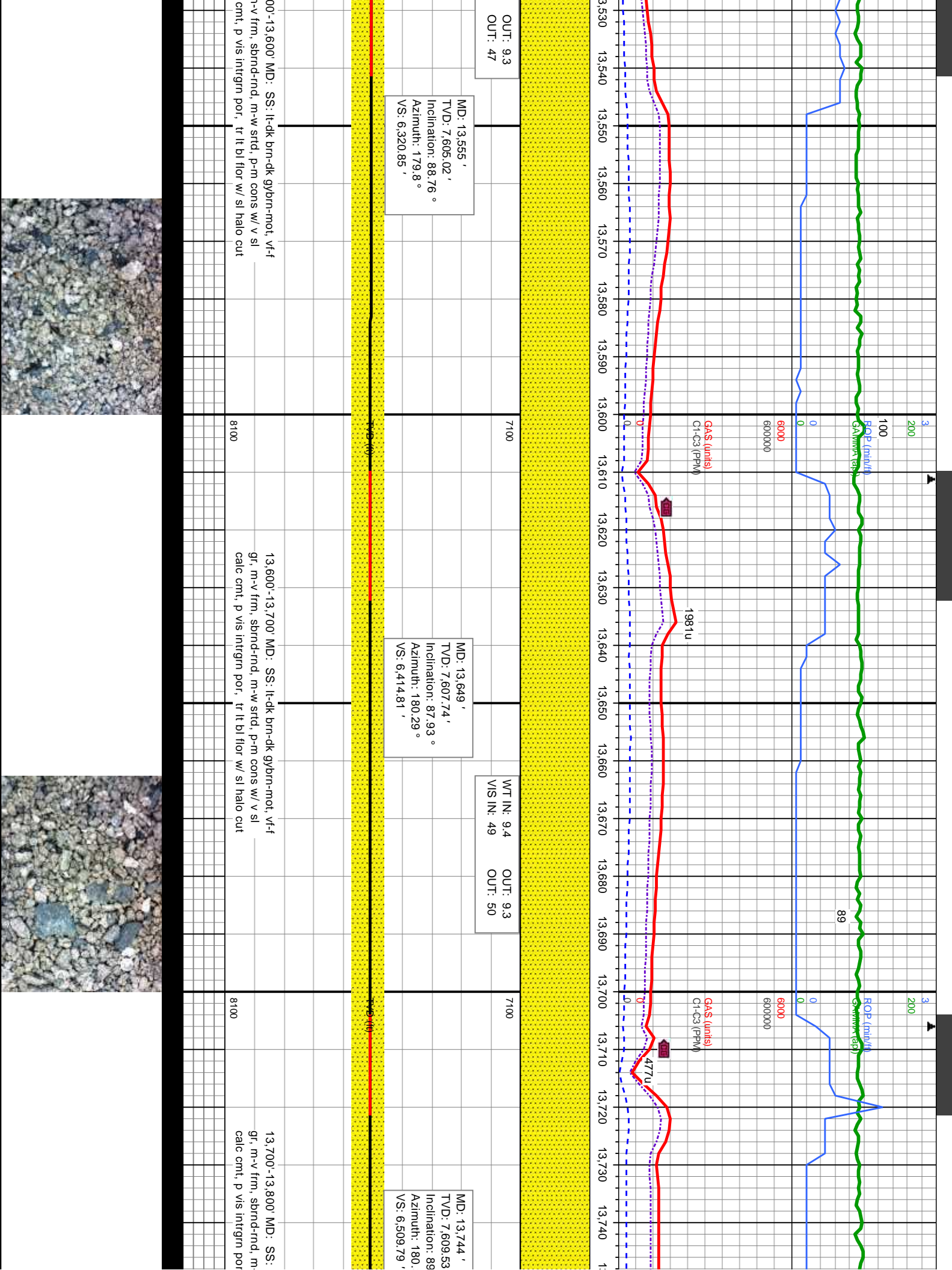
It-dk brn-dk gybrn-mot, vf-f	
w-std, p-m cons w/ v sl	
tr lt bl flwr w/ sl halo cut	
8100	
12,700'-12,800' MD: SS: It-dk brn-dk gybrn-mot, vf-f	
gr, m-v frm, sbnd-rnd, m-w std, p-m cons w/ v sl	
calc cmt, p vis intrgrn por, tr lt bl flwr w/ sl halo cut	
8100	
12,800'-12,900' MD: SS: It-dk brn-dk gybrn-mot	
gr, m-v frm, sbnd-rnd, m-w std, p-m cons w/ v	
calc cmt, p vis intrgrn por, tr lt bl flwr w/ sl halo	

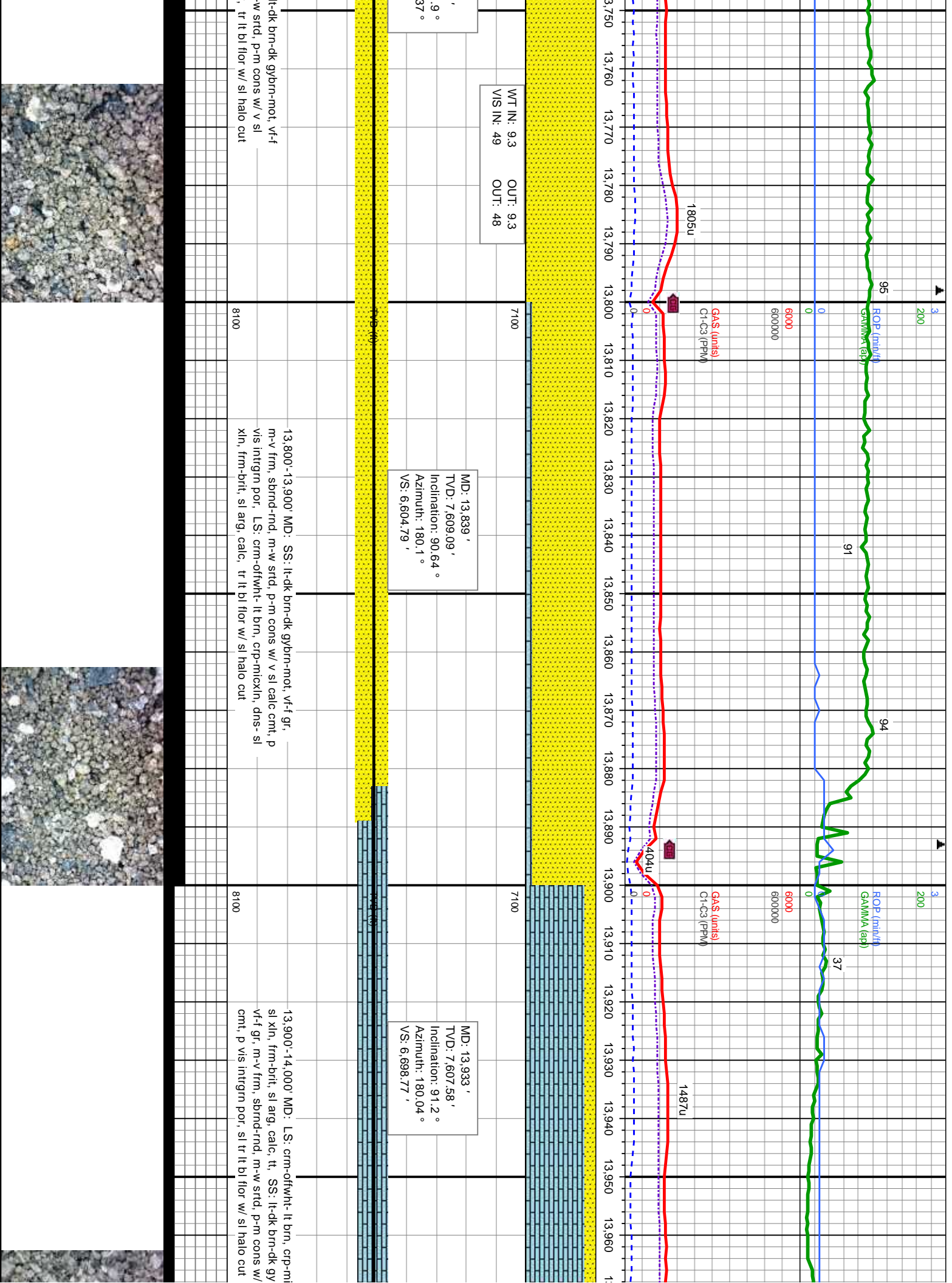


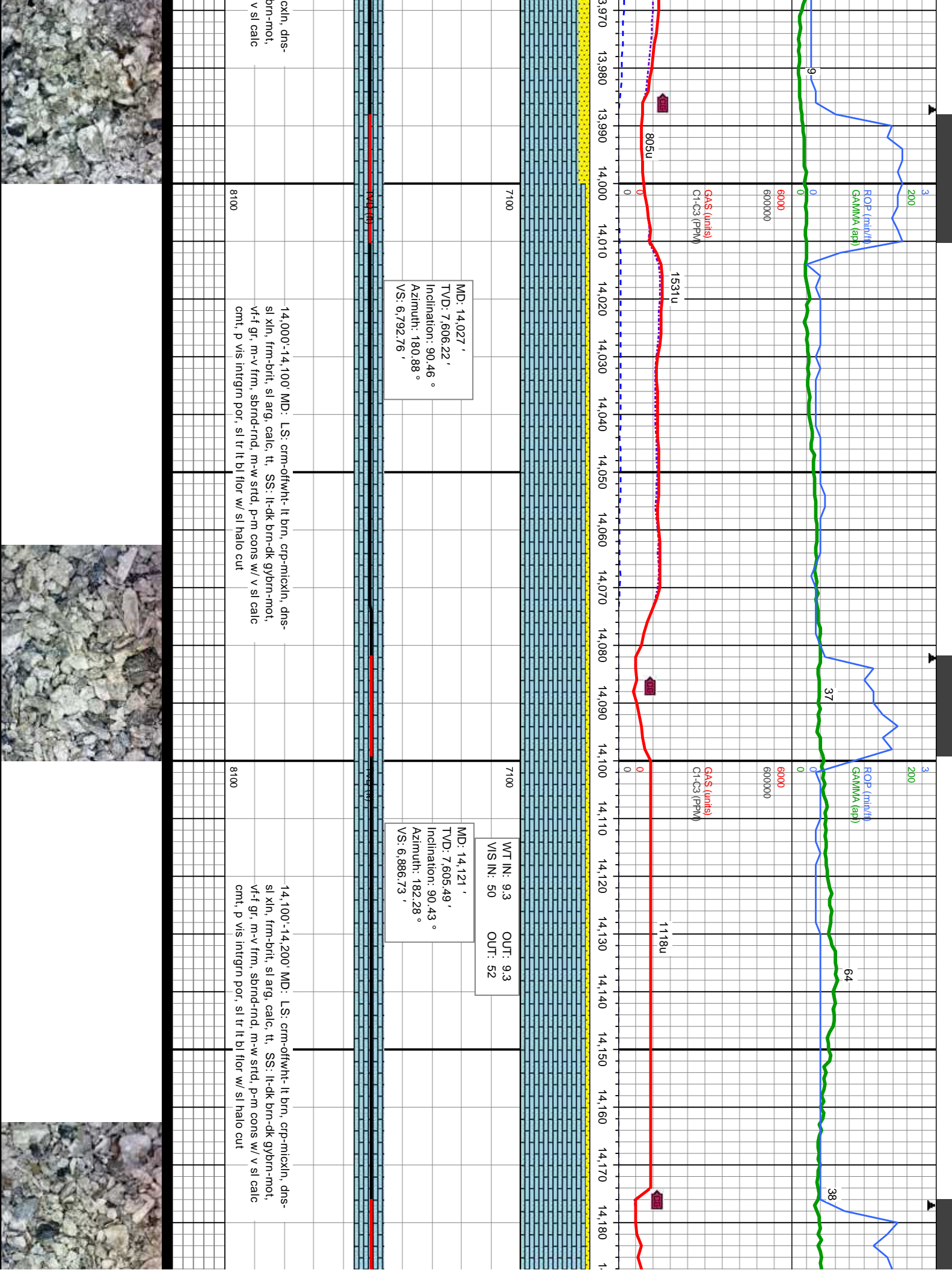


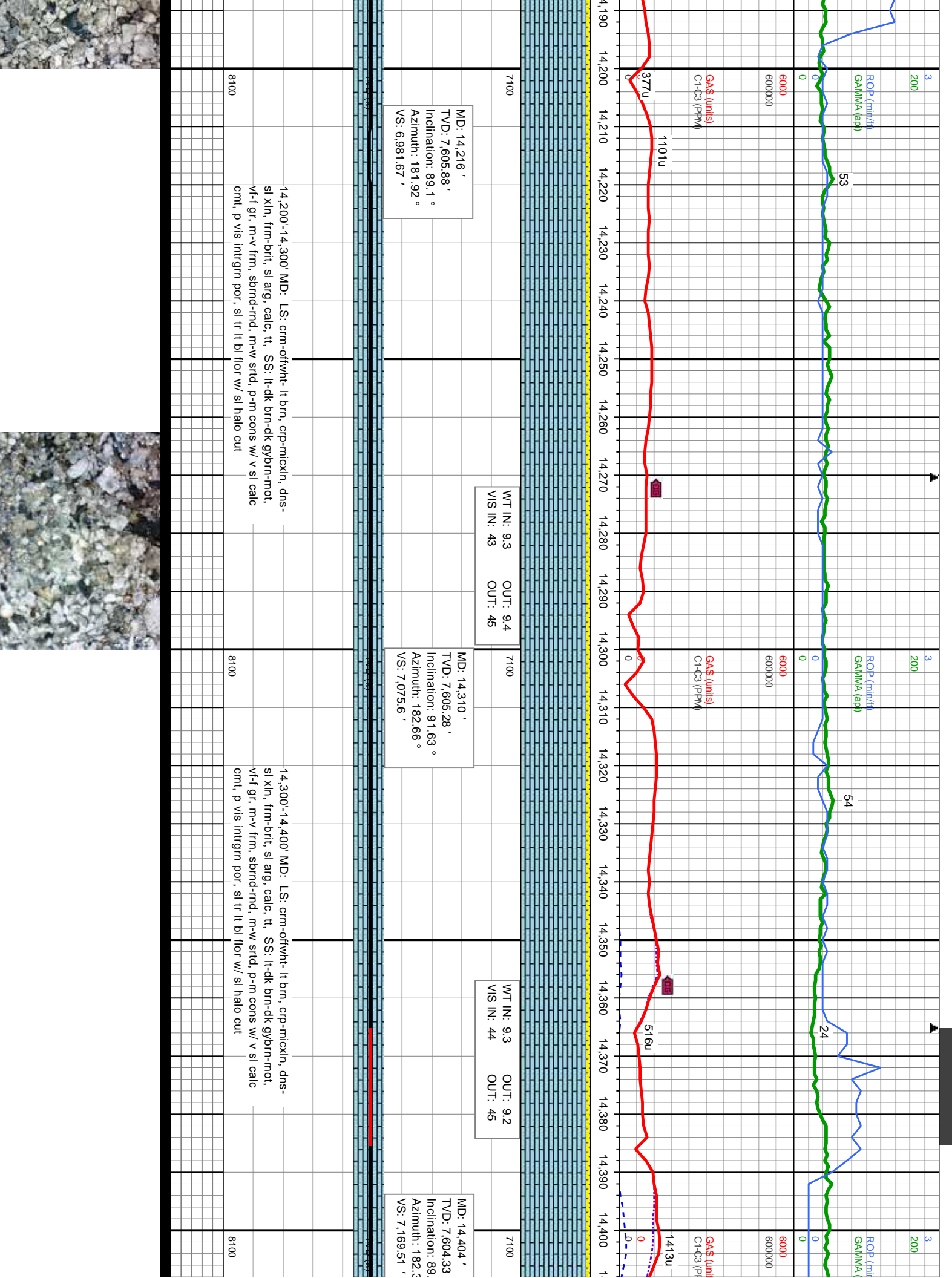


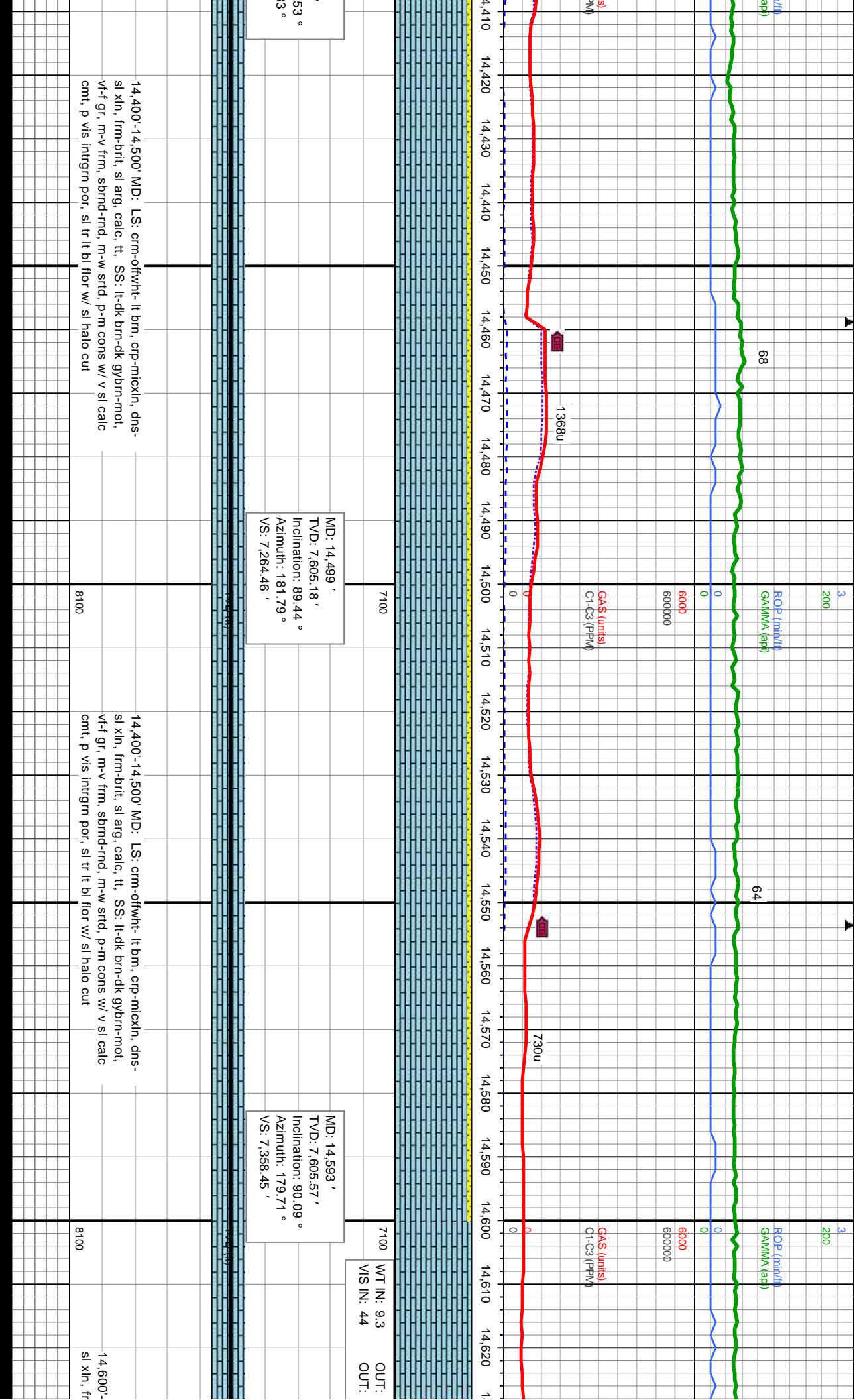












MD: 14,499 '
TVD: 7,605.18 '
Inclination: 89.44 °
Azimuth: 181.79 °
VS: 7,264.46 '

MD: 14,593 '
TVD: 7,605.57 '
Inclination: 90.09 °
Azimuth: 179.71 °
VS: 7,358.45 '

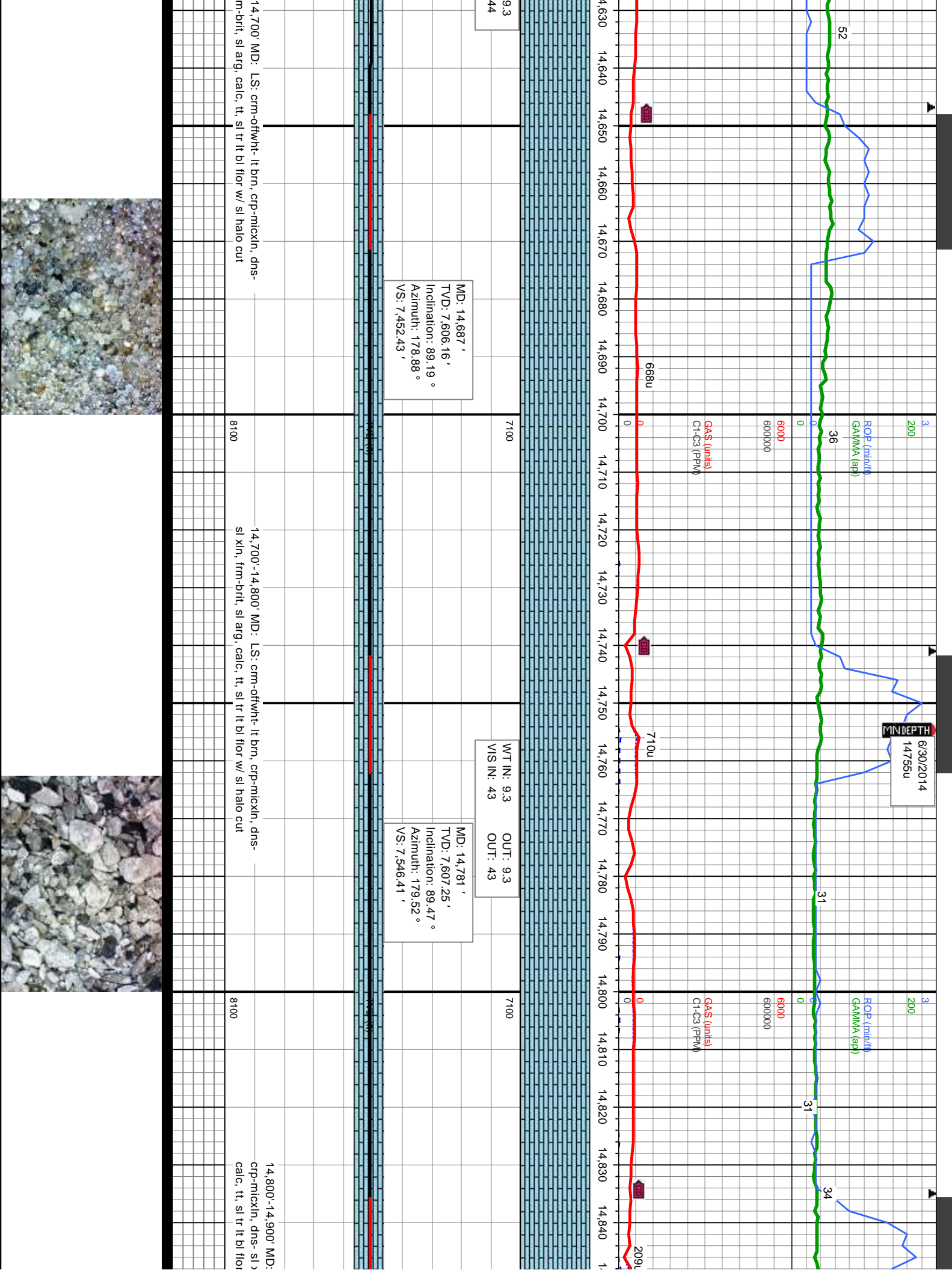
WT IN: 9.3
VIS IN: 44
OUT:

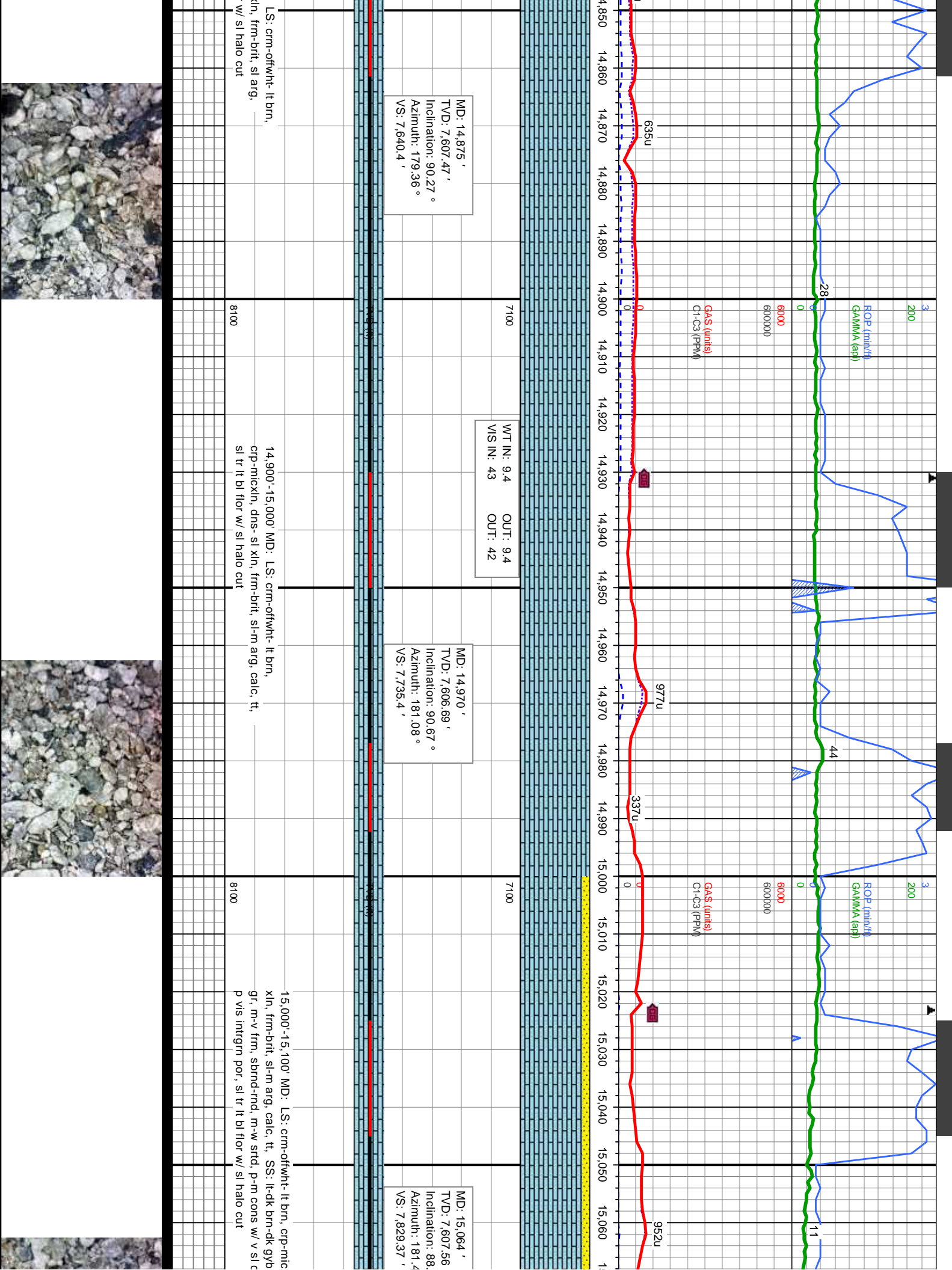
14,400'-14,500' MD: LS: crm-offwh- lt brn, cnp-micxln, dns-si xln, frm-brlt, sl arg, calc, it, SS: lt-dk brn-dk gybrn-mot, vf-f gr, m-v frm, sbnd-nd, m-w strd, p-m cons w/ v sl calc cmt, p vis intrgrn por, sl tr lt bl flwr w/ sl halo cut

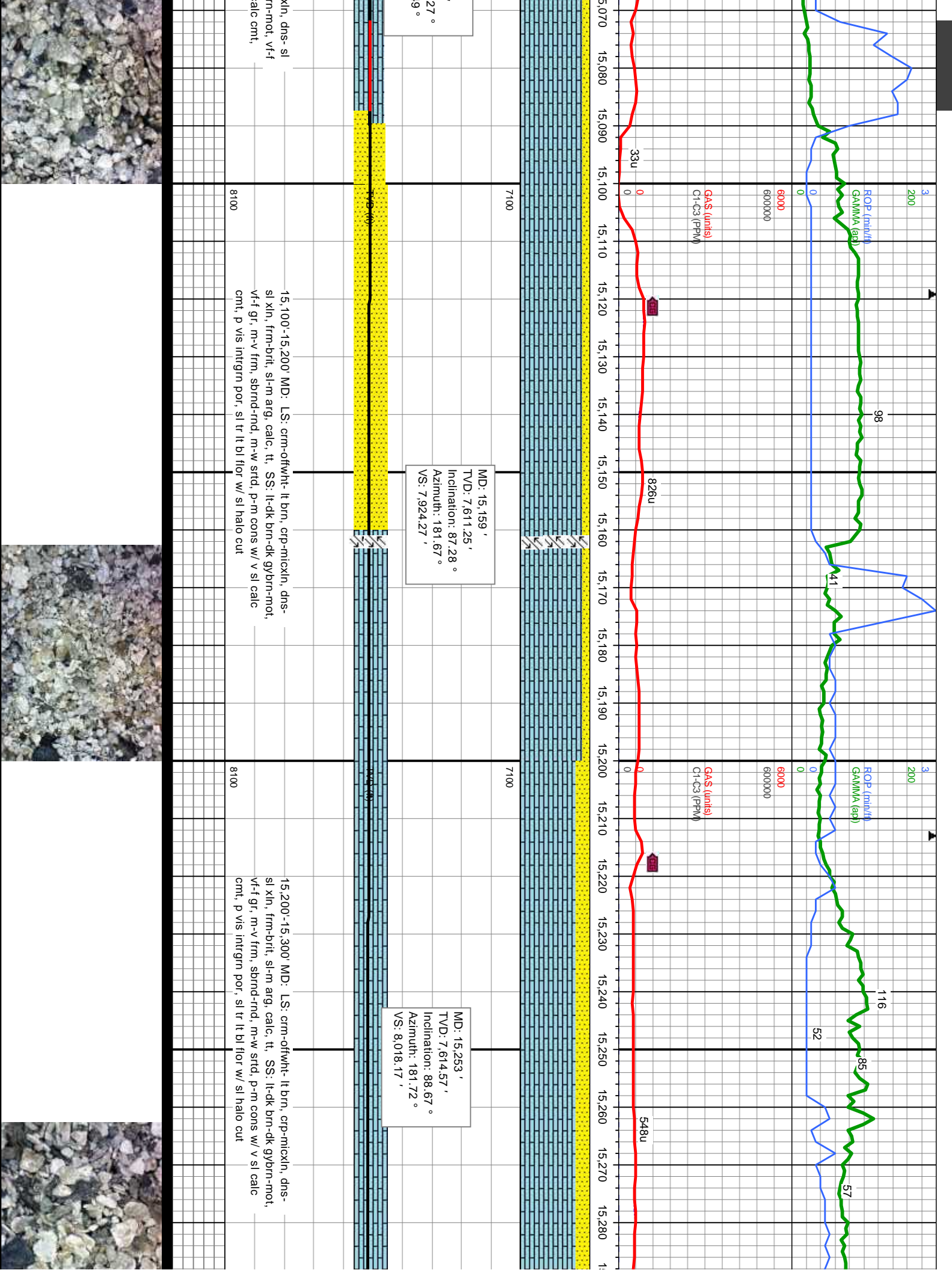
14,500'-14,600' MD: LS: crm-offwh- lt brn, cnp-micxln, dns-si xln, frm-brlt, sl arg, calc, it, SS: lt-dk brn-dk gybrn-mot, vf-f gr, m-v frm, sbnd-nd, m-w strd, p-m cons w/ v sl calc cmt, p vis intrgrn por, sl tr lt bl flwr w/ sl halo cut

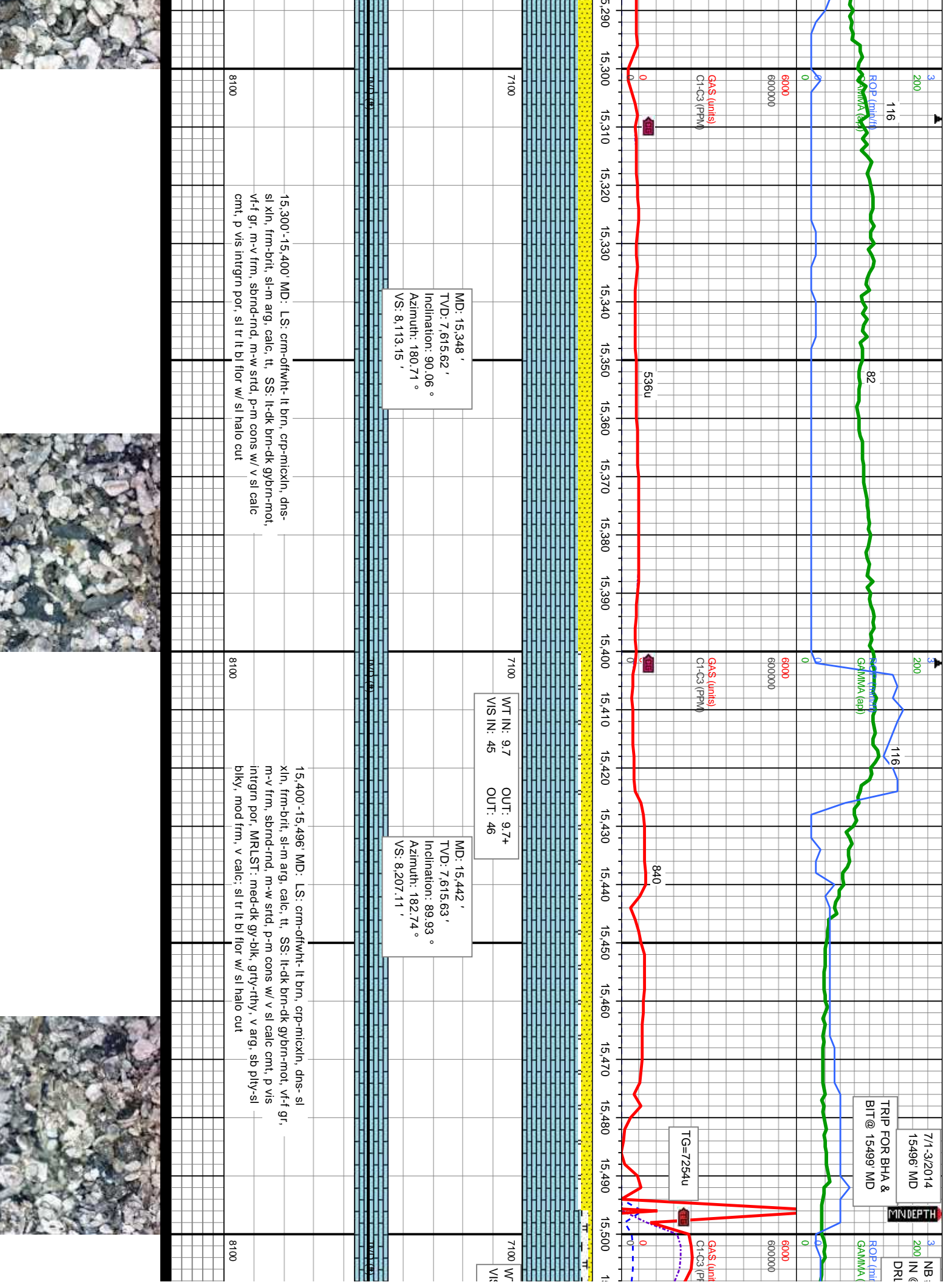
14,600'-
sl xln, fr

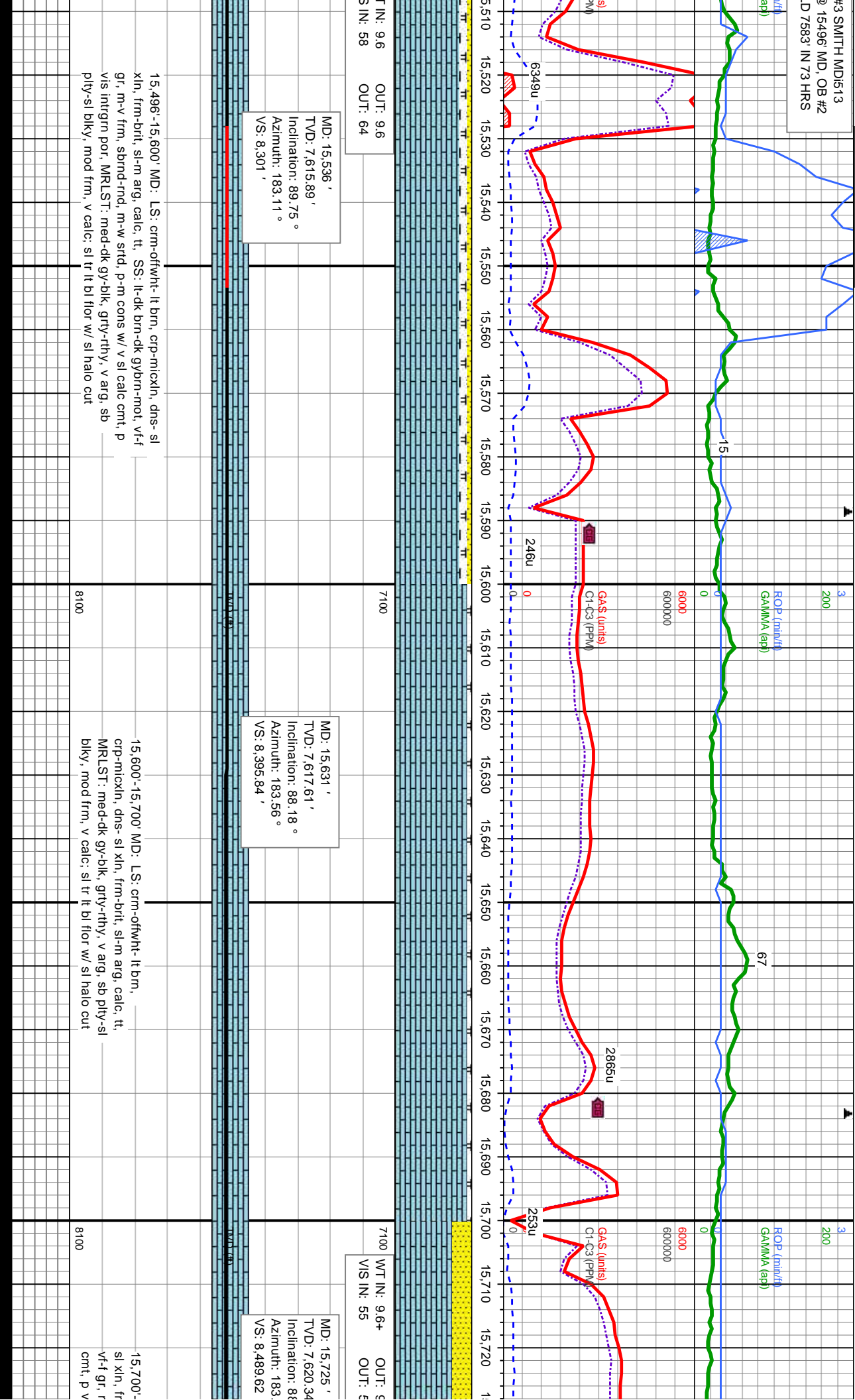


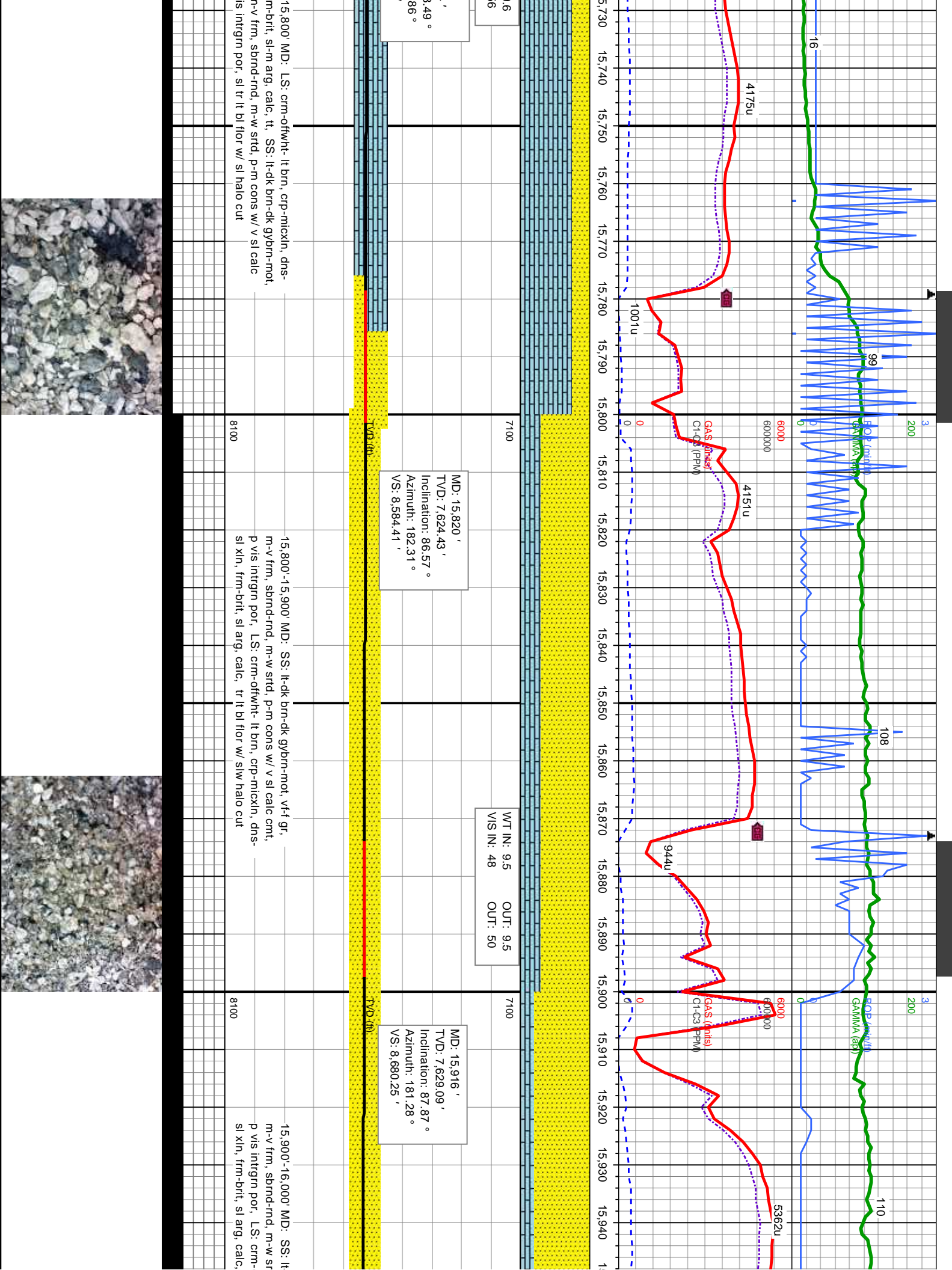


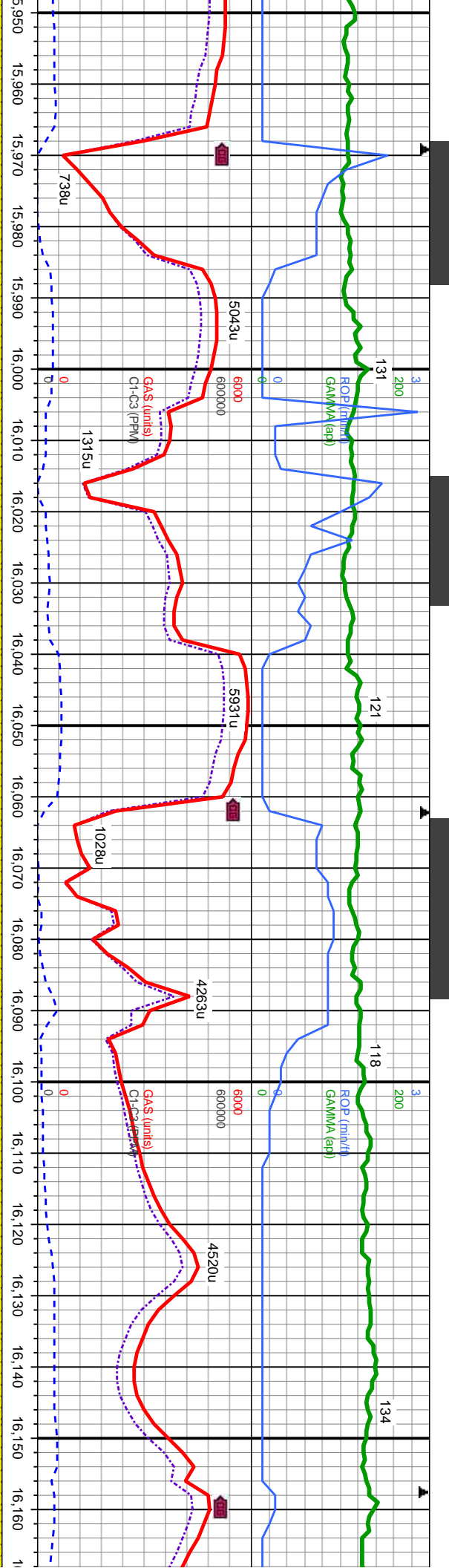












MD: 16,010 '
TVD: 7,632.35 '
Inclination: 88.15 °
Azimuth: 181.03 °
VS: 8,774.18 '

TVD (ft)

WT IN: 9.4+ OUT: 9.4
VIS IN: 44 OUT: 43

MD: 16,104 '
TVD: 7,633.42 '
Inclination: 90.55 °
Azimuth: 180.11 °
VS: 8,868.17 '

TVD (ft)

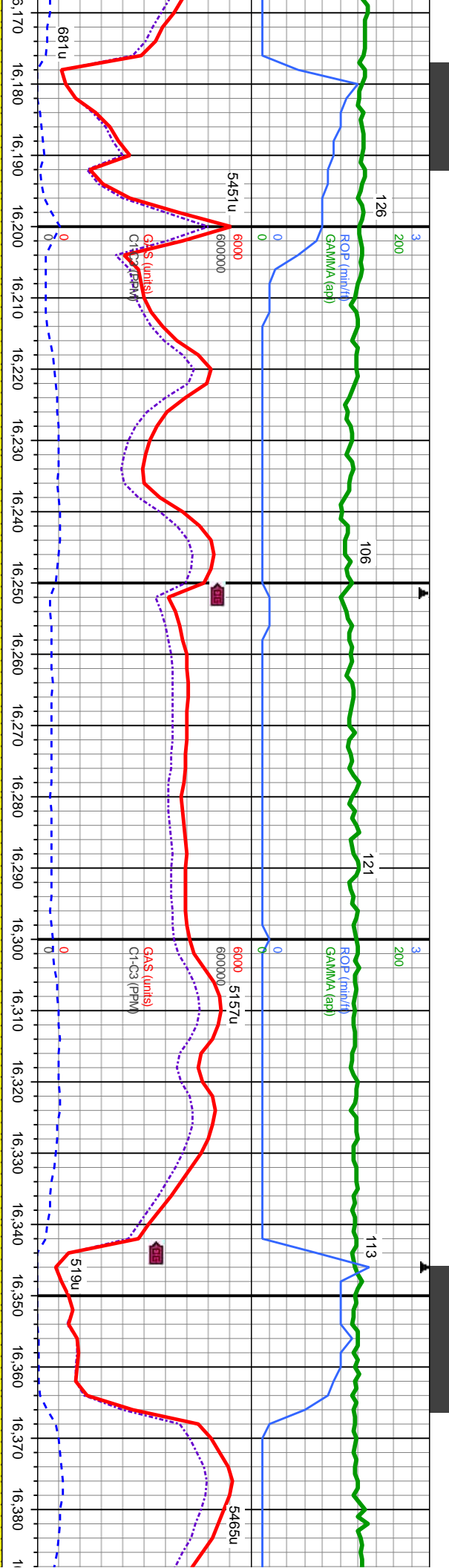
WT IN: 9.4
VIS IN: 43

dk brn-dk gybrn-mot, vf-f gr,
td, p-m cons w/ v sl calc cm,
offwh- lt brn, crp-micxln, dns-
r lt bl flr w/ slw halo cut

16,000'-16,100' MD: SS: lt-dk brn-dk gybrn-mot, vf-f gr,
m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc
cm, p vis intrgrn por, tr lt bl flr w/ slw halo cut

16,100'-16,200' MD: SS: lt-dk brn-dk gybrn-mo
m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl
cm, p vis intrgrn por, tr lt bl flr w/ slw halo cut





OUT: 9.4
DUT: 42

7100

MD: 16,198 '
TVD: 7,633.5 '
Inclination: 89.35 °
Azimuth: 181.49 °
VS: 8,962.16 '

TVD (ft)

WT IN: 9.4
VS IN: 43
OUT: 9.4
DUT: 43

8100

MD: 16,293 '
TVD: 7,635.07 '
Inclination: 88.76 °
Azimuth: 181.2 °
VS: 9,057.12 '

TVD (ft)

MD: 16,381 '
TVD: 7,636 '
Inclination
Azimuth: 1
VS: 9,152. '

i, v-f gr,
calc
it

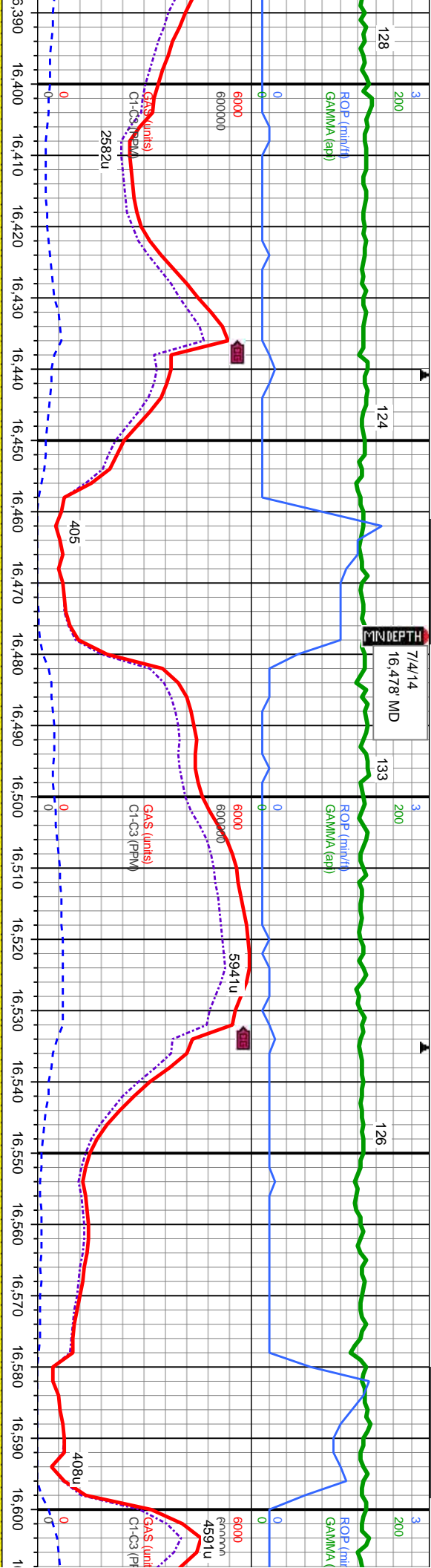
8100

16,200'-16,300' MD: SS: lt-dk brn-dk gybrn-mot, v-f gr,
m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc
cmf, p vis intrgrn por, tr lt bl flr w/ slw halo cut

8100

16,300'-16,400' MD: SS: lt-dk brn-dk gybrn-mot, v-f gr,
m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc
cmf, p vis intrgrn por, tr lt bl flr w/ slw halo cut





WT IN: 9.5
VIS IN: 44
OUT: 9.4
OUT: 43

MD: 16,483 '
TVD: 7,636.26 '
Inclination: 90.24 °
Azimuth: 180.45 °
VS: 9,247.09 '

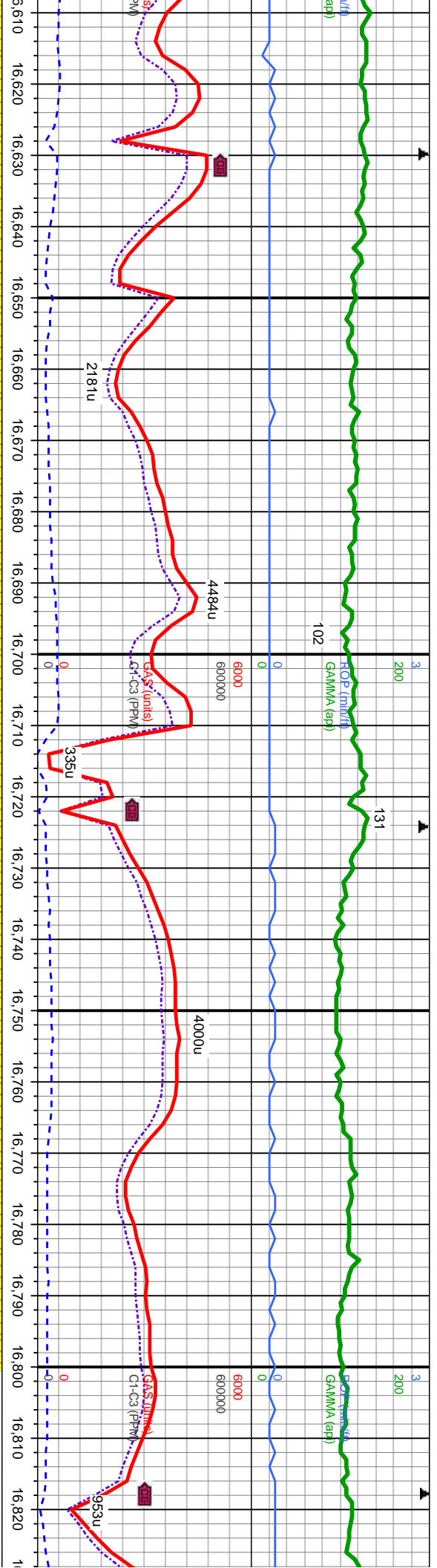
WT IN: 9.5
VIS IN: 44
OUT: 9.5
OUT: 45

MD: 16,578 '
TVD: 7,636.12 '
Inclination: 89.93 °
Azimuth: 180.07 °
VS: 9,342.09 '

16,400'-16,500' MD: SS: lt-dk brn-dk gybrn-mot, vf-f gr,
m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc
cnt, p vis intgrn por, tr lt bl flr w/ slw halo cut

16,500'-16,600' MD: SS: lt-dk brn-dk gybrn-mot, vf-f gr,
m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc
cnt, p vis intgrn por, tr lt bl flr w/ slw halo cut





T IN: 9.5
S IN: 44
OUT: 9.5
OUT: 43

WT IN: 9.5
VIS IN: 43
OUT: 9.5
OUT: 43

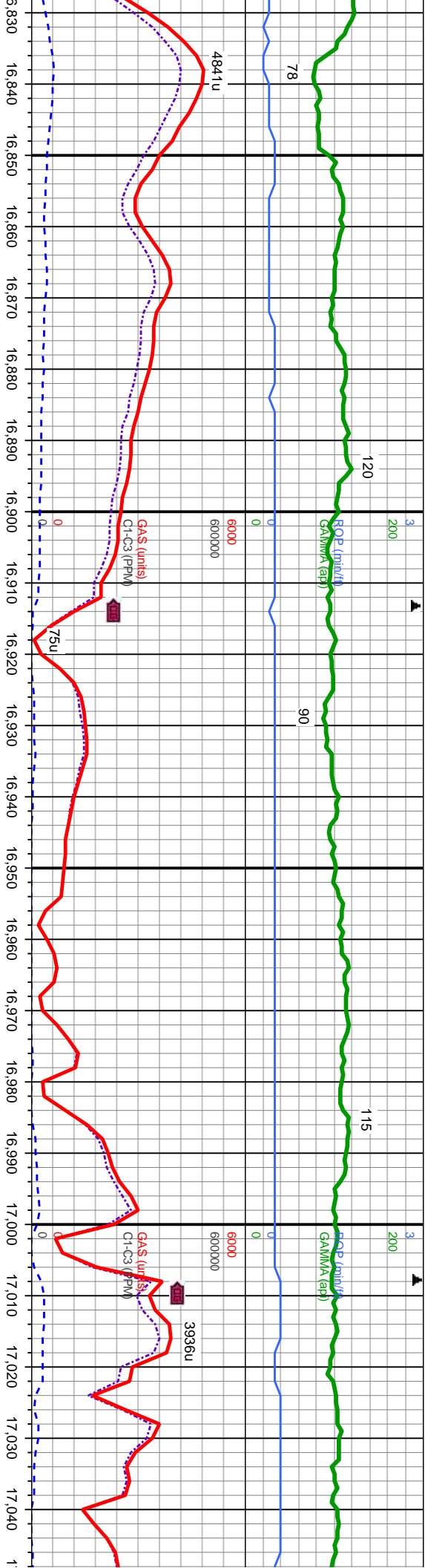
MD: 16,673 '
TVD: 7,635.8 '
Inclination: 90.46 °
Azimuth: 180.24 °
VS: 9,437.09 '

MD: 16,767 '
TVD: 7,634.99 '
Inclination: 90.52 °
Azimuth: 180.47 °
VS: 9,531.09 '

TVD (ft)		TVD (ft)	
16,600'-16,700' MD: SS; lt-dk brn-dk gybrn-mot, v-f gr, m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc cmt, p vis intrgrn por, tr lt bl flr w/ slw halo cut		16,700'-16,800' MD: SS; lt-dk brn-dk gybrn-mot, v-f gr, m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc cmt, p vis intrgrn por, tr lt bl flr w/ slw halo cut	
8100		8100	



16,800'
m-v fr
vis int
sily, n



MD: 16,860 '
TVD: 7,634.43 '
Inclination: 90.18 °
Azimuth: 180.52 °
VS: 9,624.08 '

TVD (ft)

7100

MD: 16,954 '
TVD: 7,634.41 '
Inclination: 89.84 °
Azimuth: 180.45 °
VS: 9,718.08 '

TVD (ft)

7100

WT IN: 9.5
VIS IN: 43
OUT: 9.5
OUT: 51

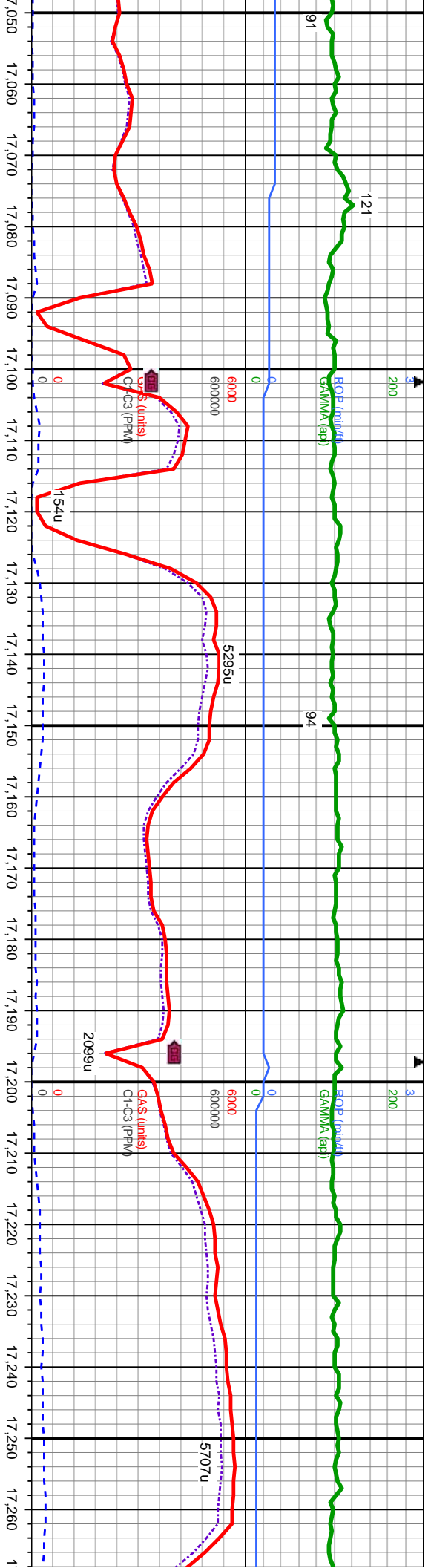
MD: 17,041 '
TVD: 7,634.41 '
Inclination: 89.84 °
Azimuth: 180.45 °
VS: 9,812.08 '

16,830'-16,900' MD: SS: lt-dk brn-dk gybrn-mot, vt-f gr, m, sbnd-rnd, m-w srt, p-m cons w/ v sl calc cnt, p intgrn por, SH: blk-v dk gy, blk-y-sbply, hd-brt, v sl micnica, n- v sl calc, tr lt bl flr w/ slw halo cut

16,900'-17,000' MD: SS: lt-dk brn-dk gybrn-mot, vt-f gr, m-v frm, sbnd-rnd, m-w srt, p-m cons w/ v sl calc cnt, p vis intgrn por, SH: blk-v dk gy, blk-y-sbply, hd-brt, v sl silty, micnica, n- v sl calc, tr lt bl flr w/ slw halo cut

17,000'-17,100' MD: SS: lt-dk brn-dk gybrn-mot, vt-f gr, m-v frm, sbnd-rnd, m-w srt, p-m cons w/ v sl calc cnt, p intgrn por, SH: blk-v dk gy, blk-y-sbply, hd-brt, v sl micnica, n- v sl calc, tr lt bl flr w/ slw halo cut





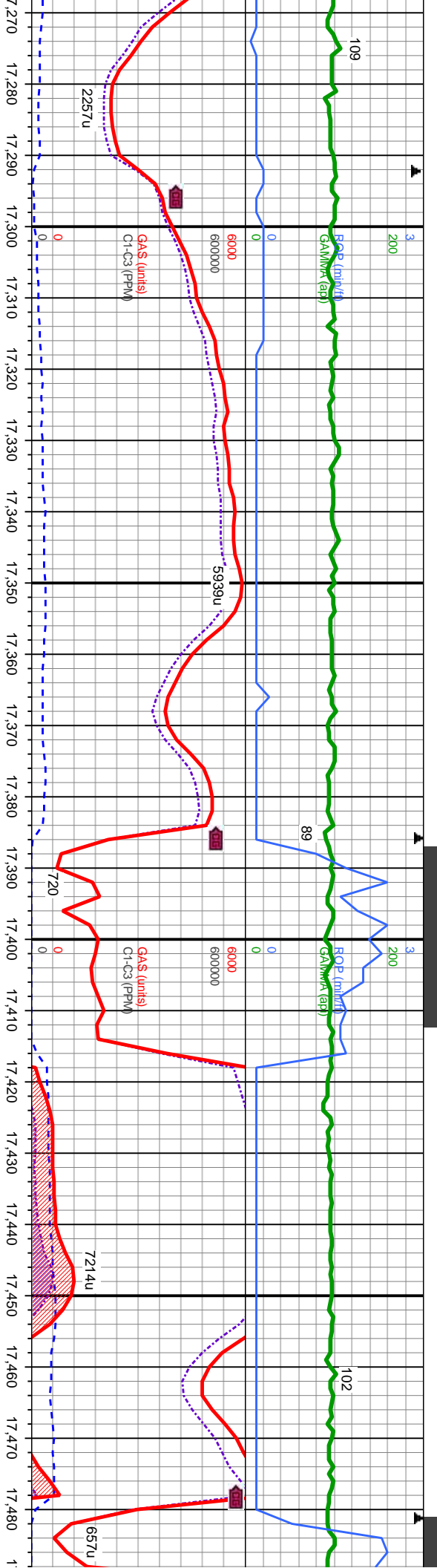
3' .
.37' .
90.21 °
80.77 °
88' .

MD: 17,143' .
TVD: 7,633.71' .
Inclination: 90.58 °
Azimuth: 181.53 °
VS: 9,907.06' .

MD: 17,239' .
TVD: 7,632.61' .
Inclination: 90.74 °
Azimuth: 181.9 °
VS: 10,003.02' .

brn-dk gybrn-mot, vf-f gr, m-v cons w/ v sl calc cmt, p vis /s, blk-y-sbply, hd-brlt, v sl slty, lor w/ slw halo cut	8100	17,100'-17,200' MD: SS: lt-dk brn-dk gybrn-mot, vf-f gr, m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc cmt, p vis intrgm por, tr SH: blk-v dk gy, blk-y-sbply, hd-brlt, v sl slty, micmica, n- v sl calc, tr lt bl flr w/ slw halo cut	8100	17,200'-17,300' MD: SS: lt-dk brn-dk gybrn-mc m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl cmt, p vis intrgm por, tr lt bl flr w/ slw halo c
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MD: 17,333 '
TVD: 7,631.04 '
Inclination: 91.17 °
Azimuth: 182.13 °
VS: 10,096.96 '

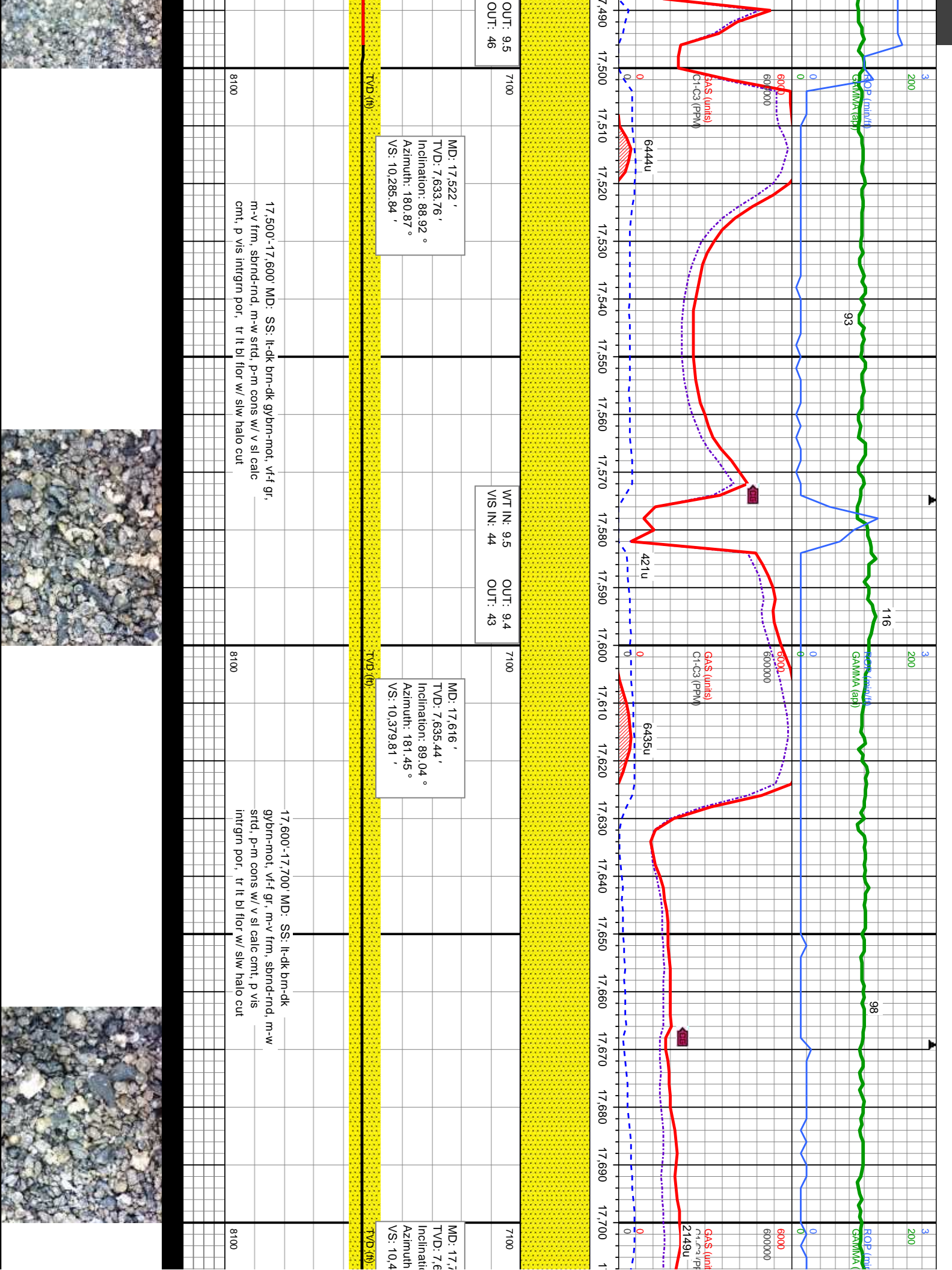
WT IN: 9.5
VIS IN: 43
OUT: 9.5
OUT: 46

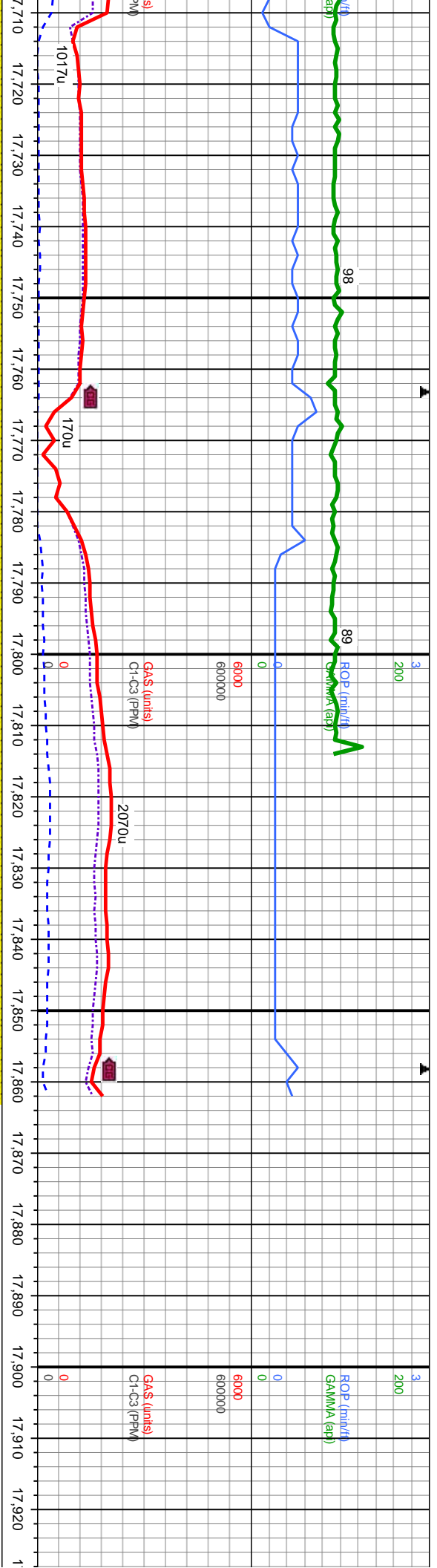
MD: 17,427 '
TVD: 7,631.48 '
Inclination: 88.3 °
Azimuth: 182.12 °
VS: 10,190.9 '

WT IN: 9.5
VIS IN: 44

17,300'-17,400' MD: SS: lt-dk brn-dk gybrn-mot, vf-f gr, m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc cmf, p vis intrgrn por, tr lt bl flr w/ slw halo cut	8100
17,400'-17,500' MD: SS: lt-dk brn-dk gybrn-mot, vf-f gr, m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc cmf, p vis intrgrn por, tr lt bl flr w/ slw halo cut	8100







WT IN: 9.5 OUT: 9.5
VIS IN: 43 OUT: 47

10' '
36.53' '
on: 89.63°
181.59°
73.78' '

MD: 17,809' '
TVD: 7,637.54' '
Inclination: 89.2°
Azimuth: 181.44°
VS: 10,572.75' '

MD: 17,863' '
TVD: 7,638.29' '
Inclination: 89.2°
Azimuth: 181.44°
VS: 10,626.73' '

WELL TDD @ 177863' MD
@ 21:20 HRS ON 7/4/14

17,700'-17,800' MD: SS: lt-dk brn-dk gybrn-mot, v-f gr, m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc cmf, p vis intrgrn por, tr lt bl flr w/ slw halo cut

17,800'-17,863' MD: SS: lt-dk brn-dk gybrn-mot, v-f gr, m-v frm, sbnd-rnd, m-w strd, p-m cons w/ v sl calc cmf, p vis intrgrn por, tr lt bl flr w/ slw halo cut

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