

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name Honey Badger J31-64-1HN

Location SEC 31, T5N, R66W

State COLORADO

County WELD

Country USA

Rig Number H&P 326

API Number 05-123-35979

Region DJ BASIN

Field WATTENBERG

Spud Date 1/20/2014

Surface Coordinates SEC31, T5N, R66W
2164' FSL, 571 FWL

Bottom Hole Coordinates SEC 31, T5N, R66W
1650 FSL, 535 FEL

Ground Elevation 4863

K.B. Elevation 4893

Logged Interval 700' **To** 11733'

Total Depth 11733'

Formation NIOBRARA, C CHALK

Type of Drilling Fluid LSND

Operator

Company NOBLE ENERGY INC.

Address 1625 Broadway Suite 2200
Denver, CO 80202

Geologist

Name EVAN HOWELL

Company NOBLE ENERGY INC.

Address 1625 Broadway Suite 2200
Denver, CO 80202

Other

Rock Types

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

Accessories

Fossils

ALGAE
AMPHIPORA
BELEMNITE
BIOCLASTIC
BRACHIOIPOD
BRYOZOA
CEPHALOPOD
CORAL
CRINOID
ECHINOID
FISH
FORAMINIFERA

F FOSSIL

GASTROPOD
INOCERAMUS
OOLITE
OSTRACOD
PELECYPOD
PELLET
PISOLITE
PLANT REMAINS
PLANT SPORES
SCAPHOPOD
STROMATOPOROID

Minerals

// ANHYDRITIC

ARGILLACEOUS
ARGILLITE GRAIN
BENTONITE
BITUMENOUS SUBSTANCE
BRECCIA FRAGMENTS
CALCAREOUS
CARBONACEOUS FLAKES
CHTDK
CHTLT
COAL - THIN BEDS
DOLOMITIC
FELDSPAR
FERRUGINOUS PELLET

X FERRUGINOUS

GLAUCONITE
GYPSIFEROUS
HEAVY MINERAL
KAOLIN
MARLSTONE
MINERAL CRYSTALS
NODULES
PHOSPHATE PELLETS
PYRITE
SALT CAST
SANDY
SILICEOUS
SILTY

V TUFFACEOUS

Stringer

ANHYDRITE STRINGER
BENTONITE STRINGER
COAL STRINGER
DOLOMITE STRINGER
GYPSUM STRINGER
LIMESTONE STRINGER
MARLSTONE (CALC) STRG
MARLSTONE (DOL) STRG
SANDSTONE STRINGER
SHALE STRINGER
SILTSTONE STRINGER

Other Symbols

Oil Show

DEAD
EVEN
QUESTIONABLE
SPOTTED STAINING

Porosity

E EARTHY
F FENESTRAL
F FRACTURE
X INTERCRYSTALLINE
O INTEROOLITIC

MOLDIC

O ORGANIC
P PINPOINT
V VUGGY

Engineering

BIT
CONNECTION (LEFT)
CONNECTION (RIGHT)
CONNECTION GAS
CORE - LOST
CORE - RECOVERED
DST INTERVAL

FAULT

FORMATION TOP
GAS SHOW
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

Rounding

A ANGULAR
R ROUNDED
S SUBANG
SUBRND

Textures

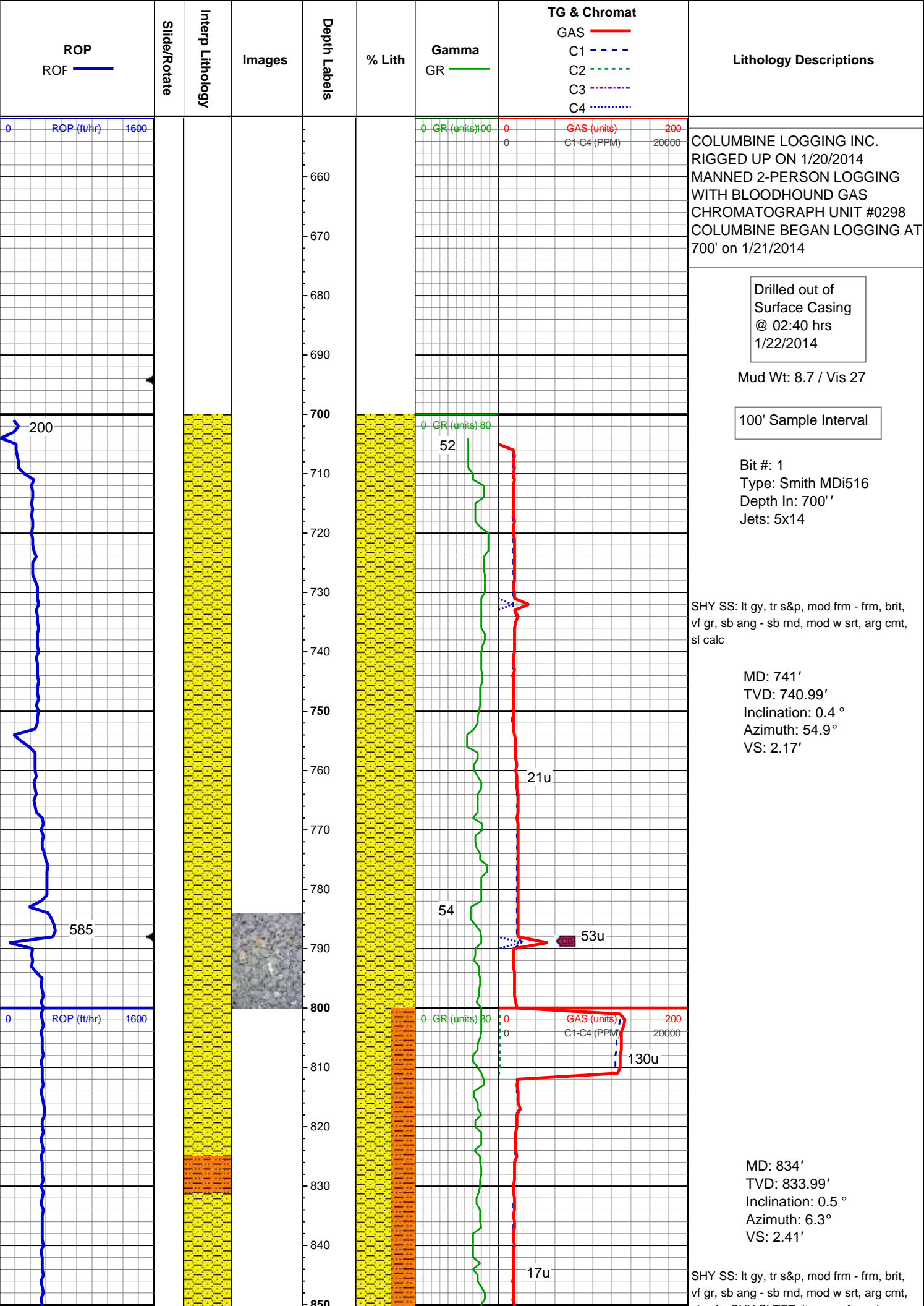
B BOUNDSTONE
C CHALKY
C CRYPTOXLN

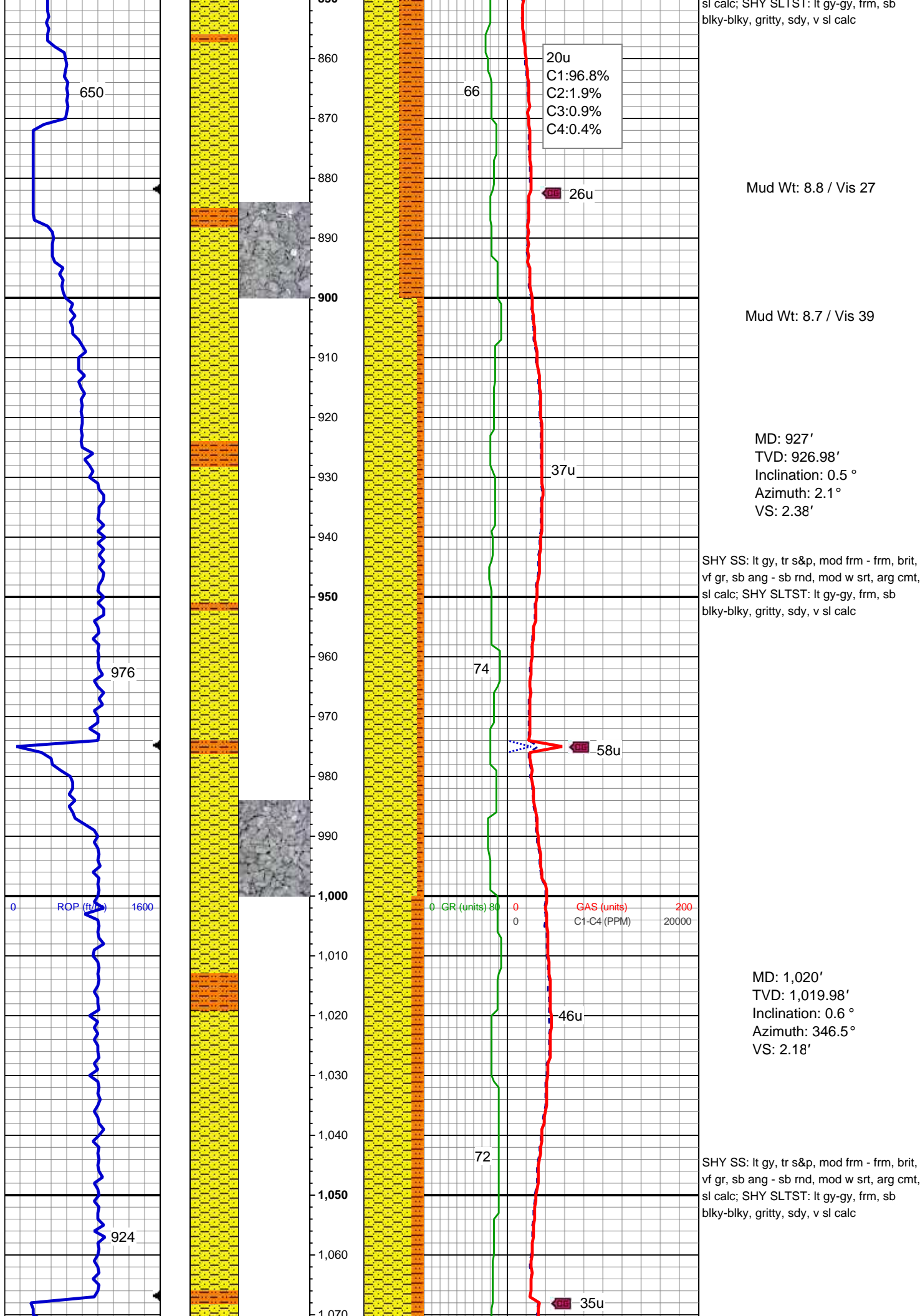
E EARTHY

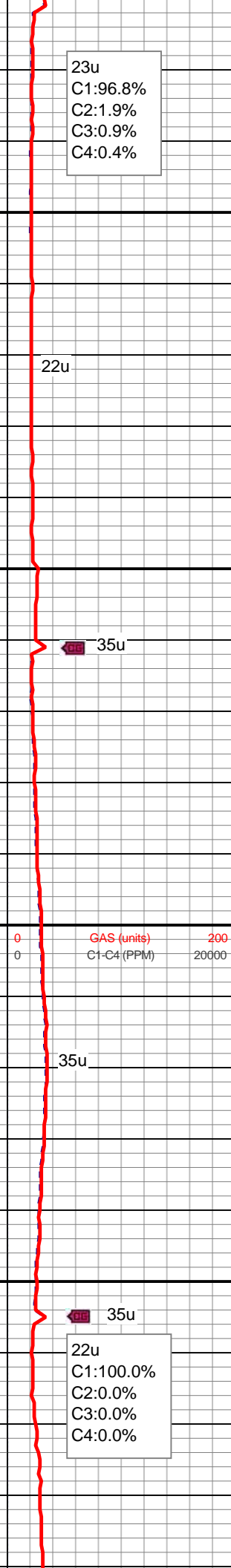
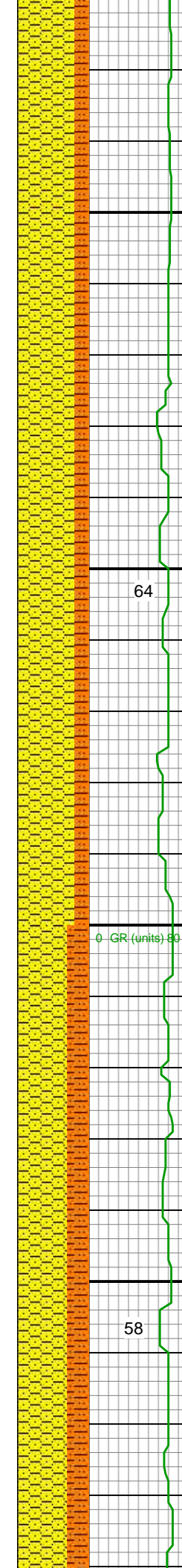
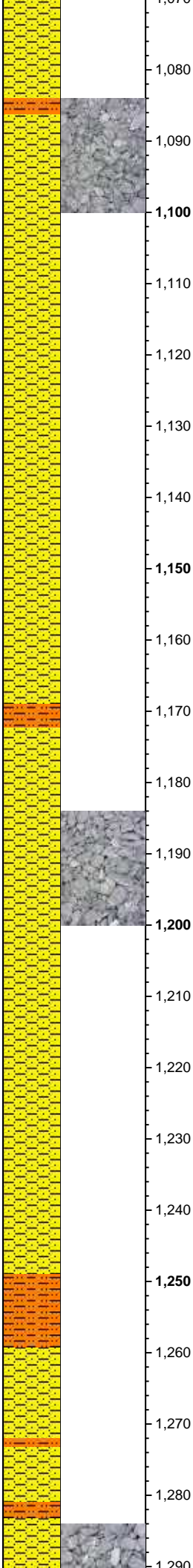
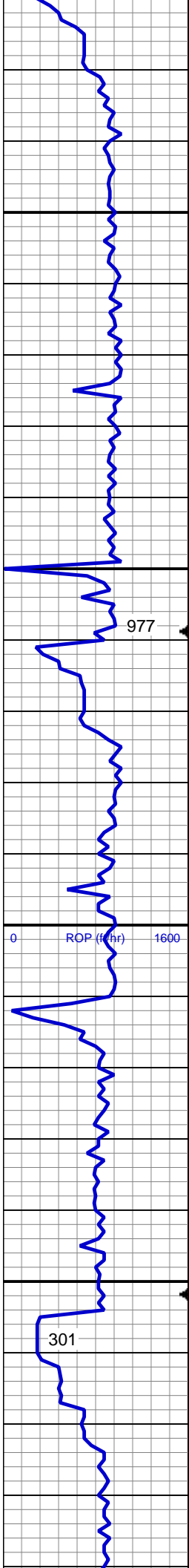
F FINELYXLN
G GRAINSTONE
L LITHOGRAPHIC
M MICROXLN
M MUDSTONE
P PACKSTONE
W WACKESTONE

Sorting

M MODERATE
P POOR
W WELL







MD: 1,112'

TVD: 1,111.97'

Inclination: 0.7 °

Azimuth: 345.3°

VS: 1.81'

SHY SS: lt gy, tr s&p, mod frm - frm, brit, vf gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc; SHY SLTST: lt gy-gy, frm, sb blkly-blky, gritty, sdy, v sl calc

MD: 1,205'

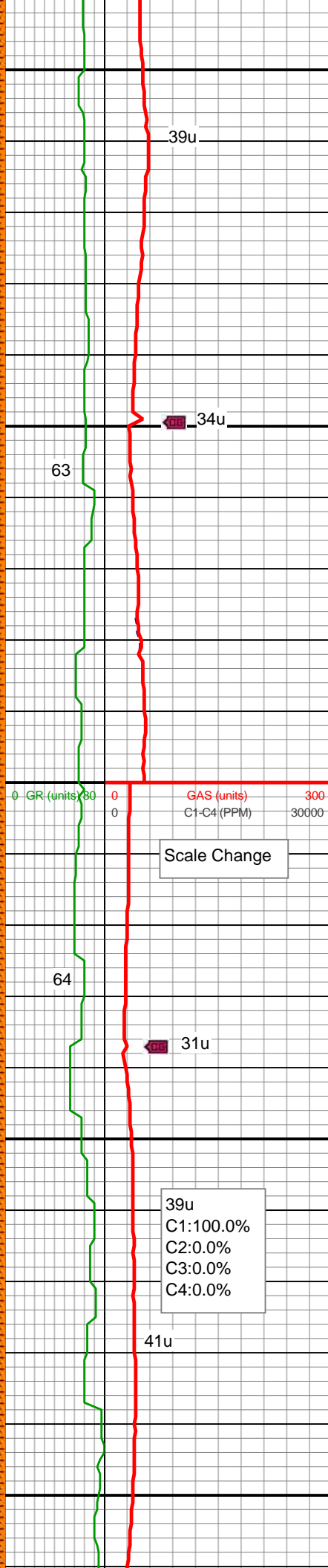
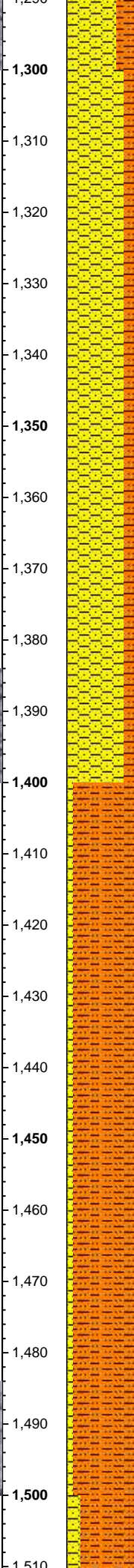
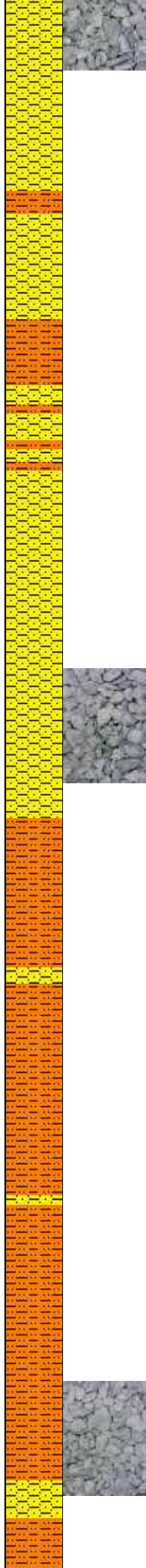
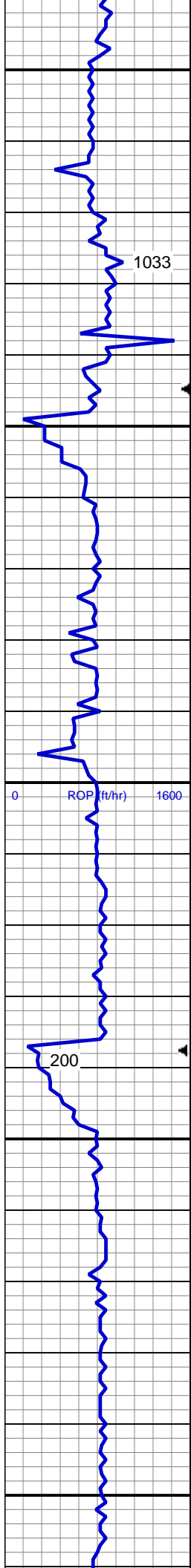
TVD: 1,204.96'

Inclination: 1.1 °

Azimuth: 335.1°

VS: 1.13'

SHY SS: lt gy, tr s&p, mod frm - frm, brit, vf gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc; SHY SLTST: lt gy-gy, frm, sb blkly-blky, gritty, sdy, v sl calc



MD: 1,297'
TVD: 1,296.95'
Inclination: 1.1 °
Azimuth: 337 °
VS: 0.23'

SHY SS: lt gy, tr s&p, mod frm - frm, brit, vf gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc; SHY SLTST: lt gy-gy, frm, sb blkly-blky, gritty, sdy, v sl calc

Mud Wt: 8.7 / Vis 30

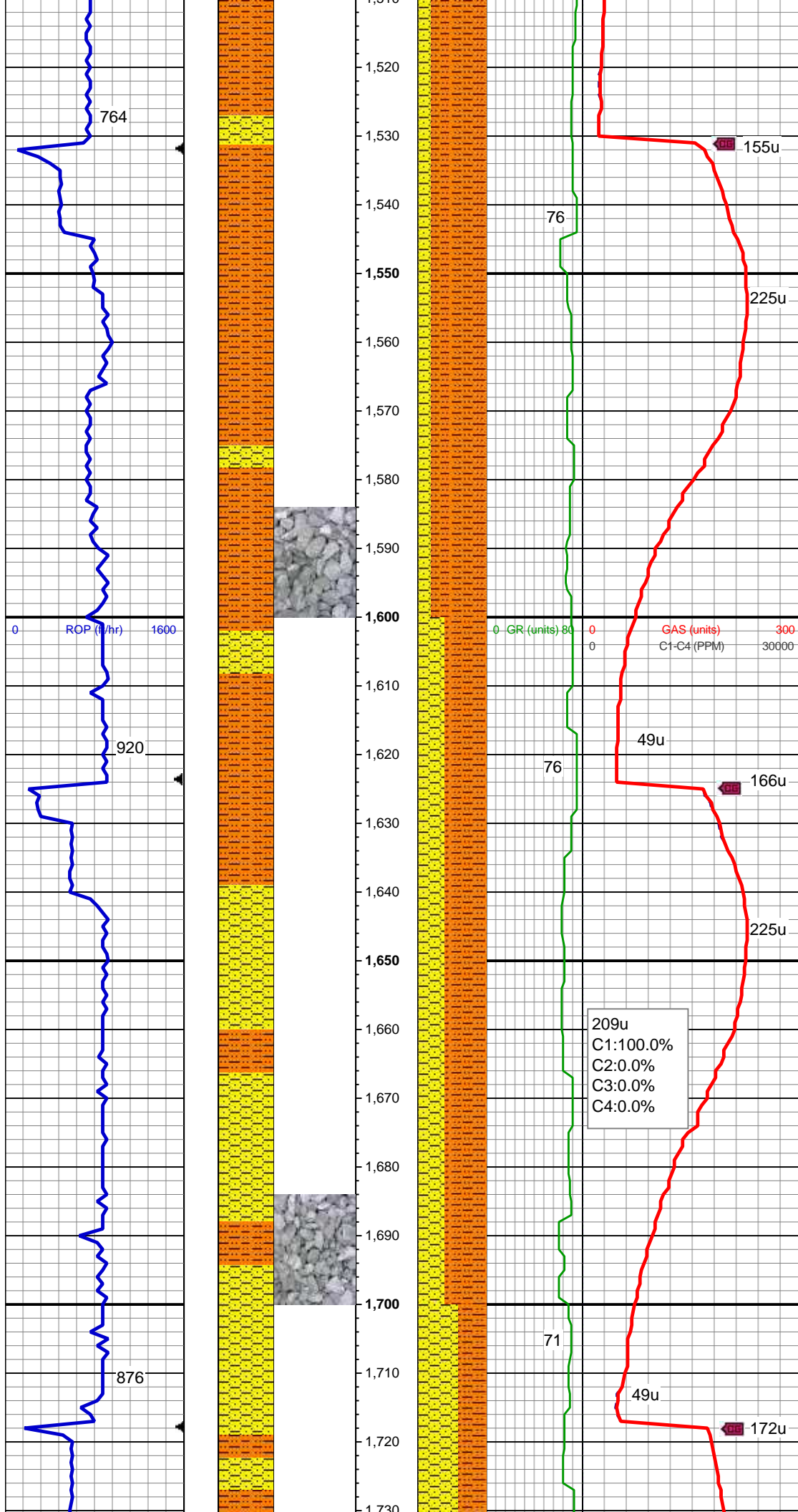
MD: 1,390'
TVD: 1,389.92'
Inclination: 1.4 °
Azimuth: 334.5 °
VS: -0.81'

Mud Wt: 8.7 / Vis 30

SHY SLTST: lt gy-gy, frm, sb blkly-blky, gritty, sdy, v sl calc; SHY SS: lt gy, tr s&p, mod frm - frm, brit, vf gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc

MD: 1,483'
TVD: 1,482.89'
Inclination: 1.5 °
Azimuth: 333.1 °
VS: -2.09'

39u
C1:100.0%
C2:0.0%
C3:0.0%
C4:0.0%

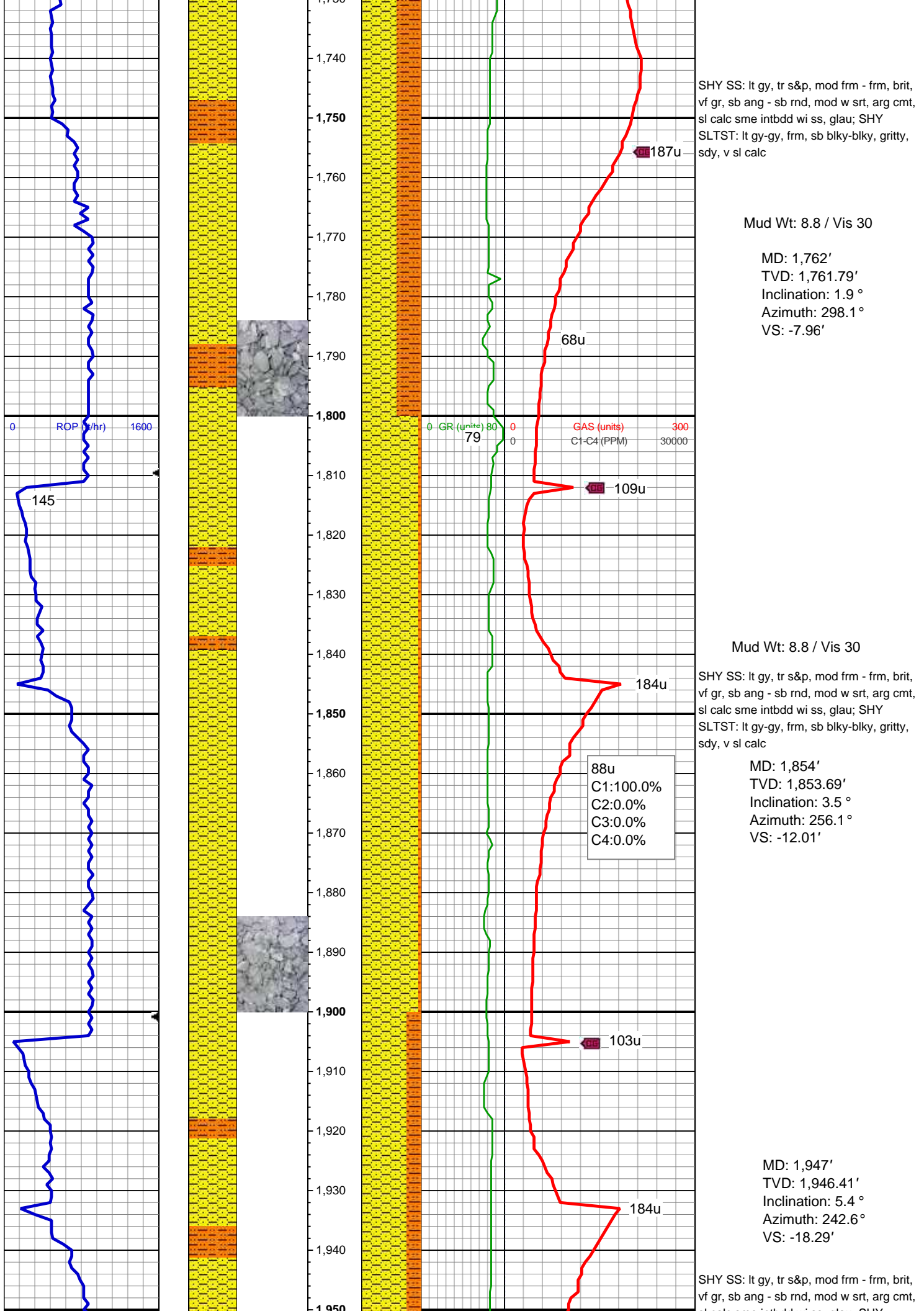


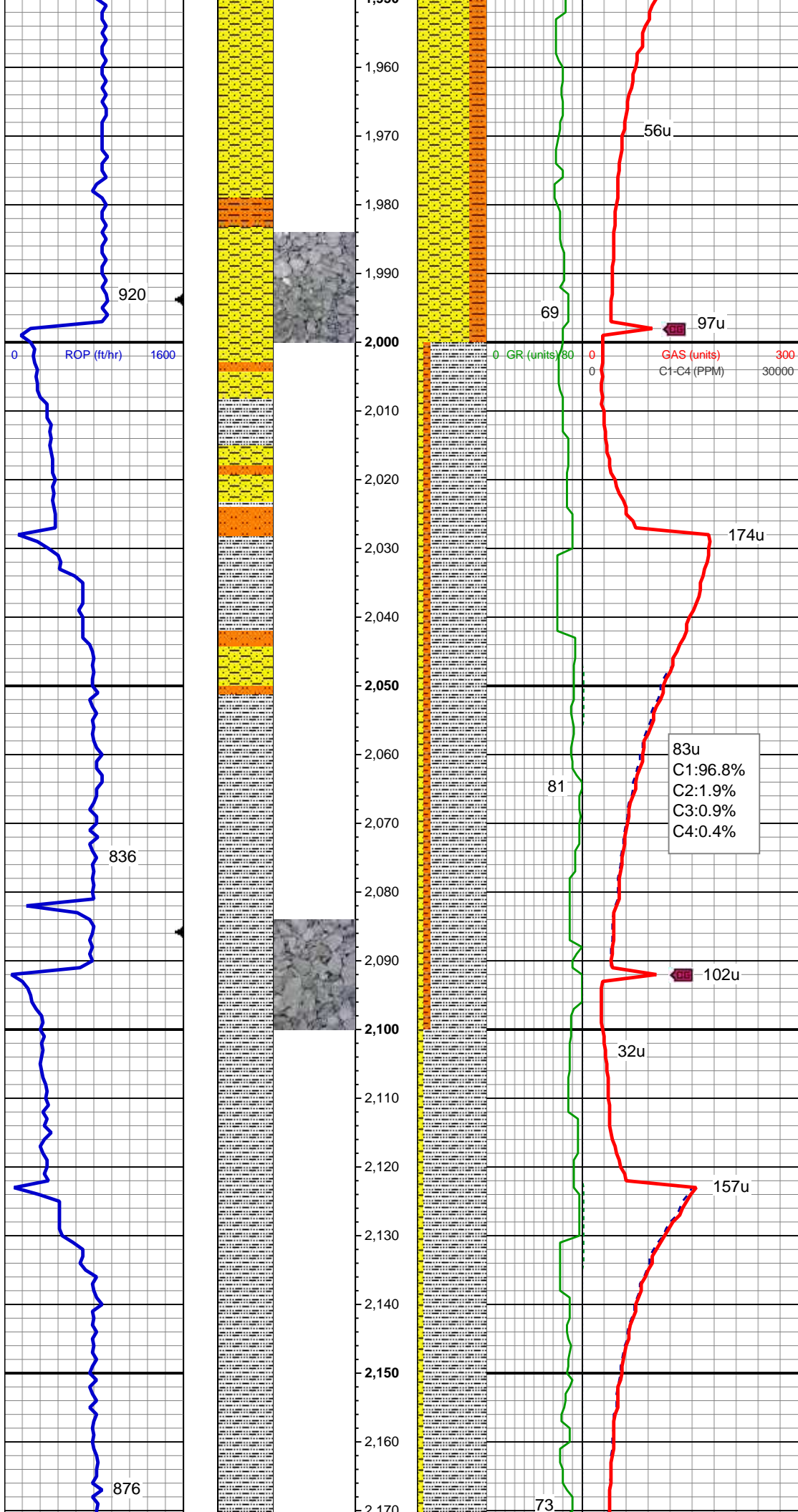
SHY SLTST: lt gy-gy, frm, sb blkly-blky, gritty, sdy, v sl calc; SHY SS: lt gy, tr s&p, mod frm - frm, brit, vf gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc

MD: 1,576'
TVD: 1,575.86'
Inclination: 1.5 °
Azimuth: 321.9 °
VS: -3.62'

SHY SLTST: lt gy-gy, frm, sb blkly-blky, gritty, sdy, v sl calc; SHY SS: lt gy, tr s&p, mod frm - frm, brit, vf gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc

MD: 1,668'
TVD: 1,667.83'
Inclination: 1.5 °
Azimuth: 309.8 °
VS: -5.48'





sl calc sme intbod w/ ss, glau; SHY
SLTST: lt gy-gy, frm, sb blkly-blky, gritty, sb
sdy, v sl calc

Mud Wt: 8.65 / Vis 28

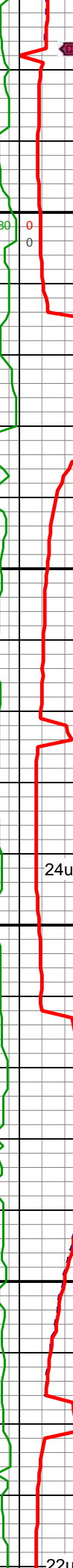
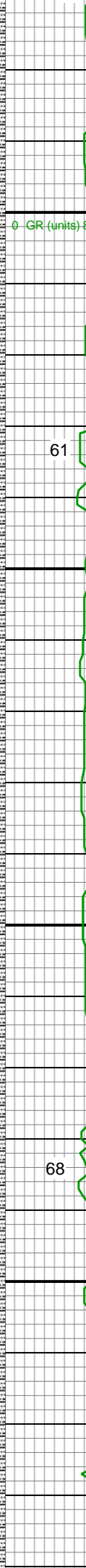
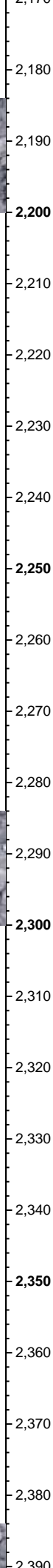
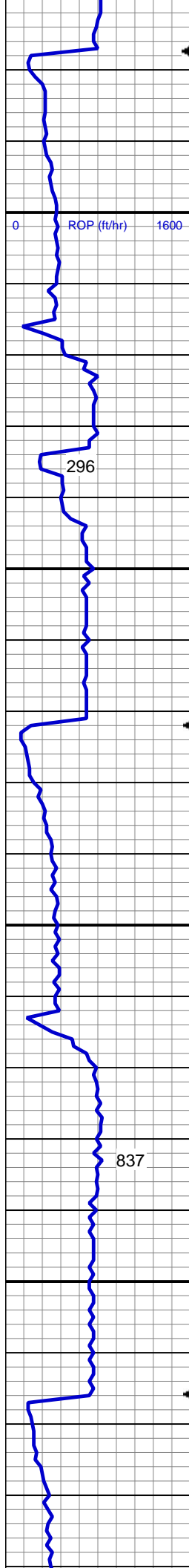
MD: 2,038'
TVD: 2,036.91'
Inclination: 6.6 °
Azimuth: 231 °
VS: -25.49'

SLTY SH: lt - med gy, sme dk gy, mod
frm, sft, sb blkly - sb plty, arg cmt, sl calc
SHY SLTST: lt - med gy, mod frm, sft, sb
ang - sb plty, arg cmt,gritty SHY SS: lt
gy, tr s&p, mod frm - frm, brit, vf gr, sb
ang - sb rnd, mod w srt, arg cmt, sl calc

Mud Wt: 8.65 / Vis 28

MD: 2,130'
TVD: 2,128.14'
Inclination: 8.3 °
Azimuth: 224.9 °
VS: -33.3'

SLTY SH: lt - med gy, sme dk gy, mod
frm, sft, sb blkly - sb plty, arg cmt, sl calc
SHY SS: lt gy, tr s&p, mod frm - frm, brit,
vf gr, sb ang - sb rnd, mod w srt, arg cmt,
sl calc



38u
C1:100.0%
C2:0.0%
C3:0.0%
C4:0.0%

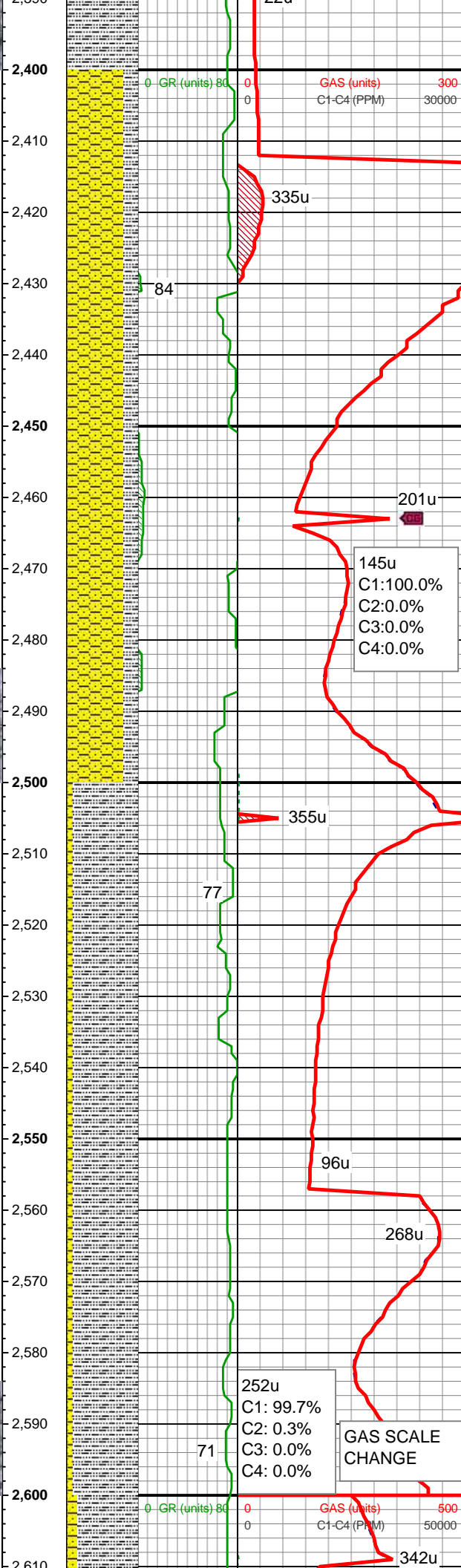
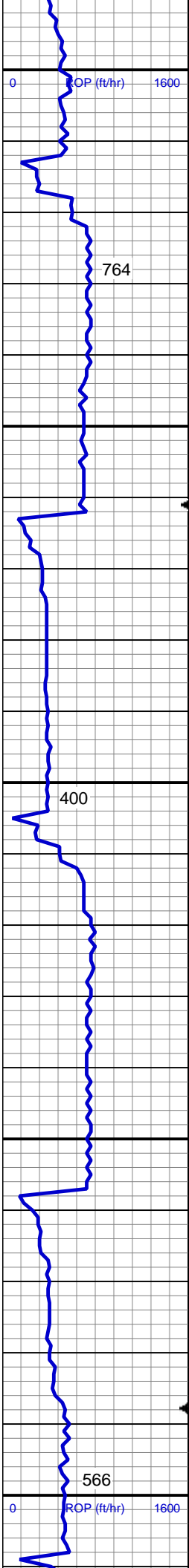
MD: 2,225'
TVD: 2,221.97'
Inclination: 9.7 °
Azimuth: 218.5 °
VS: -41.77'

SLTY SH: lt - med gy, sme dk gy, mod frm, sft, sb blkly - sb plty, arg cmt, sl calc

Mud Wt: 8.8 / Vis 29

MD: 2,319'
TVD: 2,314.39'
Inclination: 11.3 °
Azimuth: 220.4 °
VS: -51.07'

SLTY SH: lt - med gy, sme dk gy, mod frm, sft, sb blkly - sb plty, arg cmt, sl calc, tr shy ss.



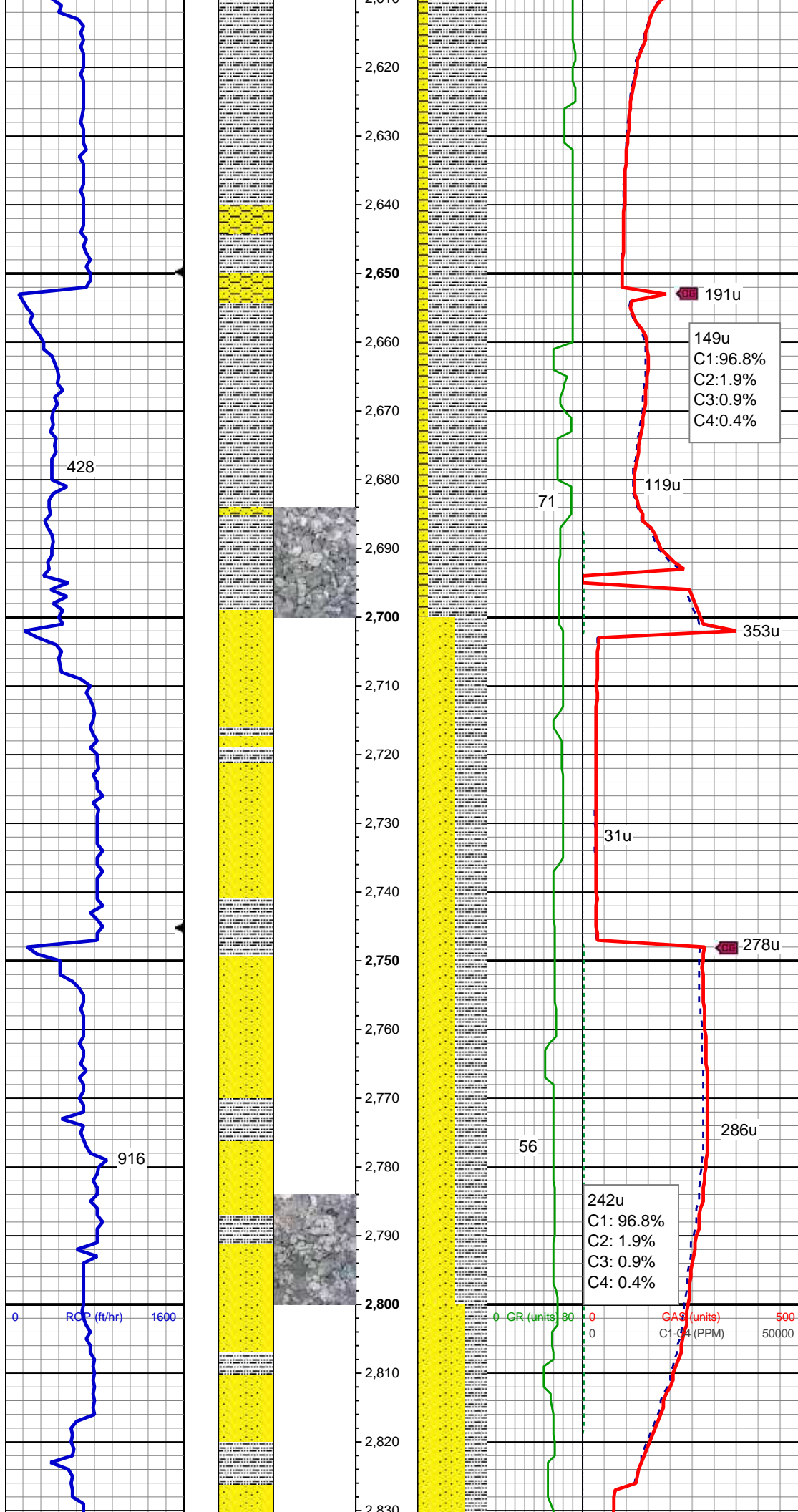
MD: 2,414'
TVD: 2,407.4'
Inclination: 12.2 °
Azimuth: 221.5 °
VS: -61.97'

SLTY SH: lt - med gy, sme dk gy, mod frm, sft, sb blkly - sb plty, arg cmt, sl calc
SHY SS: lt gy, tr s&p, mod frm - frm, brit, vf gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc

MD: 2,540'
TVD: 2,530.26'
Inclination: 13.4 °
Azimuth: 220.6 °
VS: -77.74'

SLTY SH: lt - med gy, sme dk gy, mod frm, sft, sb blkly - sb plty, arg cmt, sl calc
SHY SS: lt gy, tr s&p, mod frm - frm, brit, vf gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc

MD: 2,603'
TVD: 2,591.37'
Inclination: 14.8 °
Azimuth: 216.2 °
VS: -85.78'



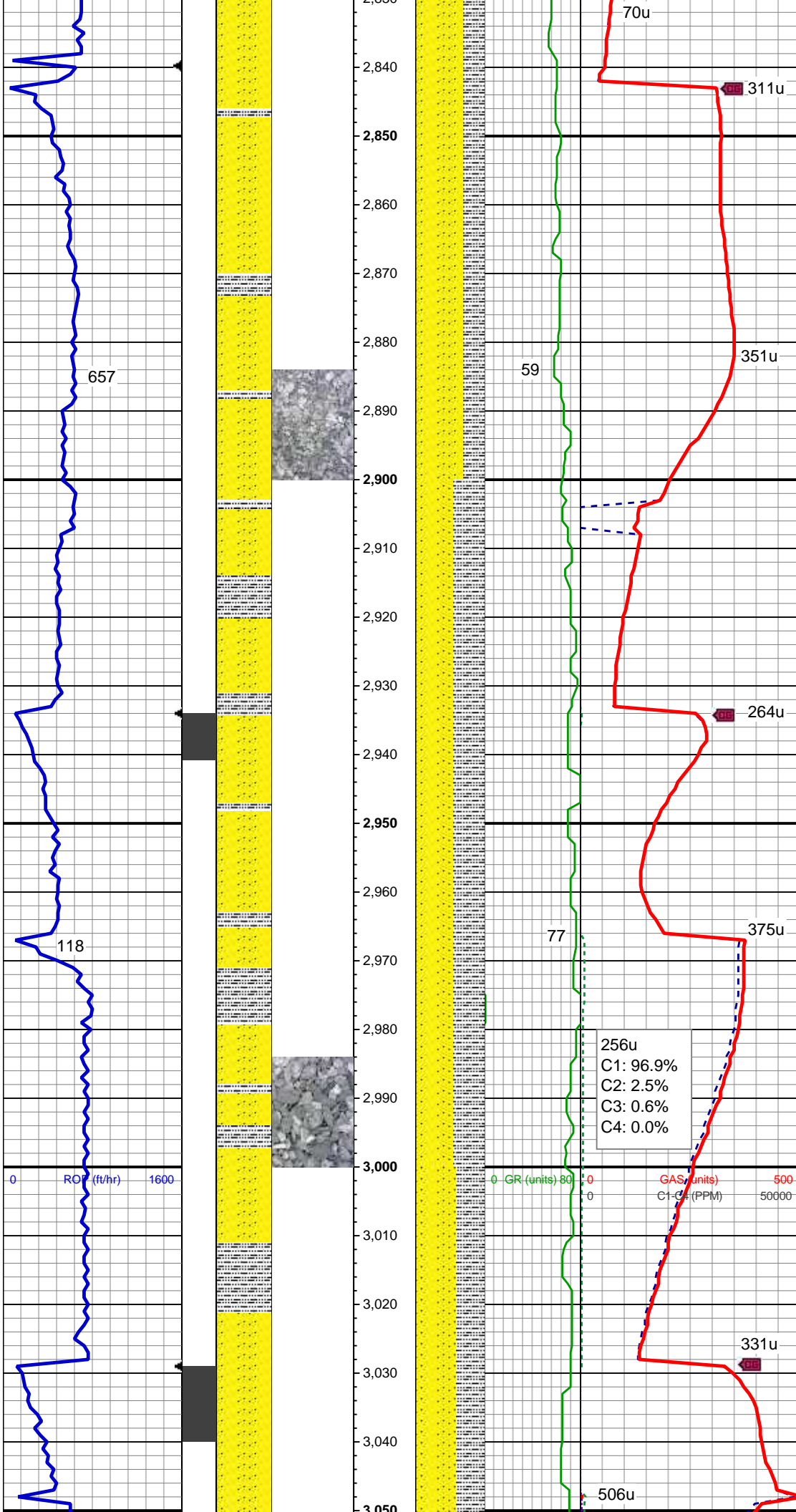
SLTY SH: lt - med gy, sme dk gy, mod
frm, sft, sb blkly - sb plty, arg cmt, sl calc
SHY SS: lt gy, wh-op-trnsl grns, fr s&p,
mod frm - frm, brit, vf gr, sb ang - sb rnd,
mod w srt, arg cmt, sl calc, tr glau, tr lith
frags

Mud Wt: 8.7 / Vis 29

MD: 2,698'
TVD: 2,682.59'
Inclination: 17.6 °
Azimuth: 215.5 °
VS: -98.7'

S&P SS: lt gy-wh, wh-op-trnsl grns, g s&p,
med-f gr, ang-sl rd, mod p srt, fr-p cons, g
por, mod calc cmt, tr glau, tr lith frags
SLTY SH: lt - med gy, sme dk gy, sl frm -
sft, sb blkly - sb plty, arg cmt, sl calc

MD: 2,792'
TVD: 2,771.75'
Inclination: 19.3 °
Azimuth: 215.4 °
VS: -113.03'



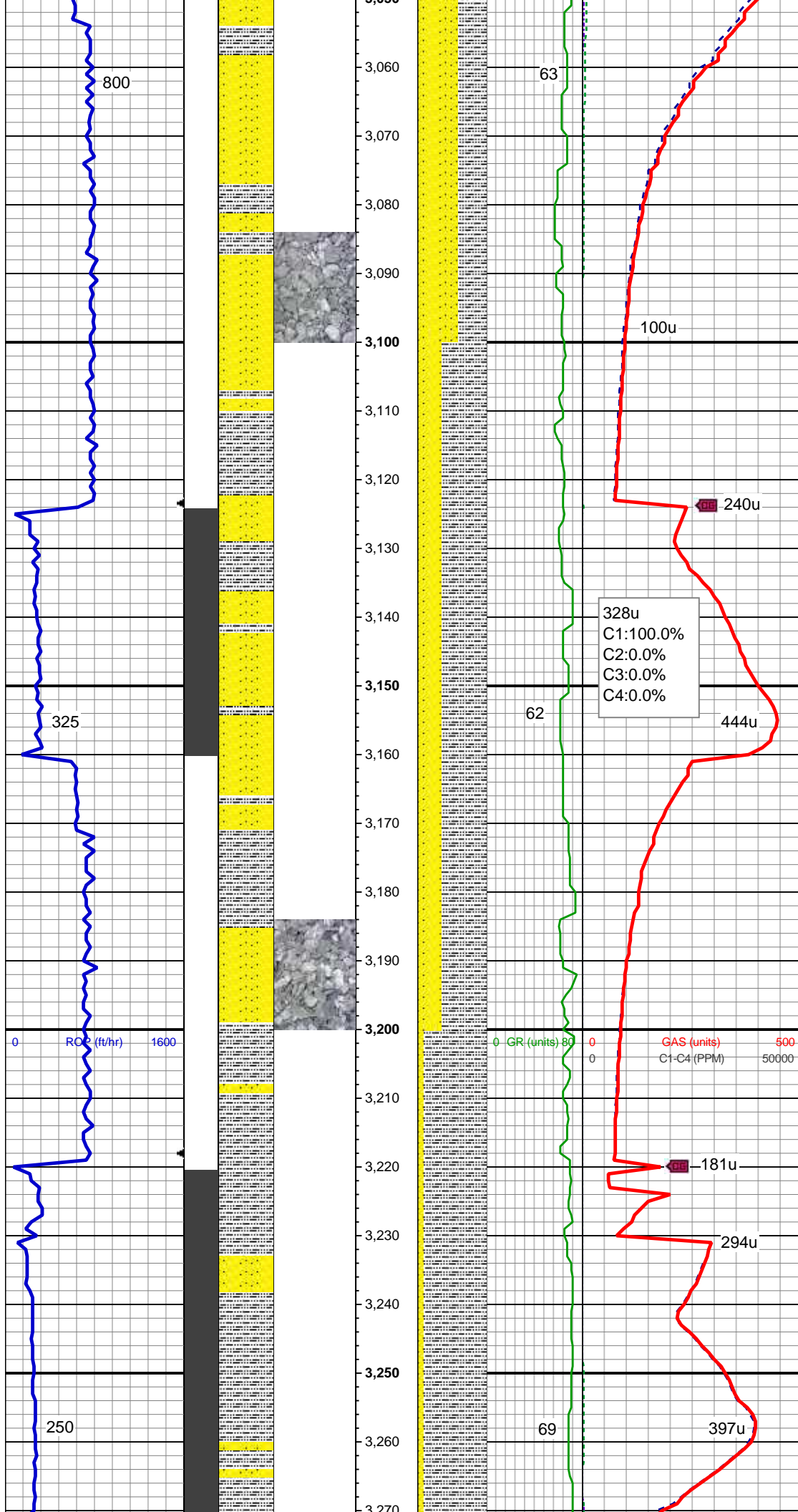
S&P SS: lt gy-wh, wh-op-trnsl grns, g s&p, med-vf gr, ang-sl rd, mod p srt, fr-p cons, mod g por, mod calc cmt, tr glau, tr lith frags SLTY SH: sl lt-dk gy, sl frm - sft, sb blkly - sb plty, arg cmt, sl calc

MD: 2,887'
TVD: 2,861.22'
Inclination: 20 °
Azimuth: 214.3°
VS: -128.12'

S&P SS: lt-med wh, wh-op-trnsl grns, g s&p, vf-f gr, ang-sl rd, mod srt, mod cons-frm, mod g por, mod calc cmt, tr glau, tr lith frags SLTY SH: med-dk gy, sl frm - sft, sb blkly - sb plty, arg cmt, sl calc

MD: 2,982'
TVD: 2,951.49'
Inclination: 15.6 °
Azimuth: 219.6°
VS: -142.7'

Mud Wt: 8.65 / Vis 28



S&P SS: lt-med wh, wh-op-trnsl grns, g s&p, vf-f gr, ang-sl rd, mod srt, mod cons-frm, mod g por, mod calc cmt, tr glau, tr lith frags SLTY SH: med-dk gy, sl frm - sft, sb blkly-blky, arg cmt, sl, tr sd, non calc

MD: 3,076'
TVD: 3,042.24'
Inclination: 14.6 °
Azimuth: 221.9 °
VS: -156.41'

SLTY SH: med-dk gy, sft-sl frm, sb blkly-blky, wxy-sl rthy, non calc, mod tr sd S&P SS: lt-med wh, sl op-trnsl grns, g s&p, f gr, ang-sb rd, mod w srt, mod cons-frm, mod g por, mod calc cmt, tr glau, tr lith frags

MD: 3,171'
TVD: 3,134.24'
Inclination: 14.3 °
Azimuth: 225.9 °
VS: -170.74'

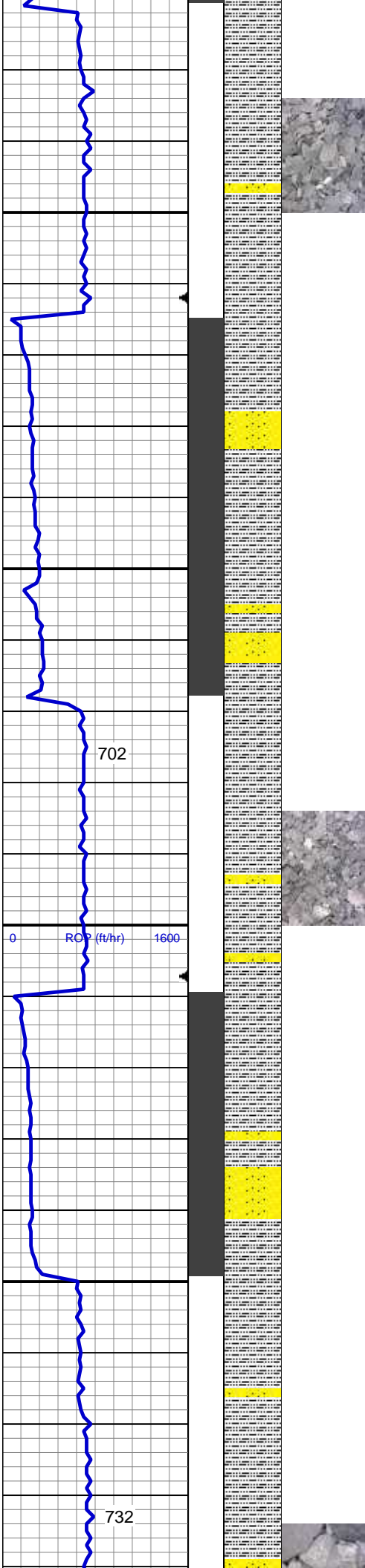
Mud: IN 8.75 / 27, OUT 8.75 / 26

SLTY SH: med-dk gy, sft-sl frm, sb blkly-blky, wxy-sl rthy, non calc, tr sd S&P SS: lt-med wh, sl op-trnsl grns, g s&p, f gr, ang-sb rd, mod w srt, mod cons-frm, mod g por, mod calc cmt, tr glau, tr lith frags

MD: 3,265'
TVD: 3,225.41'
Inclination: 13.9 °

Inclination: 10.0°
Azimuth: 228.7°
VS: -185.65'

3,270
3,280
3,290
3,300
3,310
3,320
3,330
3,340
3,350
3,360
3,370
3,380
3,390
3,400
3,410
3,420
3,430
3,440
3,450
3,460
3,470
3,480
3,490



80u

218u

393u

100u

C1:100.0%

C2:0.0%

C3:0.0%

C4:0.0%

78u

GR (units) 80

GAS (units) 500

C1-C4 (PPM) 50000

-229u

433u

103u

Mud: IN 8.7 / 28, OUT 8.75 / 27

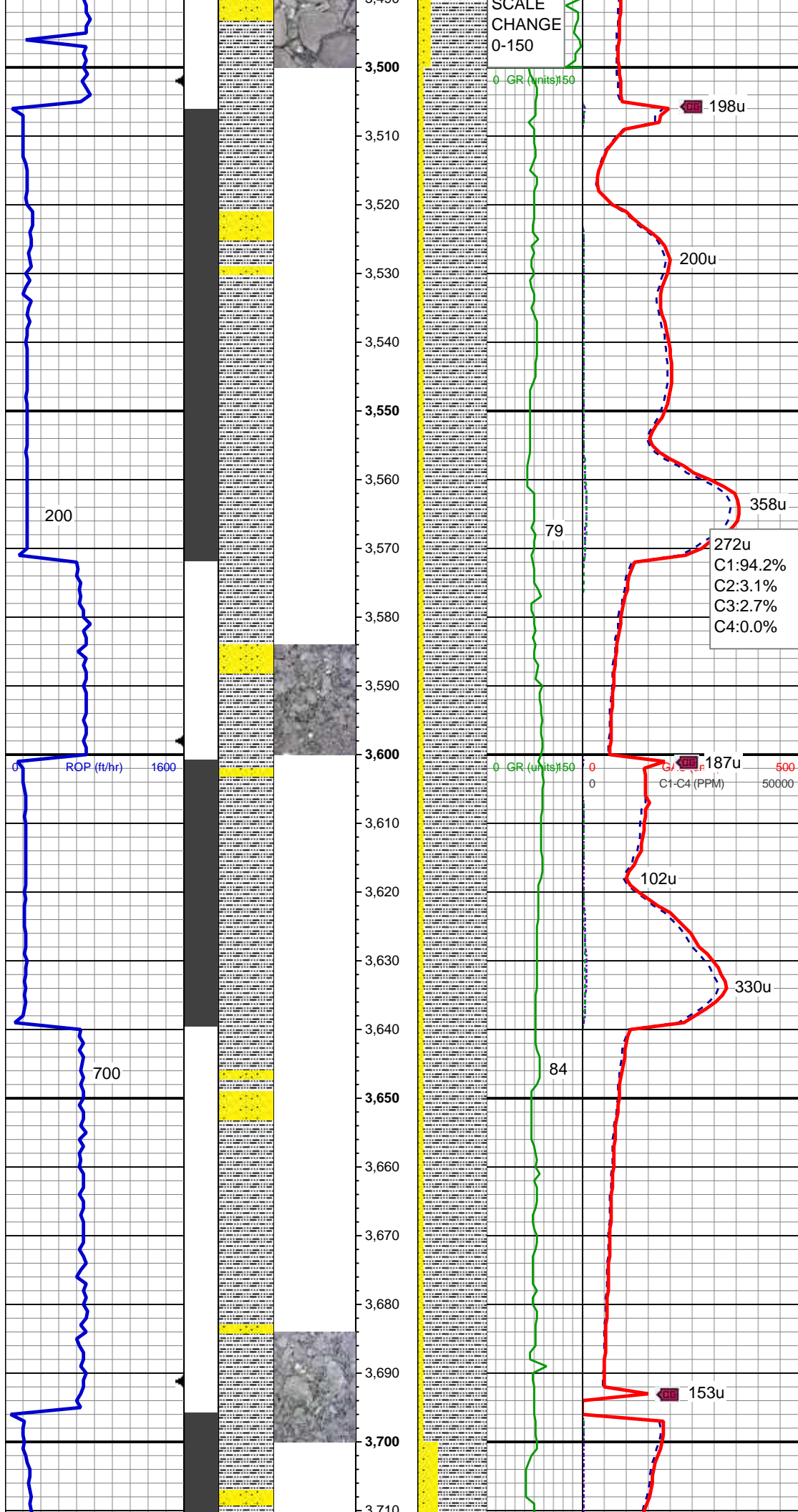
SLTY SH: med-dk gy, sft-sl frm, sb
blky-blky, wxy-sl rthy, non calc, mod tr sd
S&P SS: lt-med wh-crm, op-trns grns,
s&p, vf-f gr, ang-sb rd, mod w srt, mod
cons-frm, mod g por, mod calc cmt, tr
glau, tr lith frags

MD: 3,360'
TVD: 3,317.55'
Inclination: 14.3°
Azimuth: 223.6°
VS: -200.35'

SLTY SH: med-dk gy, sft-sl frm, sb
blky-blky, wxy-grty, non calc, mod sdy, tr
pyr S&P SS: lt wh-crm, sl op-trns grns, g
s&p, vf-f gr, ang-sb rd, mod w srt, mod
cons-frm, mod g por, mod calc cmt, tr
glau, tr lith frags

MD: 3,455'
TVD: 3,409.73'
Inclination: 13.7°
Azimuth: 225.2°
VS: -214.41'

GR SCALE



Mud: IN 8.7 / 27, OUT 9 / 26

SLTY SH: med-dk gy, sft-frm, sb plty-sb blkly, sl wxy-grty, non calc, mod sdy, tr pyr
S&P SS: It wh-crm, sl op-trnsl grns, g s&p, vf-f gr, ang-sb rd, mod w srt, mod cons-frm, mod g por, mod calc cmt, tr glau, tr lith frags

MD: 3,550'

TVD: 3,501.85'

Inclination: 14.6 °

Azimuth: 229.9 °

VS: -229.63'

MD: 3,644'

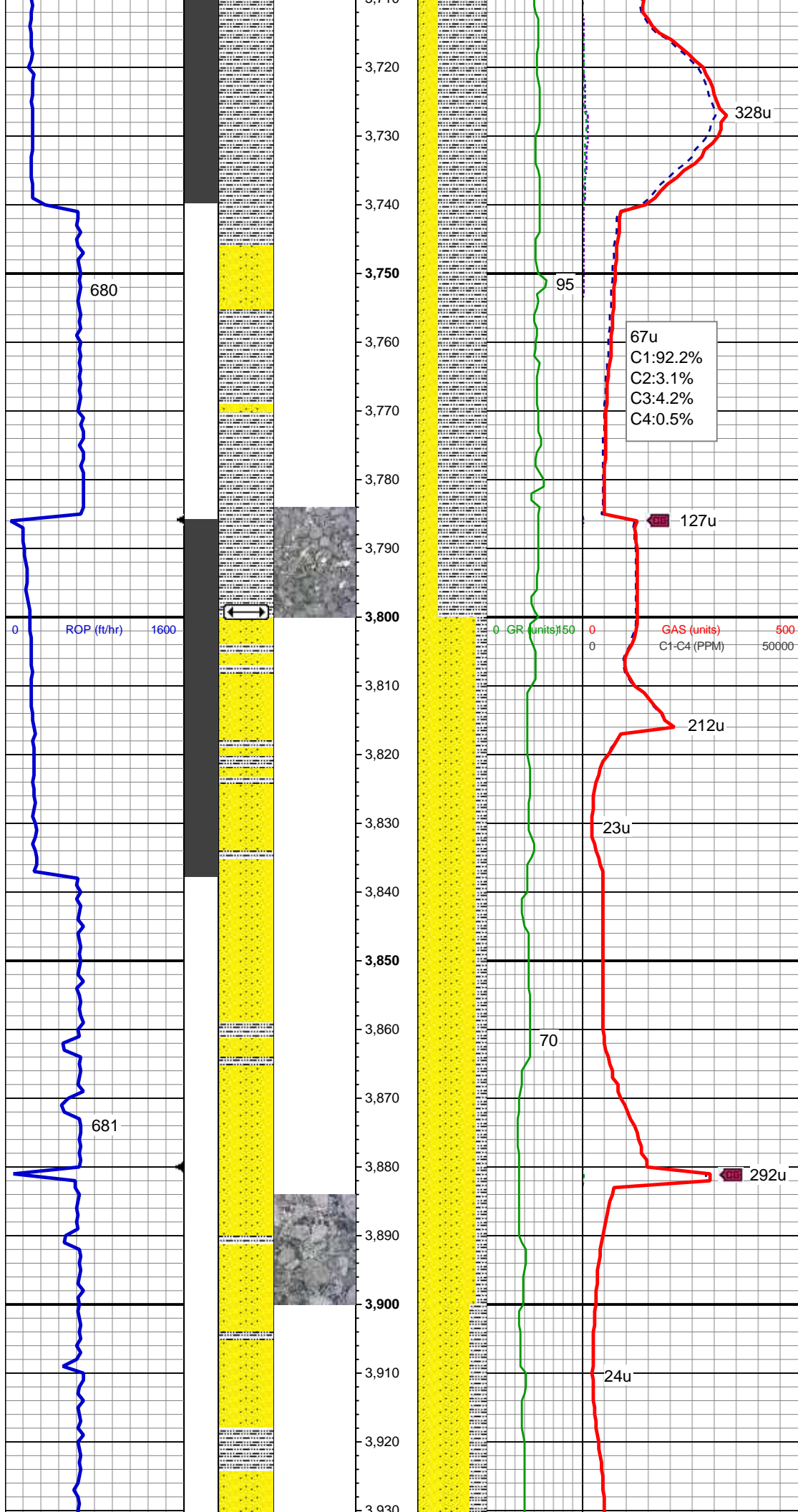
TVD: 3,592.75'

Inclination: 14.9 °

Azimuth: 232.6 °

VS: -246.43'

SLTY SH: med-dk gy, sft-frm, sb plty-sb blkly, sl wxy-grty-rthy, non calc, mod sdy, tr pyr
S&P SS: wh-crm, op-trnsl grns, g s&p, vf-f gr, ang-sb rd, mod w srt, mod cons-frm, mod g por, mod calc cmt, tr glau, tr lith frags, tr cal



MD: 3,739'
TVD: 3,684.63'
Inclination: 14.6 °
Azimuth: 224 °
VS: -262.47'

SLTY SH: med-dk gy, sft-frm, plty-sb blkly, grty-rthy, non calc, mod sdy, tr pyr S&P
SS: wh-sl crm, sl op-trnsl grns, g s&p, vf-f gr, ang-sb rd, mod w srt, mod cons-frm, mod g por, mod calc cmt, tr glau, tr lith frags, tr cal

PARKMAN FM. TOP

MD: 3,833'
TVD: 3,775.39'
Inclination: 15.6 °
Azimuth: 224 °
VS: -277.33'

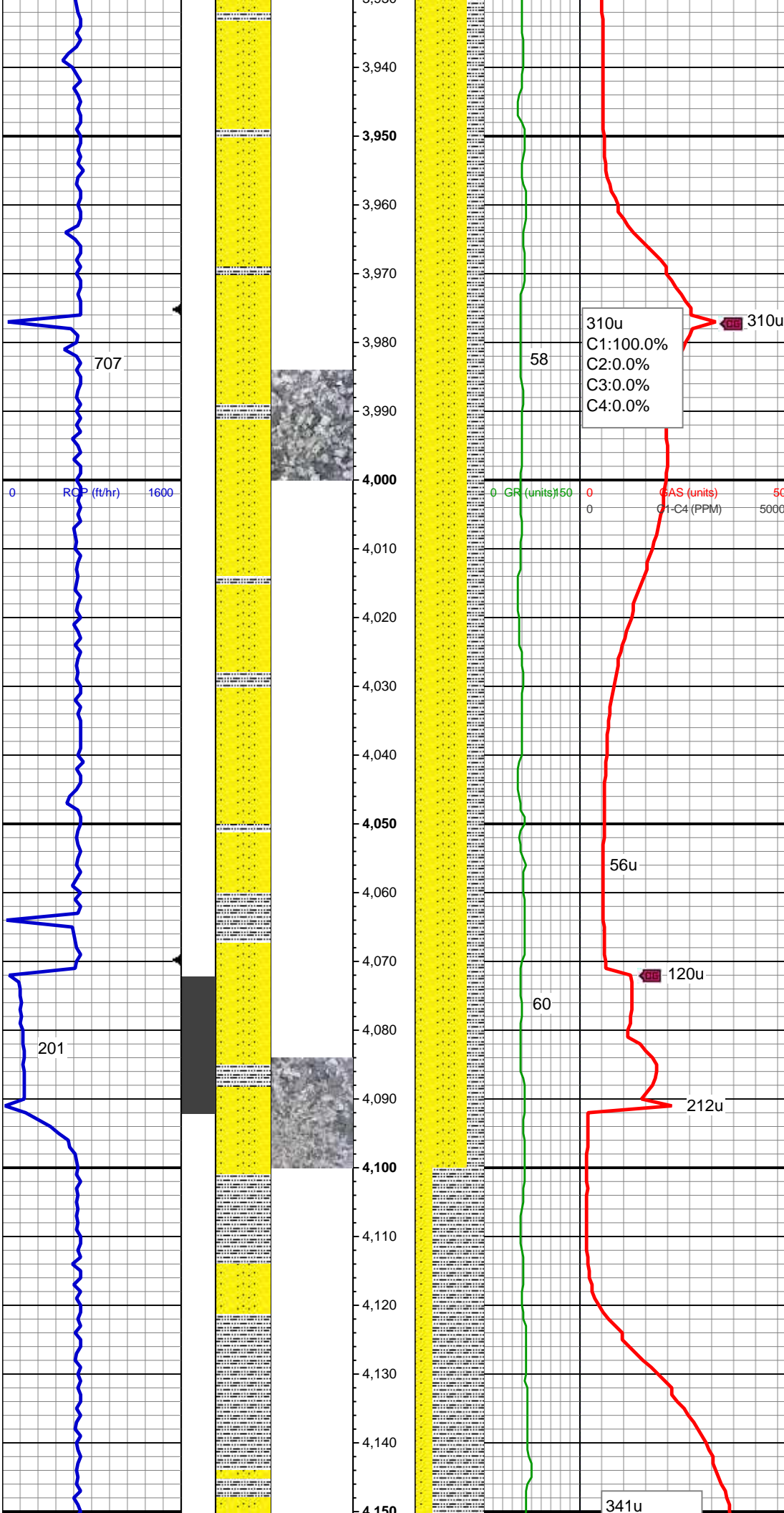
S&P SS: wh s&p, op-com trnsl grns, vf-f gr, sb ang-rd, mod w srt, mod cons-frm, g por, v calc cmt, tr glau, tr lith frags, tr cal
SLTY SH: med brn-dk gy, sft-mod hd, sb blkly, grty-rthy, non calc, mod sdy, tr pyr, tr arg

Mud: IN 8.7 / 26, OUT 8.75 / 27

MD: 3,928'
TVD: 3,866.64'
Inclination: 16.7 °
Azimuth: 223.6 °

VS: -293.29'

S&P SS: wh s&p, com trnsl grns-sl op, vf-f gr, sb ang-rd, mod w srt, mod cons-frm, grn sup, g por, v calc cmt, tr glau, tr lith frags SLTY SH: med-dk gy, sl frm-mod hd, sb blkly, grty-rthy, non calc, mod sdy, tr pyr, tr arg



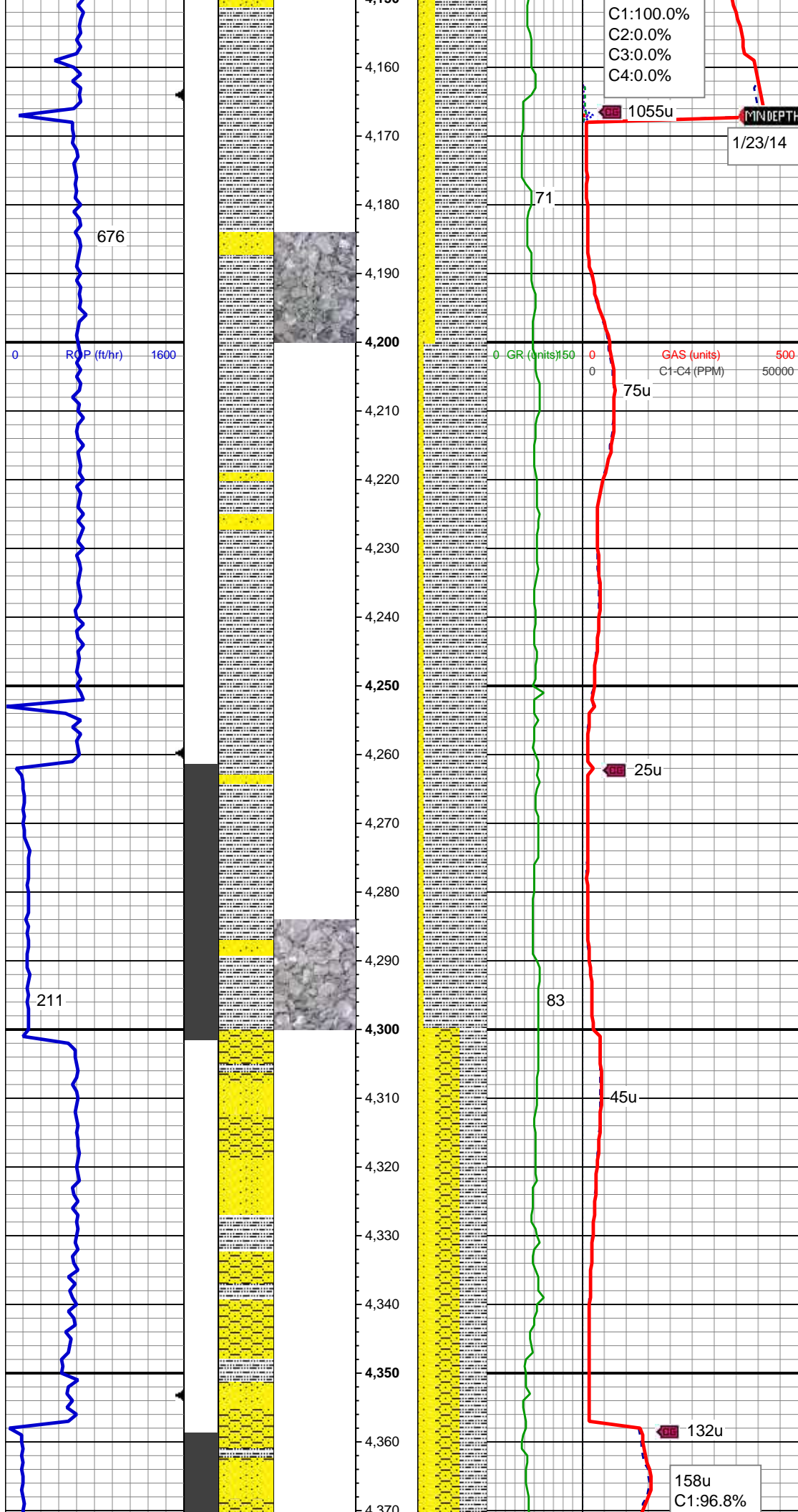
MD: 4,023'
TVD: 3,957.34'
Inclination: 17.9 °
Azimuth: 222.4 °
VS: -310.02'

S&P SS: wh-fros s&p, com trnsl grns-sl op, vf-f gr, sb ang-rd, mod w srt, mod cons-frm, grn sup, g por, v calc cmt, tr glau, tr lith frags SLTY SH: med-dk gy, sl frm-mod hd, sb plty-sl blkly, grty-rthy, non calc, sl sdy, tr pyr, tr arg

Mud: IN 8.75 / 28, OUT 9.05 / 27

MD: 4,117'
TVD: 4,047.11'
Inclination: 16.6 °
Azimuth: 224.3 °
VS: -326.66'

SLTY SH: med brn-med-dk gy, sft-sl frm, plty-sl blkly, sl wxy-grty, non calc, mod sdy
S&P SS: wh-fros s&p, trnsl-sl op, vf-f gr, sb



ang-rd, mod w srt, frm, grn sup, g por, v
calc cmt, tr glau, tr lith frags

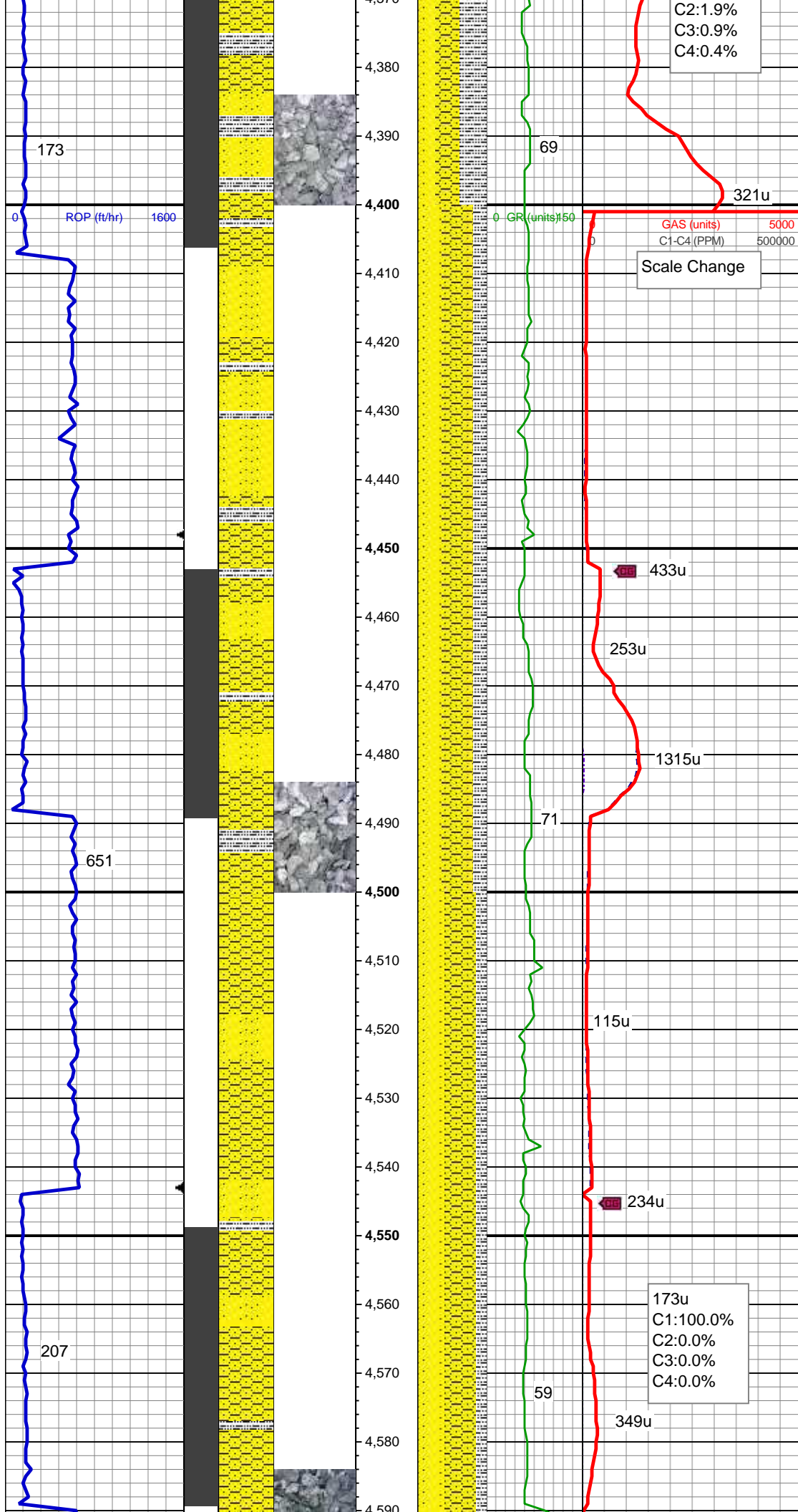
MD: 4,212'
TVD: 4,138.8'
Inclination: 13.7 °
Azimuth: 222.9 °
VS: -341.61'

SLTY SH: med brn-dk gy, sft-sl frm, plty-sl
blky, wxy-grty, non calc, mod sdy S&P
SS: wh-fros s&p, trns-l sl op, vf-f gr, sb
ang-rd, mod w srt, frm-hd, grn sup, g por,
v calc cmt, tr glau, tr lith frags, tr cal

MD: 4,306'
TVD: 4,230.44'
Inclination: 12 °
Azimuth: 226.4 °
VS: -354.44'

SLTY SH: med-dk gy, sft-mod frm, plty-sb
blky, sl wxy-grty, non calc, tr pyr SHY
SS: dk gy-med brn, f gr, sb ang-rd, mod
srt, p-mod cons, p-mod por, sl calc cmt,
tr glau, tr lith frags S&P SS: wh-trns-l-fros,
vf-f gr, v rd-sb rd, mod w srt, g cons, g por,
calc cmt, tr glau, tr lith frags

Mud: IN 8.7 / 26, OUT 8.75 / 28



MD: 4,401'
TVD: 4,323.21'
Inclination: 12.9 °
Azimuth: 229.1 °
VS: -367.91'

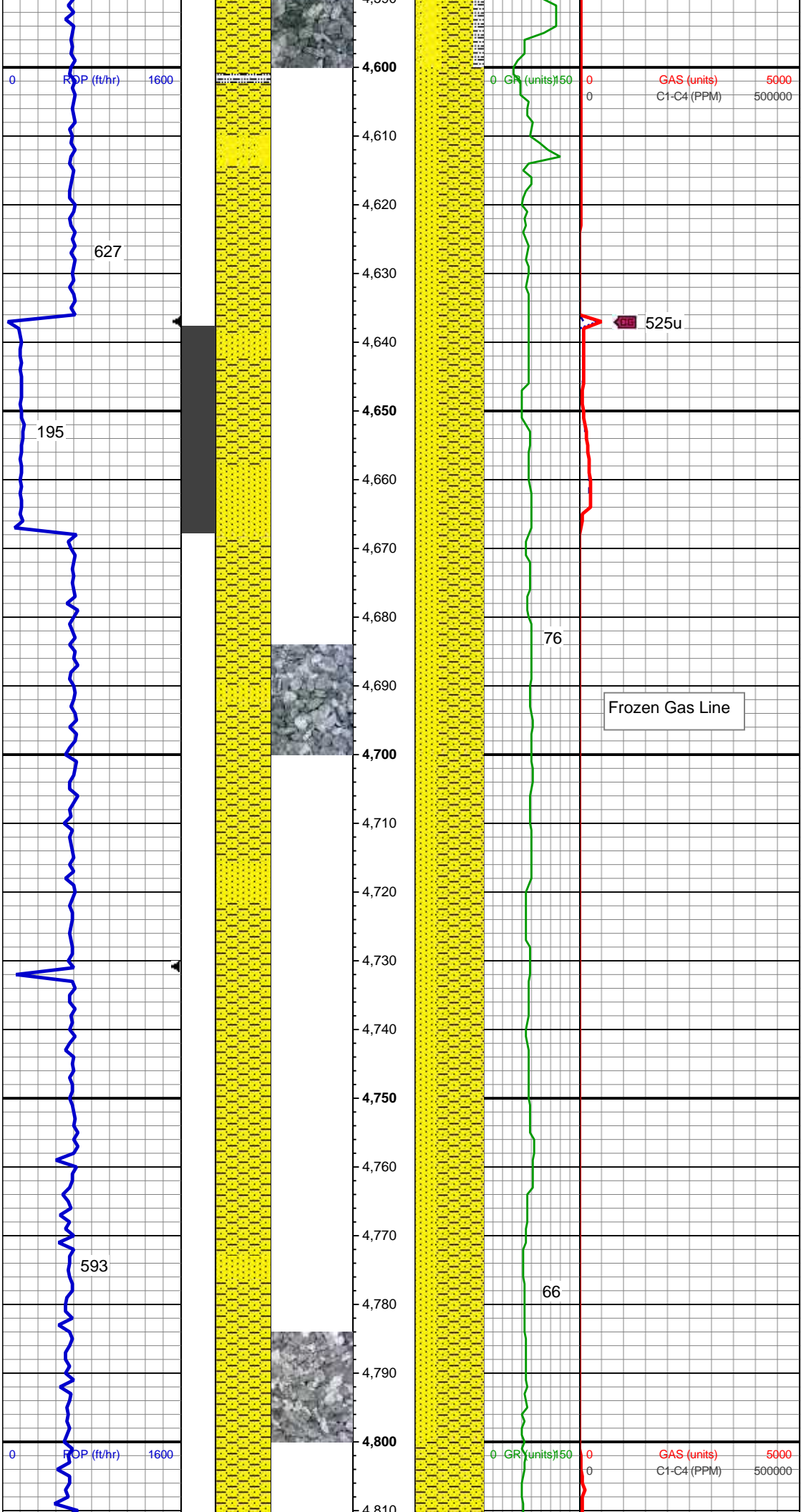
SLTY SH: med-dk gy, sft-mod frm, plty-sb
blky, sl wxy-grtty, non calc, tr pyr SHY
SS: dk gy-med brn, f gr, sb ang-rd, mod
srt, p-mod cons, p-mod por, sl calc cmt,
tr glau, tr lith frags S&P SS: wh-trnsl-fros,
vf-f gr, v rd-sb rd, mod w srt, g cons, g por,
calc cmt, tr glau, tr lith frags

MD: 4,496'
TVD: 4,415.77'
Inclination: 13.1 °
Azimuth: 227.1 °
VS: -382.05'

Mud: IN 8.65 / 27, OUT 8.7 / 27

SLTY SH: med-dk gy, sft-mod frm, plty-sb
blky, sl wxy-grtty, non calc, tr pyr SHY
SS: dk gy-med brn, f gr, sb ang-rd, mod
srt, p-mod cons, p-mod por, sl calc cmt,
tr glau, tr lith frags S&P SS: wh-trnsl-fros,
vf-f gr, v rd-sb rd, mod w srt, g cons, g por,
calc cmt, tr glau, tr lith frags

MD: 4,590'
TVD: 4,507.23'
Inclination: 12.6 °



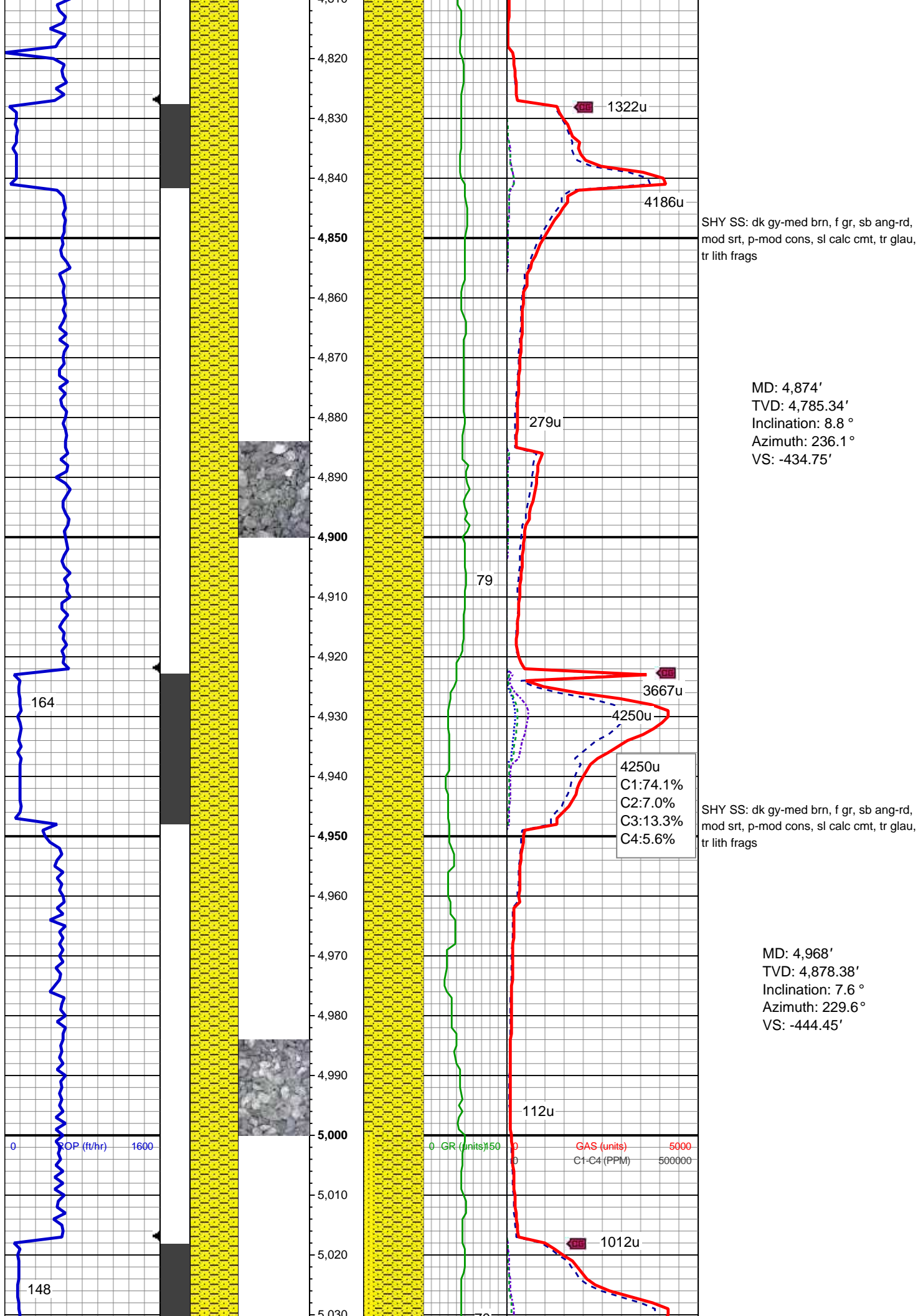
Inclination: 13.0
Azimuth: 225.2°
VS: -395.85'

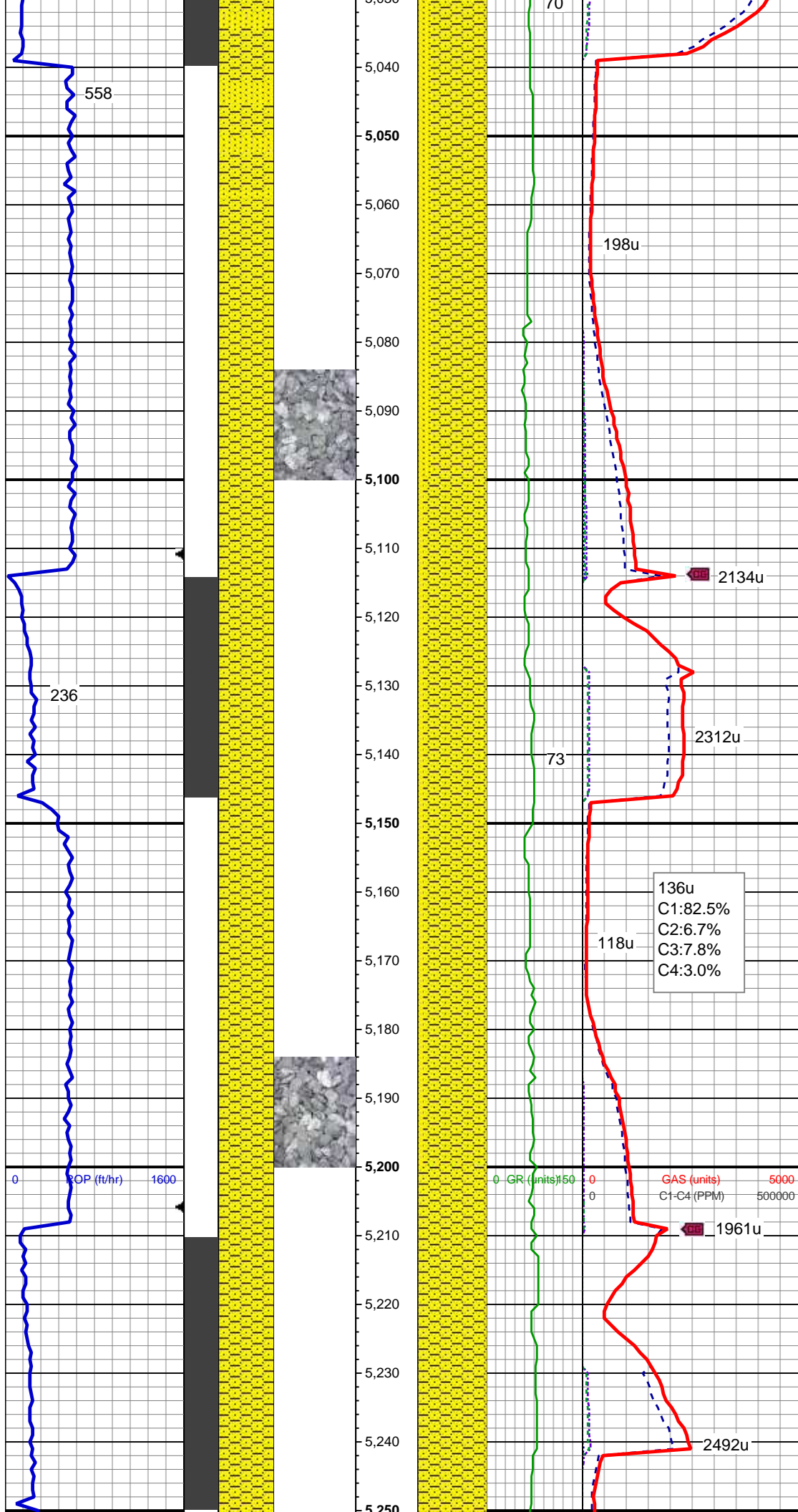
SHY SS: dk gy-med brn, f gr, sb ang-rd,
mod srt, p-mod cons, p-mod por, sl calc
cmt, tr glau, tr lith frags S&P SS:
wh-trnsl-fros, vf-f gr, v rd-sb rd, mod w srt,
g cons, g por, calc cmt, tr glau, tr lith
frags

MD: 4,684'
TVD: 4,598.64'
Inclination: 13.4 °
Azimuth: 227.8°
VS: -409.91'

SHY SS: dk gy-med brn, f gr, sb ang-rd,
mod srt, p-mod cons, sl calc cmt, tr glau,
tr lith frags S&P SS: wh-trnsl-fros, vf-f gr, v
rd-sb rd, mod w srt, g cons, g por, calc
cmt, tr glau, tr lith frags

MD: 4,779'
TVD: 4,691.63'
Inclination: 10.1 °
Azimuth: 233.1°
VS: -423.19'





Mud Wt: 8.7 / 28

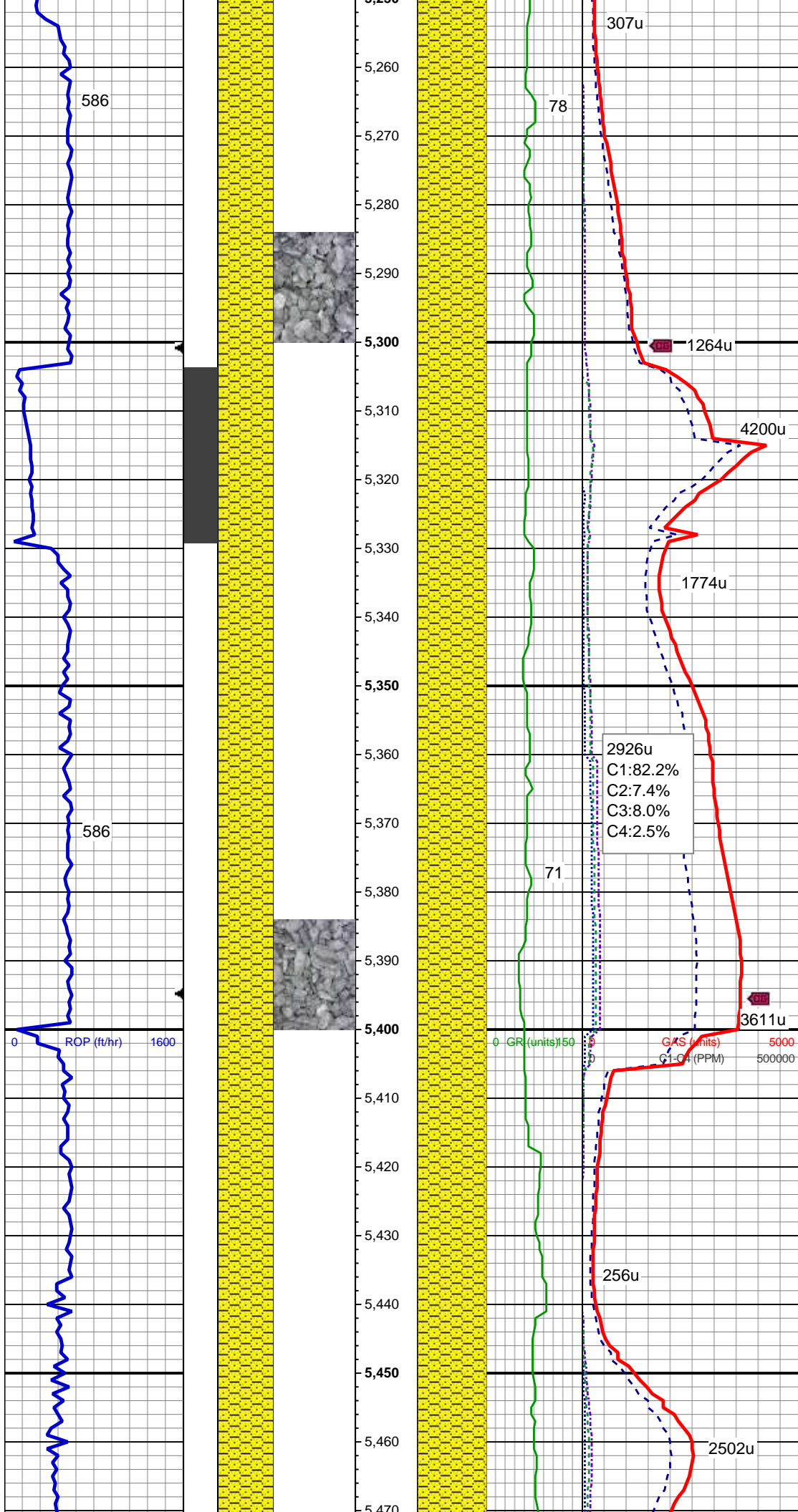
SHY SS: dk gy-med brn, f gr, sb ang-rd,
mod srt, p-mod cons, sl calc cmt, tr glau,
SS: wh-trnsl-fros, s&p, vf-f gr, v rd-sb rd,
mod w srt, g cons, calc cmt, tr glau, bent

MD: 5,063'
TVD: 4,972.71'
Inclination: 6.1 °
Azimuth: 218.5 °
VS: -451.4'

SHY SS: dk gy-med brn, f gr, sb ang-rd,
mod srt, p-mod cons, sl calc cmt, tr glau,
SS: wh-trnsl-fros, s&p, vf-f gr, v rd-sb rd,
mod w srt, g cons, calc cmt, tr glau, bent

MD: 5,158'
TVD: 5,067.33'
Inclination: 4 °
Azimuth: 222.9 °
VS: -456.02'

SHY SS: dk gy-med brn, f gr, sb ang-rd,
mod srt, p-mod cons, sl calc cmt, tr ss



mod srt, p-mod cons, sl calc cmt, tr ss,
Inoc frag

MD: 5,253'
TVD: 5,162.21'
Inclination: 1.6 °
Azimuth: 244 °
VS: -459.1'

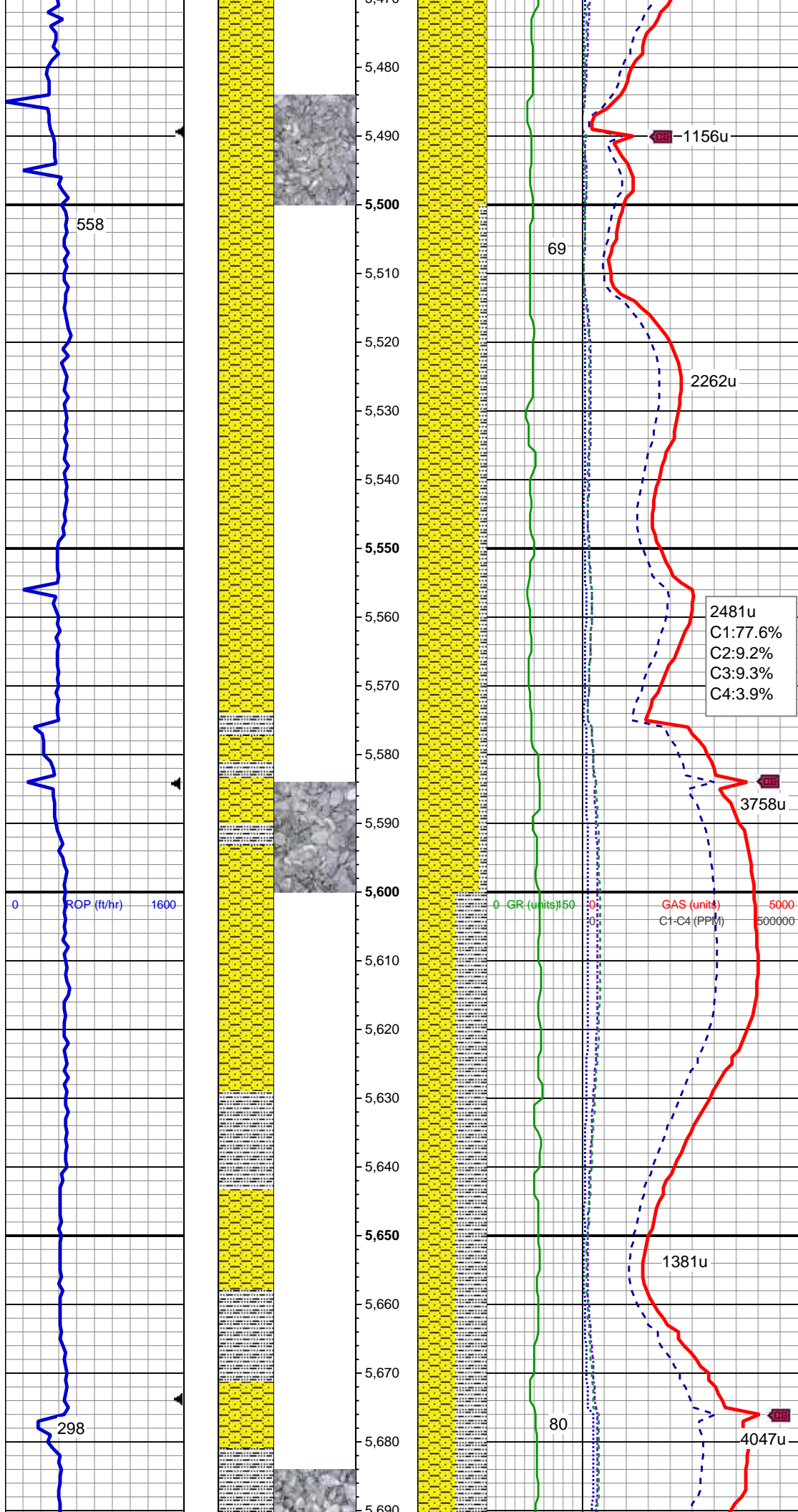
Mud Wt: 8.7 / 27

MD: 5,348'
TVD: 5,257.2'
Inclination: 0.3 °
Azimuth: 129.6 °
VS: -460'

SHY SS: dk gy-med brn, f gr, sb ang-rd,
mod srt, p-mod cons, sl calc cmt, tr ss,
Inoc frag

MD: 5,442'
TVD: 5,351.2'
Inclination: 0.3 °
Azimuth: 122.9 °
VS: -459.58'

SHY SS: dk gy-med brn, f gr, sb ang-rd,
mod srt, p-mod cons, sl calc cmt, tr ss,
silty sh



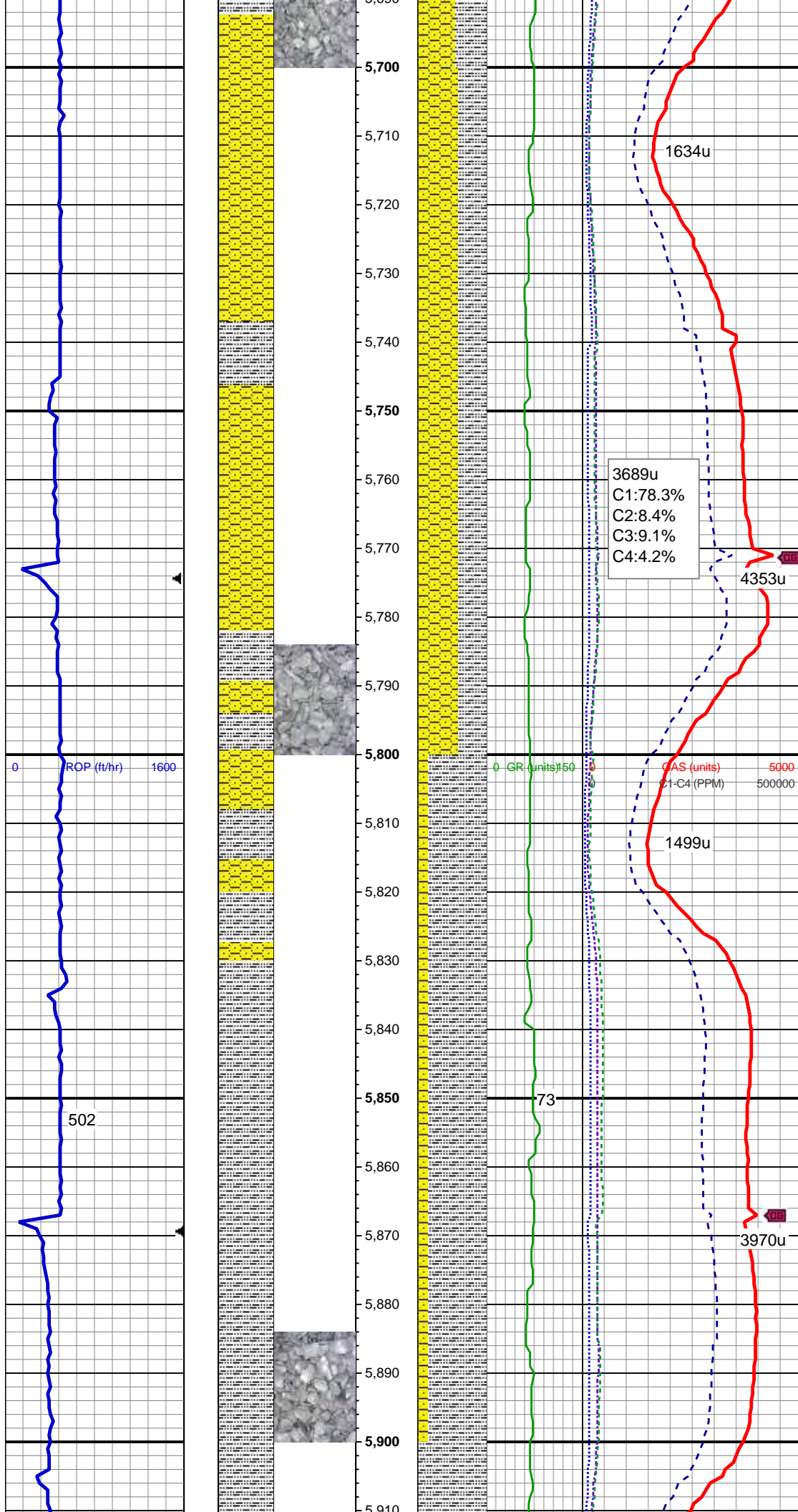
MD: 5,537'
TVD: 5,446.2'
Inclination: 0.6 °
Azimuth: 196°
VS: -459.44'

SHY SS: dk gy-med brn, f gr, sb ang-rd,
mod srt, p-mod cons, sl calc cmt SLTY
SH: med brn-dk gy, sft-sl frm, plty-sl blkly,
wxy-grty, non calc, mod sdy

2481u
C1:77.6%
C2:9.2%
C3:9.3%
C4:3.9%

MD: 5,632'
TVD: 5,541.2'
Inclination: 0.2 °
Azimuth: 166.8°
VS: -459.46'

SHY SS: dk gy-med brn, f gr, sb ang-rd,
mod srt, p-mod cons, sl calc cmt SLTY
SH: med brn-dk gy, sft-sl frm, plty-sl blkly,
wxy-grty, non calc, mod sdy



MD: 5,727'
TVD: 5,636.19'
Inclination: 0.6 °
Azimuth: 208.9 °
VS: -459.59'

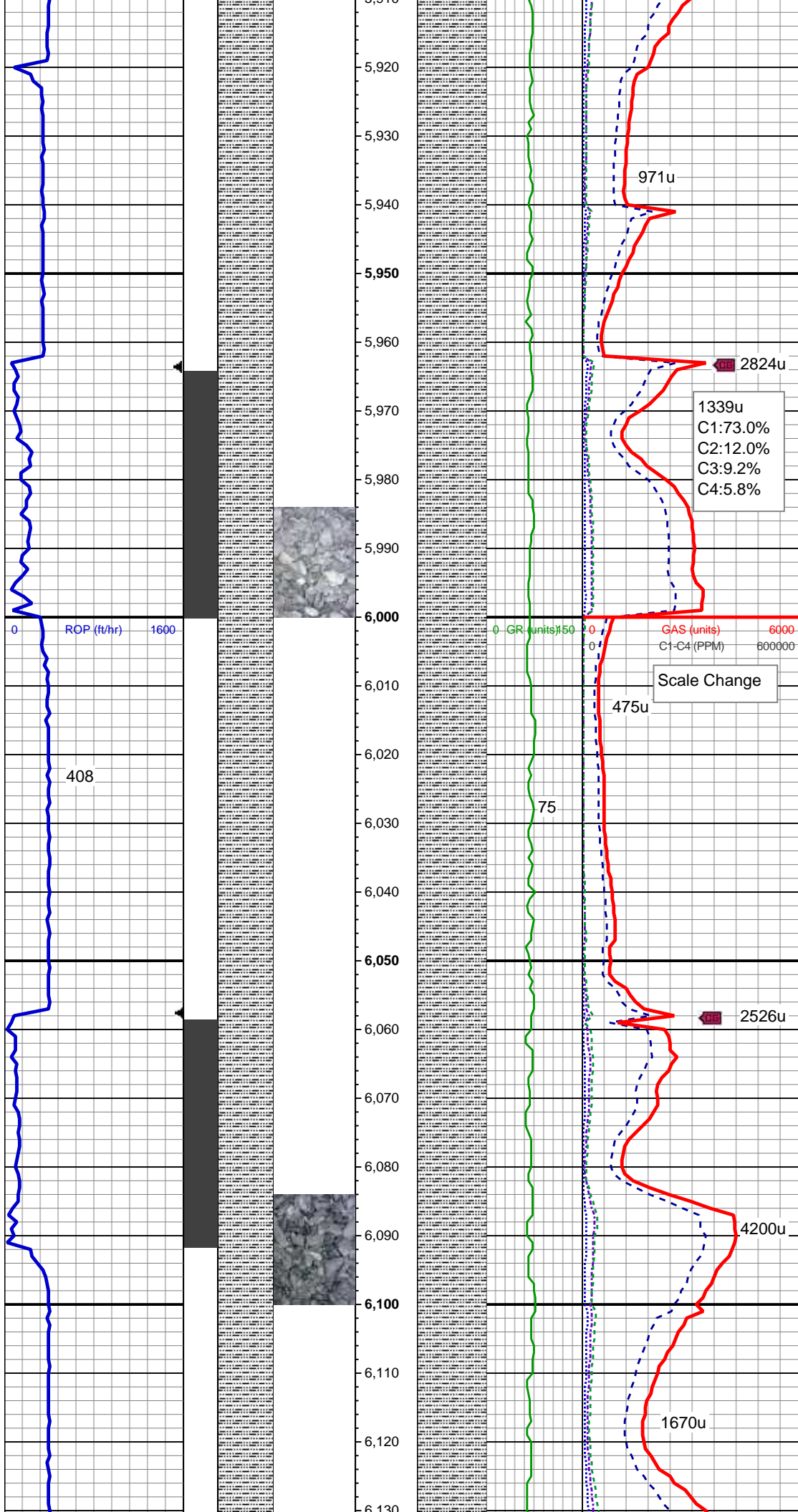
SHY SS: dk gy-med brn, f gr, sb ang-rd, mod srt, p-mod cons, sl calc cmt SLTY
SH: med brn-dk gy, sft-sl frm, plty-sl blk, wxy-grty, non calc, mod sdy

MD: 5,821'
TVD: 5,730.18'
Inclination: 1.6 °
Azimuth: 202.7 °
VS: -460.14'

SLTY SH: med brn-dk gy, sft-sl frm, plty-sl blk, wxy-grty, non calc, mod sdy SHY
SS: dk gy-med brn, f gr, sb ang-rd, mod srt, p-mod cons, sl calc cmt

Mud Wt: 8.8 / 28

MD: 5,916'
TVD: 5,825.12'



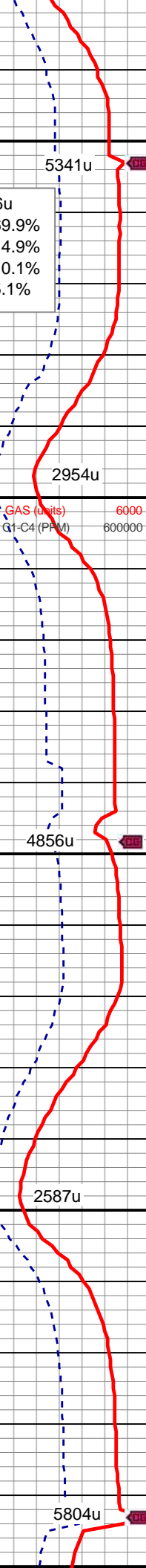
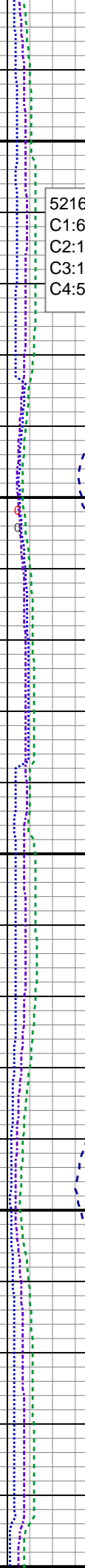
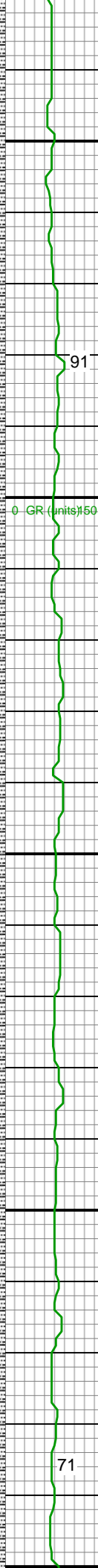
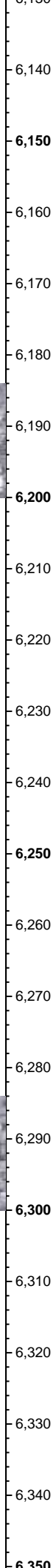
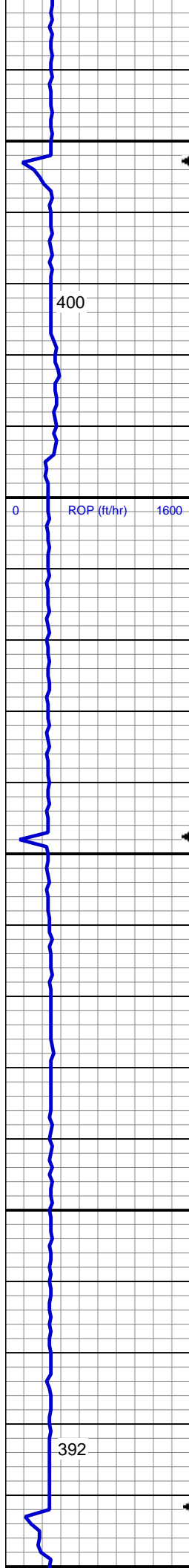
TVD: 5,625.13'
Inclination: 1.9 °
Azimuth: 207.4 °
VS: -461.07'

SLTY SH: med brn-dk gy, sft-sl frm, plty-sl
bkly, wxy-grty, non calc, sl sdy, tr pyr, ss

MD: 6,010'
TVD: 5,919.07'
Inclination: 2.1 °
Azimuth: 212.9 °
VS: -462.38'

SLTY SH: med brn-dk gy, sft-sl frm, plty-sl
bkly, wxy-grty, non calc, sl sdy, tr pyr, ss

MD: 6,105'
TVD: 6,014.04'
Inclination: 0.7 °
Azimuth: 195.8 °
VS: -463.24'



SLTY SH: med brn-dk gy, sft-sl frm, plty-sl blkly, wxy-grty, non calc, sl sdy, tr pyr, ss

MD: 6,200'
TVD: 6,109.03'
Inclination: 1 °
Azimuth: 196.2 °
VS: -463.47'

MD: 6,294'
TVD: 6,203.02'
Inclination: 0.6 °
Azimuth: 200.9 °
VS: -463.73'

SLTY SH: med brn-dk gy, sft-sl frm, plty-sl blkly, wxy-grty, non calc, mod sdy SHY

