



Scale: 5" / 100'
Measured Depth Log

Well Name SHOOK 3-10-6CDH_Vert_Curve

Location NWSE SEC 3 T1S R67W

State COLORADO

County ADAMS

Country USA

Rig Number ENSIGN 145

API Number 05-001-09981

AFE # 1700003

Geographic Region DENVER-JULESBURG BASIN

Field WATTENBERG

Spud Date 4/19/2017

Drilling Completed 7/6/2017

Surface Coordinates SEC 3, T1S, R67W, 2058' FSL x 2094' FEL
39.9889398, -104.8671221

Bottom Hole Coordinates SEC2, T1S, R67W, 893' FSL x 1333' FWL
39.5631200, -104.0104001

Ground Elevation 5096'

K.B. Elevation 5109'

Logged Interval 1801' **To** 8330'

Total Depth 6529'

Formation QUATERNARY SANDS to CODELL

Type of Drilling Fluid OMB - OIL BASED MUD

Operator

Company Petro Share

Address 7200 S Alton Way
Englewood, CO 80112



Geologist

Color Coding

Name JOEY LUCE, GARY MYERS

Company TERRA GUIDANCE

Address 1298 O Road
Loma CO 81524
(970) 260-5408

Oil

Condensate

Gas

Note

Core

Pressure

Error

Water

Seal

Rock Types

UNKNOWN

ANHYDRITE
GYPSUM
SALT
SIDERITE or LIMONITE
LIMESTONE

CHALK

CHERT

COAL

MARLSTONE

CLAYSTONE

SHALE

SHALE GRAY

SHALE COLORED

SILTSTONE

SANDSTONE

CONGLOMERATE

SHALY SANDSTONE

SILTY SHALE

BENTONITE

SHALY SILTSTONE

IGNEOUS

METAMORPHIC

CEMENT

Accessories

Fossils

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

FOSSIL

GASTROPOD

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

FERRUGINOUS

GLAUCONITE

GYPSIFEROUS

HEAVY MINERAL

KAOLIN

MARLSTONE

MINERAL CRYSTALS

NODULES

PHOSPHATE PELLETS

PYRITE

SALT CAST

SANDY

SILICEOUS

SILTY

TUFACEOUS

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

EARTHY
FENESTRAL
FRACTURE
INTERCRYSTALLINE
INTEROOLITIC
MOLDIC

ORGANIC

PINPOINT

VUGGY

Engineering

BIT

CASING

CONNECTION (LEFT)

CONNECTION (RIGHT)

CONNECTION GAS

CORE - LOST

CORE - RECOVERED

DST INTERVAL

FAULT

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

Rounding

ANGULAR
ROUNDED
SUBANG
SUBRND

Textures

BOUNDSTONE
CHALKY
CRYPTOXLN
EARTHY
FINELYXLN
GRAINSTONE

LITHOGRAPHIC

MICROXLN

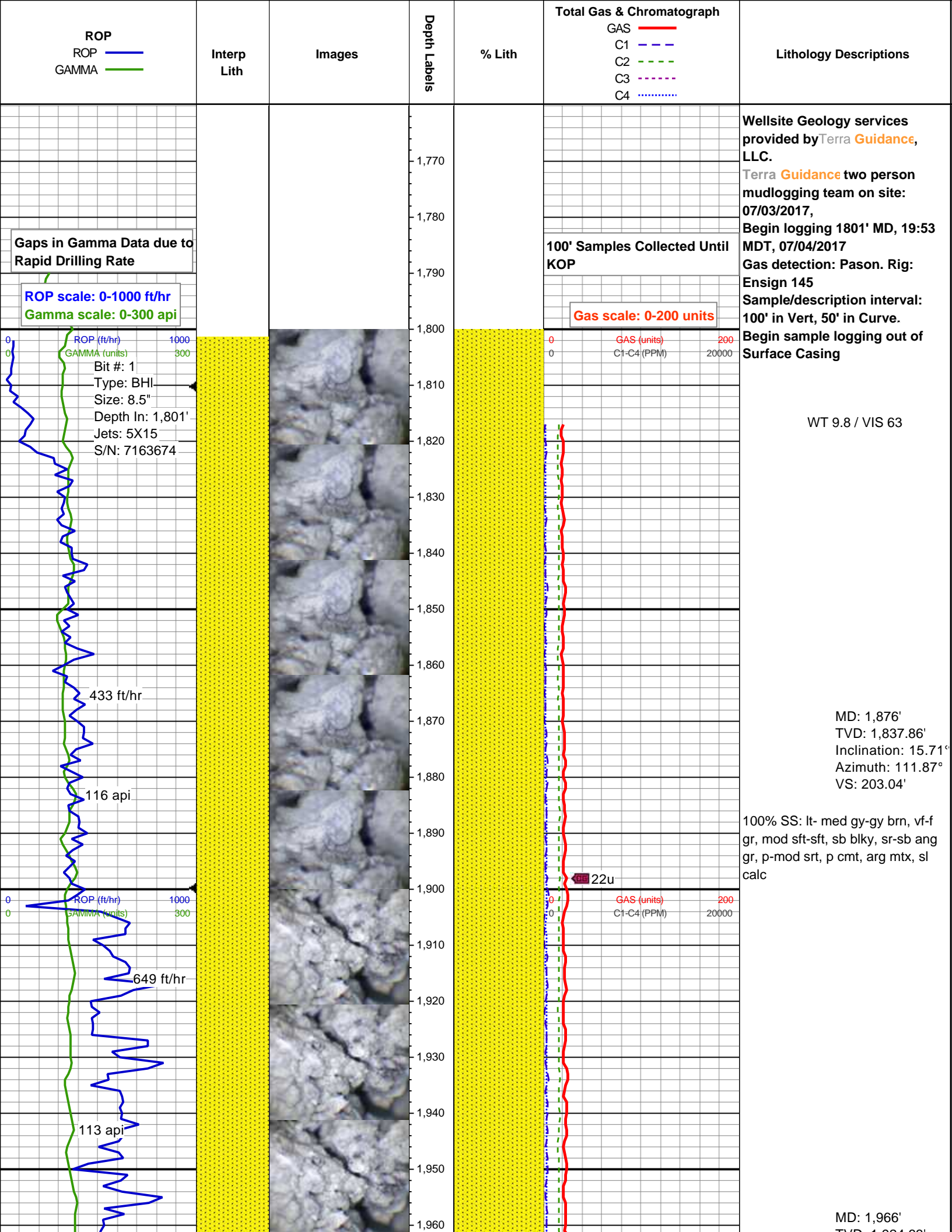
MUDSTONE

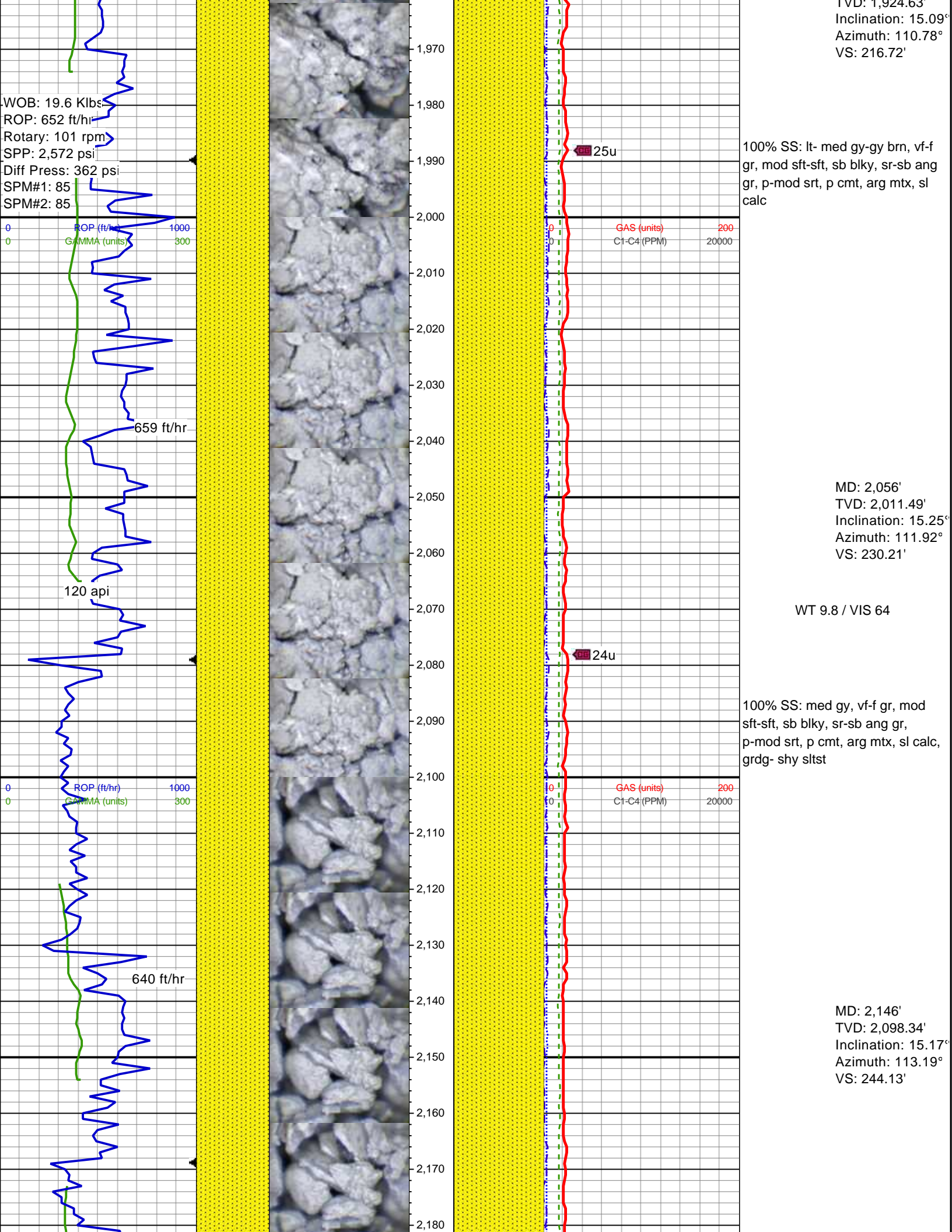
PACKSTONE

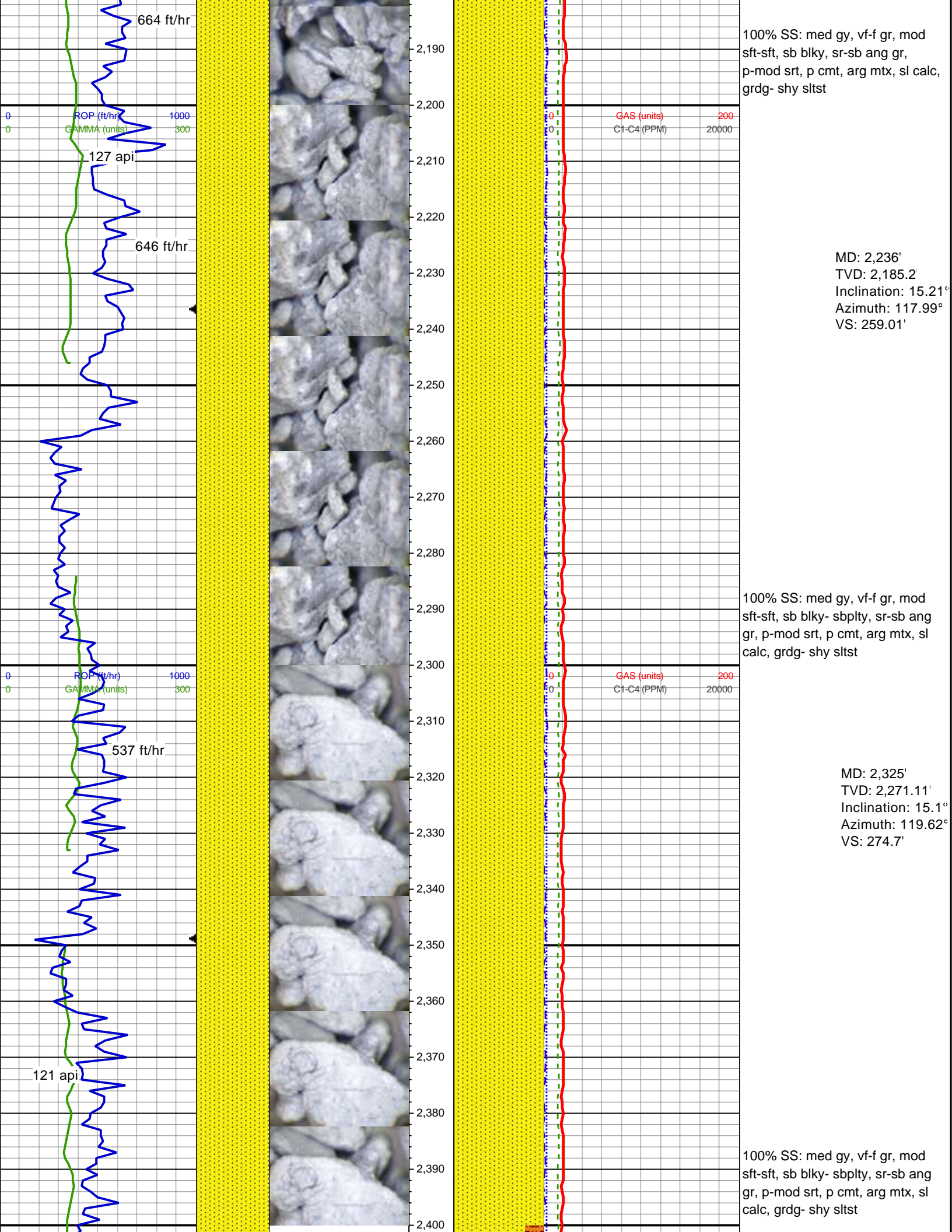
WACKESTONE

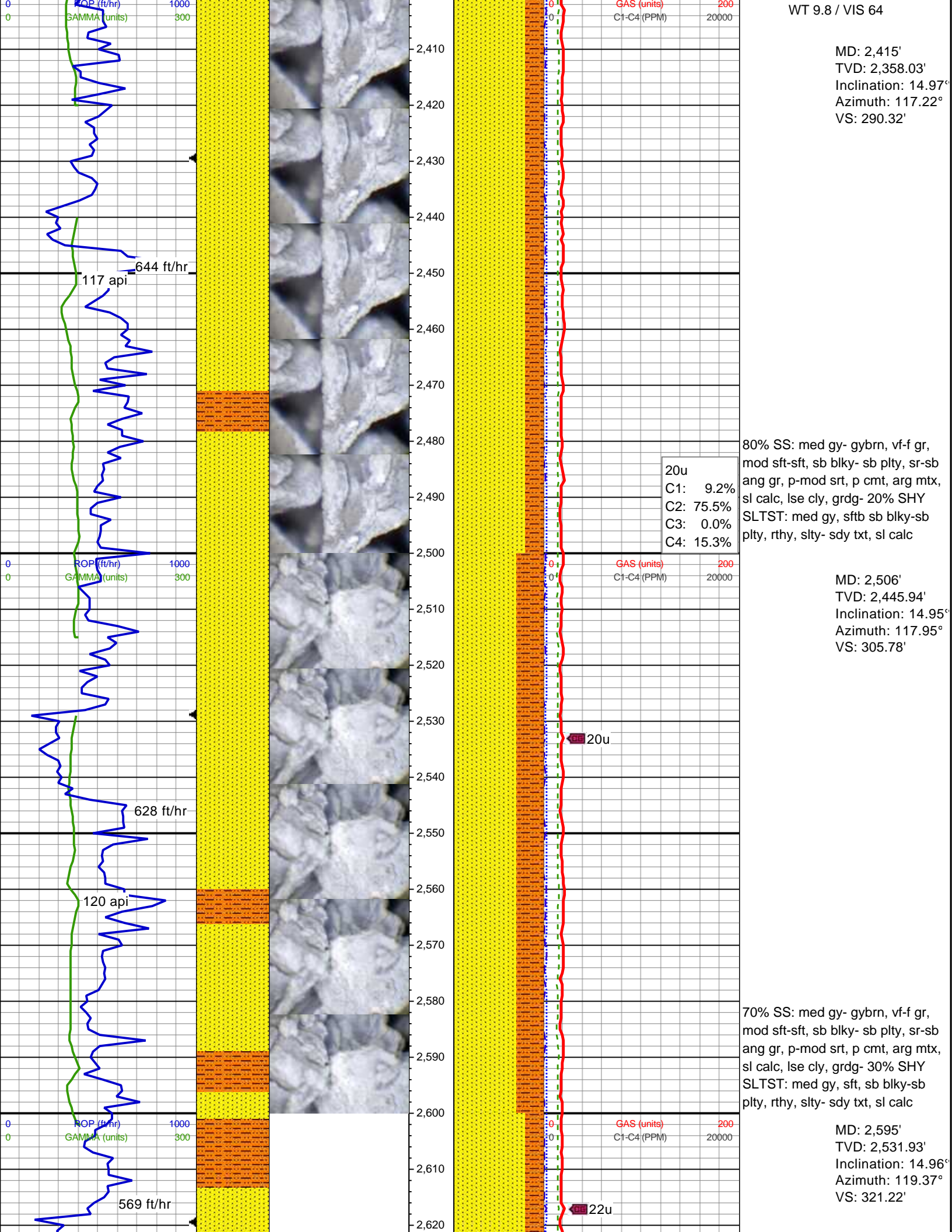
Sorting

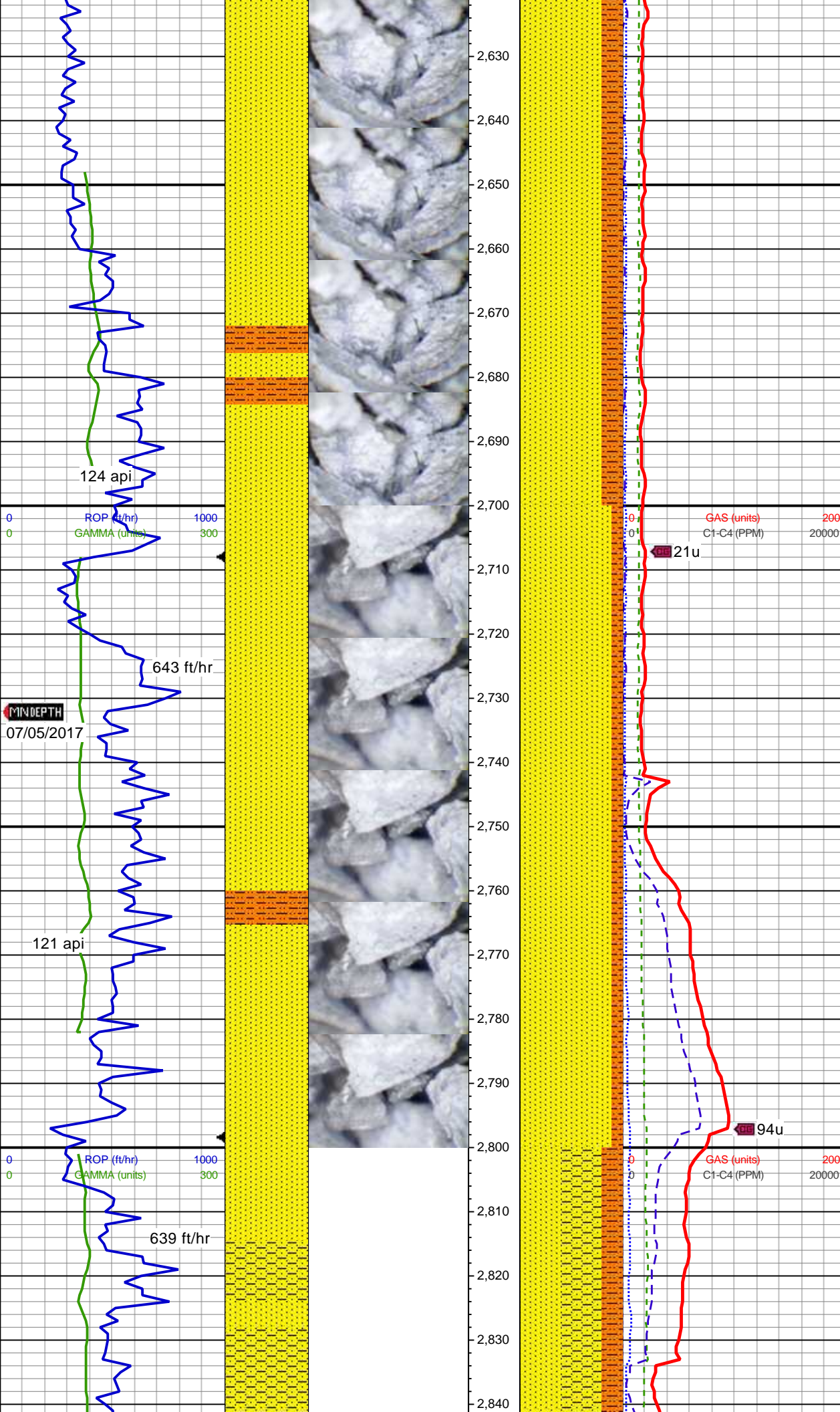
MODERATE
POOR
WELL











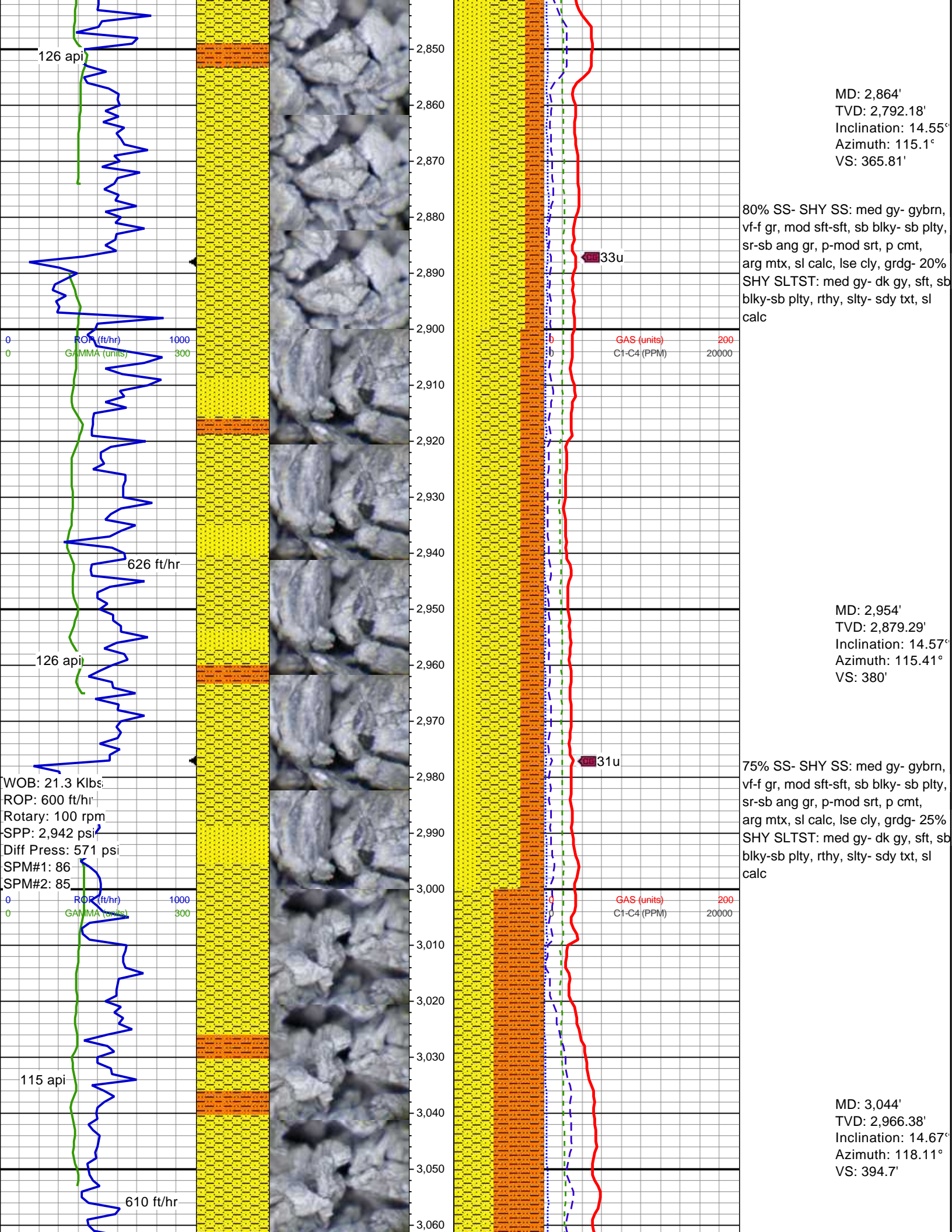
MD: 2,684'
TVD: 2,618.01'
Inclination: 14.45°
Azimuth: 117.69°
VS: 336.37'

80% SS: med gy- gybrn, vf-f gr,
mod sft-sft, sb blkly- sb plty, sr-sb
ang gr, p-mod srt, p cmt, arg mtx,
sl calc, lse cly, grdg- 20% SHY
SLTST: med gy, sft, sb blkly-sb
plty, rthy, slty- sdy txt, sl calc

WT 9.8 / VIS 61

MD: 2,774'
TVD: 2,705.11'
Inclination: 14.75°
Azimuth: 117.21°
VS: 351.26'

90% SS: med gy- gybrn, vf-f gr,
mod sft-sft, sb blkly- sb plty, sr-sb
ang gr, p-mod srt, p cmt, arg mtx,
sl calc, lse cly, grdg- 10% SHY
SLTST: med gy- dk gy, sft, sb
blkly-sb plty, rthy, slty- sdy txt, sl
calc, tr dk brn slty sh



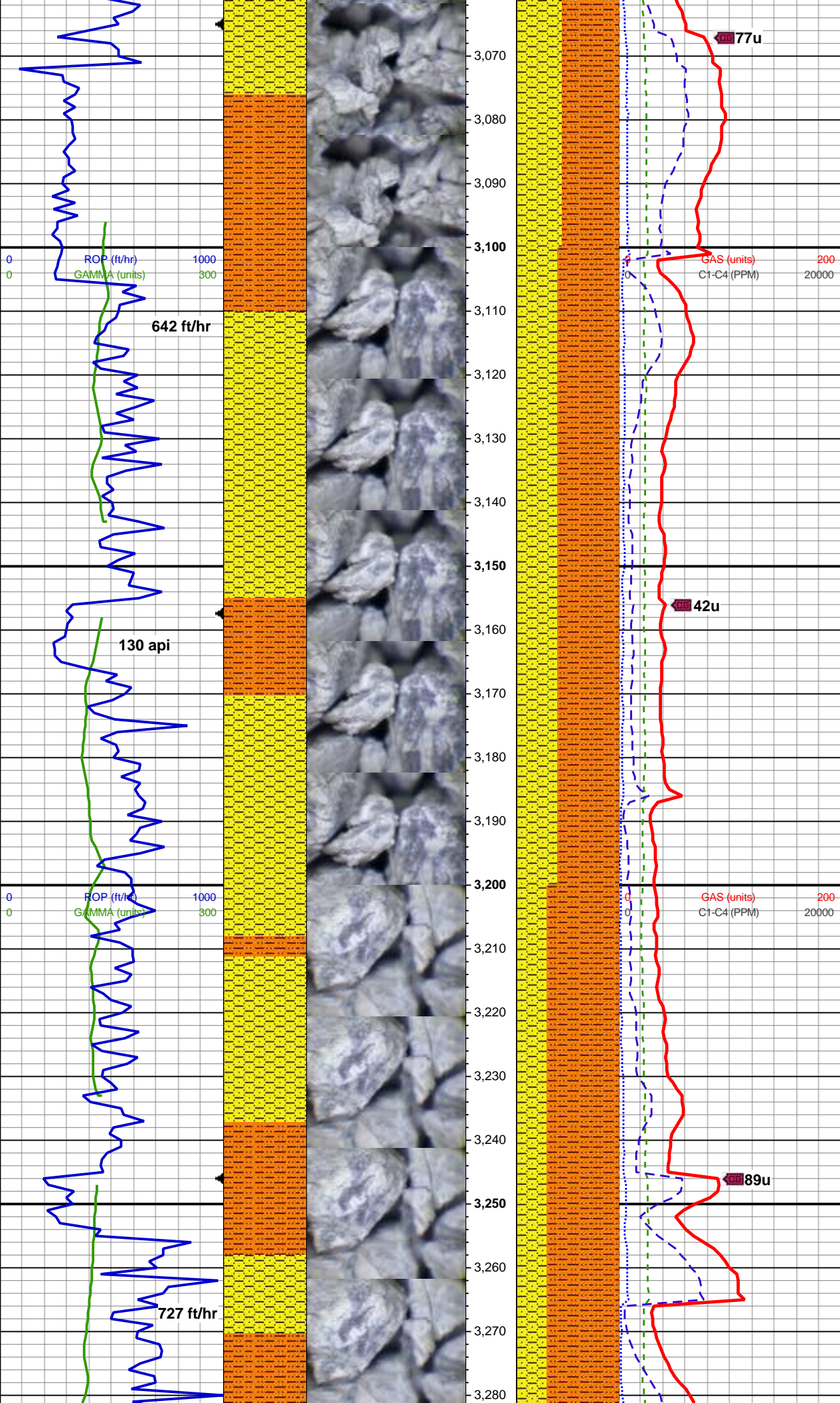
MD: 2,864'
TVD: 2,792.18'
Inclination: 14.55°
Azimuth: 115.1°
VS: 365.81'

80% SS- SHY SS: med gy- gybrn, vf-f gr, mod sft-sft, sb blkly- sb plty, sr-sb ang gr, p-mod srt, p cmt, arg mtx, sl calc, lse cly, grdg- 20% SHY SLTST: med gy- dk gy, sft, sb blkly-sb plty, rthy, slty- sdy txt, sl calc

MD: 2,954'
TVD: 2,879.29'
Inclination: 14.57°
Azimuth: 115.41°
VS: 380'

75% SS- SHY SS: med gy- gybrn, vf-f gr, mod sft-sft, sb blkly- sb plty, sr-sb ang gr, p-mod srt, p cmt, arg mtx, sl calc, lse cly, grdg- 25% SHY SLTST: med gy- dk gy, sft, sb blkly-sb plty, rthy, slty- sdy txt, sl calc

MD: 3,044'
TVD: 2,966.38'
Inclination: 14.67°
Azimuth: 118.11°
VS: 394.7'



55% SHY SLTST: med gy- dk gy, sft, pred sb blk, rthy, slty- sdy txt, sl calc, grdg- 45% SHY SS: med gy- gybrn, vf-f gr, mod sft-sft, sb blk- sb plty, sr-sb ang gr, p-mod srt, p cmt, arg mtx, sl calc, lse cly

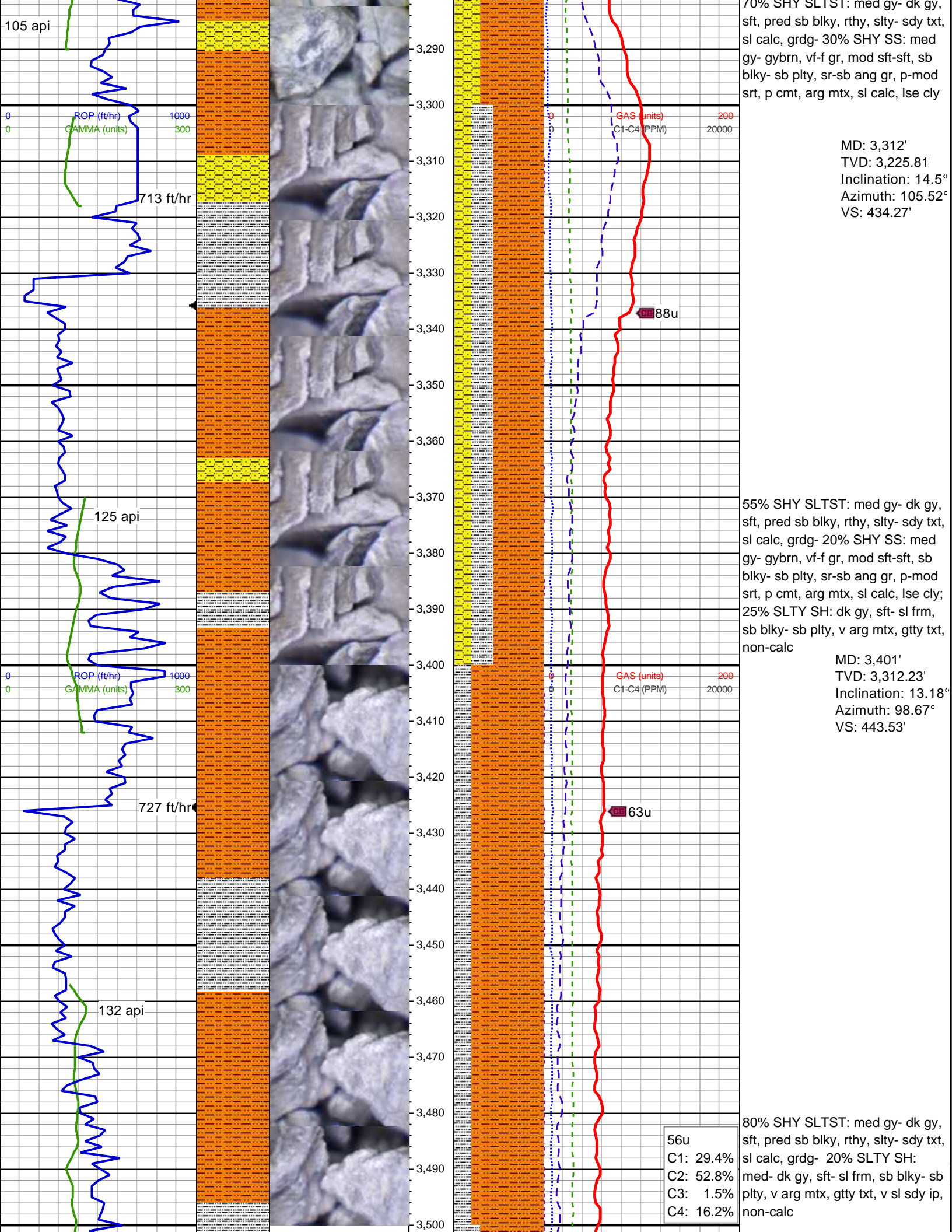
WT 9.8 / VIS 61

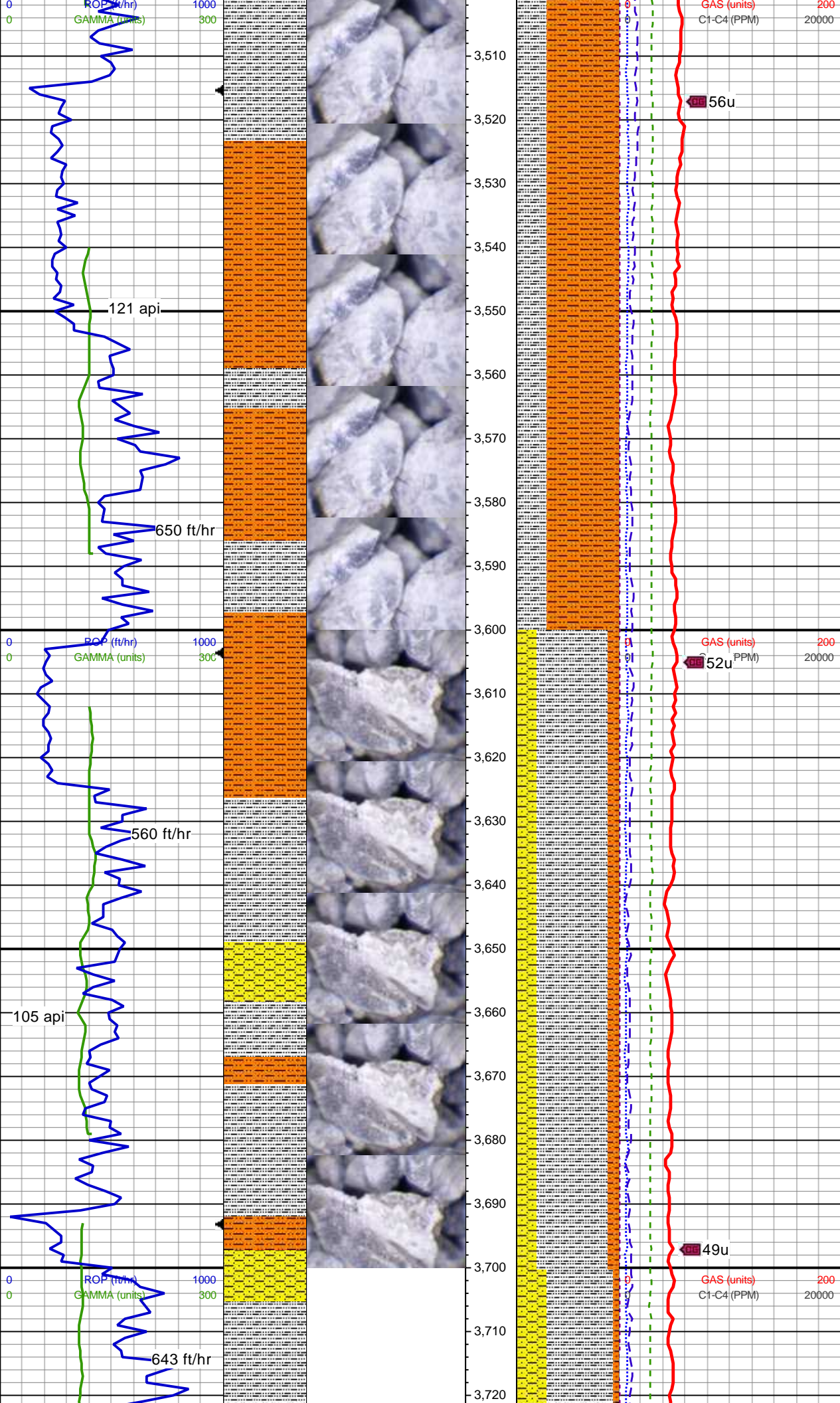
MD: 3,133'
TVD: 3,052.49'
Inclination: 14.59°
Azimuth: 115.1°
VS: 409.2'

60% SHY SLTST: med gy- dk gy, sft, pred sb blk, rthy, slty- sdy txt, sl calc, grdg- 40% SHY SS: med gy- gybrn, vf-f gr, mod sft-sft, sb blk- sb plty, sr-sb ang gr, p-mod srt, p cmt, arg mtx, sl calc, lse cly

MD: 3,223'
TVD: 3,139.63'
Inclination: 14.42°
Azimuth: 110.72°
VS: 422.6'

70% SHY SLTST: med gy- dk gy, sft, pred sb blk, rthy, slty- sdy txt, sl calc, grdg- 40% SHY SS: med gy- gybrn, vf-f gr, mod sft-sft, sb blk- sb plty, sr-sb ang gr, p-mod srt, p cmt, arg mtx, sl calc, lse cly





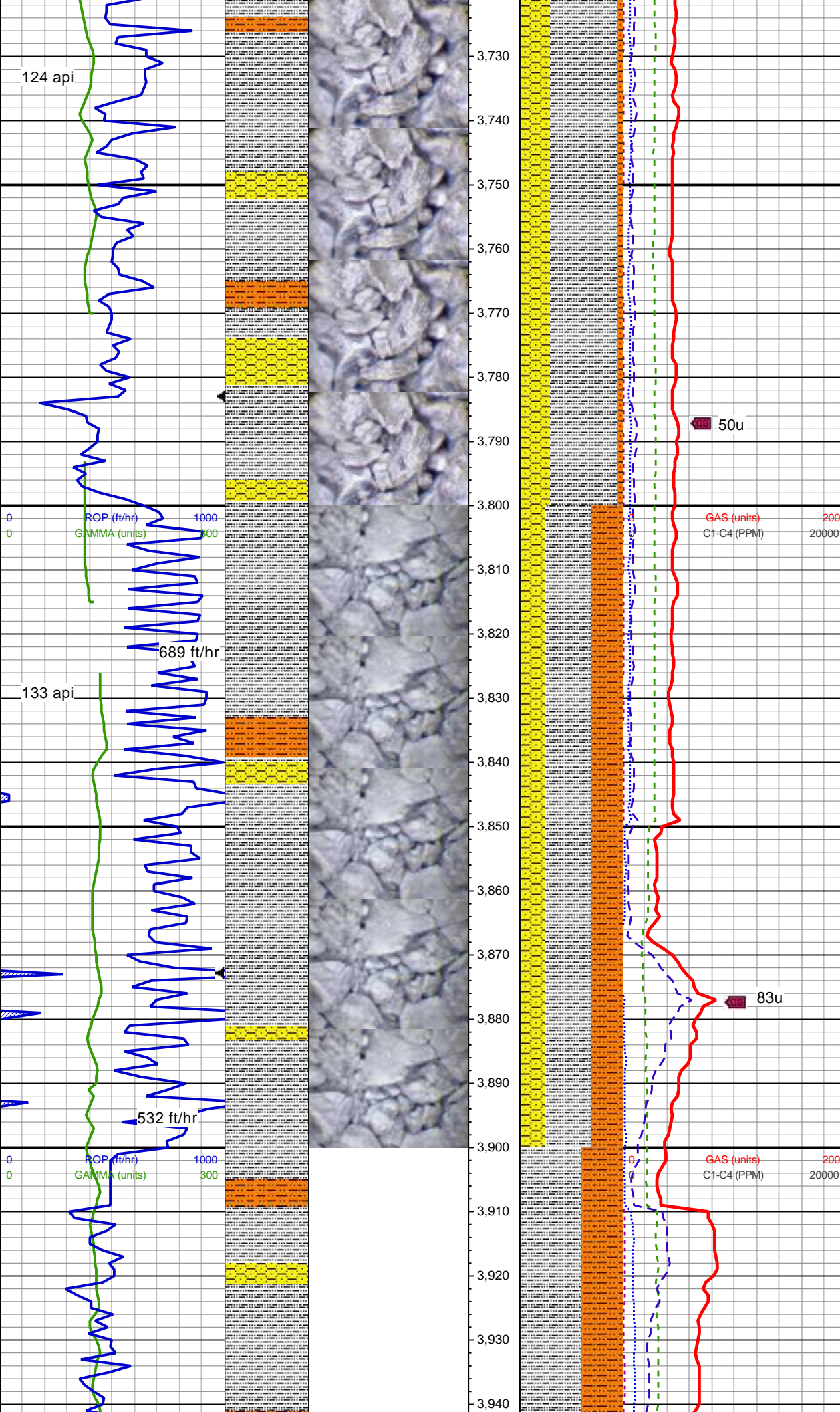
MD: 3,491'
TVD: 3,399.82'
Inclination: 13.41°
Azimuth: 105.04°
VS: 452.41'

MD: 3,581'
TVD: 3,487.38'
Inclination: 13.43°
Azimuth: 116.12°
VS: 464.09'

70% SHY SLTST: med gy- dk gy, sft, pred sb blkly, rthy, slty- sdy txt, sl calc, grdg- 30% SLTY SH: med- dk gy, sft- sl frm, sb blkly- sb plty, v arg mtx, gttly txt, v sl sdy ip, non-calc

MD: 3,670'
TVD: 3,573.91'
Inclination: 13.64°
Azimuth: 115.31°
VS: 477.28'

70% SLTY SH: dk gy, sl frm, sb blkly- sb plty, v arg mtx, gttly txt, non-calc, grdg -20% SHY SS: dk gy- gybrn, vf-f gr, sl frm, sb blkly- sb plty, sr-sb ang gr, p-mod srt, p cmt, arg mtx; 10% SHY SLTST: med gy- dk gy, sft, pred sb blkly, rthy, slty- sdy txt, sl calc



MD: 3,760'
TVD: 3,661.41'
Inclination: 13.43°
Azimuth: 113°
VS: 490.17'

65% SLTY SH: dk gy, sl frm, sb
blky- sb plty, v arg mtx, gttt txt,
non-calc, grdg -30% SHY SS: dk
gy- gybrn, vf-f gr, sl frm, sb blky-
sb plty, sr-sb ang gr, p-mod srt, p
cmt, arg mtx; 5% SHY SLTST:
med gy- dk gy, sft, pred sb blky,
rthy, slty- sdy txt, sl calc

50u

GAS (units) 200
C1-C4 (PPM) 20000

MD: 3,849'
TVD: 3,748.01'
Inclination: 13.27°
Azimuth: 118.89°
VS: 503.23'

MW 9.8 / VIS 63

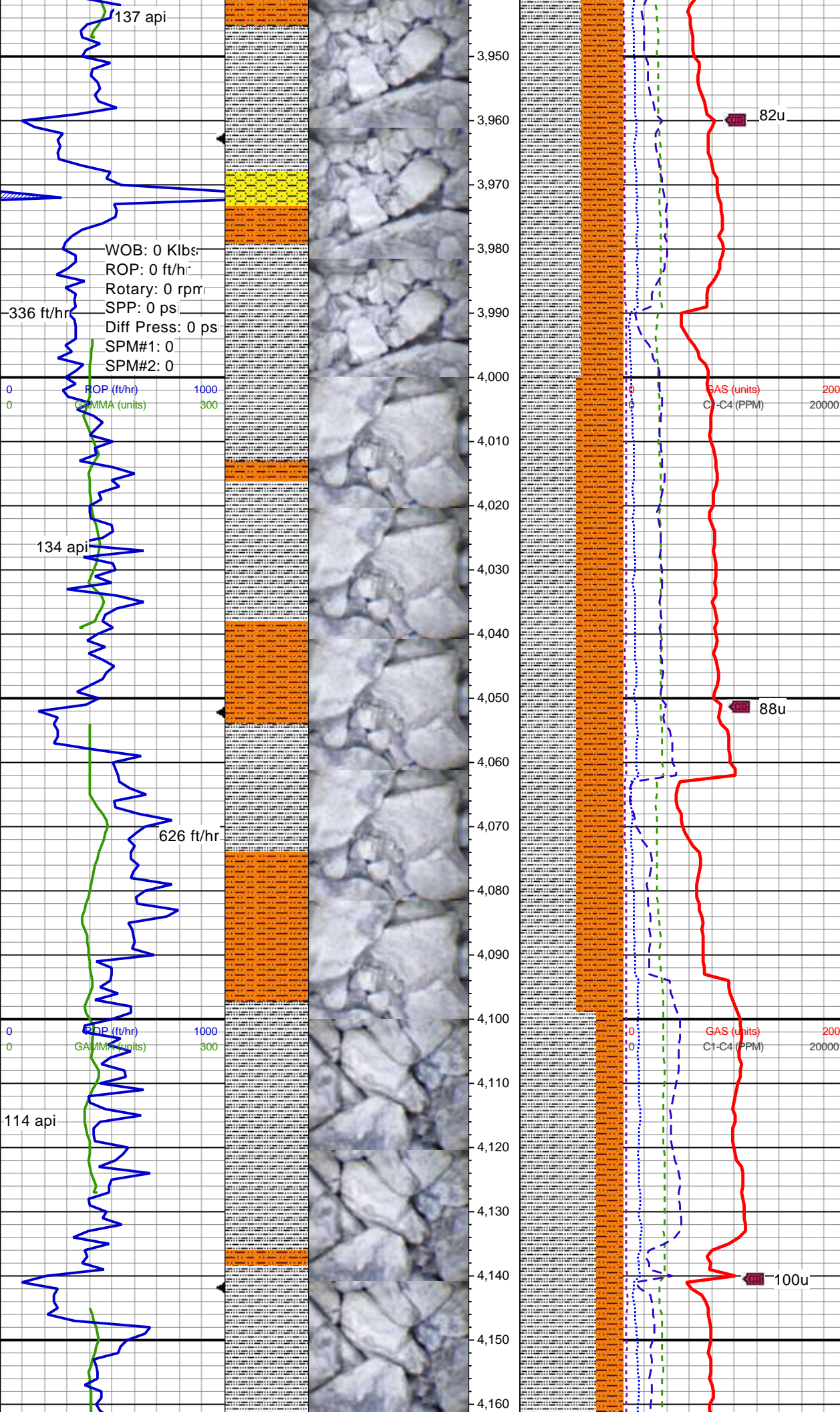
45% SLTY SH: drkgy-gy, sft-frm,
sb blky-fis, vfg, mod srt, v arg mtx,
non calc; 30% SHY SLTST:
medgy-drkgy/brn, frm-hrd, fis ip,
sb ang-sb plty, rthy, slty tex, v arg,
non-sl calc ip; 25% SHY SS:
drkgy-gy/brn, vf-f gr, sl frm, sb
blky-sb plty, sr-sb ang, p-mod srt,
p cmt, arg mtx

83u

GAS (units) 200
C1-C4 (PPM) 20000

Repair Leak on Flow Line in Sub
03:45 to 09:12 MDT, 07/05/2017

MD: 3,939'
TVD: 3,835.58'
Inclination: 13.42°
Azimuth: 113.17°



Azimuth: 120.17°
VS: 517.42'

IN MW 9.6 / VIS 53
OUT MW 9.7 / VIS 49

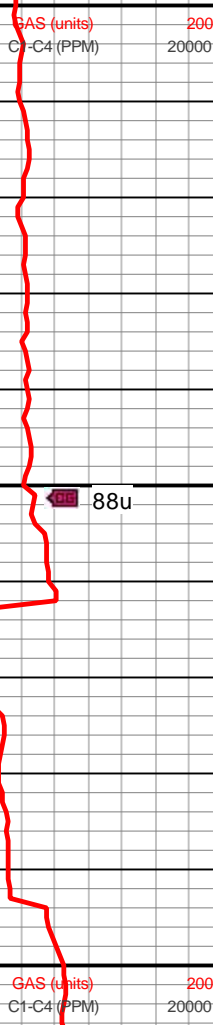
60% SLTY SH: drkgy-gy, sft-frm,
sb blk-y-fis, vfg, mod srt, v arg mtx,
non calc; 40% SHY SLTST:
medgy-drkgy brn, frm-hrd, fis ip,
sb ang-sb plty, rthy, slty tex, v arg,
non-sl calc ip

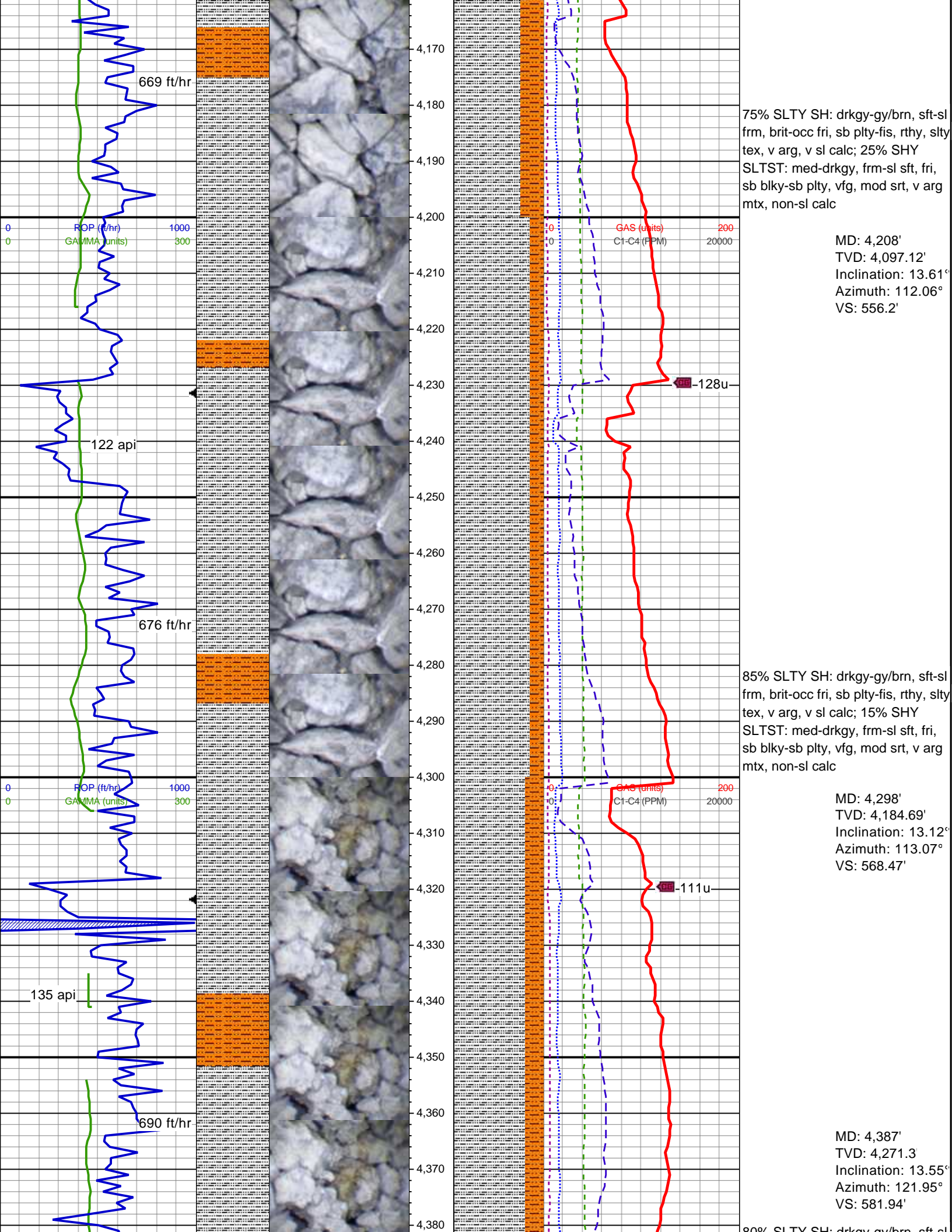
MD: 4,028'
TVD: 3,922.15'
Inclination: 13.45°
Azimuth: 116.34°
VS: 531.21'

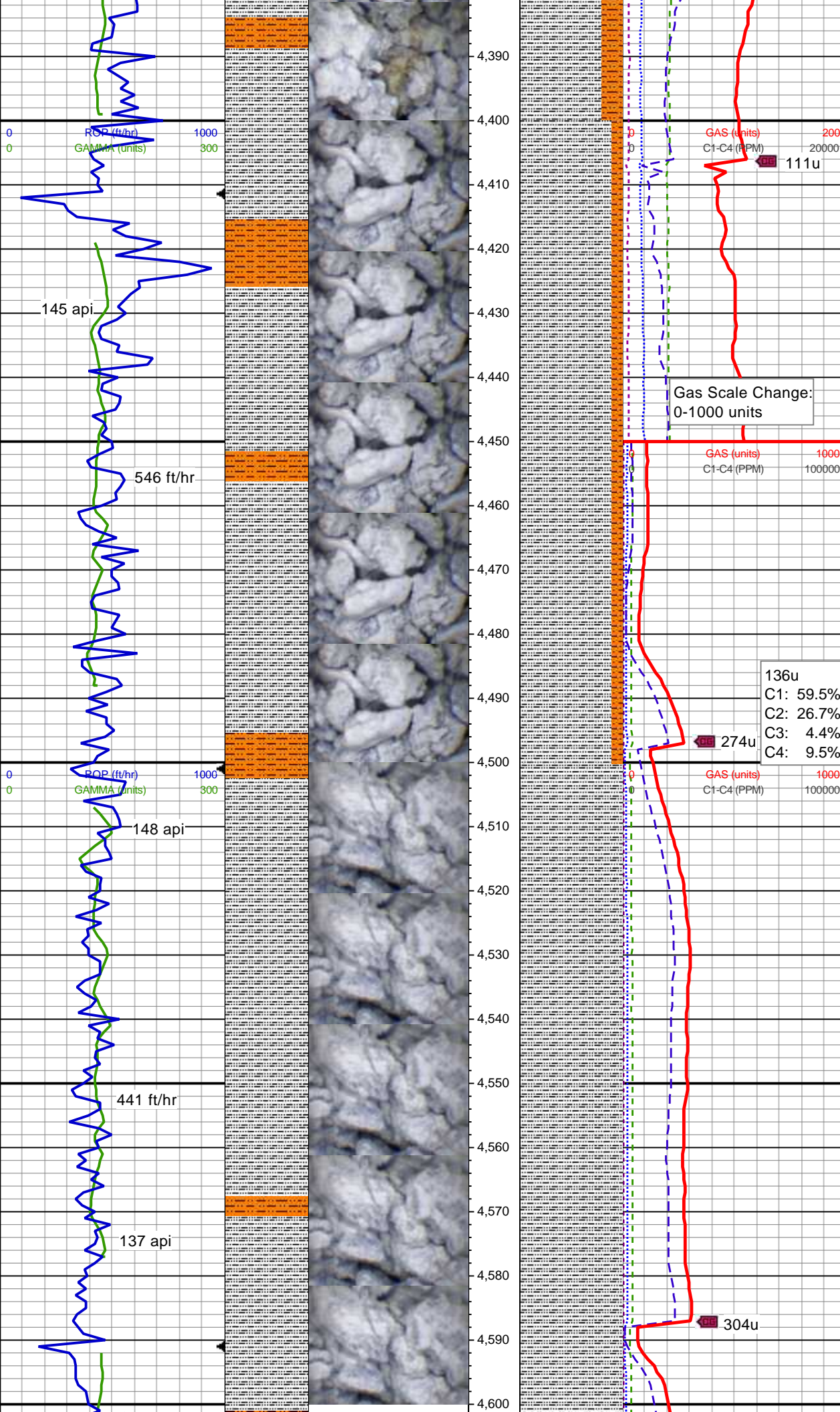
55% SLTY SH: drkgy-gy, sft-frm,
sb blk-y-fis, vfg, mod srt, v arg mtx,
non calc; 45% SHY SLTST:
medgy-drkgy brn, frm-hrd, fis ip,
sb ang-sb plty, rthy, slty tex, v arg,
non-sl calc ip

MD: 4,118'
TVD: 4,009.65'
Inclination: 13.61°
Azimuth: 111.29°
VS: 543.98'

82u
88u
100u







80% SLTY SH: drkgy-gy/brn, slt-s
frm, brit-occ fri, sb plty-fis, rthy, slty
tex, v arg, v sl calc; 20% SHY
SLTST: med-drkgy, frm-sl sft, fri,
sb blkgy-sb plty, vfg, mod srt, v arg
mtx, non-sl calc

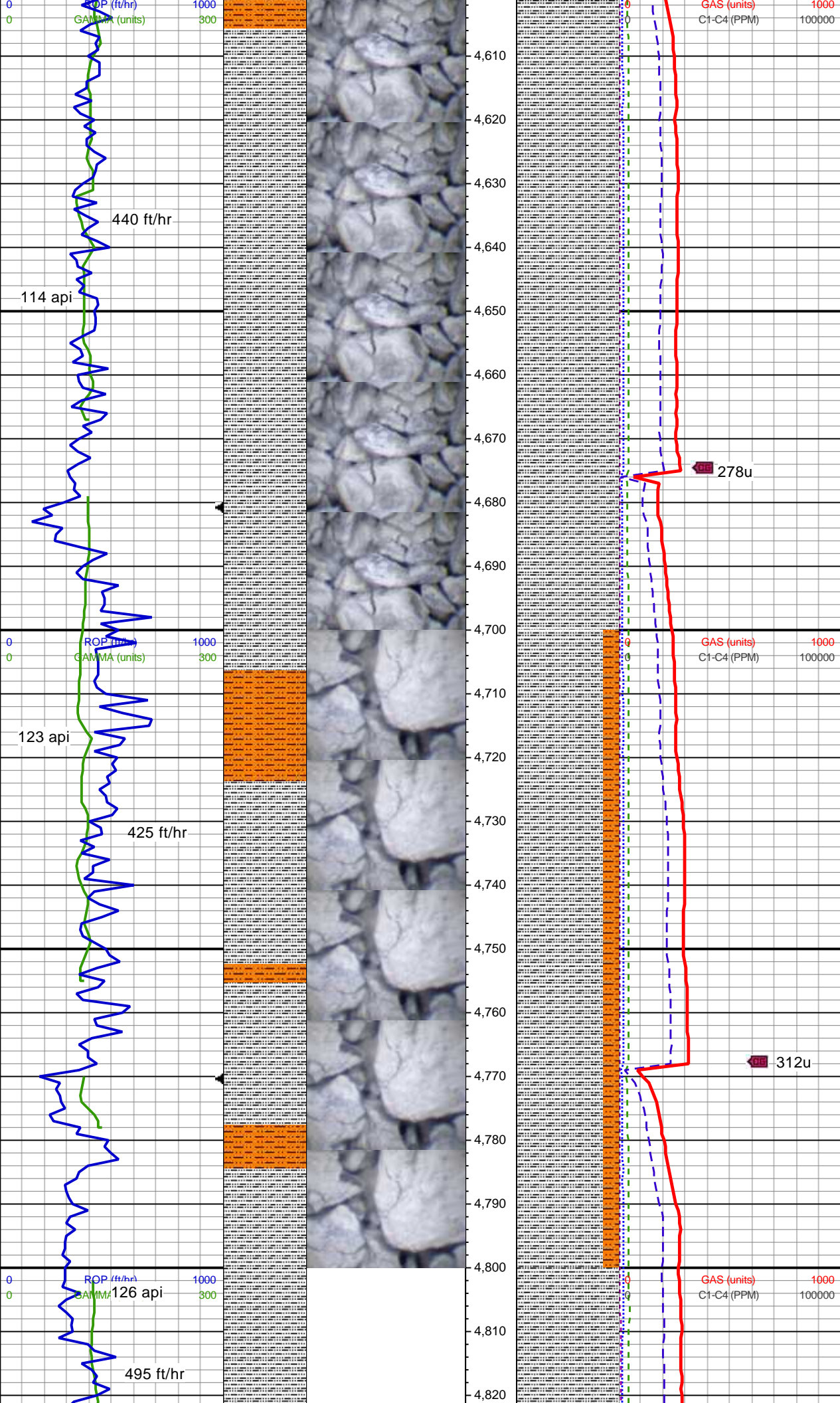
IN MW 9.6 / VIS 50
OUT MW 9.7 / VIS 49

MD: 4,477'
TVD: 4,358.79'
Inclination: 13.53°
Azimuth: 121.75°
VS: 596.95'

90% SLTY SH: drkgy-gy/brn, sft-sl
frm, brit-occ fri, sb plty-fis, rthy, slty
tex, v arg, v sl calc; 10% SHY
SLTST: med-drkgy, frm-sl sft, fri,
sb blkgy-sb plty, vfg, mod srt, v arg
mtx, non-sl calc

MD: 4,567'
TVD: 4,446.28'
Inclination: 13.61°
Azimuth: 119.91°
VS: 611.73'

100% SLTY SH: drkgy-gy/brn, ip
blk, sl sft-frm, brit-occ fri, sb
plty-sb fis, rthy, slty tex, v arg, v sl
calc, grdg shy sltst



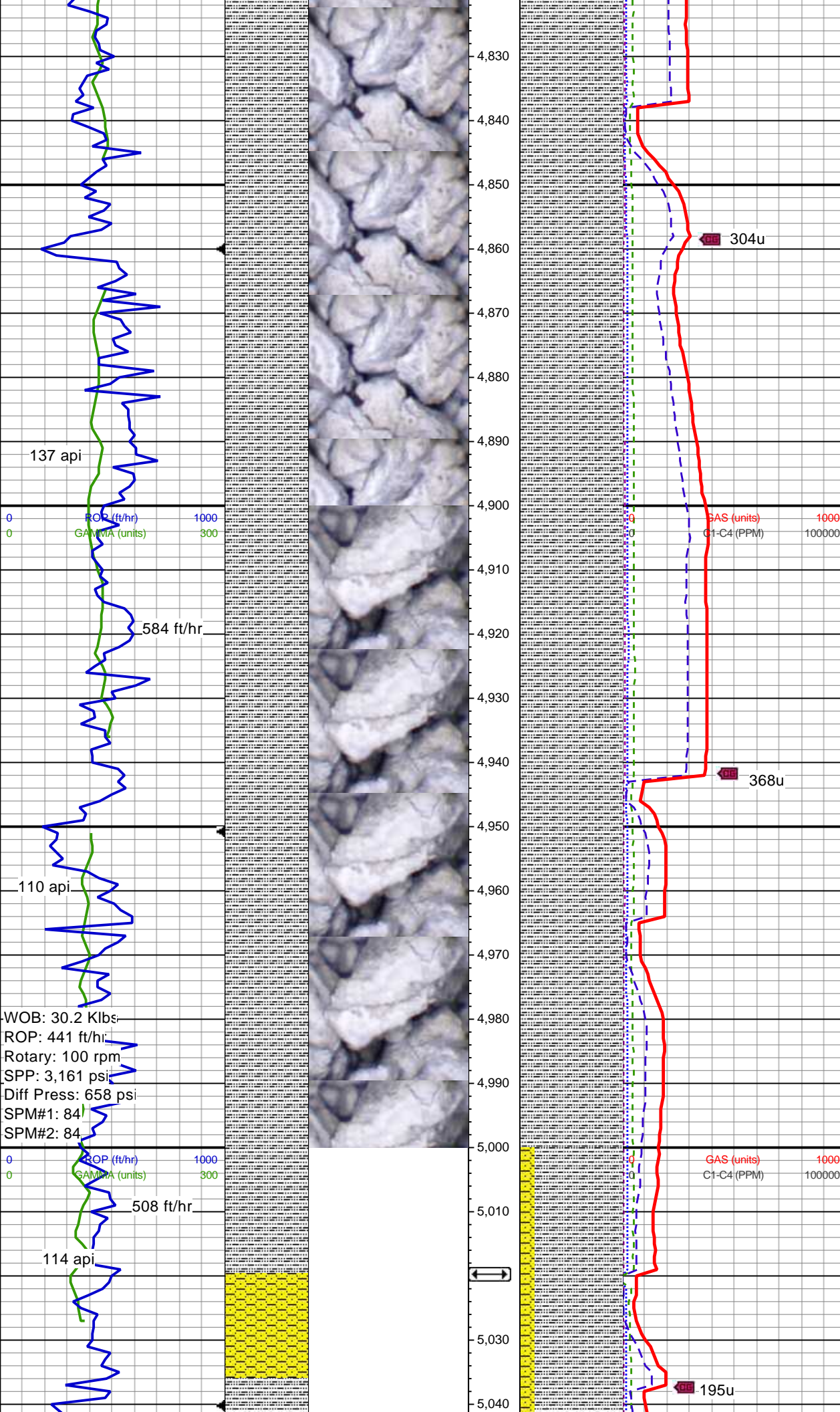
MD: 4,657'
TVD: 4,533.77'
Inclination: 13.56°
Azimuth: 112.09°
VS: 625.17'

100% SLTY SH: drkgy-gy/brn, ip
blk, sl sft frm, brit-occ fri, sb
plty-sb fis, rthy, slty tex, v arg, v sl
calc, grdg shy slst

IN MW 9.6 / VIS 50
OUT MW 9.7 / VIS 49

MD: 4,747'
TVD: 4,621.27'
Inclination: 13.55°
Azimuth: 105.11°
VS: 636.38'

85% SLTY SH: drkgy-gy/brn, ip
blk, sl sft frm, brit-occ fri, sb
plty-sb fis, rthy, slty tex, v arg, v sl
calc; 15% SHY SLTST:
med-drkgy, frm-sl sft, fri, sb
blky-sb plty, vfg, mod srt, v arg
mtx, non-sl calc



MD: 4,837'
TVD: 4,708.81'
Inclination: 13.37°
Azimuth: 97.15°
VS: 645.13'

100% SLTY SH: medgy, sme
drkgy, sft-sl frm, sb blkfy-fis,
rthy-gritty, aren ip, v slty, arg, sl
calc

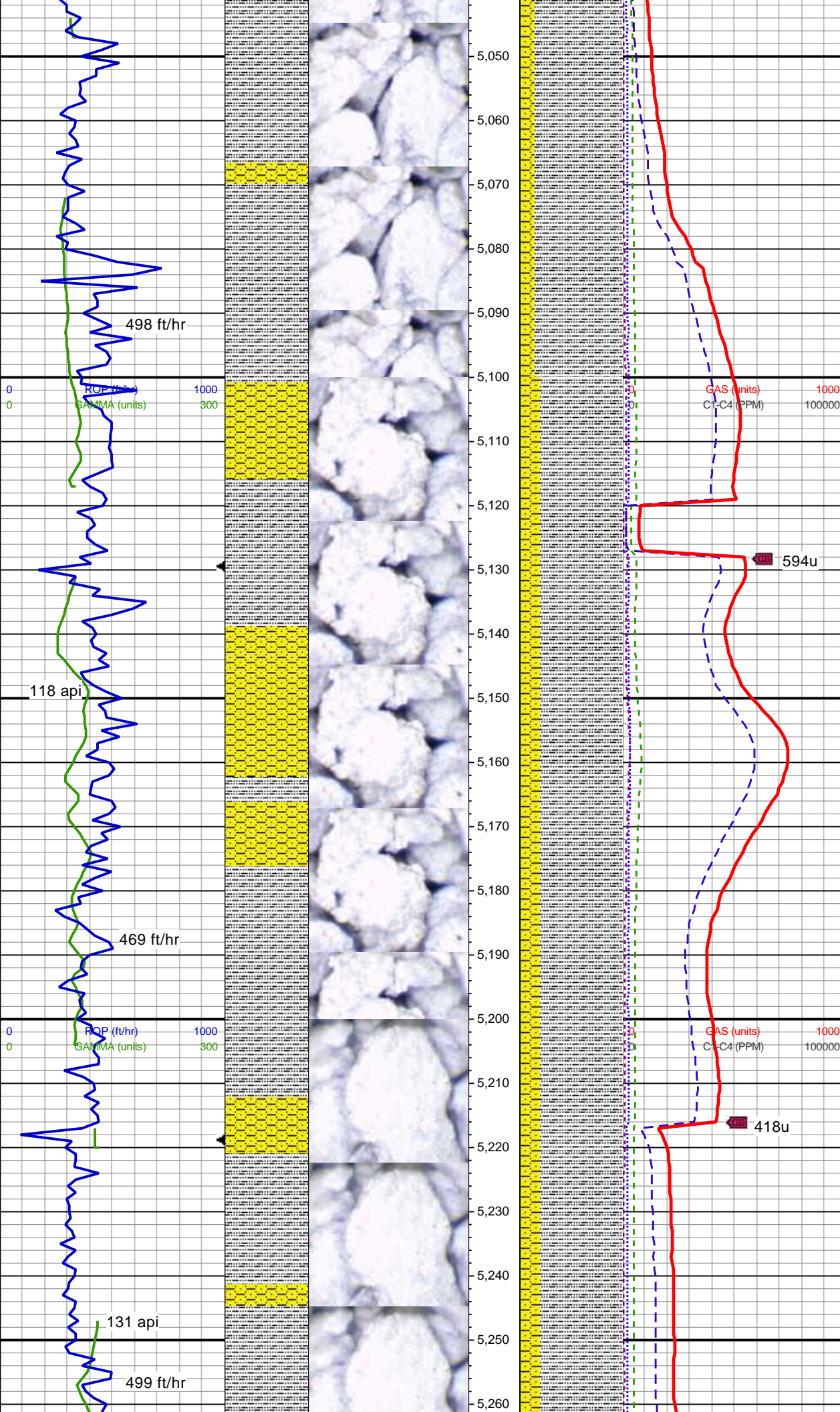
MD: 4,927'
TVD: 4,796.35'
Inclination: 13.46°
Azimuth: 97.39°
VS: 652.56'

100% SLTY SH: medgy, sme
drkgy, sft-sl frm, sb blkfy-fis,
rthy-gritty, aren ip, v slty, arg, sl
calc

IN MW 9.6 / VIS 50
OUT MW 9.7 / VIS 49

MD: 5,016'
TVD: 4,882.92'
Inclination: 13.38°
Azimuth: 96.98°
VS: 659.88'

Sussex/Shannon Top
5020' MD / 4884' TVD



85% SLTY SH: lt-medgy, gy/brn,
mod sft-hd, sb blk-y ip plty, mod
srt, arg mtx, sl calc; 15% SHY SS:
lt-medgy, stri, sft-sl frm, sb blk-y
mod cons, slty-arg, lmy calc mtx

MD: 5,105'
TVD: 4,969.5'
Inclination: 13.43°
Azimuth: 97.01°
VS: 667.14'

594u

80% SLTY SH: lt-medgy, gy/brn,
mod sft-hd, sb blk-y ip plty, mod
srt, arg mtx, sl calc; 20% SHY SS:
lt-medgy, stri, sft-sl frm, sb blk-y
mod cons, slty-arg, lmy calc mtx

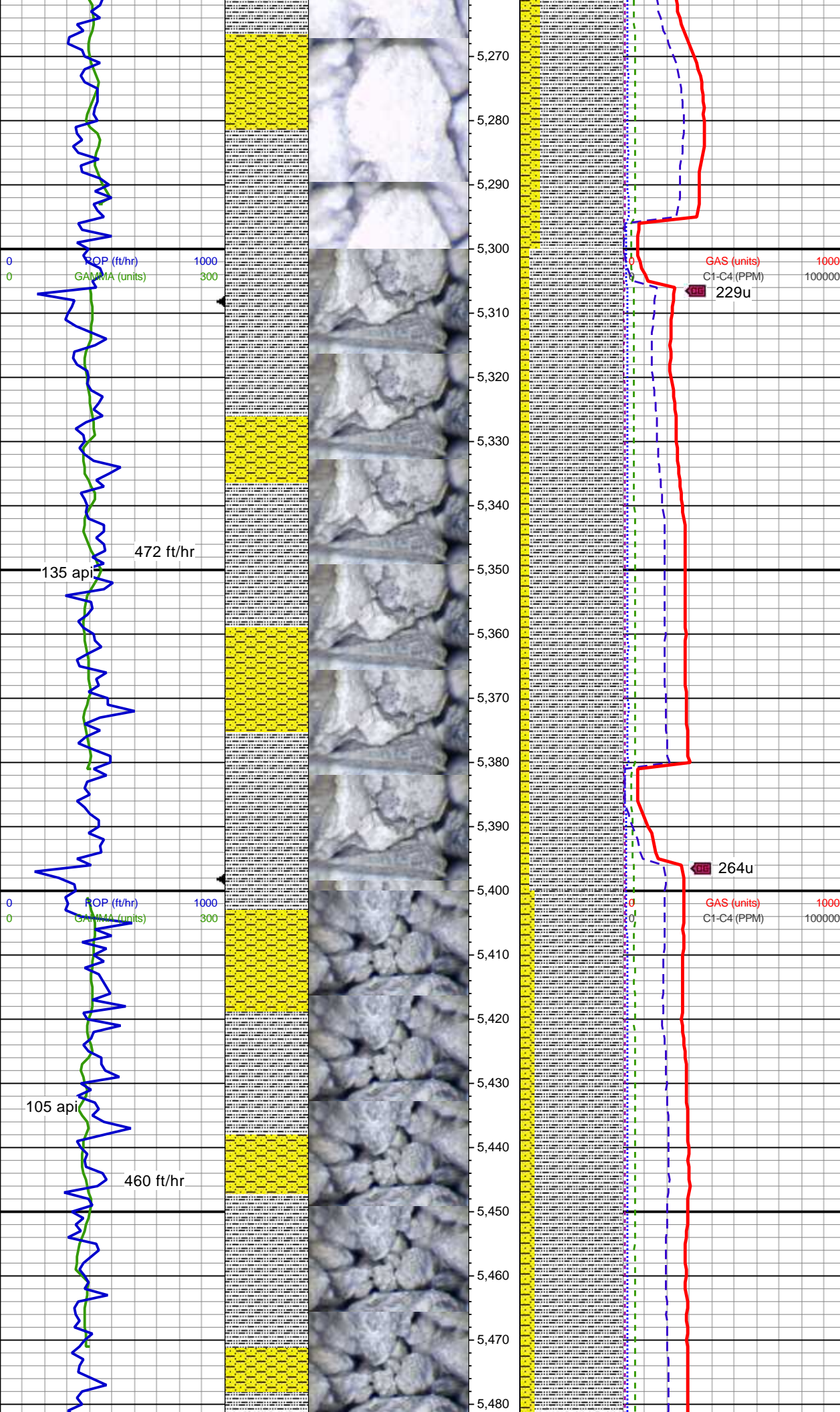
MD: 5,194'
TVD: 5,056.03'
Inclination: 13.6°
Azimuth: 96.85°
VS: 674.42'

418u

IN MW 9.6 / VIS 50
OUT MW 9.6 / VIS 48

MD: 5,284'
TVD: 5,143.54'
Inclination: 13.42°
Azimuth: 98.62°
VS: 682.06'

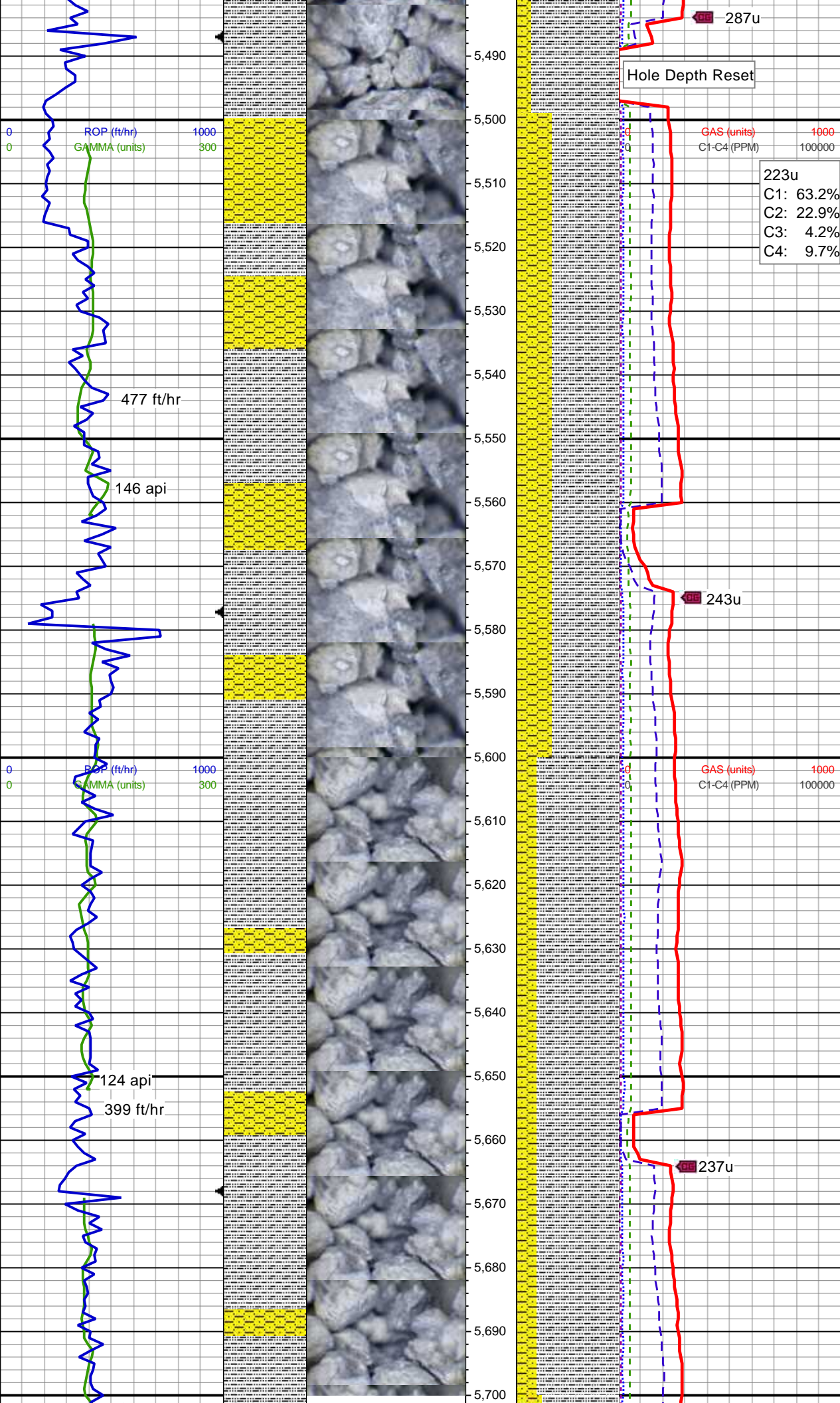
80% SLTY SH: lt-medgy, gy/brn,
mod sft-hd, sb blk-yp plty, mod
srt, arg mtx, sl calc; 20% SHY SS:
lt-medgy, stri, sft-sl frm, sb blk-yp
mod cons, slty-arg, lmy calc mtx



MD: 5,374'
TVD: 5,231.07'
Inclination: 13.52°
Azimuth: 99.93°
VS: 690.21'

90% SLTY SH: med-drkgy, occ
ltgy, sme gy/brn, mod sft-hd, brit,
sb blk-yp sb plty, mod srt, arg-aren
mtx, sl calc; 10% SHY SS: medgy,
sft-sl frm, lse-yp cons, sb blk-yp
clus, slty-arg, lmy calc mtx

MD: 5,463'
TVD: 5,317.61'
Inclination: 13.5°
Azimuth: 107.03°
VS: 699.65'



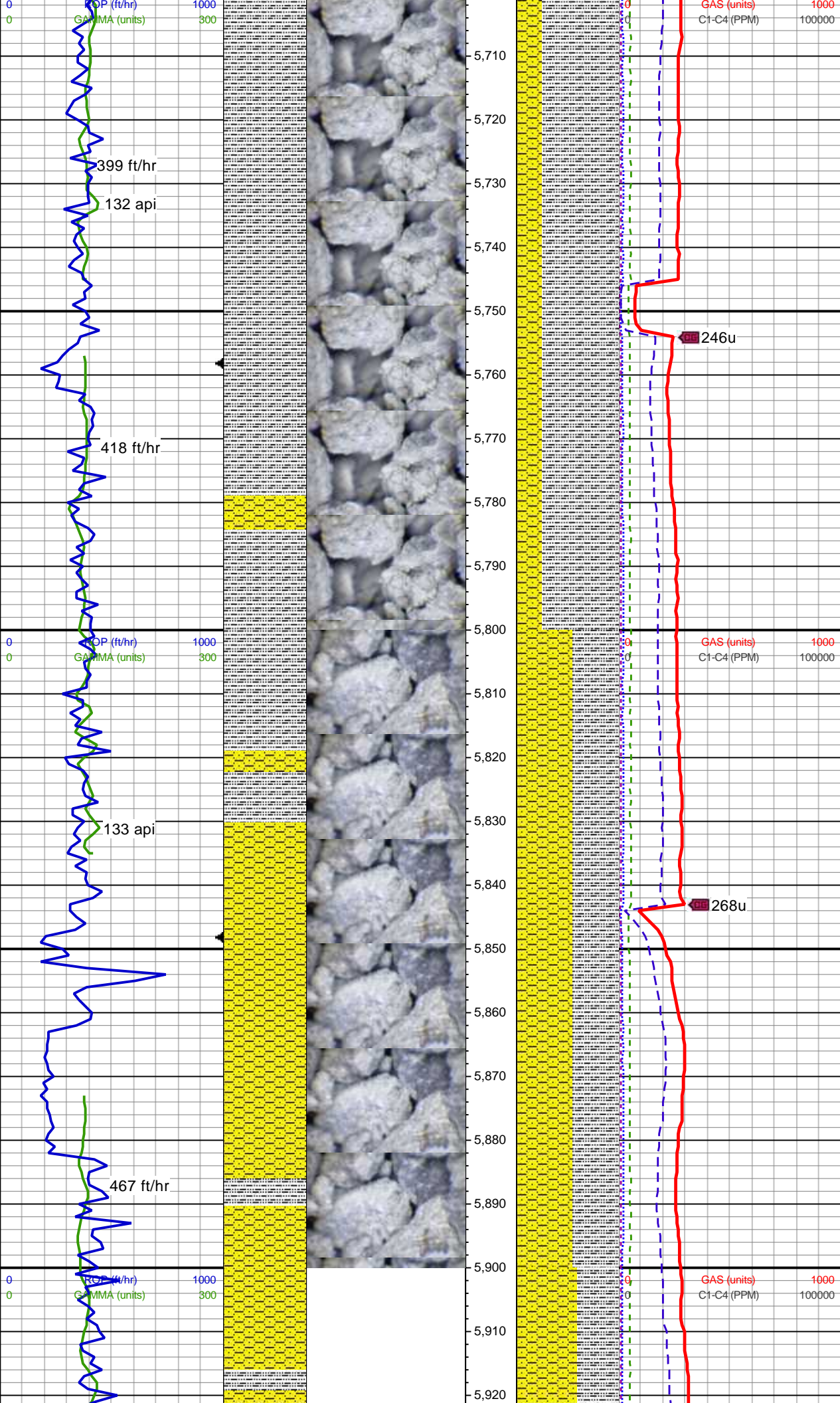
85% SLTY SH: med-drkgy, occ
ltgy, sme gy/brn, mod sft-hd, brit,
sb blkly-sb plty, mod srt, arg-aren
mtx, sl calc; 15% SHY SS: medgy,
sft-sl frm, lse-ply cons, sb blkly
clus, slty-arg, lmy calc mtx

MD: 5,553'
TVD: 5,405.17'
Inclination: 13.26°
Azimuth: 111.38°
VS: 710.91'

65% SLTY SH: med-drkgy, occ
ltgy, sme gy/brn, mod sft-hd, brit,
sb blkly-sb plty, mod srt, arg-aren
mtx, sl calc; 35% SHY SS: medgy,
sft-sl frm, lse-ply cons, sb blkly
clus, slty-arg, lmy calc mtx

MD: 5,644'
TVD: 5,493.72'
Inclination: 13.39°
Azimuth: 112.65°
VS: 723.12'

80% SLTY SH: med-drkgy, gy/brn,
mod sft-hd, brit, sb blkly-sb plty,
mod srt, arg-aren mtx, sl calc;
20% SHY SS: medgy, sft-sl frm,
lse-ply cons, sb blkly clus,
slty-arg, lmy calc mtx



MD: 5,734'
TVD: 5,581.29'
Inclination: 13.32°
Azimuth: 112.19°
VS: 735.34'

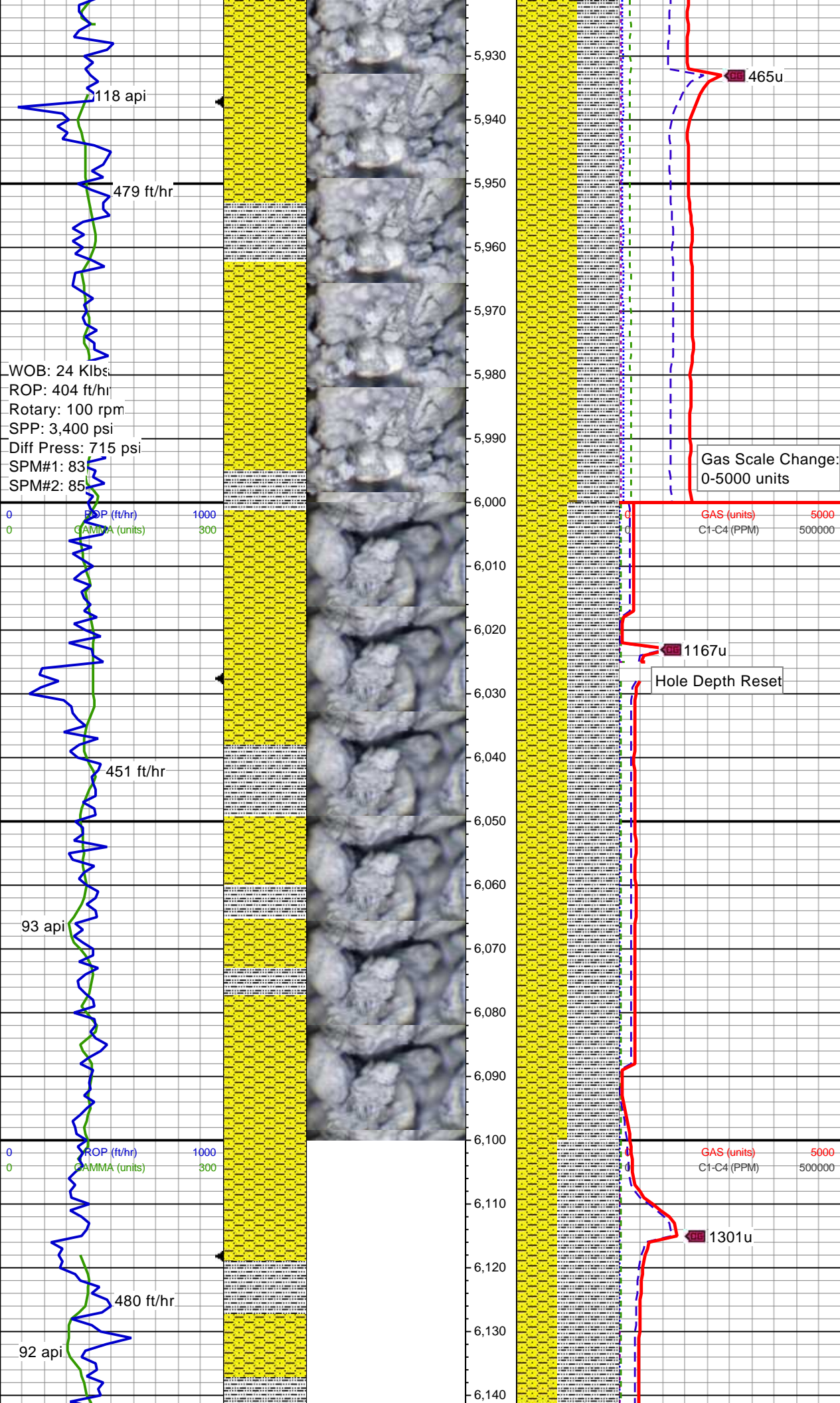
IN MW 9.6 / VIS 50
OUT MW 9.7 / VIS 48

75% SLTY SH: med-drkgy, gy/brn, mod sft-frm, brit ip, sb blkly-sb plty, mod srt, arg-aren mtx, sl calc; 25% SHY SS: medgy, sft-sl frm, lse-ply cons, sb blkly clus, slty-arg, calc mtx

MD: 5,824'
TVD: 5,668.85'
Inclination: 13.39°
Azimuth: 115.09°
VS: 747.91'

55% SHY SS: medgy dk gy, sft-sl frm, lse-ply cons, sb blkly clus, slty-arg, sl calc mtx; 45% SLTY SH: med-drkgy, gy brn, mod sft-frm, brit ip, sb blkly-sb plty, mod srt, arg-aren mtx, sl calc

MD: 5,914'
TVD: 5,756.5'
Inclination: 12.88°
Azimuth: 112.19°
VS: 735.34'



Inclination: 12.88°
Azimuth: 114.53°
VS: 760.61'

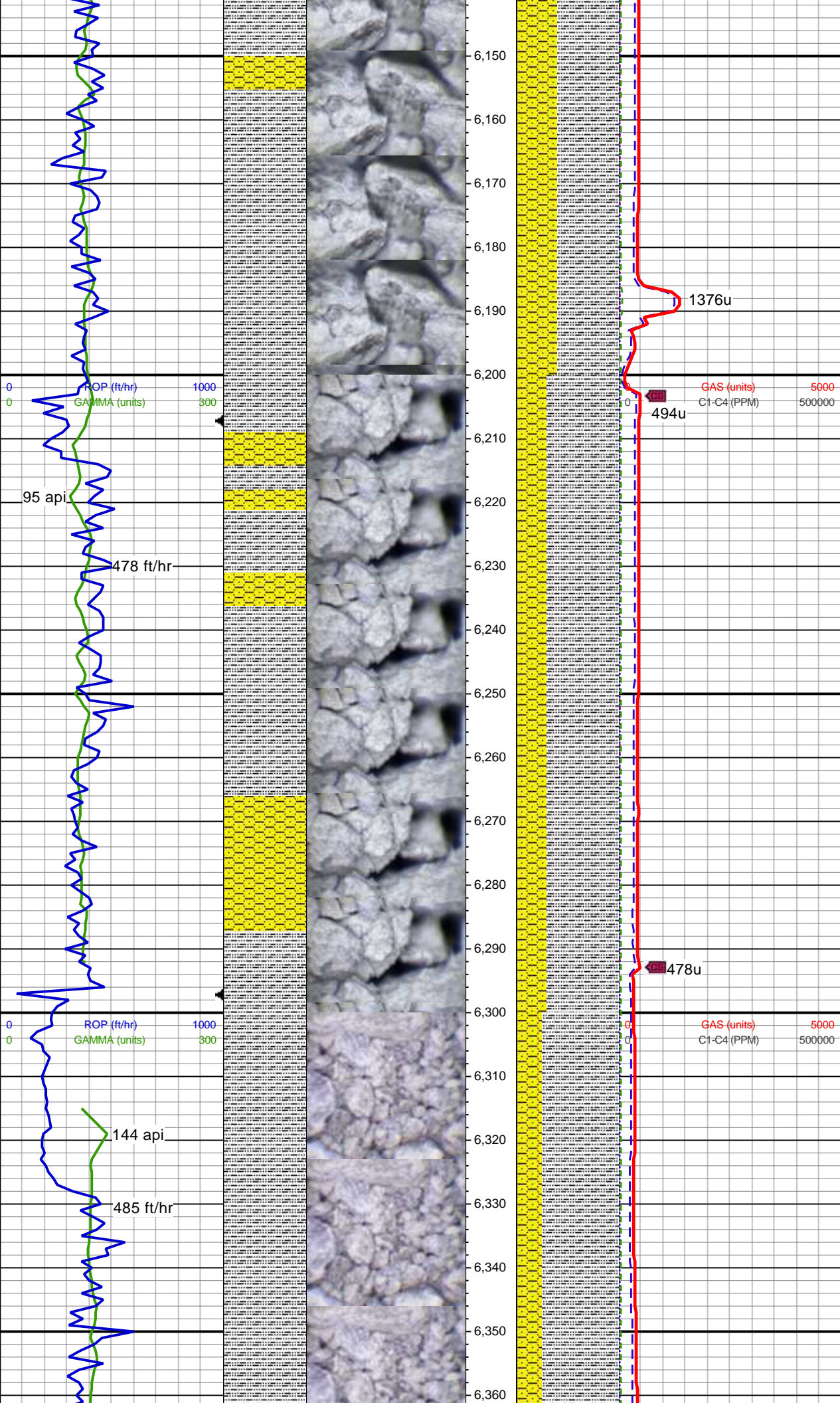
60% SHY SS: medgy dk gy, sft-sl
frm, lse-ply cons, sb blkly clus,
slty-arg, sl calc mtx; 40% SLTY
SH: med-drkgy, gy brn, mod
sft-frm, brit ip, sb blkly-sb plty,
mod srt, arg-aren mtx, sl calc

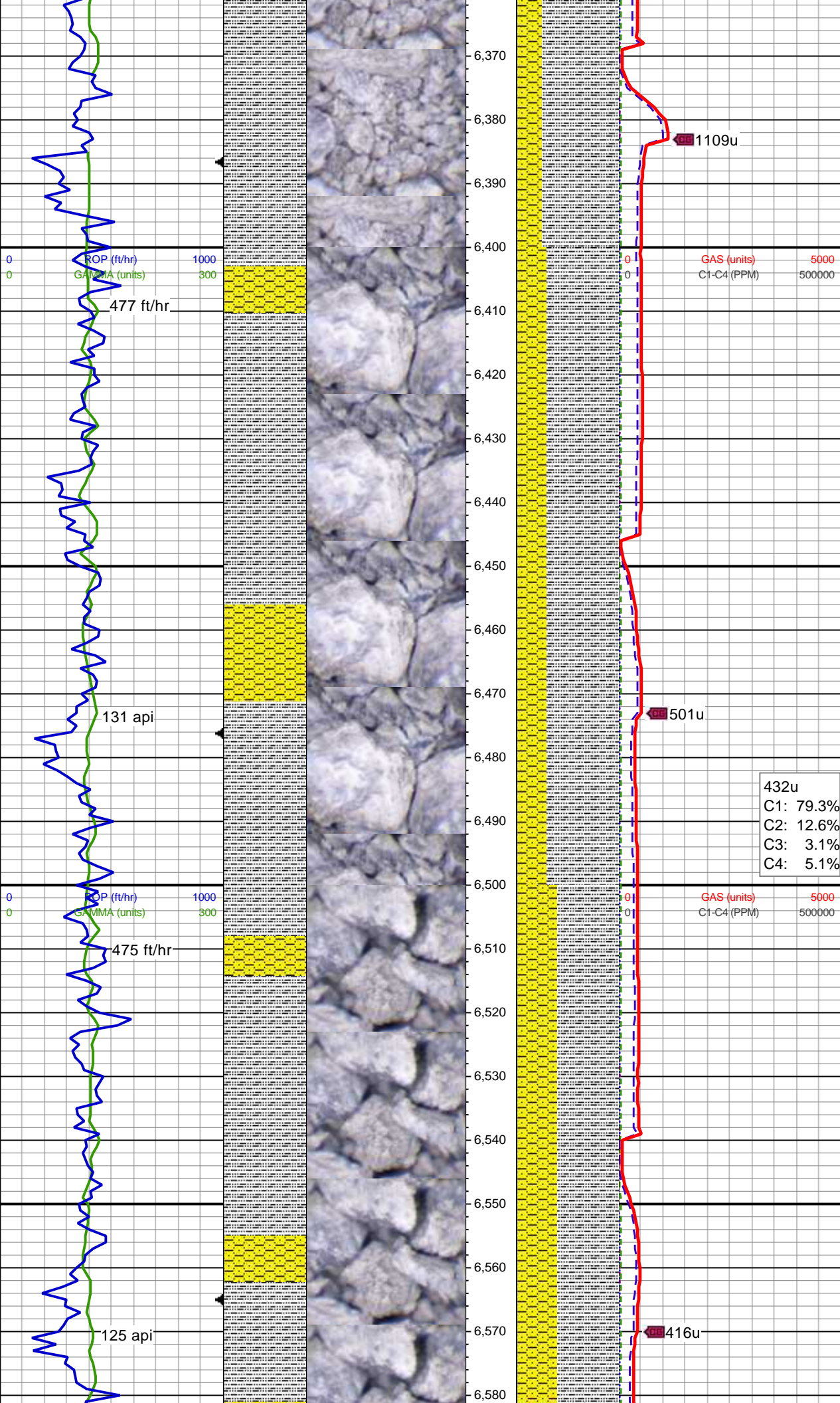
MD: 6,004'
TVD: 5,844.19'
Inclination: 13.12°
Azimuth: 112.55°
VS: 772.82'

IN MW 9.6 / VIS 45
OUT MW 9.6 / VIS 44

50% SHY SS: medgy dk gy, sft-sl
frm, lse-ply cons, sb blkly clus,
slty-arg, sl calc mtx; 50% SLTY
SH: med-drkgy, gy brn, mod
sft-frm, brit ip, sb blkly-sb plty,
mod srt, arg-aren mtx, sl calc

MD: 6,095'
TVD: 5,932.85'
Inclination: 12.94°
Azimuth: 112.62°
VS: 784.93'





TVD: 6,194.11'
Inclination: 12.55°
Azimuth: 113.36°
VS: 821.43'

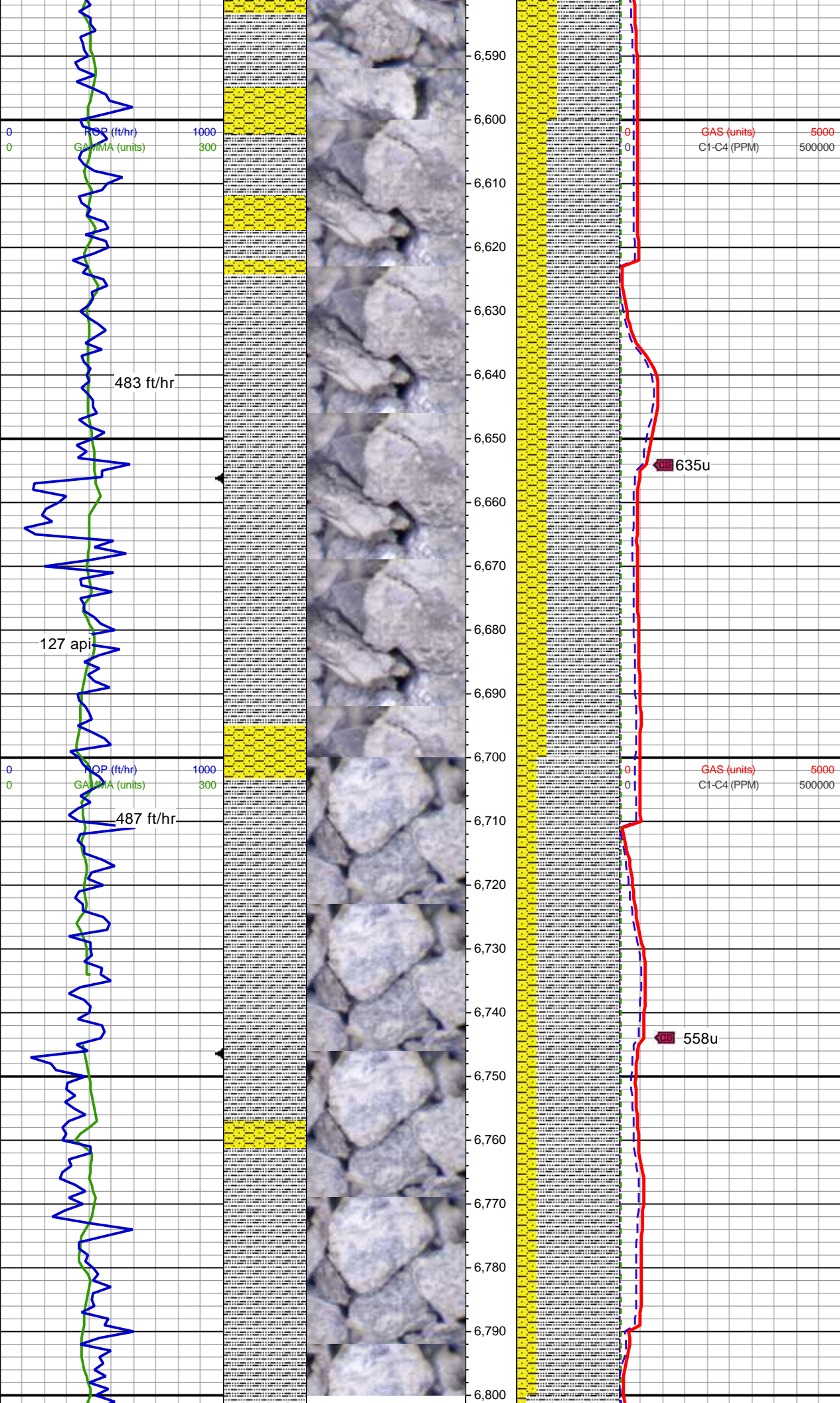
75% SLTY SH: med-drkgy, gy brn, mod sft frm, brit ip, sb blk-y-sb plty, mod srt, arg-aren mtx, sl calc; 25% SHY SS: medgy dk gy, sft-sl frm, lse-ply cons, sb blk-y clus, slty-arg, sl calc mtx

MD: 6,452'
TVD: 6,280.97'
Inclination: 12.68°
Azimuth: 110.12°
VS: 832.66'

70% SLTY SH: med-drkgy, gy brn, mod sft frm, brit ip, sb blk-y-sb plty, mod srt, arg-aren mtx, sl calc; 30% SHY SS: medgy-dk gy, sft-sl frm, lse-ply cons, sb blk-y clus, slty-arg, sl calc mtx

MD: 6,542'
TVD: 6,368.77'
Inclination: 12.69°
Azimuth: 106.25°
VS: 843.06'

60% SLTY SH: med-drkgy, gy brn, mod sft frm, brit ip, sb blk-y-sb plty, mod srt, arg-aren mtx, sl calc; 35% SHY SS: medgy-dk gy, sft-sl frm, lse-ply cons, sb blk-y clus, slty-arg, sl calc mtx



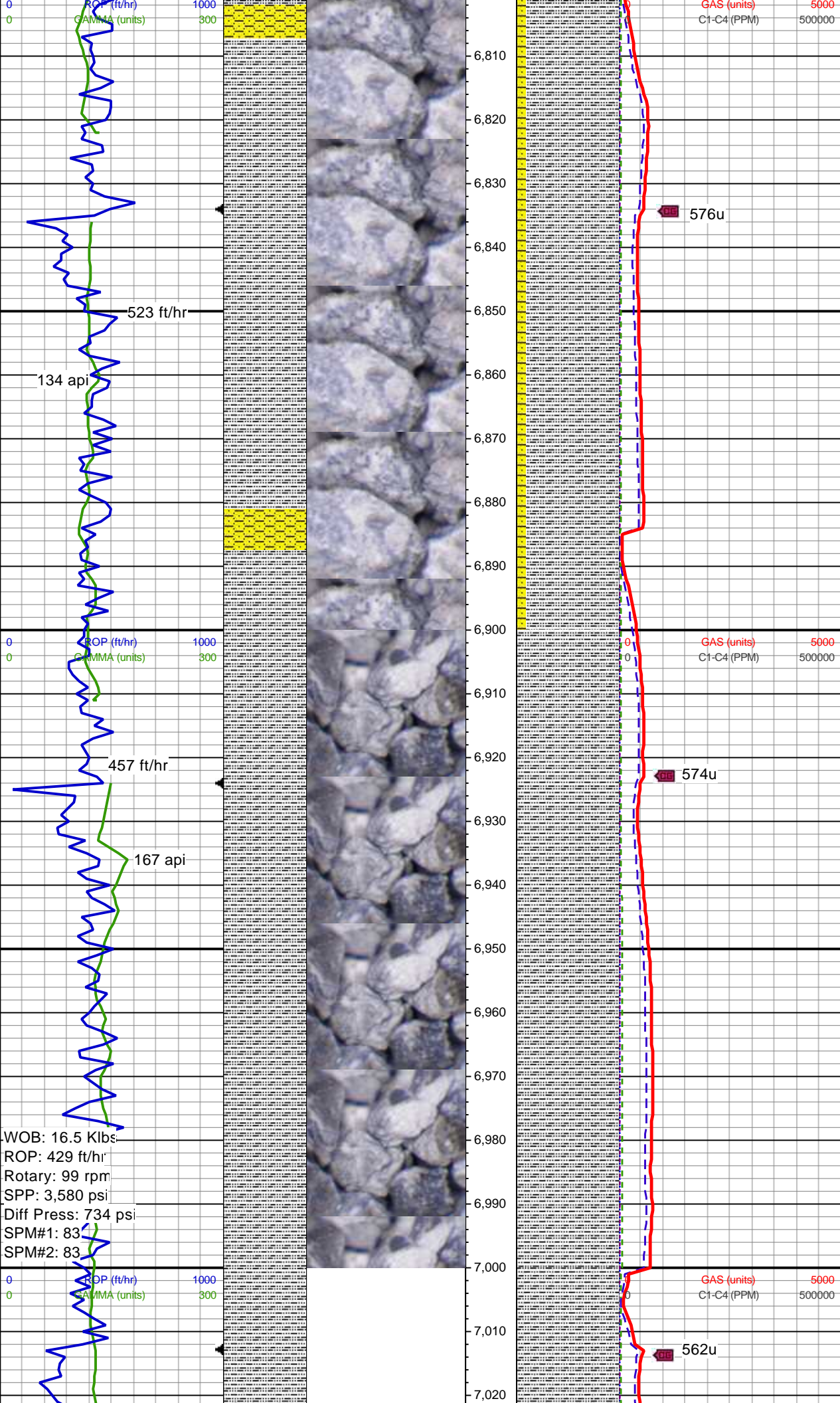
60% SLTY SH: med-drkgy, gy brn,
mod sft frm, brit ip, sb blk-sb
plty, mod srt, arg-aren mtx, sl
calc; 40% SHY SS: medgy dk gy,
sft-sl frm, lse-ply cons, sb blk
clus, slty-arg, sl calc mtx

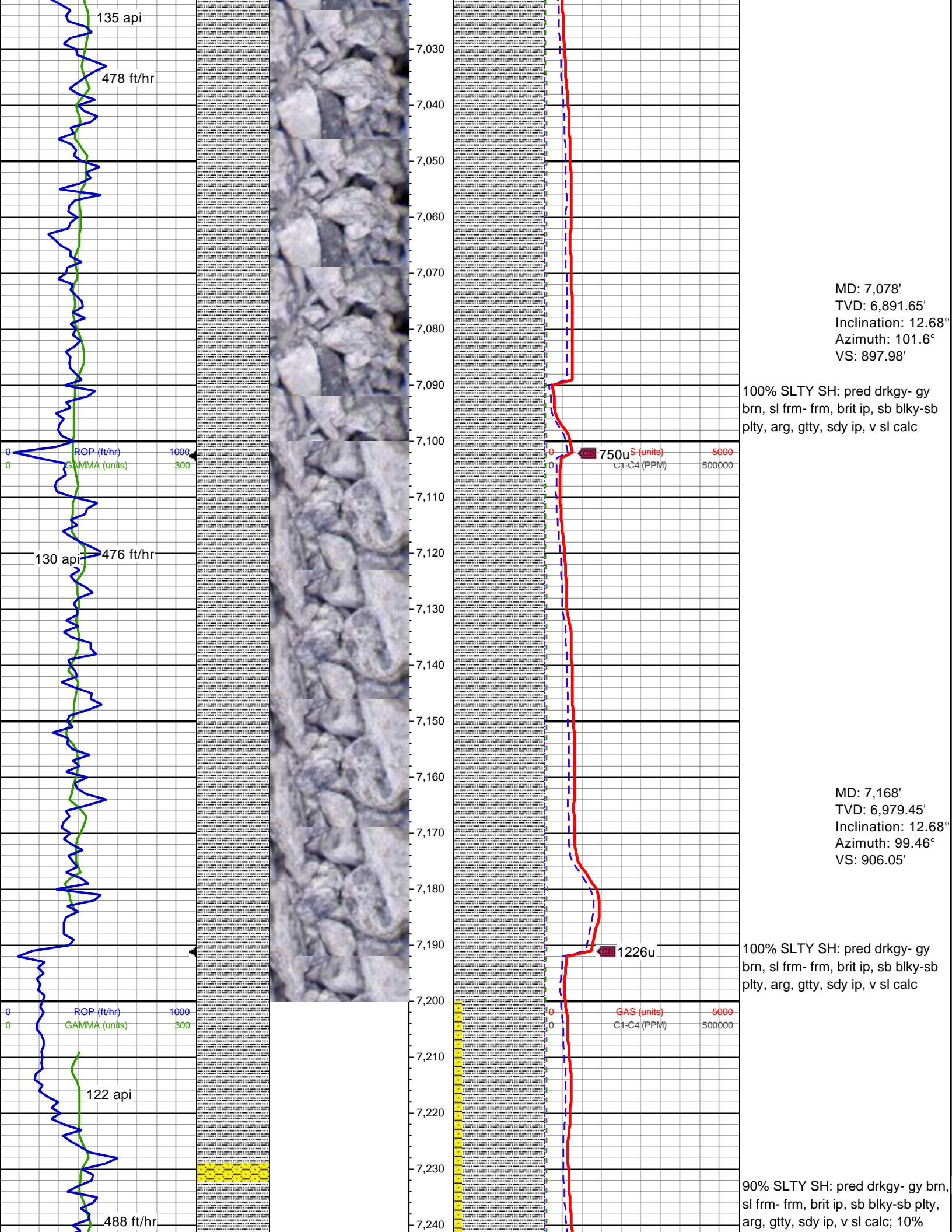
MD: 6,632'
TVD: 6,456.56'
Inclination: 12.78°
Azimuth: 103.09°
VS: 852.44'

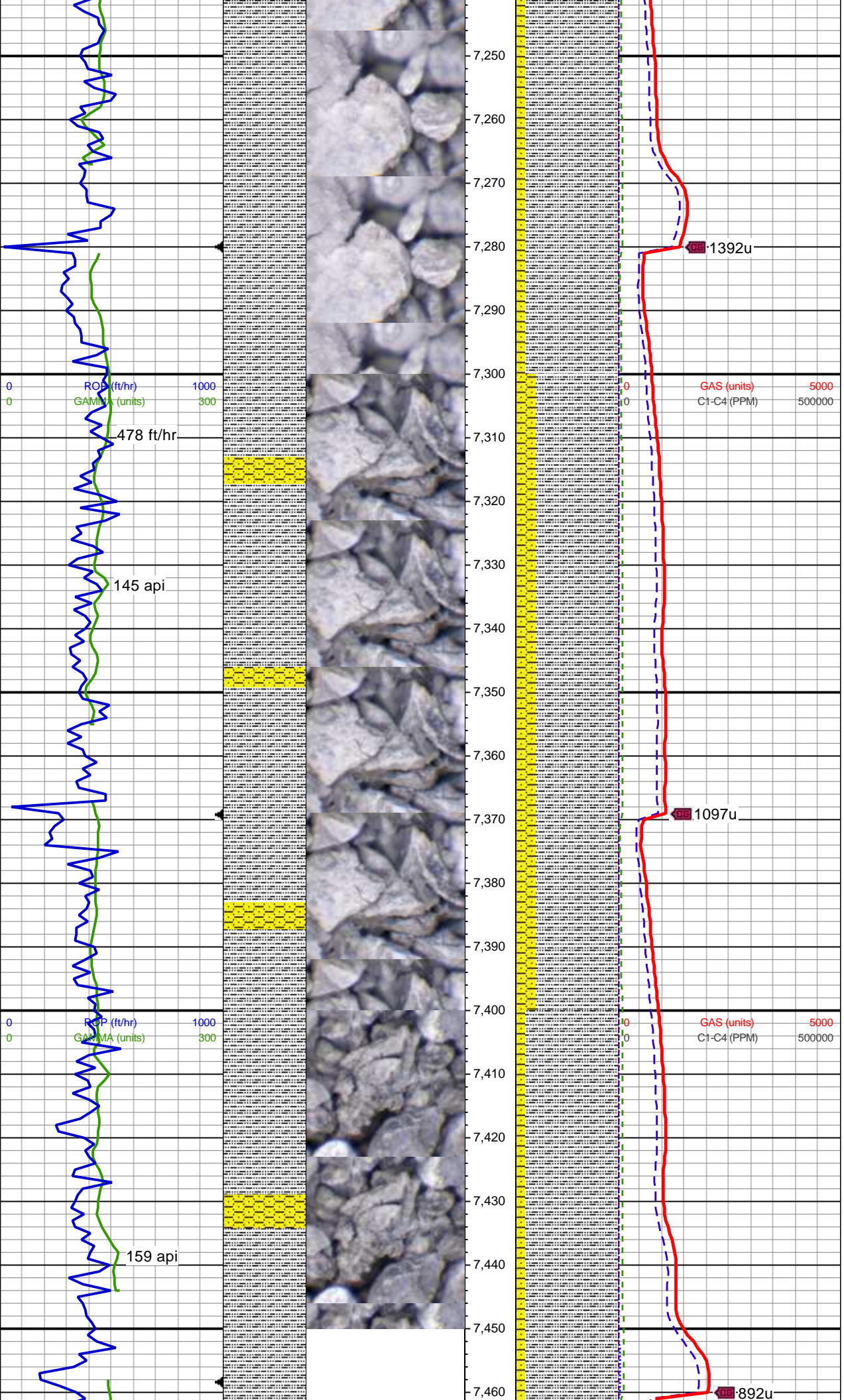
70% SLTY SH: med-drkgy, gy brn,
mod sft frm, brit ip, sb blk-sb
plty, mod srt, arg-aren mtx, sl
calc; 30% SHY SS: medgy dk gy,
sft-sl frm, lse-ply cons, sb blk
clus, slty-arg, sl calc mtx

MD: 6,722'
TVD: 6,544.35'
Inclination: 12.65°
Azimuth: 104.09°
VS: 861.49'

80% SLTY SH: pred drkgy- gy brn,
mod sft frm, brit ip, sb blk-sb
plty, arg, gtt, sdy ip, sl calc; 20%
SHY SS: medgy- dk gy, sft-sl frm,
lse-ply cons, sb blk clus, arg, lse
cly, sl calc mtx





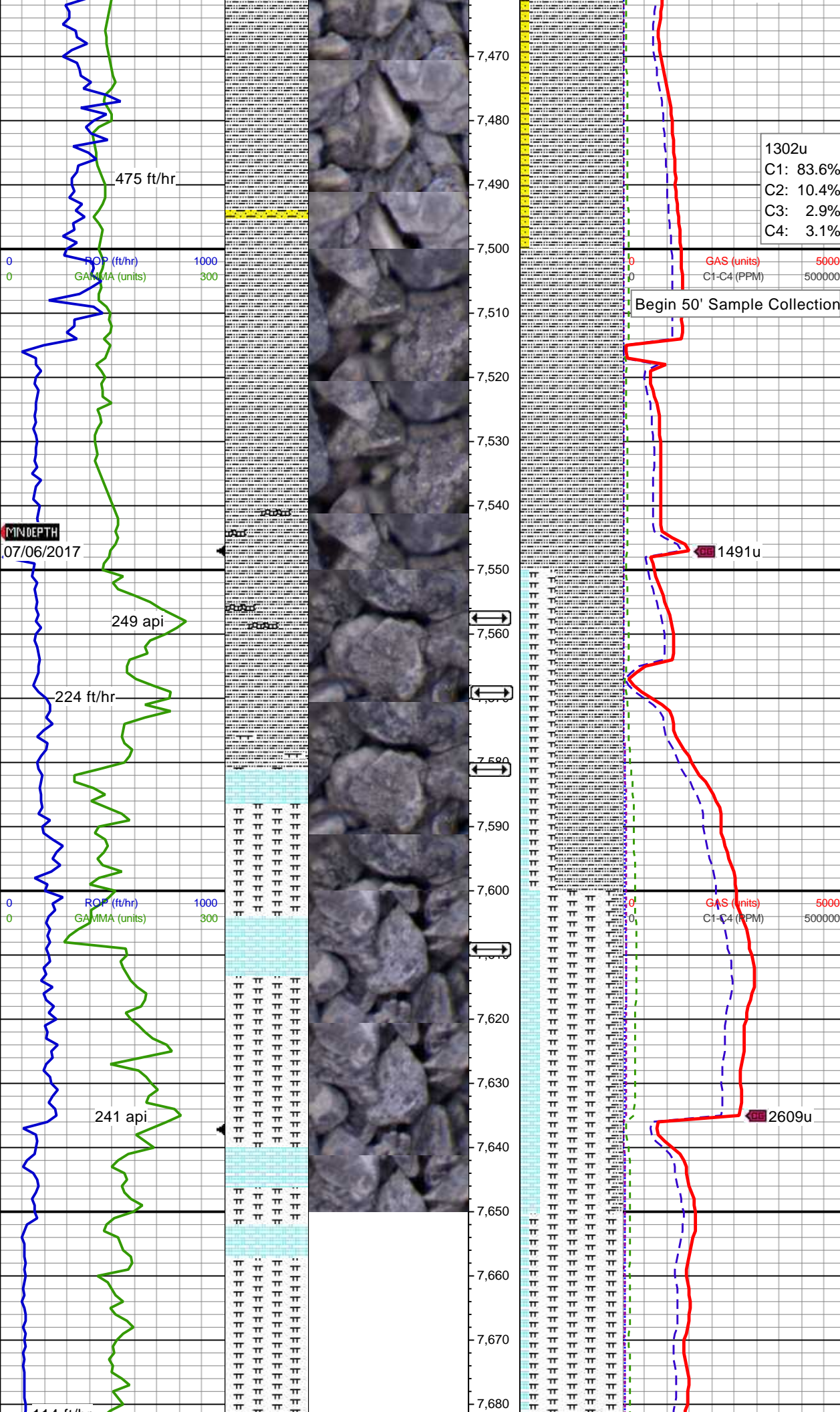


SHY SS: lt brn, tan, sme med gy, f
gr, sft-sl frm, ply cons, sb blk
clus, p cons, arg, sl calc mtx
MD: 7,257'
TVD: 7,066.35'
Inclination: 12.32°
Azimuth: 108.44°
VS: 914.9'

80% SLTY SH: pred drkgy- gy brn,
sl frm- frm, brit ip, sb blk- sb plty,
arg, gtt, sdy ip, v sl calc; 20%
SHY SS: lt brn, tan, sme med gy, f
gr, sft-sl frm, ply cons, sb blk
clus, p cons, arg, sl calc mtx, tr
bent
MD: 7,346'
TVD: 7,153.28'
Inclination: 12.53°
Azimuth: 120.87°
VS: 926.7'

MW 9.75 / VIS 44

MD: 7,434'
TVD: 7,239.17'
Inclination: 12.72°
Azimuth: 133.12°
VS: 941.49'



90% SLTY SH: pred drkgy, sl frm-frm, brit ip, sb blkly-sb plty, arg, gttly, sdy ip, v sl calc; 10% SHY SS: lt brn, sme med gy, vf- f gr, sft-sl frm, ply cons, sb blkly clus, p cons, arg, sl calc mtx, tr bent

KOP, 7517' MD, 23:44 MDT, 07/05/2017

MD: 7,525'
TVD: 7,327.78'
Inclination: 13.72°
Azimuth: 145.74°
VS: 959.96'

100% SLTY SH: pred drkgy, frm, brit ip, sb blkly-sb plty, arg, gttly, sdy ip, v sl calc, scat bent

IN MW 10.0 / VIS 46
OUT MW 9.75 / VIS 42

Sharon Springs Top
7558' MD / 7359' TVD

Niobrara Top
7569' MD / 7370' TVD

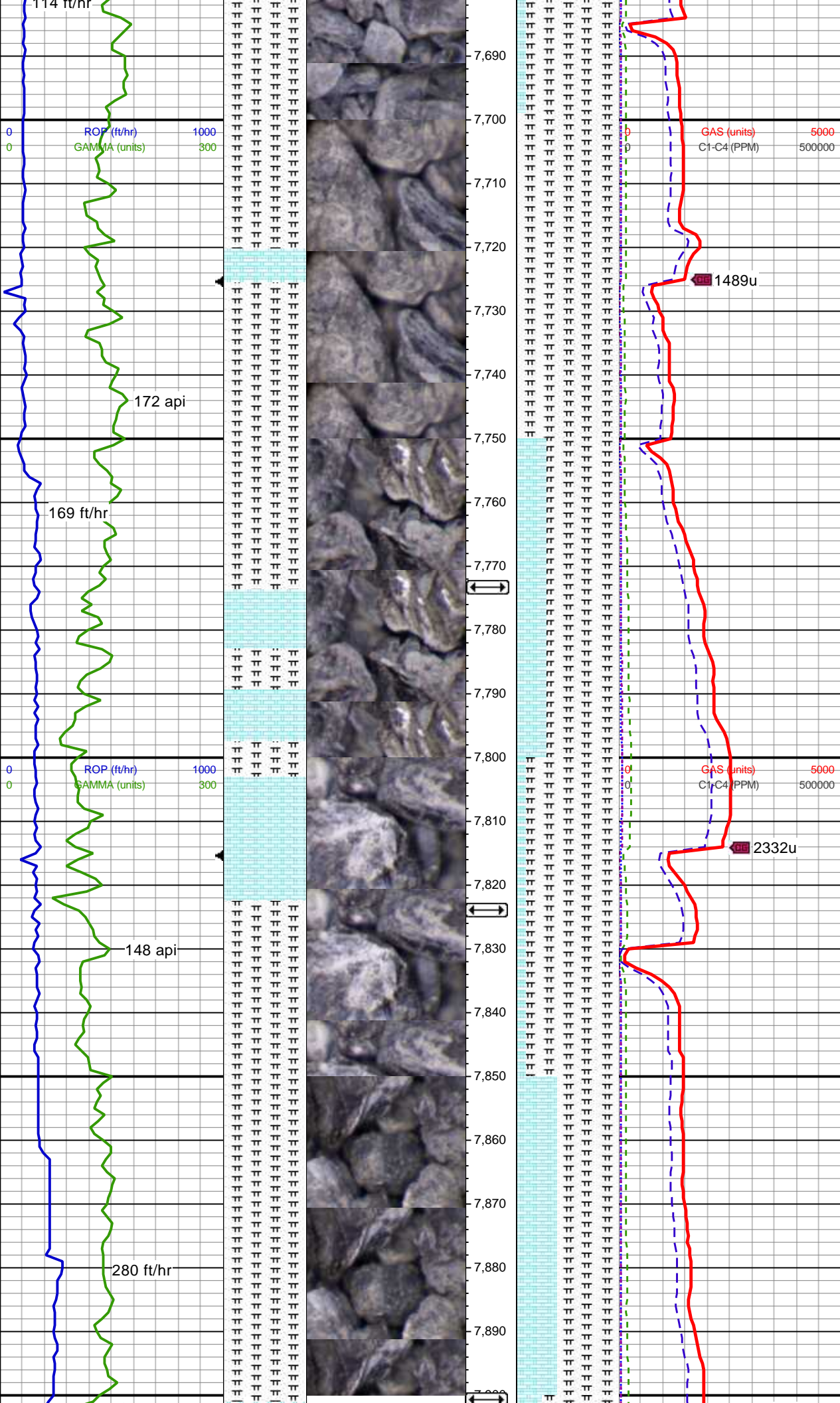
65% SLTY SH: pred drkgy, sl frm-frm, brit ip, sb blkly-sb plty, arg, gttly, sdy ip, v sl calc, 25% MRLST: dk gy brn, v frm, sb blkly- sb plty, slty txt, stri ip, v arg mtx, calc, 10% CHK: lt-med gy, v sft- sft, mict-rthy txt, sl slty, v calc, occ bent

Niobrara A Chalk Top
7581' MD / 7381' TVD

MD: 7,613'
TVD: 7,411.68'
Inclination: 21.17°
Azimuth: 153.17°
VS: 985.23'

Niobrara A Marl Top
7609' MD / 7408' TVD

70% MRLST: dk gy brn, v frm, sb blkly- sb plty, slty txt, stri ip, v arg mtx, calc; 20% CHK: lt-med gy, v sft- sft, mict-rthy txt, sl slty, v calc; 10% SLTY SH: pred drkgy, sl frm-frm, brit ip, sb blkly-sb plty, arg, gttly, sdy ip, v sl calc, tr bent



90% MRLST: dk gy brn, v frm, sb
blky- sb plty, slty txt, stri ip, v arg
mtx, calc; 10% CHK: lt-med gy, v
sft- sft, mict-rthy txt, sl slty, v calc,
tr bent

MD: 7,703'
TVD: 7,493.72'
Inclination: 27.42°
Azimuth: 164.98°
VS: 1,021.82'

IN MW 10.2 / VIS 46
OUT MW 9.8 / VIS 45

100% MRLST: dk gy brn, v frm, sb
blky- sb plty, slty txt, stri ip, v arg
mtx, calc, tr chk, tr bent

Niobrara B Chalk Top
7773' MD / 7554' TVD

70% MRLST: dk gy brn, v frm, sb
blky- sb plty, slty txt, stri ip, v arg
mtx, calc; 30% CHK: lt-med gy, v
sft- sft, pred sb blky, mict-rthy txt,
sl slty, v calc

MD: 7,791'
TVD: 7,568.75'
Inclination: 35.42°
Azimuth: 166.54°
VS: 1,067.66'

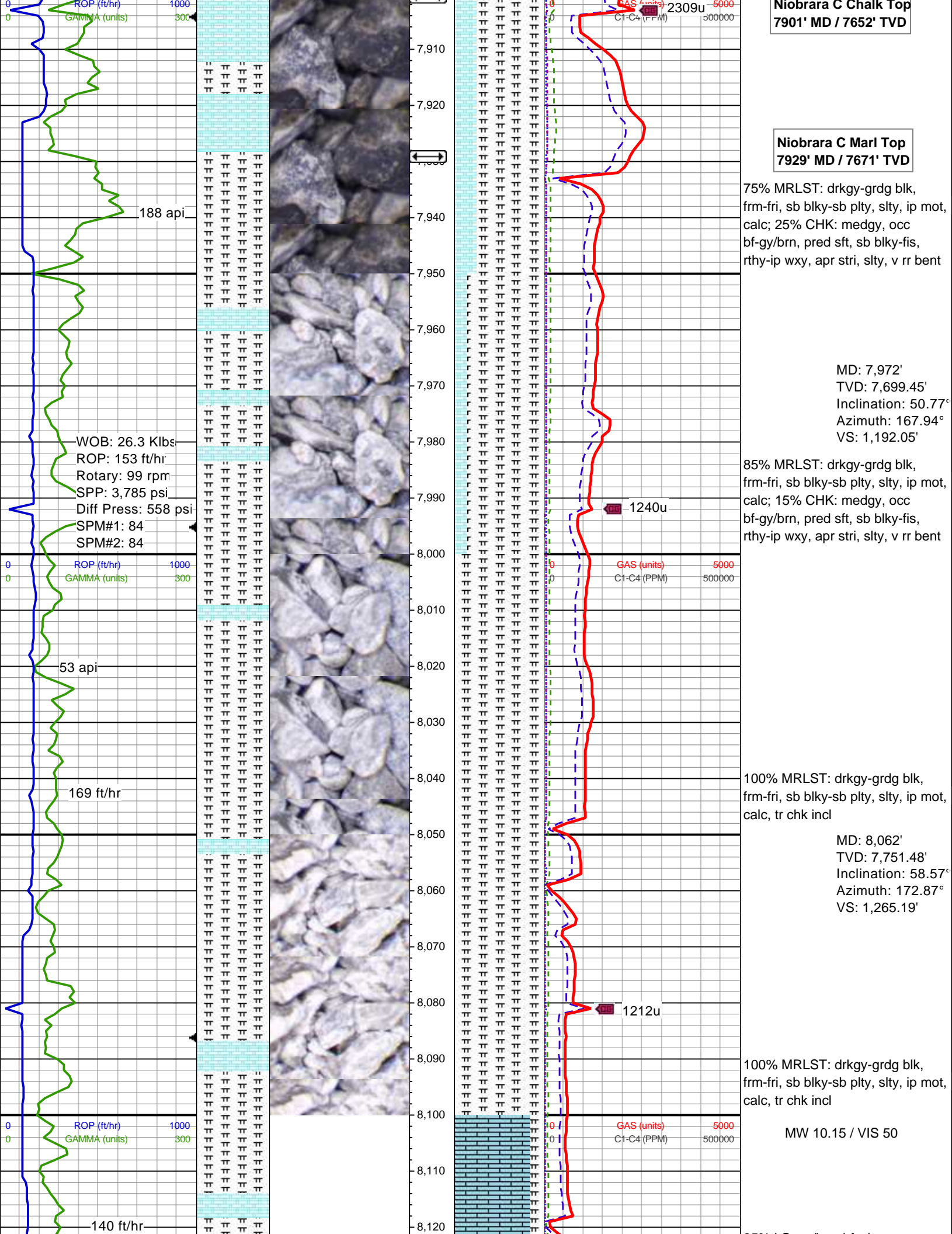
IN MW 10.25 / VIS 45
OUT MW 9.85 / VIS 45

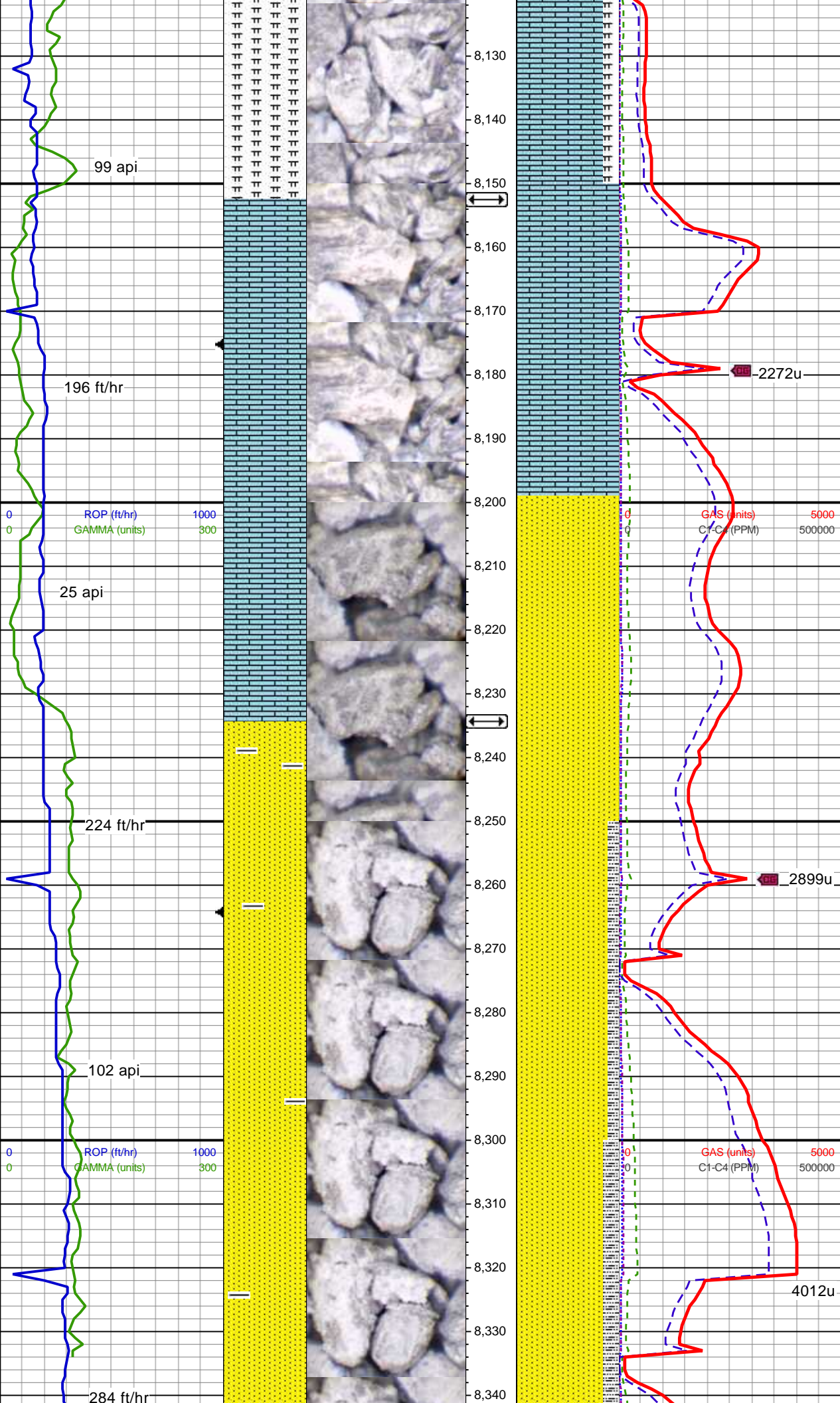
Niobrara B Marl Top
7824' MD / 7595' TVD

90% MRLST: dk gy brn, v frm, sb
blky- sb plty, slty txt, stri ip, v arg
mtx, calc, rr inoc frag; 10% CHK:
lt-med gy, v sft- sft, mict-rthy txt, sl
slty, v calc, occ bent

MD: 7,881'
TVD: 7,637.9'
Inclination: 44.07°
Azimuth: 163.63°
VS: 1,125.11'

60% MRLST: drkgy-grdg blk,
frm-fri, sb blky-sb plty, slty, ip mot,
calc; 40% CHK: medgy, occ
bf-gy/brn, pred sft, sb blky-fis,
rthy-ip wxy, apr stri, slty, v rr bent





85% LS: gy/brn, bf wh-crm, frm-brit, sb plty-sb blkly, micxln-xl tex, occ sl slty, v calc; 15% MRLST: drkgy-grdgb blk, frm-fri, sb blkly-sb plty, slty, ip mot, calc

IN MW 10 / VIS 45
OUT MW 10 / VIS 49

Fort Hayes Top
8152' MD / 7792' TVD

MD: 8,151'
TVD: 7,791.28'
Inclination: 68.23°
Azimuth: 175.17°
VS: 1,343.96'

100% LS: gy/brn, bf wh-crm, frm-brit, sb plty-sb blkly, micxln-xl tex, sl slty, v calc

MD: 8,240'
TVD: 7,817.39'
Inclination: 77.62°
Azimuth: 177.32°
VS: 1,427.68'

Codell Top
8234' MD / 7816' TVD

100% SS: med-drkgy/brn, sme ltr gy/brn, sft, vfg, rnd-sb rnd clus, mod cons, p-mod srt, arg-slty mtz, calc

90% SS: med-drkgy/brn, sme ltr gy/brn, sft, vfg, rnd-sb rnd clus, mod cons, p-mod srt, arg-slty mtz, calc; 10% SLTY SH: drkgy, sb blkly-sb plty, mod frm-frm, tr fis, rthy, slt, mod calc

IN MW 10.2 / VIS 44
OUT MW 10 / VIS 42

MD: 8,330'
TVD: 7,827.44'
Inclination: 89.54°
Azimuth: 181.18°
VS: 1,514.7'

85% SS: med-drkgy/brn, sme ltr gy/brn, sft, vfg, rnd-sb rnd clus, mod cons, p-mod srt, arg-slty

