



Scale: 5" / 100'
Measured Depth Log

Well Name SHOOK 3-10-1NBH

Location NWSE SECTION 3 T1S R67W

State COLORADO

County ADAMS

Country USA

Rig Number ENSIGN 145

API Number 05-001-09970

AFE # 1700005

Geographic Region DJ BASIN

Field WATTENBERG

Spud Date 4/10/2017

Drilling Completed 6/1/2017

Surface Coordinates NWSE SECTION 3, T1S, R67W
2058' FSL x 2259' FEL

Bottom Hole Coordinates Section 10, T1S, R67W
457' FNL x 1054' FWL

Ground Elevation 5098'

K.B. Elevation 5111'

Logged Interval 1821' **To** 8469'

Total Depth 6648'

Formation NIOBRARA B CHALK

Type of Drilling Fluid OIL BASED MUD

Operator

Company Petro Share

Address 7200 S Alton Way
Englewood, CO 80112



Geologist

Zone Color Coding

Name WEDGE HOWLAND, SAGE BETTS

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
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

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
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

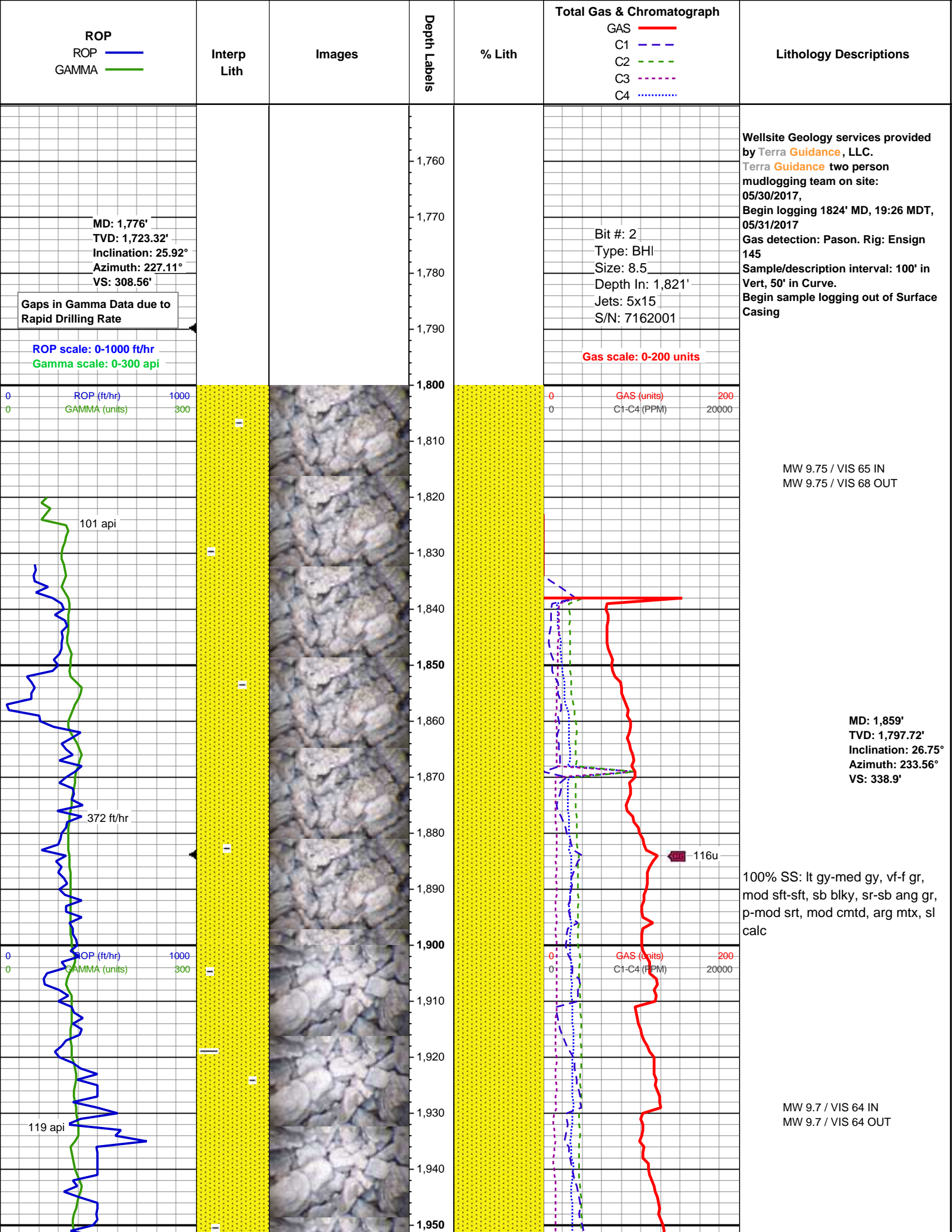
BOUNDSTONE
CHALKY
CRYPTOXLN
EARTHY
FINELYXLN
GRAINSTONE

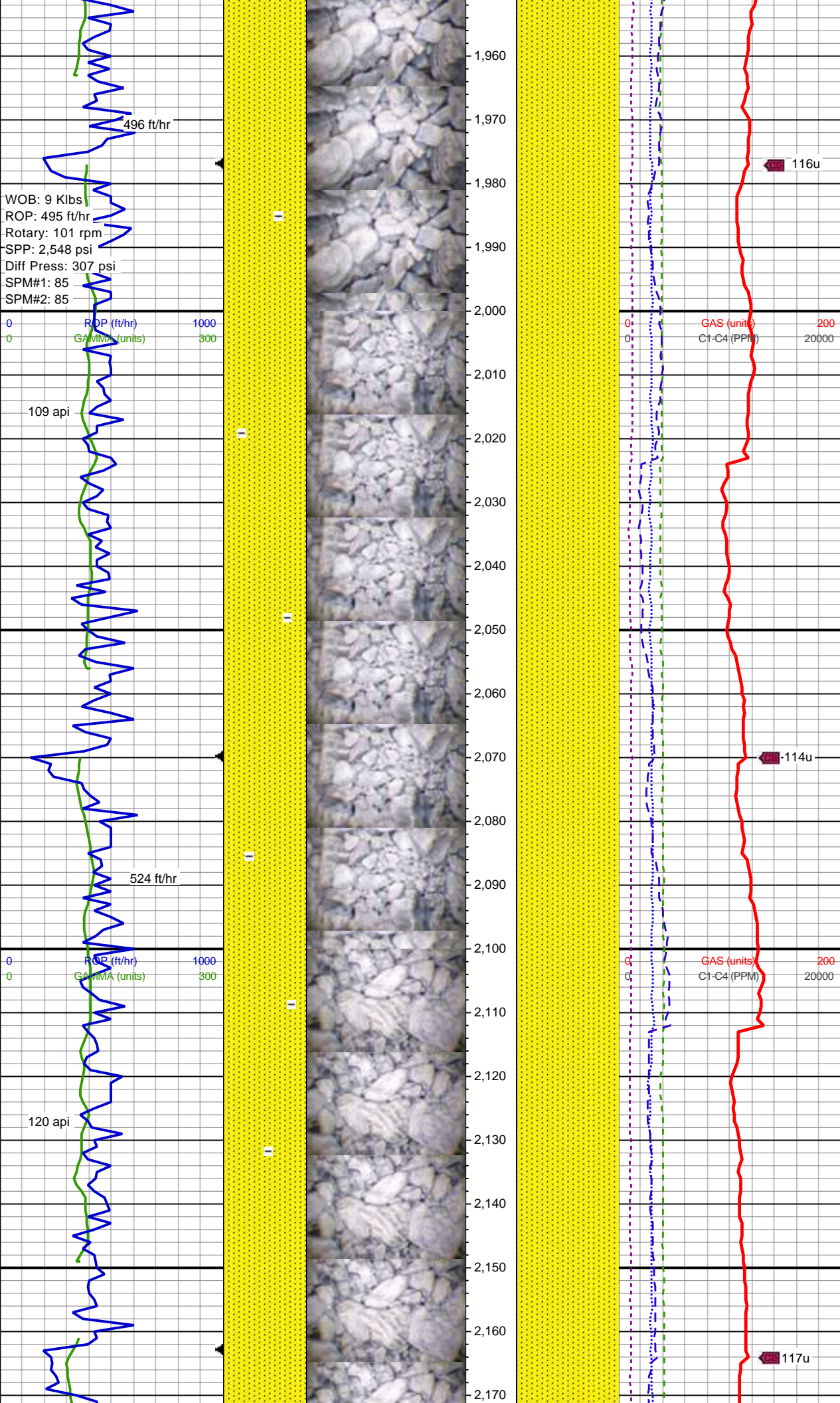
LITHOGRAPHIC

MICROXLN
MUDSTONE
PACKSTONE
WACKESTONE

Sorting

MODERATE
POOR
WELL





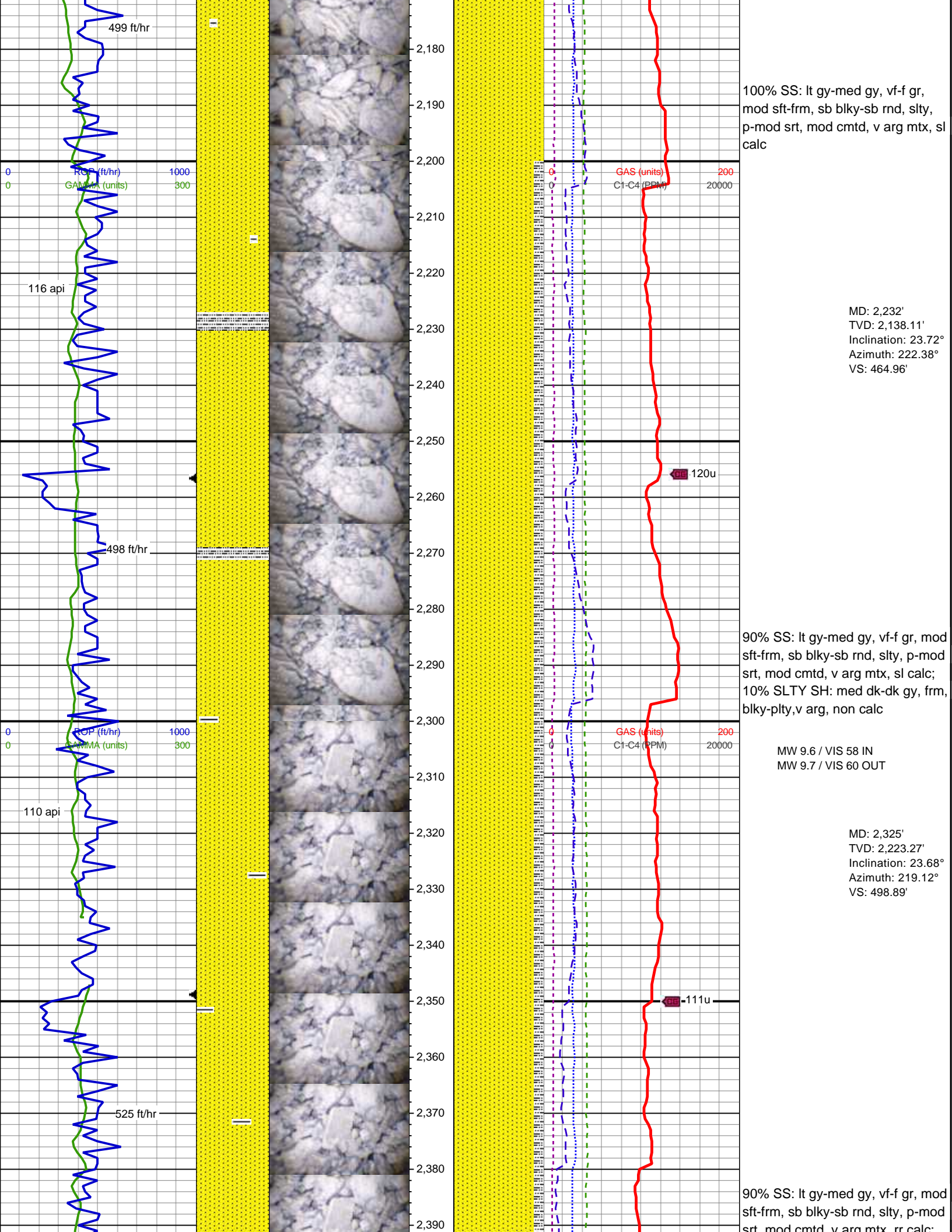
MD: 1,953'
TVD: 1,882.71'
Inclination: 23.82°
Azimuth: 234.9°
VS: 370.45'

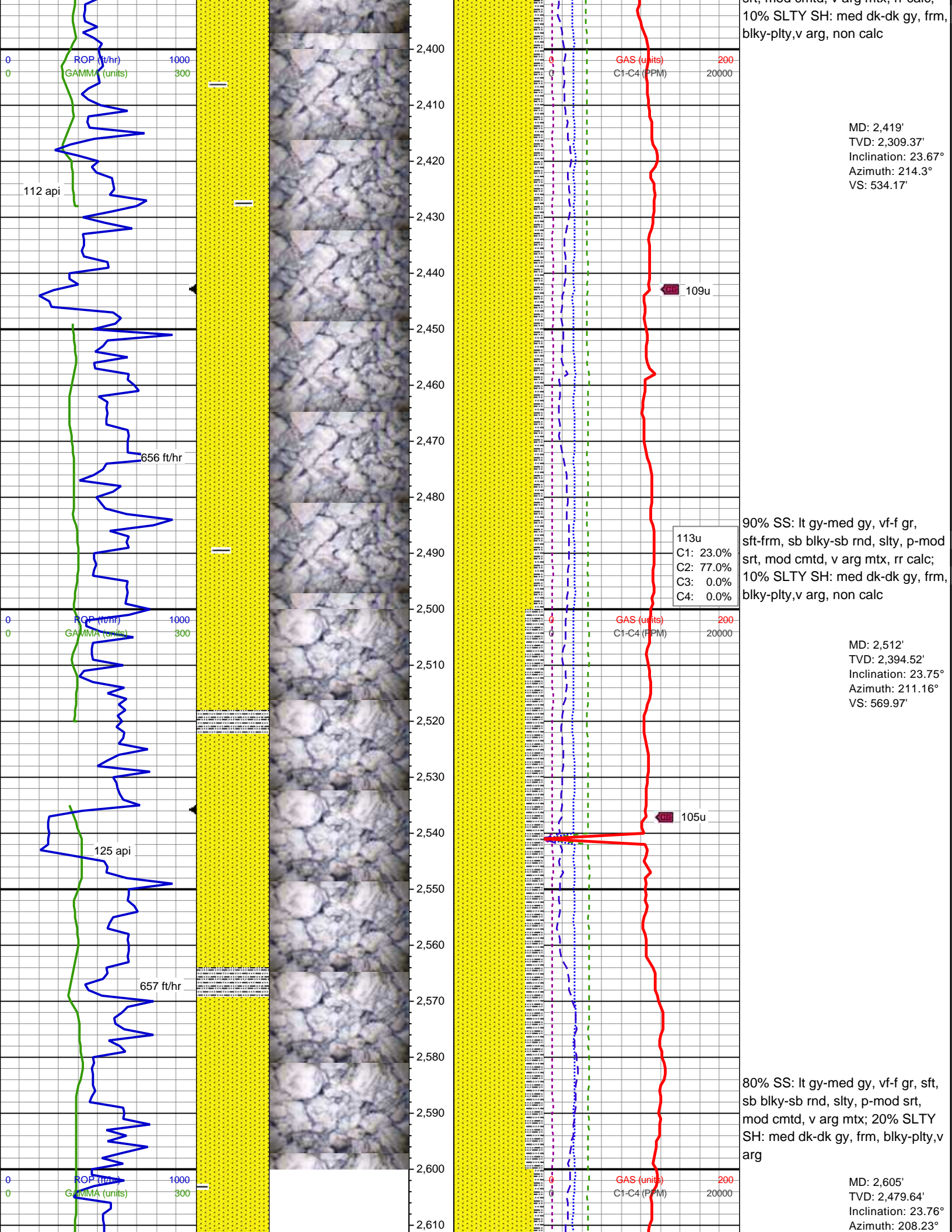
100% SS: lt gy-med gy, vf-f gr,
mod sft, sb blk-y-sb rnd, sr-sb ang
gr, p-mod srt, mod cmtnd, v arg
mtx, sl calc

MD: 2,046'
TVD: 1,967.81'
Inclination: 23.75°
Azimuth: 230.75°
VS: 400.46'

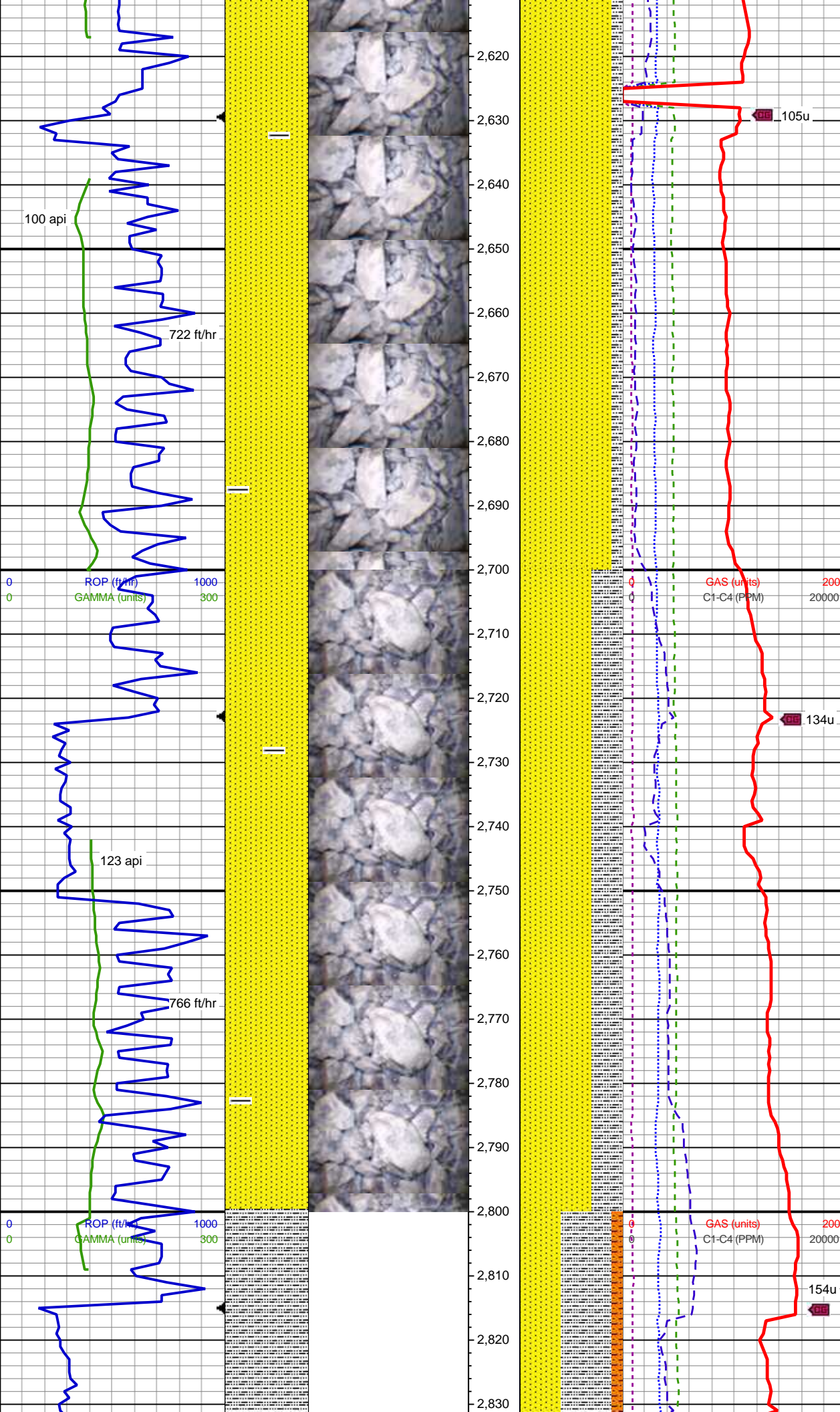
100% SS: lt gy-med gy, vf-f gr,
mod sft, sb blk-y-sb rnd, sr-sb ang
gr, p-mod srt, mod cmtnd, v arg
mtx, variably calc

MD: 2,139'
TVD: 2,052.96'
Inclination: 23.71°
Azimuth: 226.11°
VS: 432.02'





VS: 606.36'



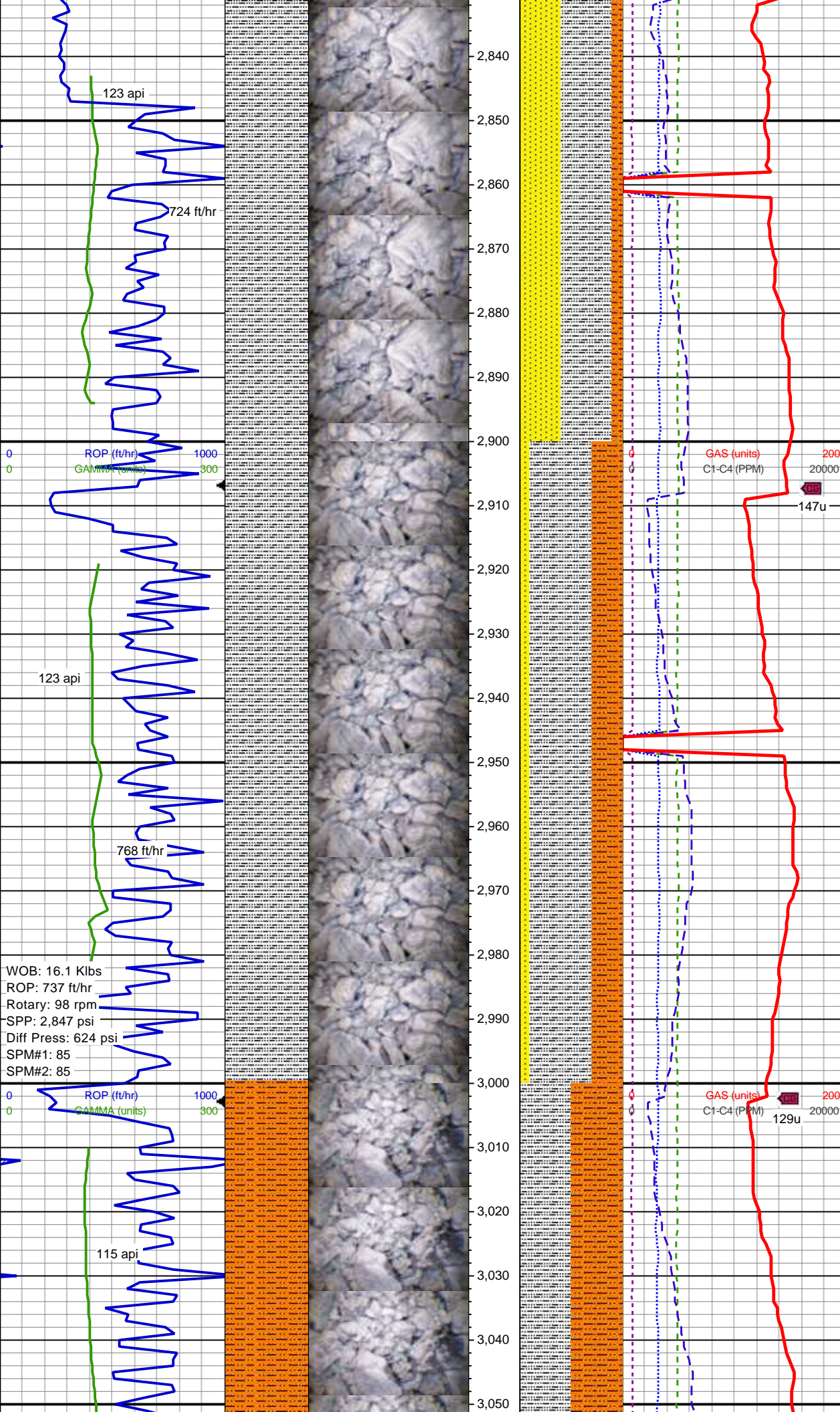
MD: 2,698'
TVD: 2,564.79'
Inclination: 23.69°
Azimuth: 206.98°
VS: 643.01'

90% SS: lt gy-med gy, vf-f gr, sft, sb blk-y-sb rnd, slty, p-mod srt, mod cmted, v arg mtx, rr calc; 10% SLTY SH: med dk-dk gy, frm, blk-y-plty, v arg

MW 9.6 / VIS 56 IN
MW 9.6 / VIS 57 OUT

MD: 2,791'
TVD: 2,649.9'
Inclination: 23.84°
Azimuth: 206.63°
VS: 679.83'

70% SS: lt gy-med gy, vf-f gr, sft, sb blk-y-sb rnd, slty, p-mod srt, mod cmted, v arg mtx, sl calc; 30% SLTY SH: med dk-dk gy, sft-frm, sb plty-sb rnd, v arg

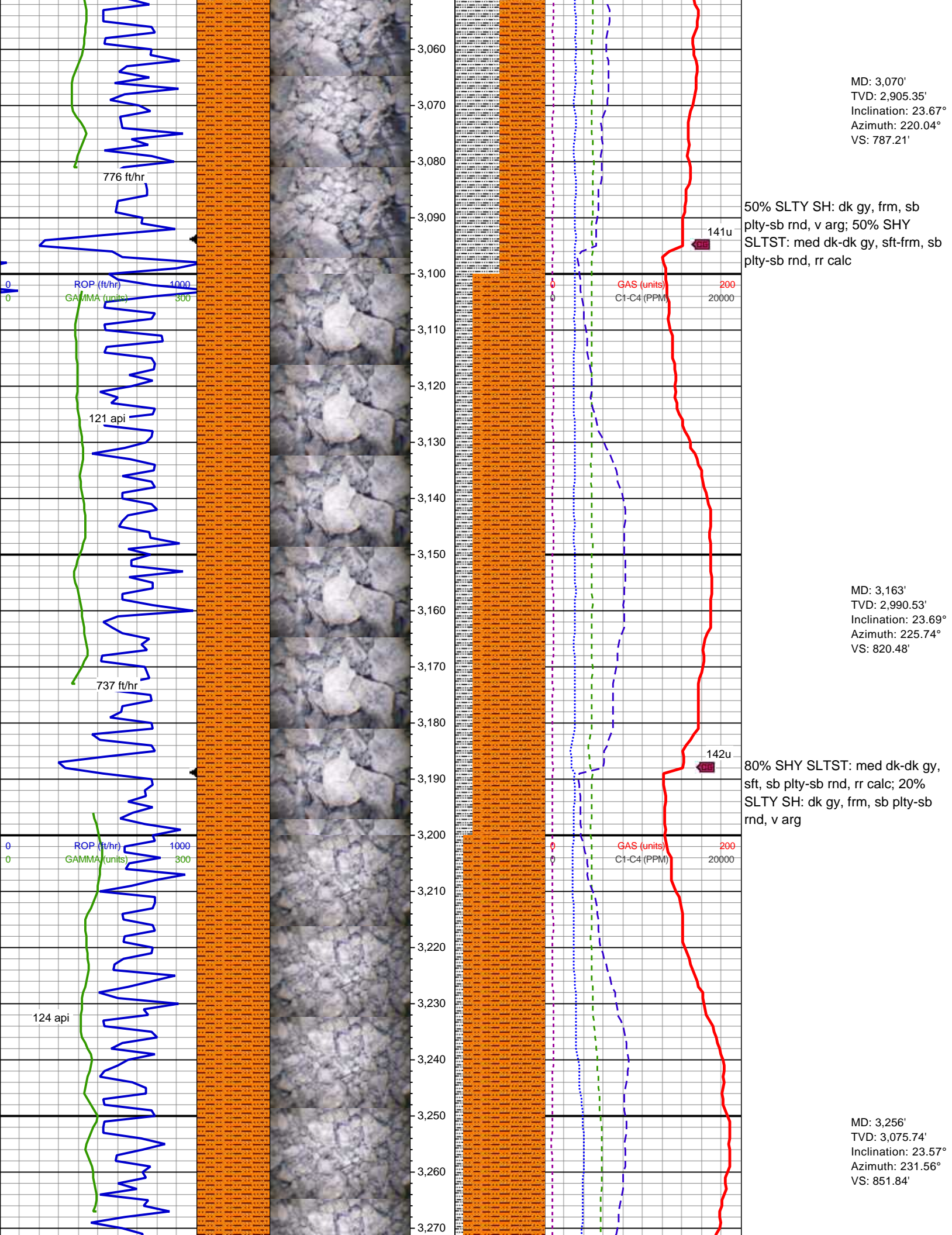


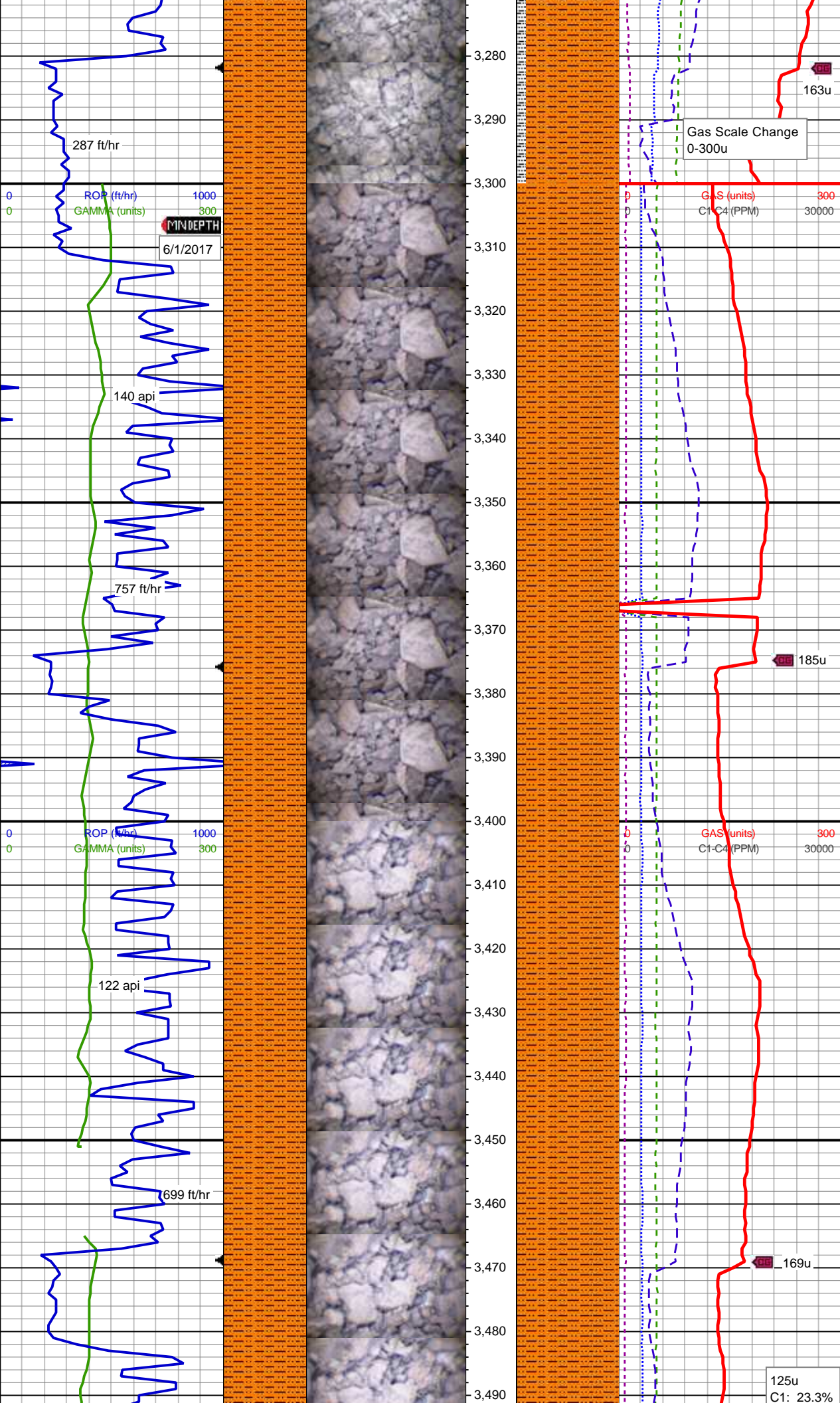
MD: 2,884'
TVD: 2,735.02'
Inclination: 23.68°
Azimuth: 208.98°
VS: 716.5'

50% SLTY SH: med dk-dk gy, frm, sb plty-sb rnd, v arg; 40% SS: lt gy-med gy, vf-f gr, sft, sb blk-y-sb rnd, slty, p-mod srt, mod cmt, v arg-slty mtx, sl calc; 10% SHY SLTST: med dk-dk gy, sft-frm, sb plty-sb rnd, calc ip

MD: 2,977'
TVD: 2,820.18'
Inclination: 23.73°
Azimuth: 214.67°
VS: 752.43'

60% SLTY SH: dk gy, frm, sb plty-sb rnd, v arg; 30% SHY SLTST: med dk-dk gy, sft-frm, sb plty-sb rnd, mnr calc; 10% SS: lt gy-med gy, vf-f gr, sft, sb blk-y-sb rnd, slty, p-mod srt, mod cmt, v arg-slty mtx, sl calc





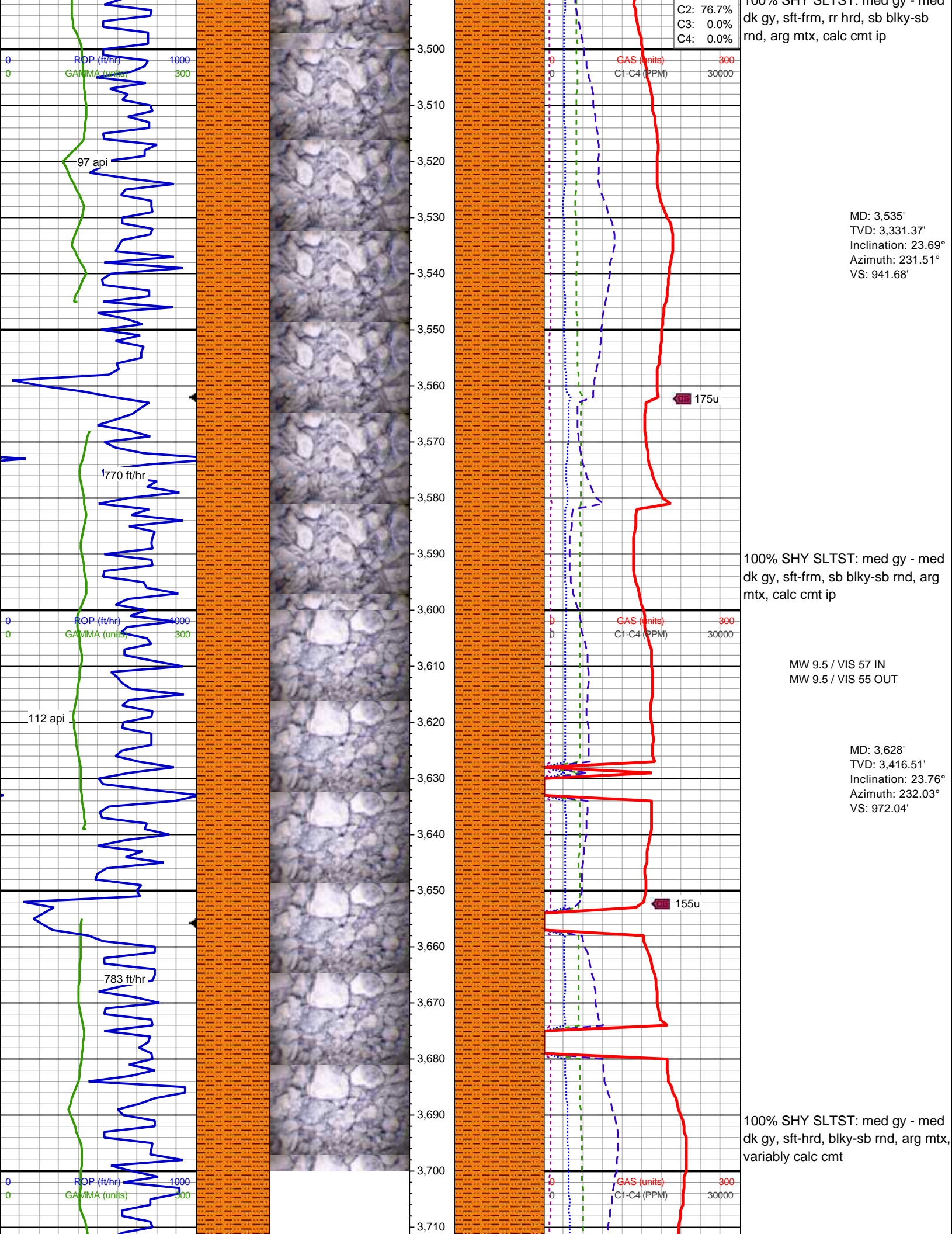
90% SHY SLTST: med dk-dk gy, sft-frm, sb blk-y-sb rnd, rr calc; 10% SLTY SH: dk gy, frm, sb plty-sb rnd, v arg

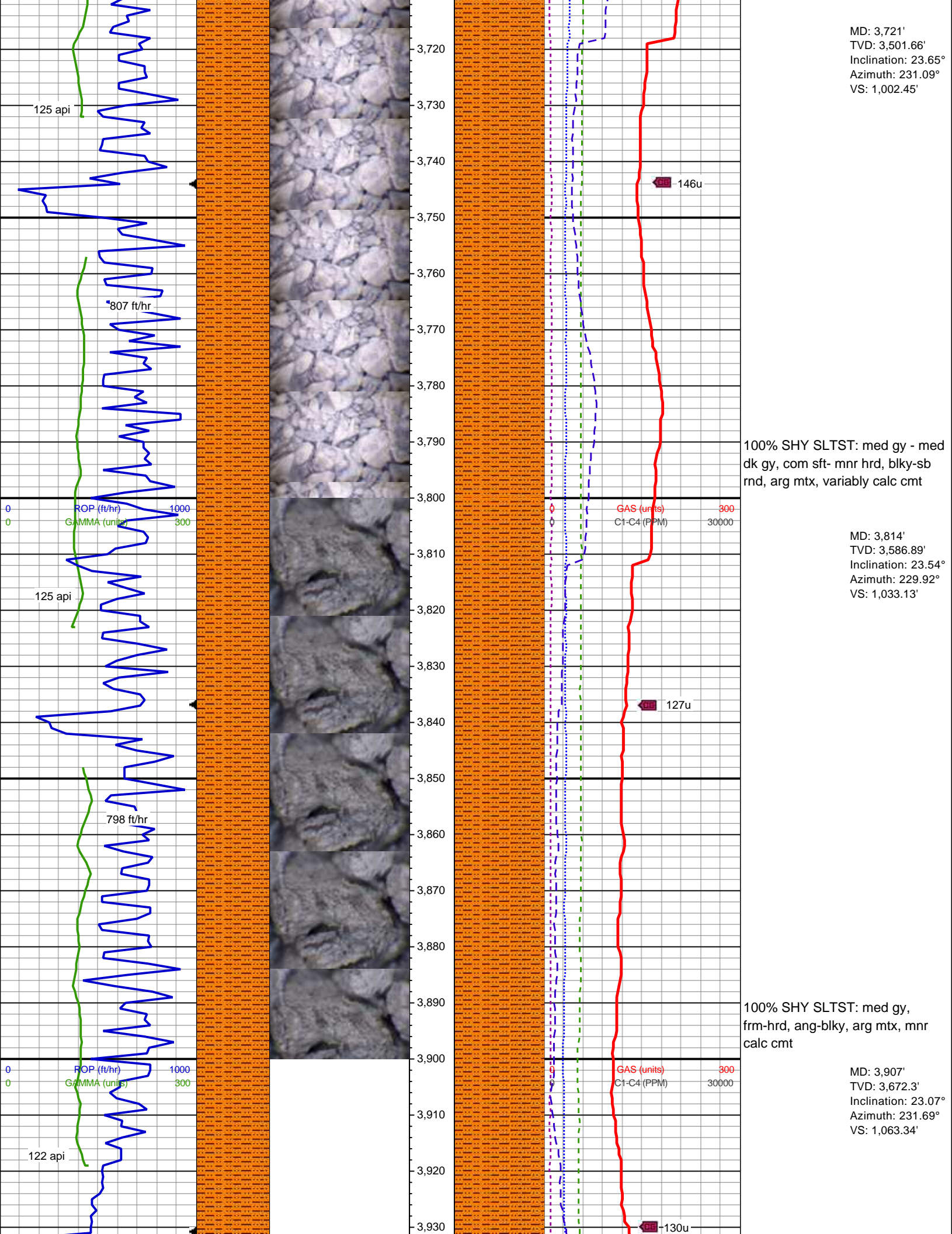
MD: 3,349'
TVD: 3,160.99'
Inclination: 23.57°
Azimuth: 233.57°
VS: 881.7'

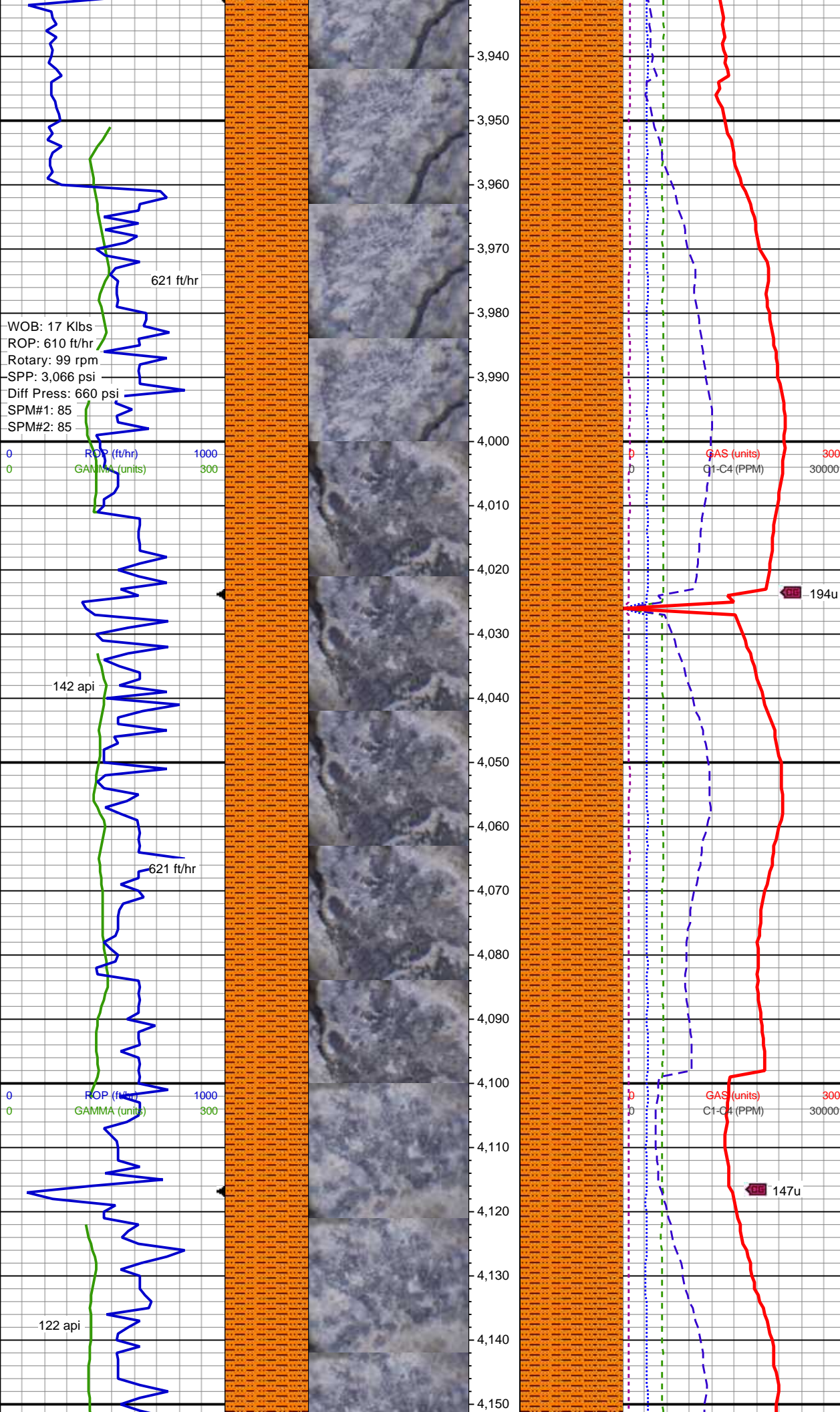
100% SHY SLTST: med dk gy, sft-frm, rr hrd, sb blk-y-sb rnd, arg mtx, calc cmt

MD: 3,442'
TVD: 3,246.2'
Inclination: 23.67°
Azimuth: 232.46°
VS: 911.45'

100% SHY SLTST: med gy, mod







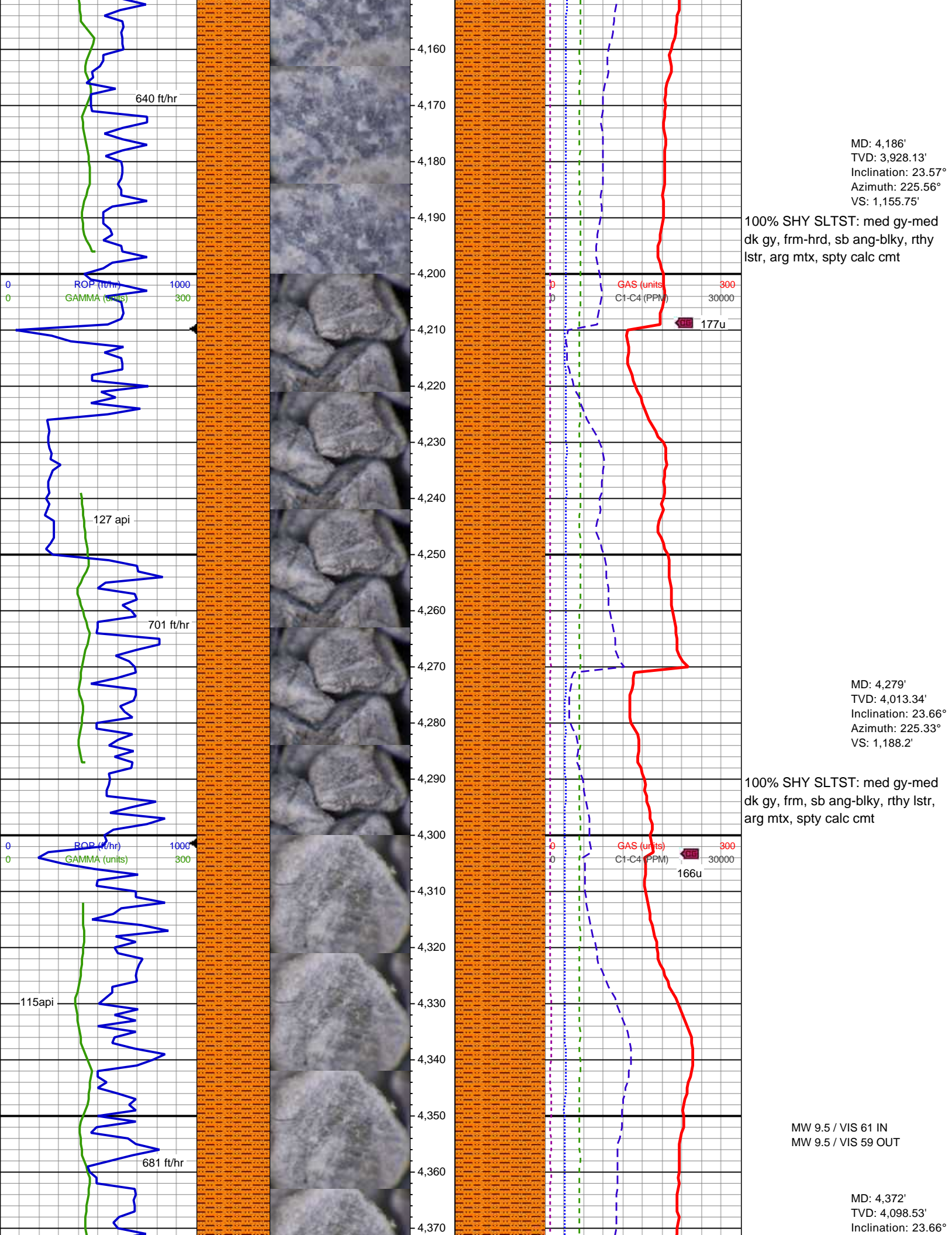
100% SHY SLTST: med gy, frm-mnr hrd, ang-blky, arg mtx, mnr calc cmt

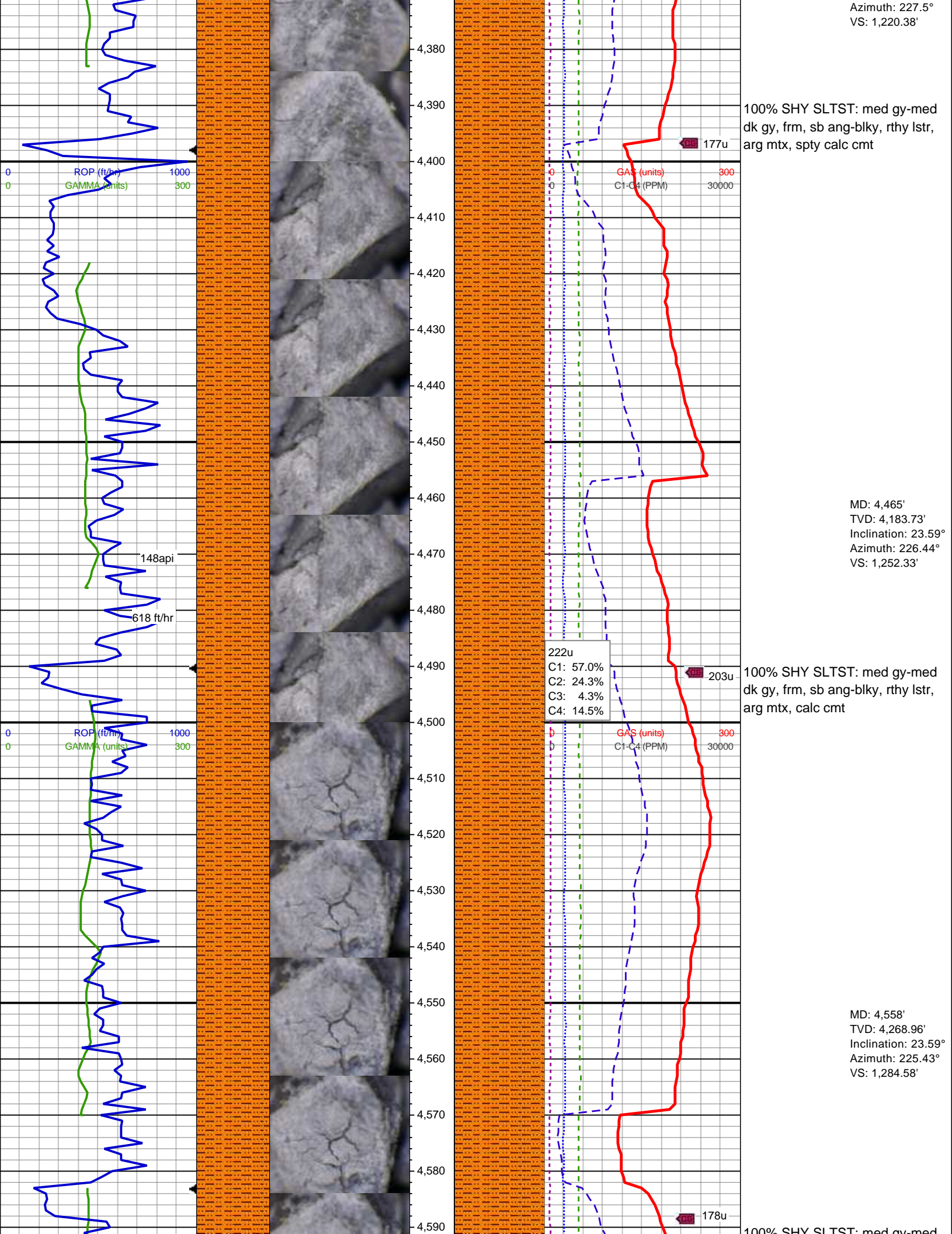
MD: 4,000'
TVD: 3,757.73'
Inclination: 23.48°
Azimuth: 231.71°
VS: 1,093.18'

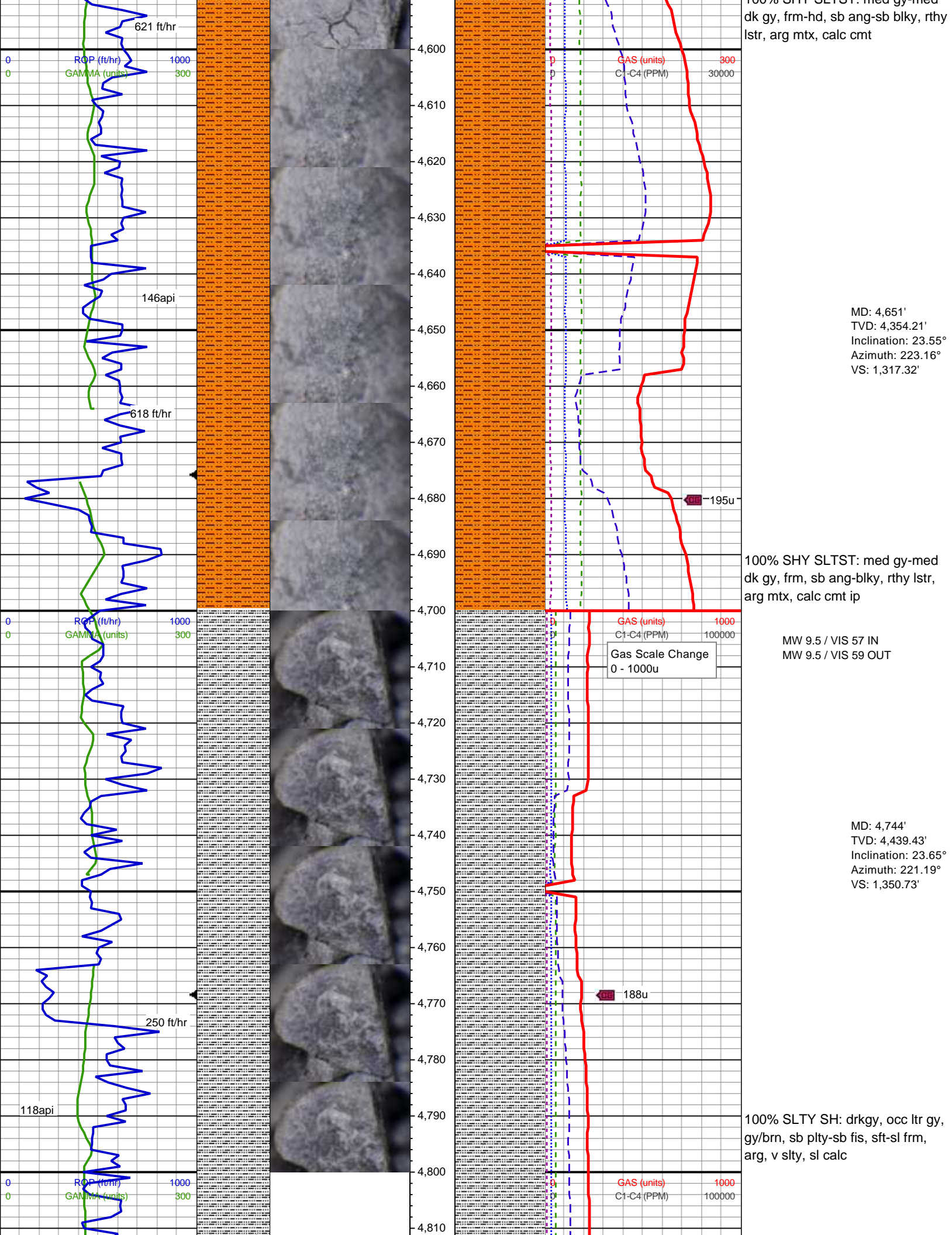
100% SHY SLTST: med gy, frm-hrd, ang-blky, rthy lstr, arg mtx, mnr calc cmt

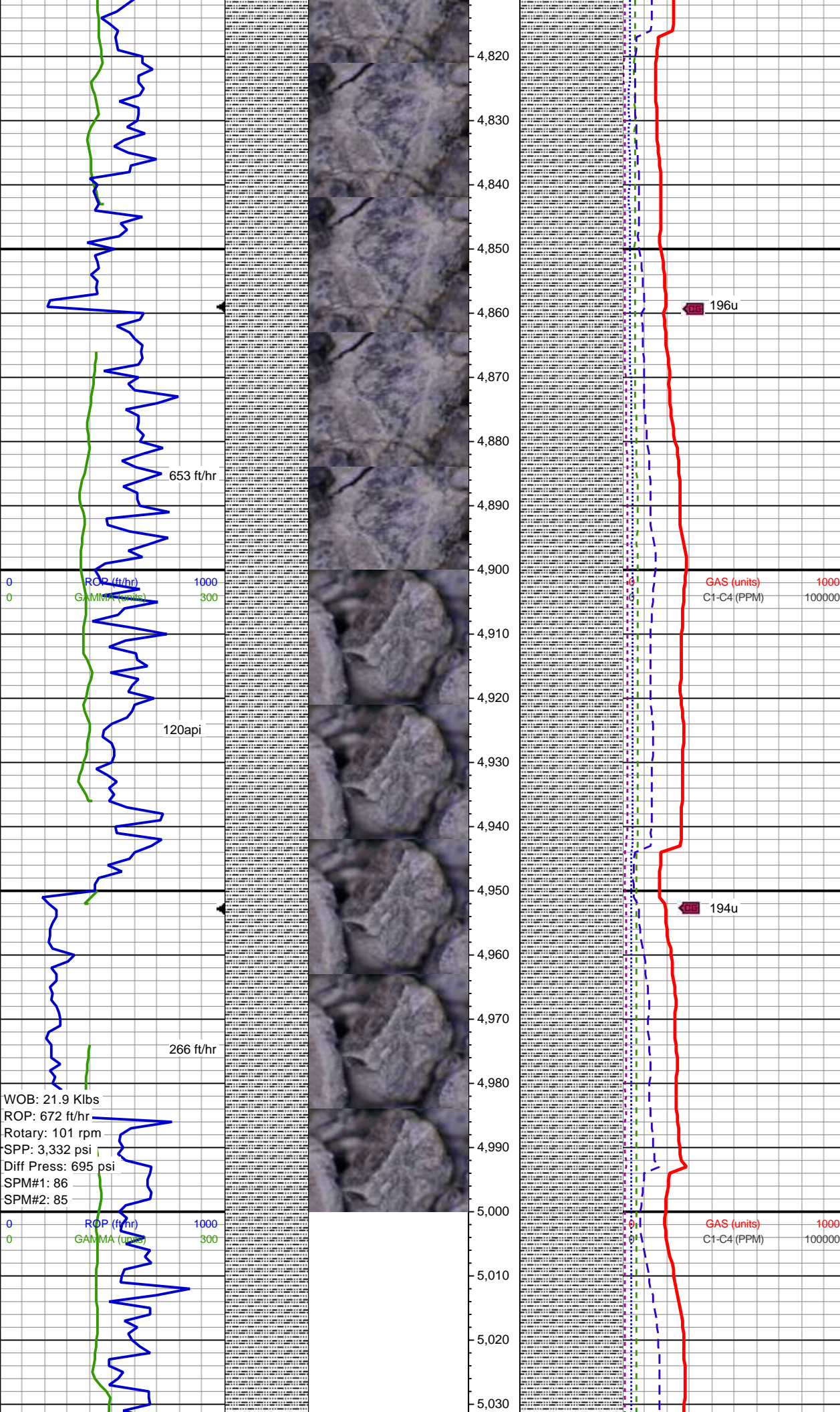
MD: 4,093'
TVD: 3,842.94'
Inclination: 23.75°
Azimuth: 229.16°
VS: 1,123.9'

MW 9.5 / VIS 59 IN
MW 9.5 / VIS 63 OUT









MD: 4,837'
TVD: 4,524.63'
Inclination: 23.61°
Azimuth: 218.1°
VS: 1,384.87'

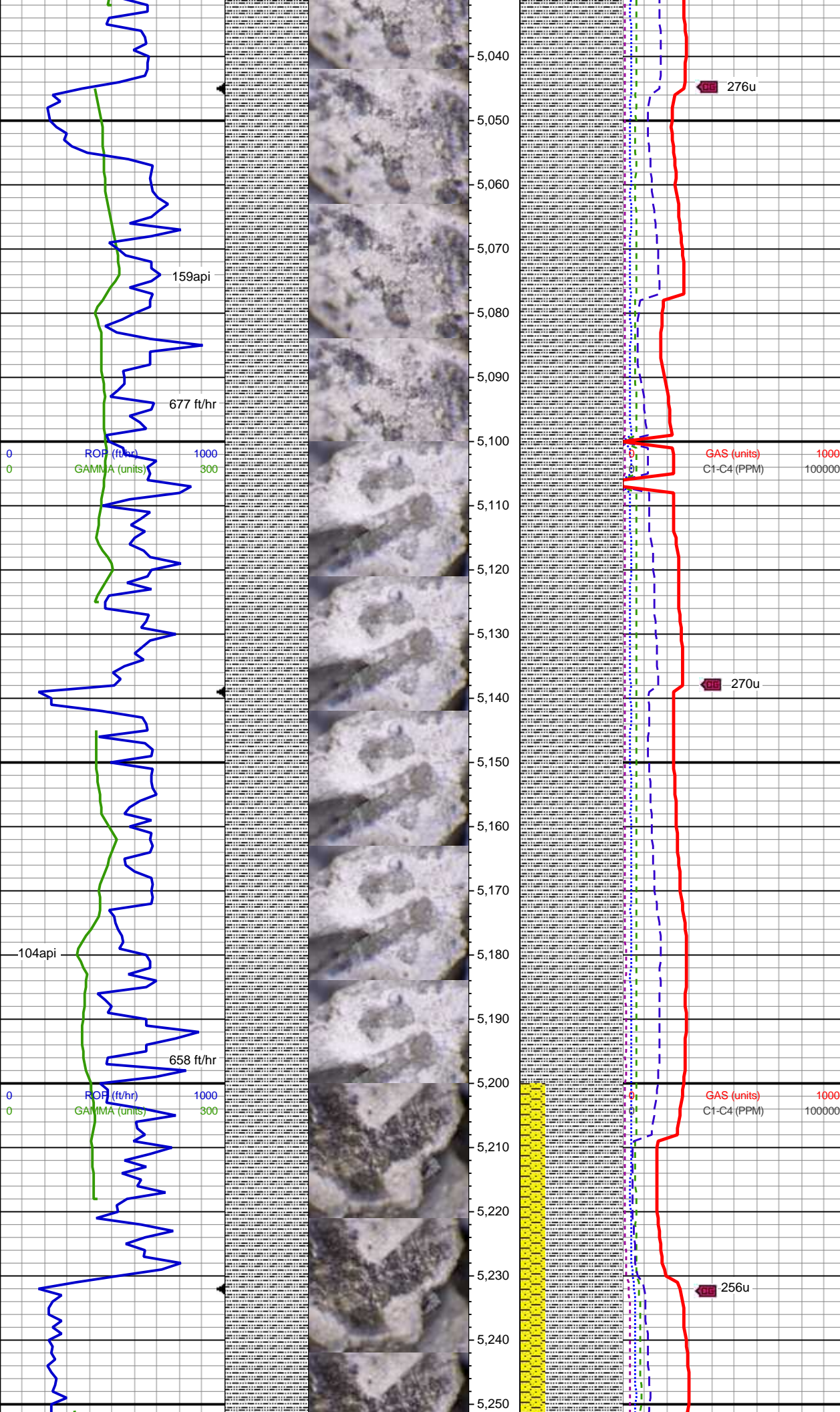
100% SLTY SH: drkgy, occ ltr gy,
gy/brn, sb plty-sb fis, sft-sl frm,
arg, v slty, sl calc

MW 9.5 / VIS 57 IN
MW 9.5 / VIS 56 OUT

MD: 4,930'
TVD: 4,609.89'
Inclination: 23.51°
Azimuth: 214.54°
VS: 1,419.71'

100% SLTY SH: drkgy, occ ltr gy,
gy/brn, sb plty-sb fis, sft-sl frm,
arg, v slty, ip grdg sltst, occ vfg sd,
sl calc

MD: 5,023'
TVD: 4,695.15'
Inclination: 23.56°
Azimuth: 215.05°
VS: 1,454.87'



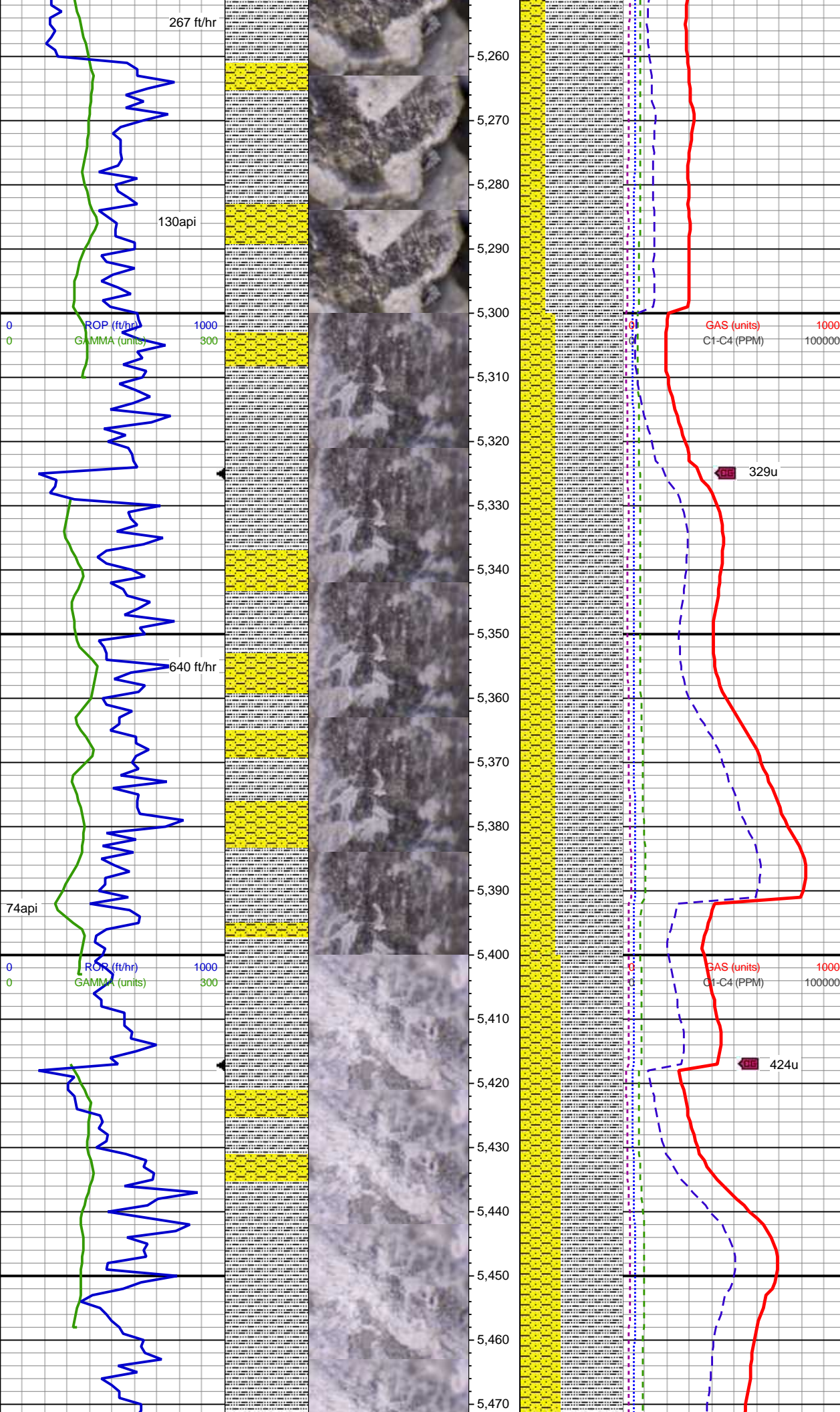
100% SLTY SH: drkgy, occ ltr gy,
gy/brn, sb plty-sb fis, sft-sl frm,
arg, v slty, ip grdg sltst, occ vfg sd,
sl calc

MW 9.5 / VIS 57 IN
MW 9.5 / VIS 56 OUT

MD: 5,116'
TVD: 4,780.51'
Inclination: 23.24°
Azimuth: 220.66°
VS: 1,489.12'

100% SLTY SH: drkgy, occ ltr gy,
gy/brn, sb plty-sb fis, sft-sl frm,
arg, v slty, ip grdg sltst, occ vfg sd,
sl calc

MD: 5,209'
TVD: 4,865.91'
Inclination: 23.43°
Azimuth: 225°
VS: 1,521.96'



75% SLTY SH: med-dk gy, sb blk-y-sb plty, sft-sl frm, arg, gritty tex, rthy lstr, sl calc ip, sdy ip; 25% SHY SS: lt-med gy, vf-f gr, sft-sl frm, sb blk-y, mod srt, p cmt, arg mtx, sl calc, abnt lse cly

MD: 5,301'
TVD: 4,950.24'
Inclination: 23.71°
Azimuth: 225.48°
VS: 1,554.06'

329u

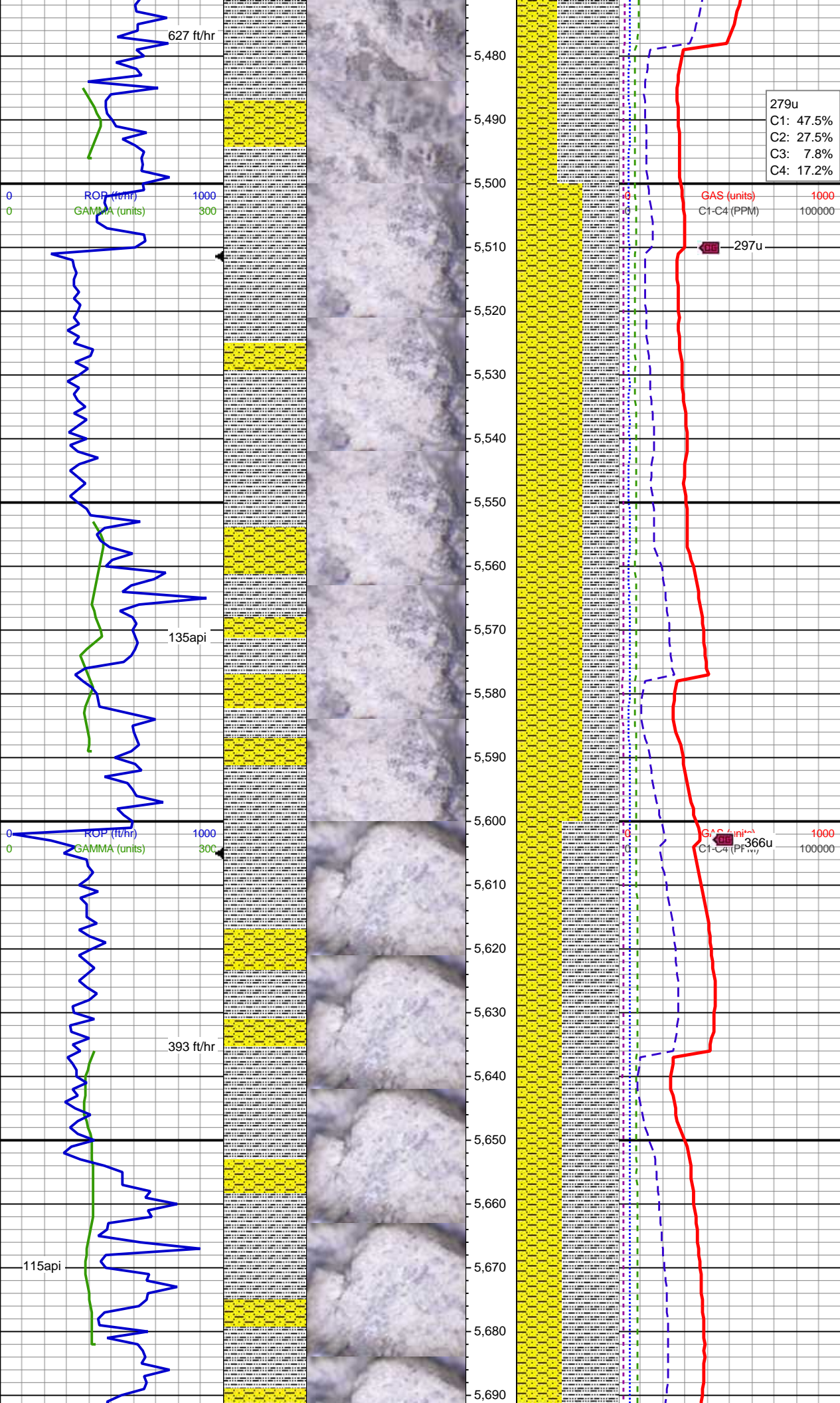
65% SLTY SH: med-dk gy, sb blk-y-sb plty, sft-sl frm, arg, gritty tex, rthy lstr, sl calc ip, sdy ip; 35% SHY SS: lt-med gy, vf-f gr, sft-sl frm, sb blk-y, mod srt, p cmt, arg mtx, sl calc, abnt lse cly

MD: 5,394'
TVD: 5,035.44'
Inclination: 23.57°
Azimuth: 221.06°
VS: 1,587.19'

424u

MW 9.5 / VIS 57 IN
MW 9.5 / VIS 56 OUT

MD: 5,487'
TVD: 5,120.71'



Inclination: 23.49°
Azimuth: 217.32°
VS: 1,621.3'

60% SLTY SH: med-dk gy, sb
blky-sb plty, sft-sl frm, arg, gritty
tex, rthy lstr, sl calc ip, sdy ip; 40%
SHY SS: lt-med gy, vf-f gr, sft-sl
frm, sb blky, mod srt, p cmt, arg
mtx, sl calc, abnt lse cly

279u
C1: 47.5%
C2: 27.5%
C3: 7.8%
C4: 17.2%

GAS (units) 1000
C1-C4 (PPM) 100000

297u

MD: 5,580'
TVD: 5,205.98'
Inclination: 23.56°
Azimuth: 214.31°
VS: 1,656.21'

65% SHY SS: lt-med gy, vf-f gr,
sft-sl frm, sb blky, mod srt, p cmt,
arg mtx, sl calc, abnt lse cly, 35%
SLTY SH: med-dk gy, sb blky-sb
plty, sft-sl frm, arg, gritty tex, rthy
lstr, sl calc ip, sdy ip

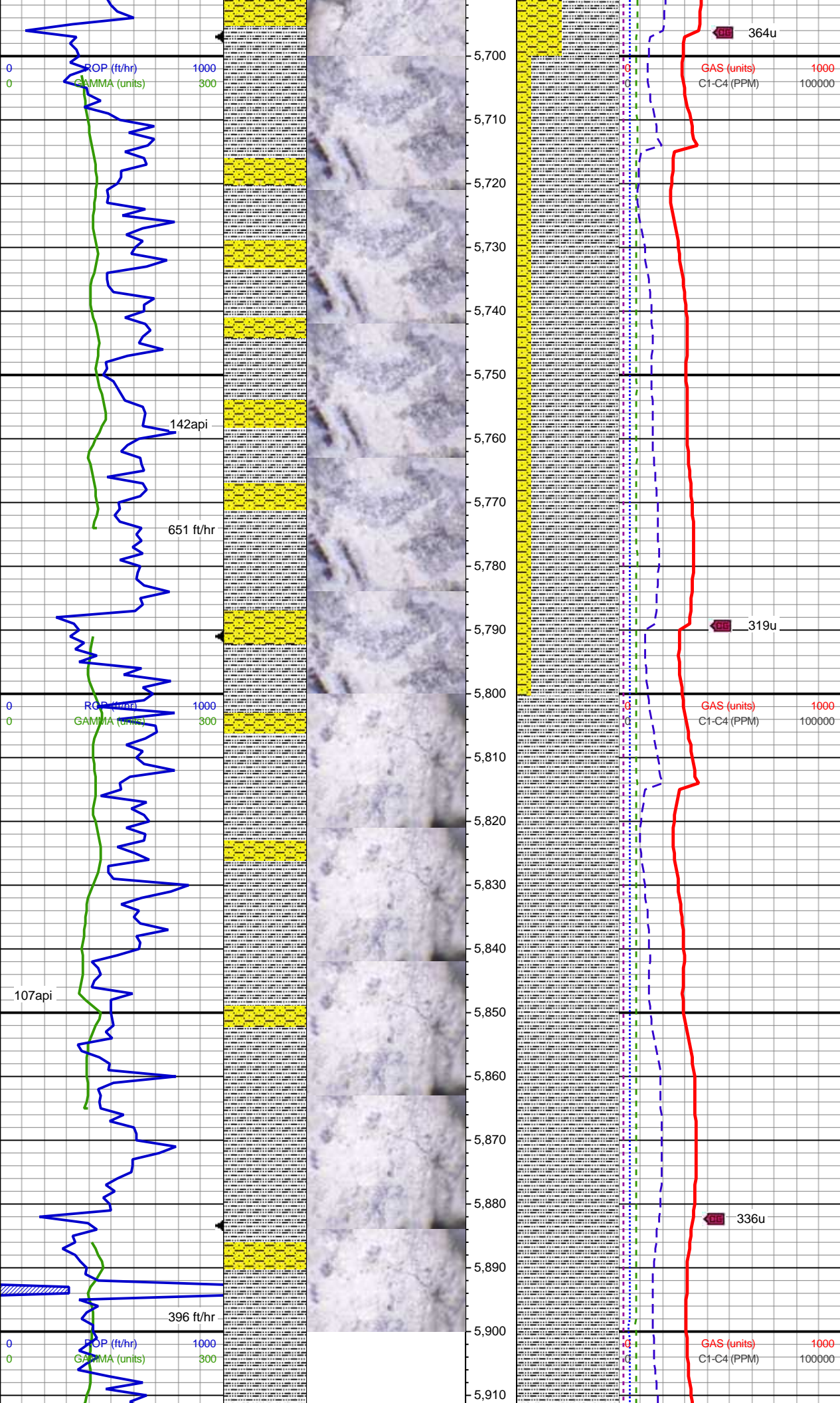
GAS (units) 1000
C1-C4 (PPM) 100000

366u

MW 9.5+ / VIS 57 IN
MW 9.5 / VIS 56 OUT

MD: 5,673'
TVD: 5,291.23'
Inclination: 23.56°
Azimuth: 213.86°
VS: 1,691.55'

55% SLTY SH: med-dk gy, sb
blky-sb plty, sft-sl frm, arg, gritty
tex, rthy lstr, sl calc ip, sdy ip; 45%
SHY SS: lt-med gy, vf-f gr, sft-sl



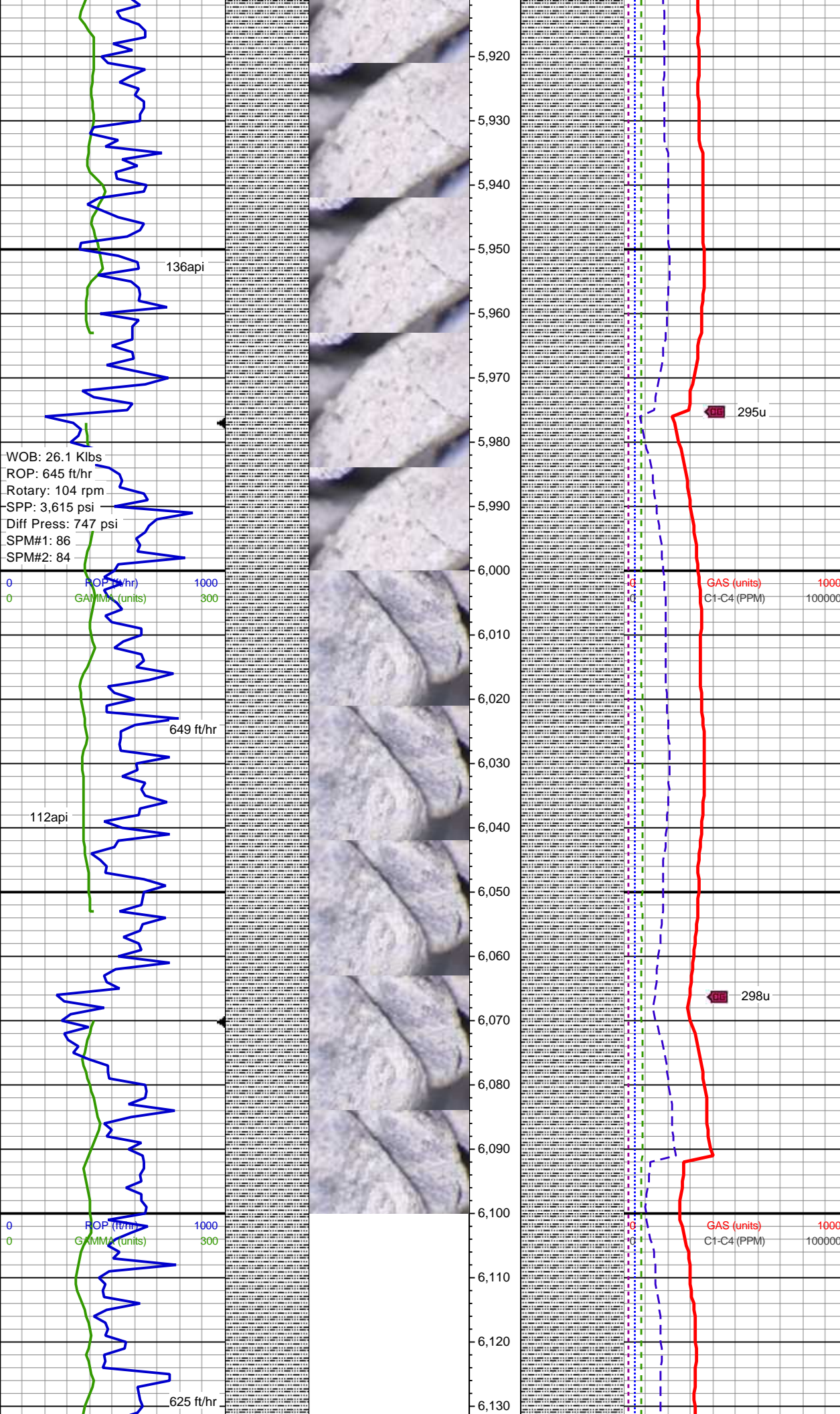
85% SLTY SH: lt-med gy, vf-f gr, sft-sl frm, sb blkly, mod srt, p cmt, arg mtz, sl calc, abnt lse cly

MD: 5,766'
TVD: 5,376.46'
Inclination: 23.62°
Azimuth: 216.83°
VS: 1,726.65'

85% SLTY SH: med-dk gy, sb blkly-sb plty, sft-sl frm, arg, gritty tex, rthy lstr, sl calc ip, sdy ip; 15% SHY SS: lt-med gy, vf-f gr, sft-sl frm, sb blkly, mod srt, p cmt, arg mtz, sl calc, abnt lse cly

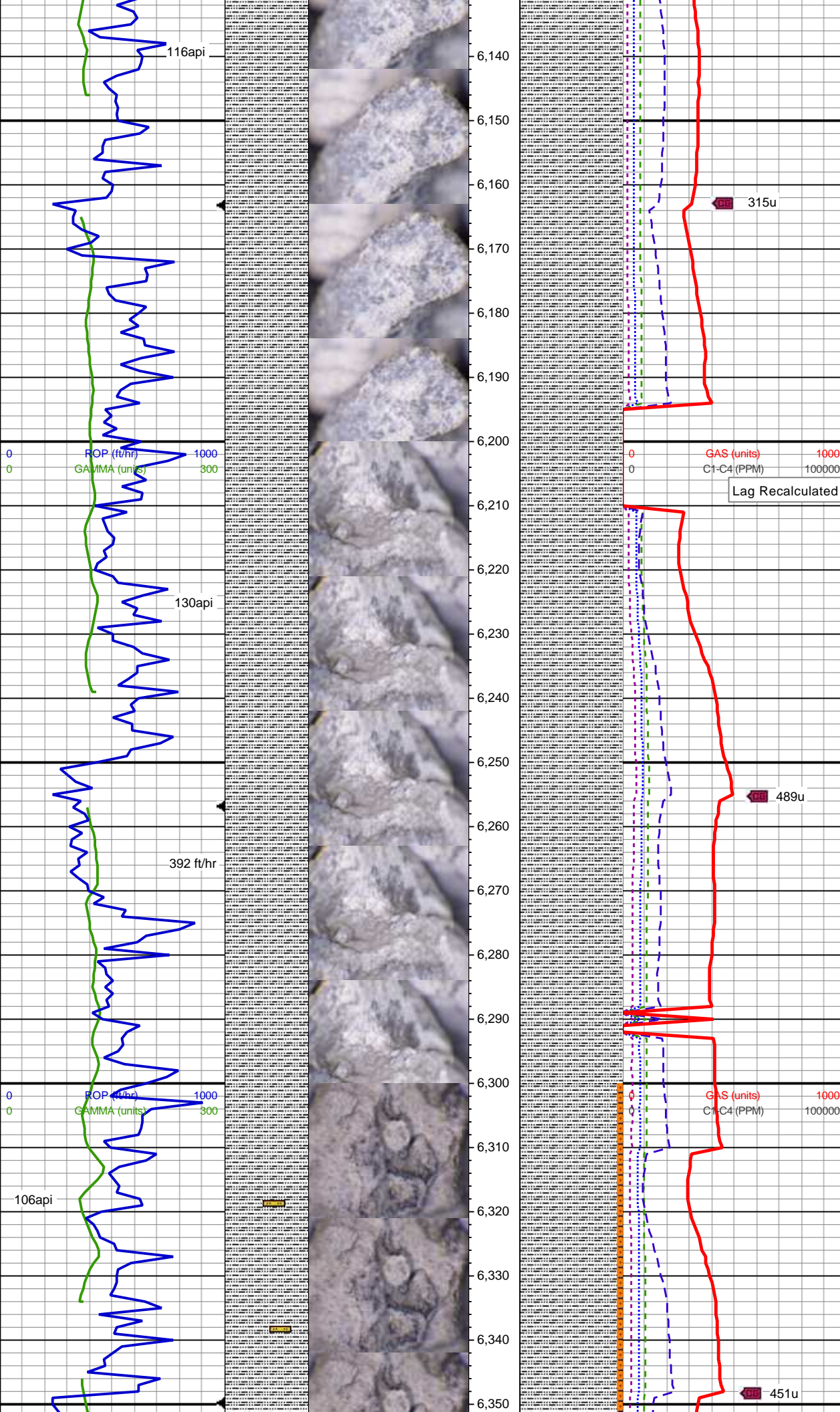
MD: 5,859'
TVD: 5,461.7'
Inclination: 23.55°
Azimuth: 219.17°
VS: 1,761.15'

100% SLTY SH: med-dk gy, sb blkly-sb plty, sft-sl frm, arg, gritty tex, rthy lstr, sl calc ip, slty txt; tr shy ss



MD: 5,953'
TVD: 5,547.88'
Inclination: 23.51°
Azimuth: 219.1°
VS: 1,795.66'

MD: 6,046'
TVD: 5,633.18'
Inclination: 23.45°
Azimuth: 219.94°
VS: 1,829.63'



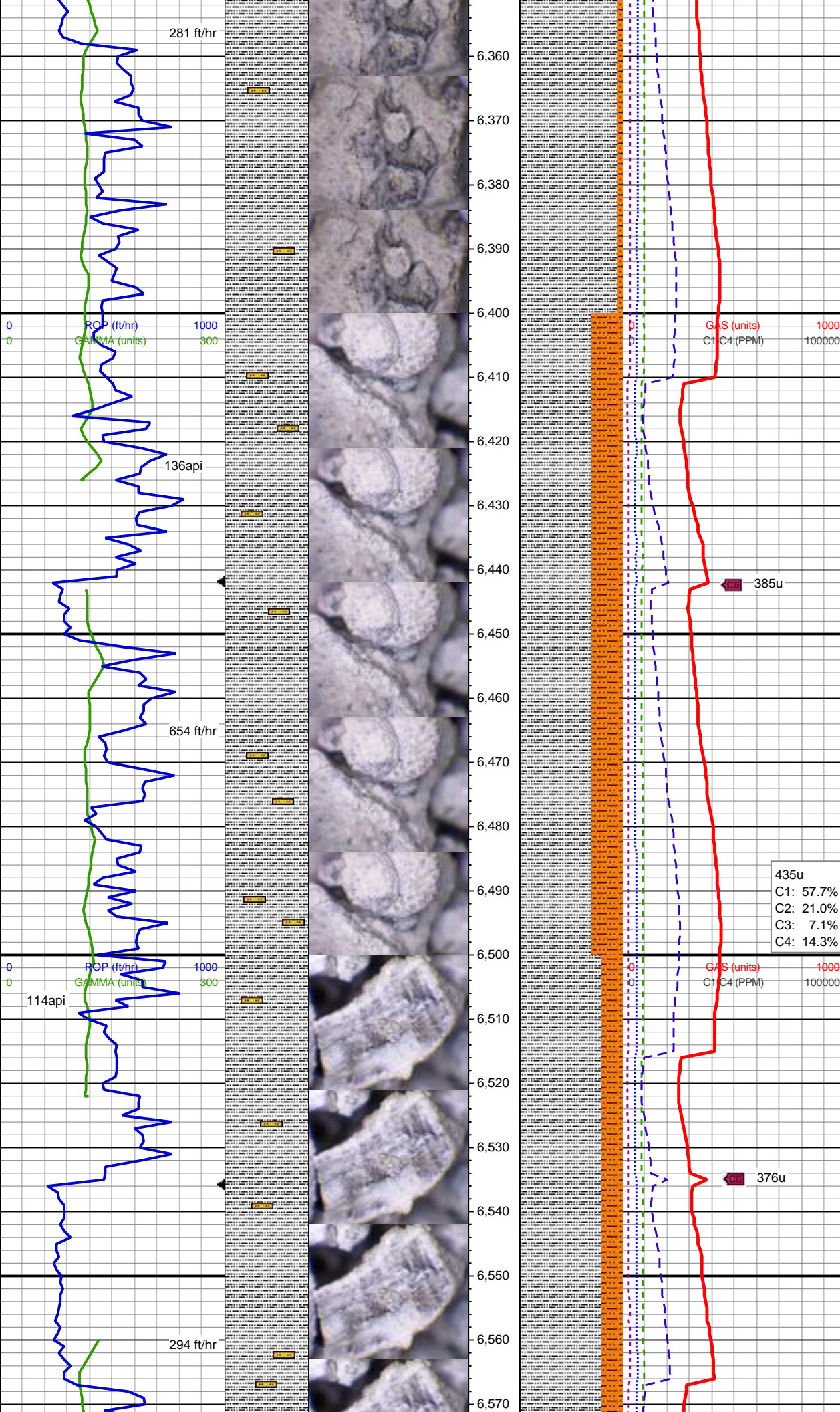
MD: 6,139'
TVD: 5,718.41'
Inclination: 23.72°
Azimuth: 222.14°
VS: 1,863.34'

100% SLTY SH: med-dk gy, sb
blky-sb plty, sft-sl frm, arg, gritty
tex, rthy lstr, sl calc ip, slty txt

100% SLTY SH: med-dk gy, sb
blky-sb plty, sft-sl frm, arg, gritty
tex, rthy lstr, sl calc ip, slty txt

MW 9.5 / VIS 56 IN
MW 9.5+ / VIS 56 OUT

MD: 6,325'
TVD: 5,888.87'
Inclination: 23.47°
Azimuth: 224.93°
VS: 1,929.34'



95% SLTY SH: med-dk gy, sb
blky-sb plty, sl frm, arg, gritty tex,
rthy, sl calc; 5% SHY SLT: med-dk
gy, sb plty-plty, frm, arg mtx

MD: 6,419'
TVD: 5,975.08'
Inclination: 23.52°
Azimuth: 225.92°
VS: 1,961.98'

385u

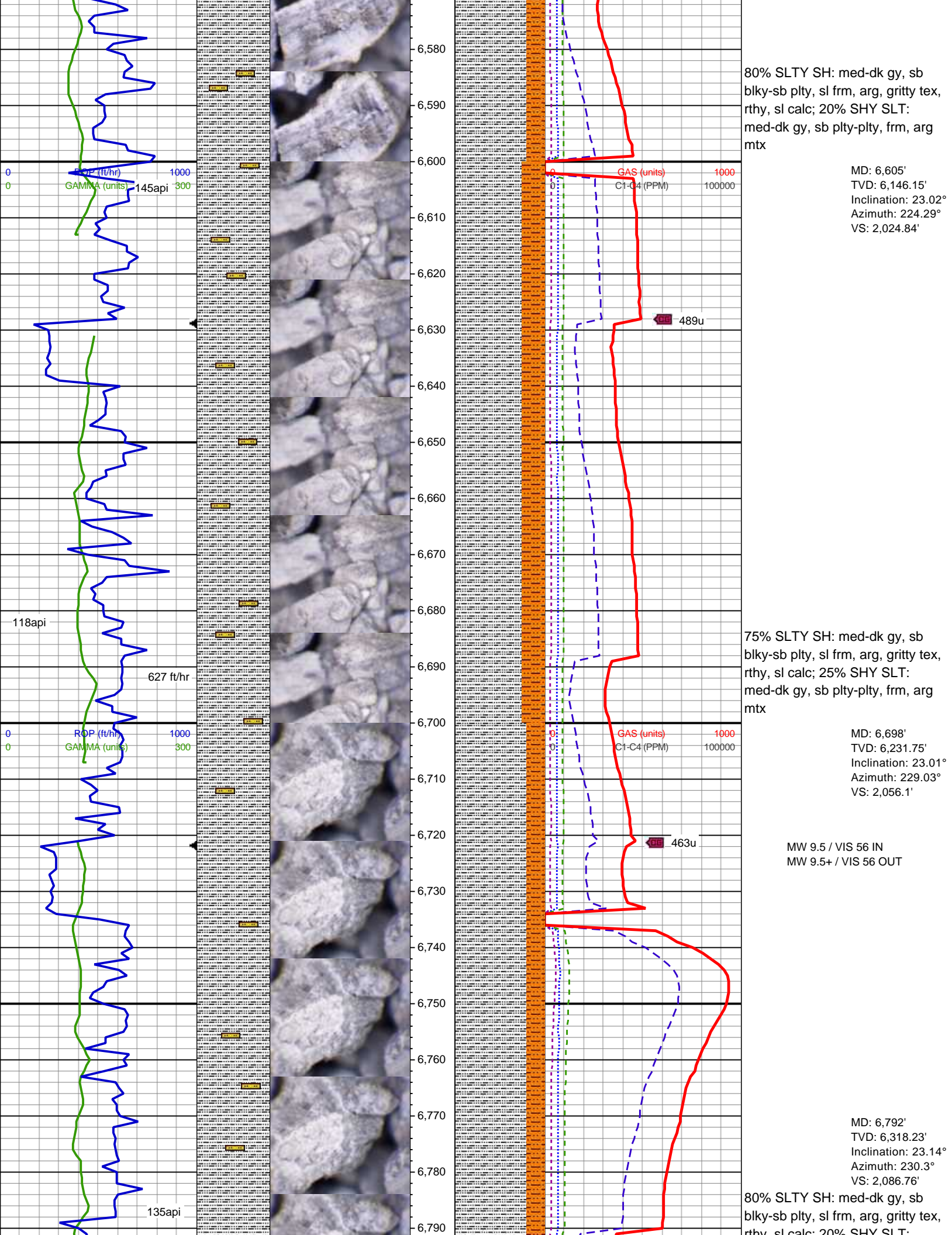
70% SLTY SH: med-dk gy, sb
blky-sb plty, sl frm, arg, gritty tex,
rthy, sl calc; 30% SHY SLT:
med-dk gy, sb plty-plty, frm, arg
mtx

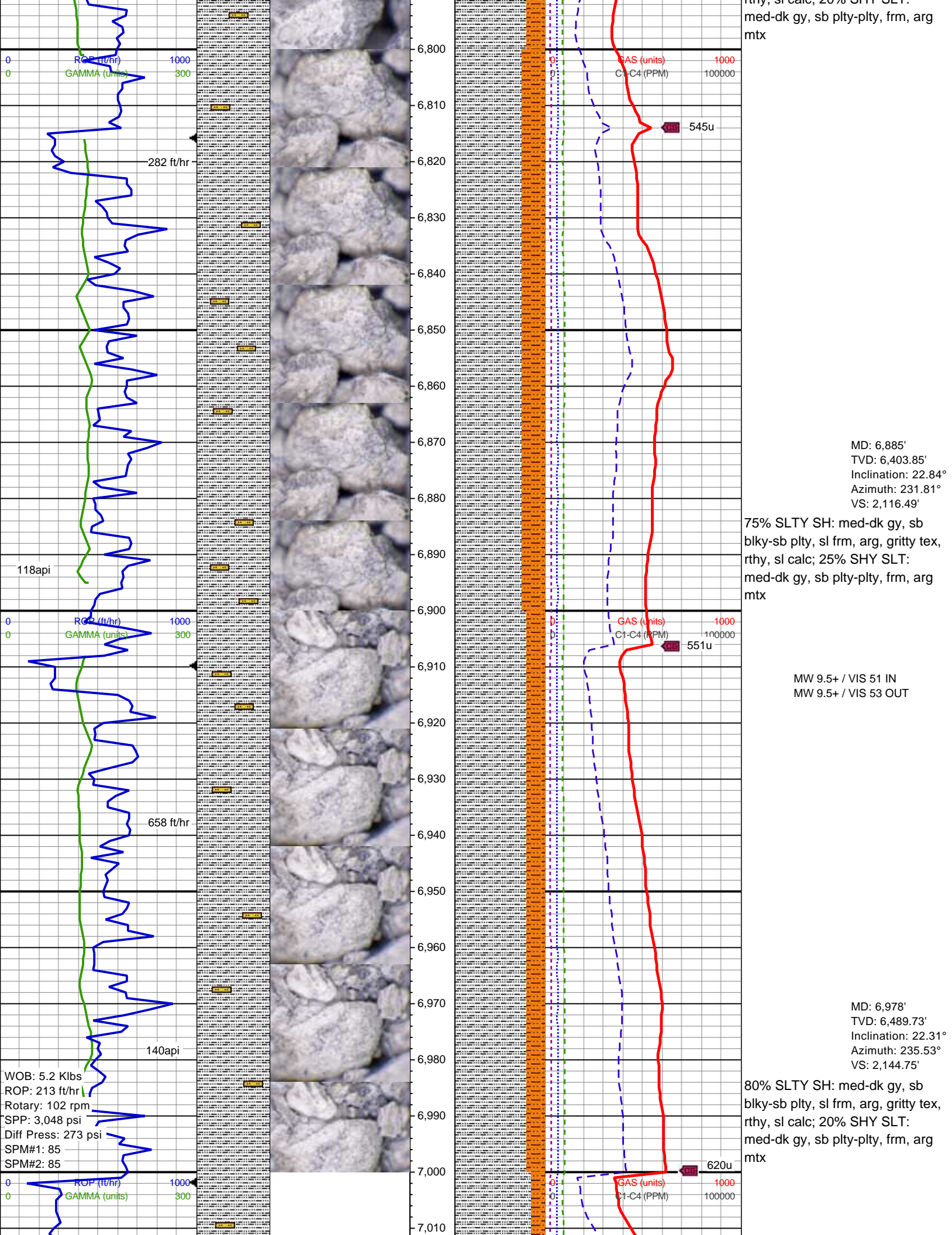
435u
C1: 57.7%
C2: 21.0%
C3: 7.1%
C4: 14.3%

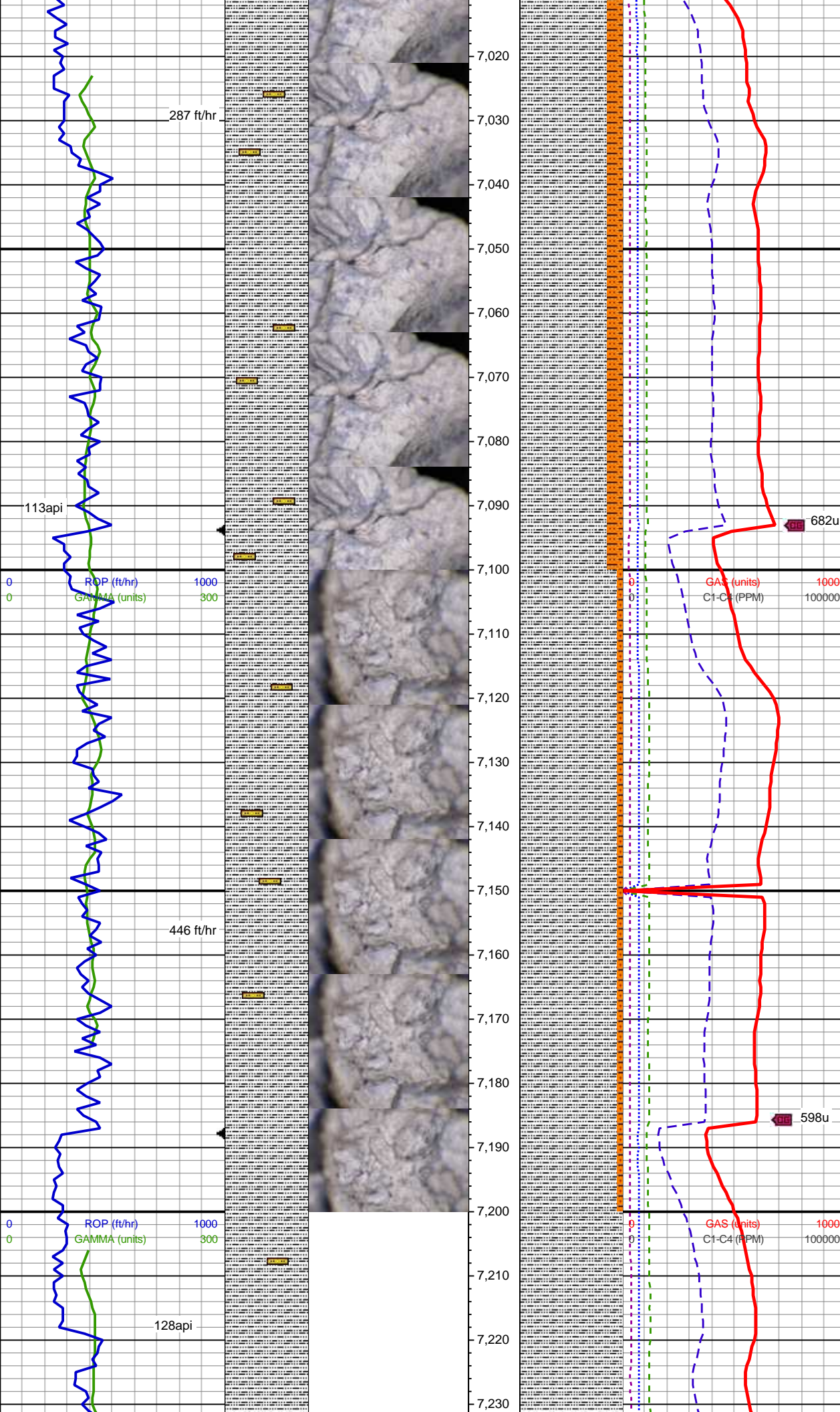
MD: 6,512'
TVD: 6,060.53'
Inclination: 22.96°
Azimuth: 228°
VS: 1,993.45'

376u

MW 9.5 / VIS 56 IN
MW 9.5+ / VIS 56 OUT







MW 9.5+ / VIS 51 IN
MW 9.5+ / VIS 53 OUT

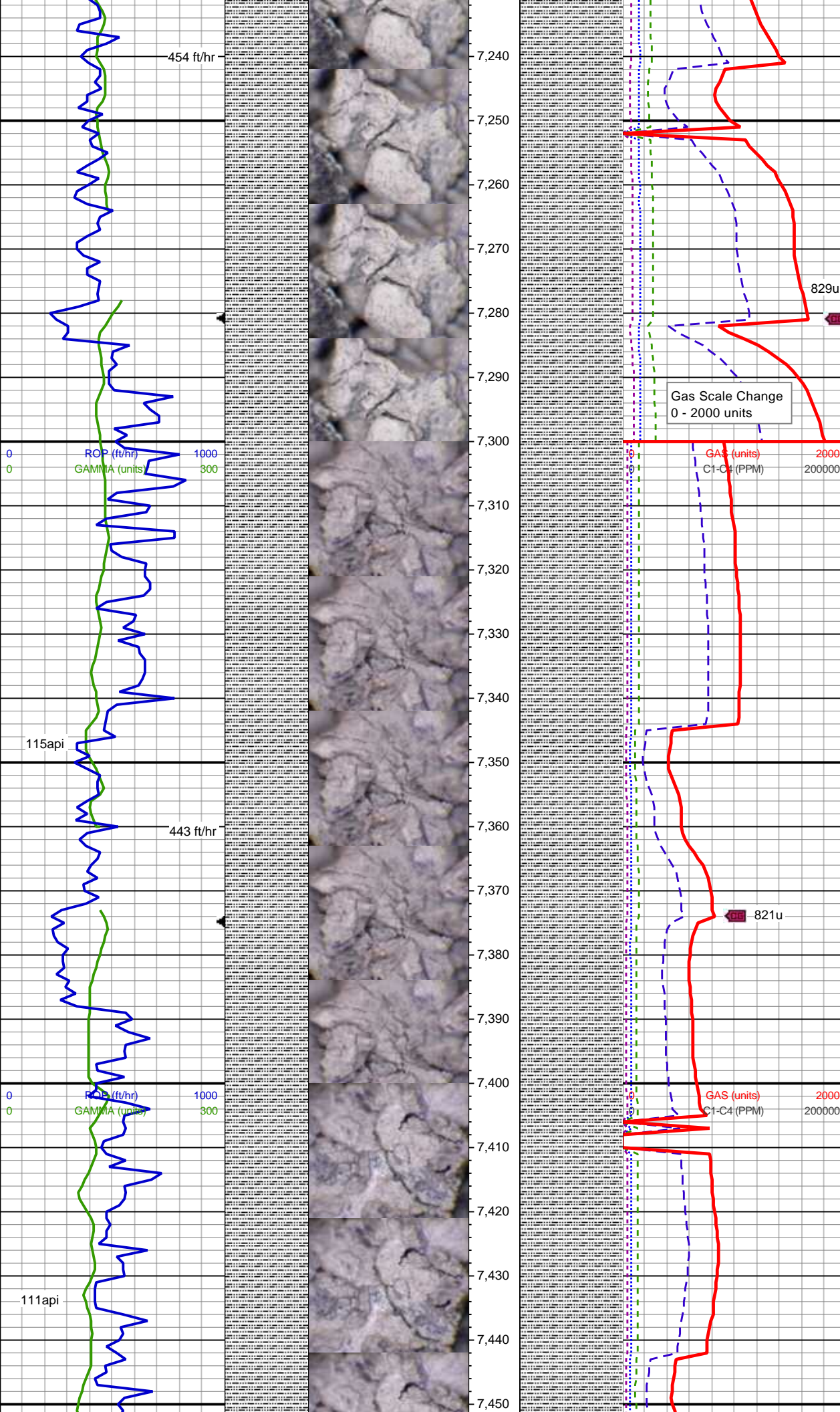
MD: 7,071'
TVD: 6,575.37'
Inclination: 23.58°
Azimuth: 234.18°
VS: 2,172.99'

85% SLTY SH: med-dk gy, sb
blky-sb plty, sl frm, arg, gritty tex,
rthy, sl calc; 15% SHY SLT:
med-dk gy, sb plty-plty, frm, arg
mtx

MD: 7,164'
TVD: 6,660.58'
Inclination: 23.67°
Azimuth: 229.78°
VS: 2,203.13'

95% SLTY SH: med-dk gy, sb
blky-sb plty, sl frm, arg, gritty tex,
rthy, sl calc; 5% SHY SLT: med-dk
gy, sb plty-plty, frm, arg mtx

MW 9.5+ / VIS 52 IN
MW 9.6 / VIS 51 OUT



MD: 7,257'
TVD: 6,745.79'
Inclination: 23.56°
Azimuth: 226.82°
VS: 2,234.61'

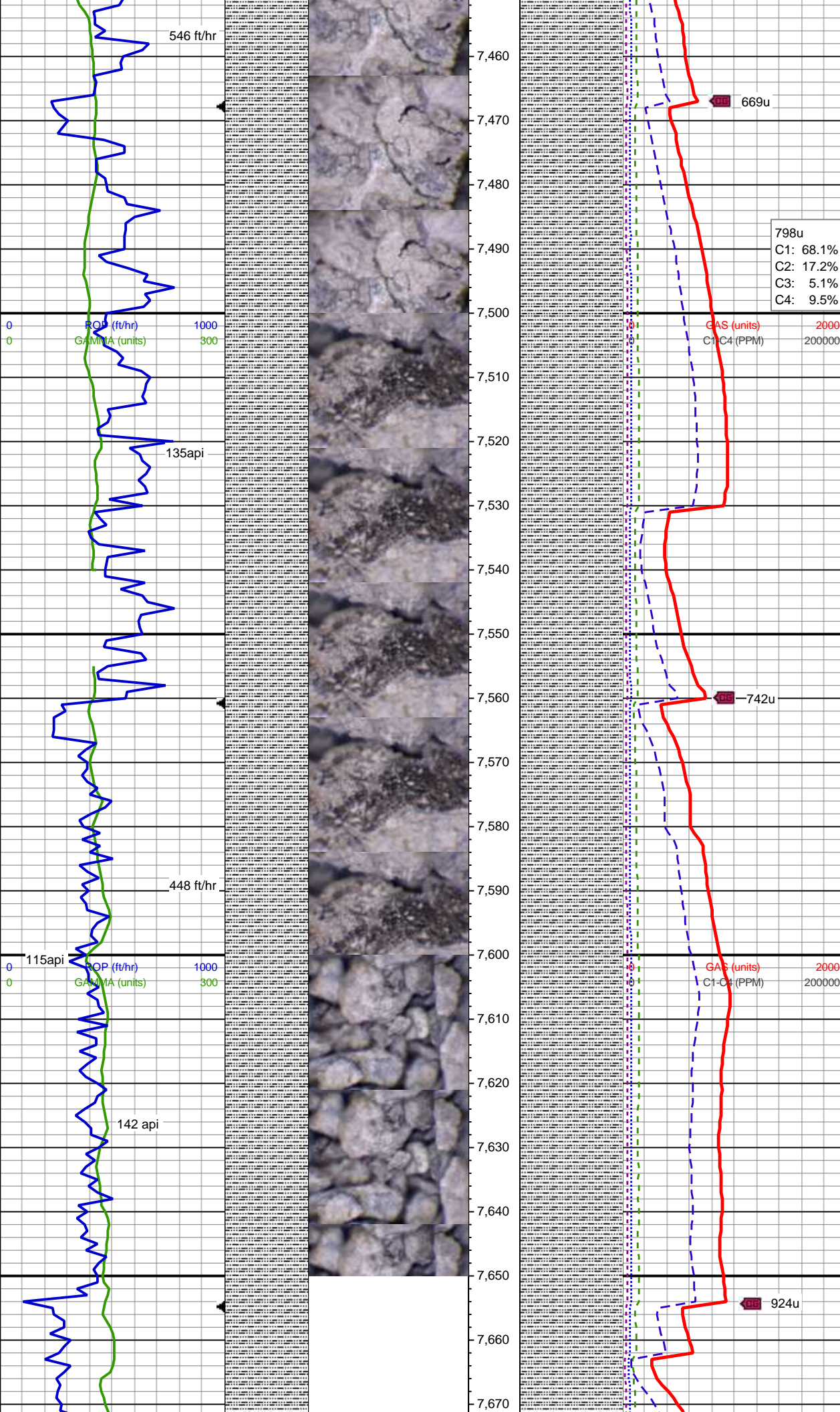
100% SLTY SH: med-dk gy, sb
blky-sb plty, sl frm-occ hd, arg,
gritty tex, rthy, sl calc

MW 9.5 / VIS 50 IN
MW 9.5 / VIS 51 OUT

MD: 7,350'
TVD: 6,831.36'
Inclination: 22.56°
Azimuth: 227.67°
VS: 2,265.75'

100% SLTY SH: med-dk gy, sb
blky-sb plty, sl frm-occ hd, arg,
gritty tex, rthy, sl calc

MD: 7,444'
TVD: 6,917.87'
Inclination: 23.5°
Azimuth: 225.17°
VS: 2,297.46'



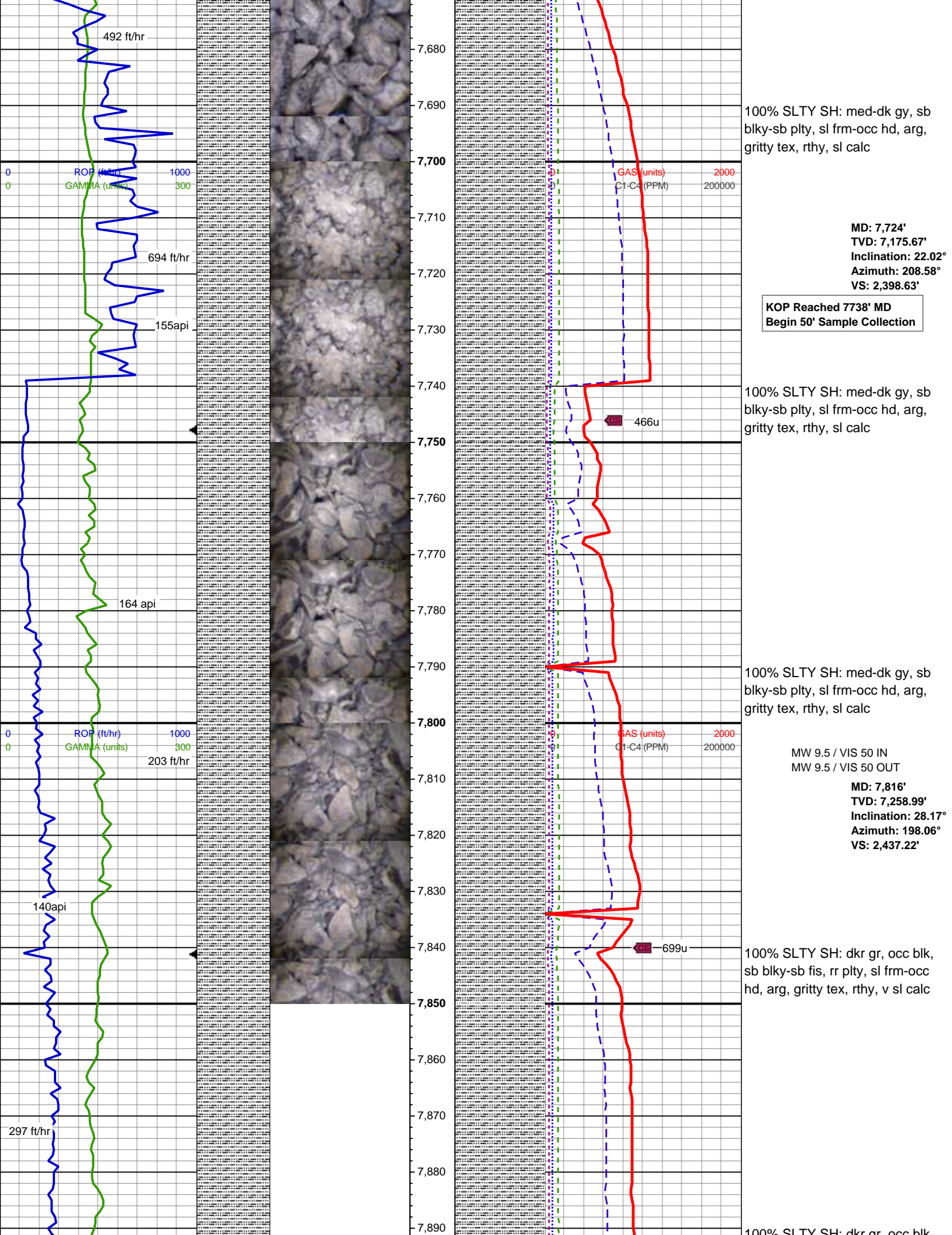
100% SLTY SH: med-dk gy, sb
blky-sb plty, sl frm-occ hd, arg,
gritty tex, rthy, sl calc

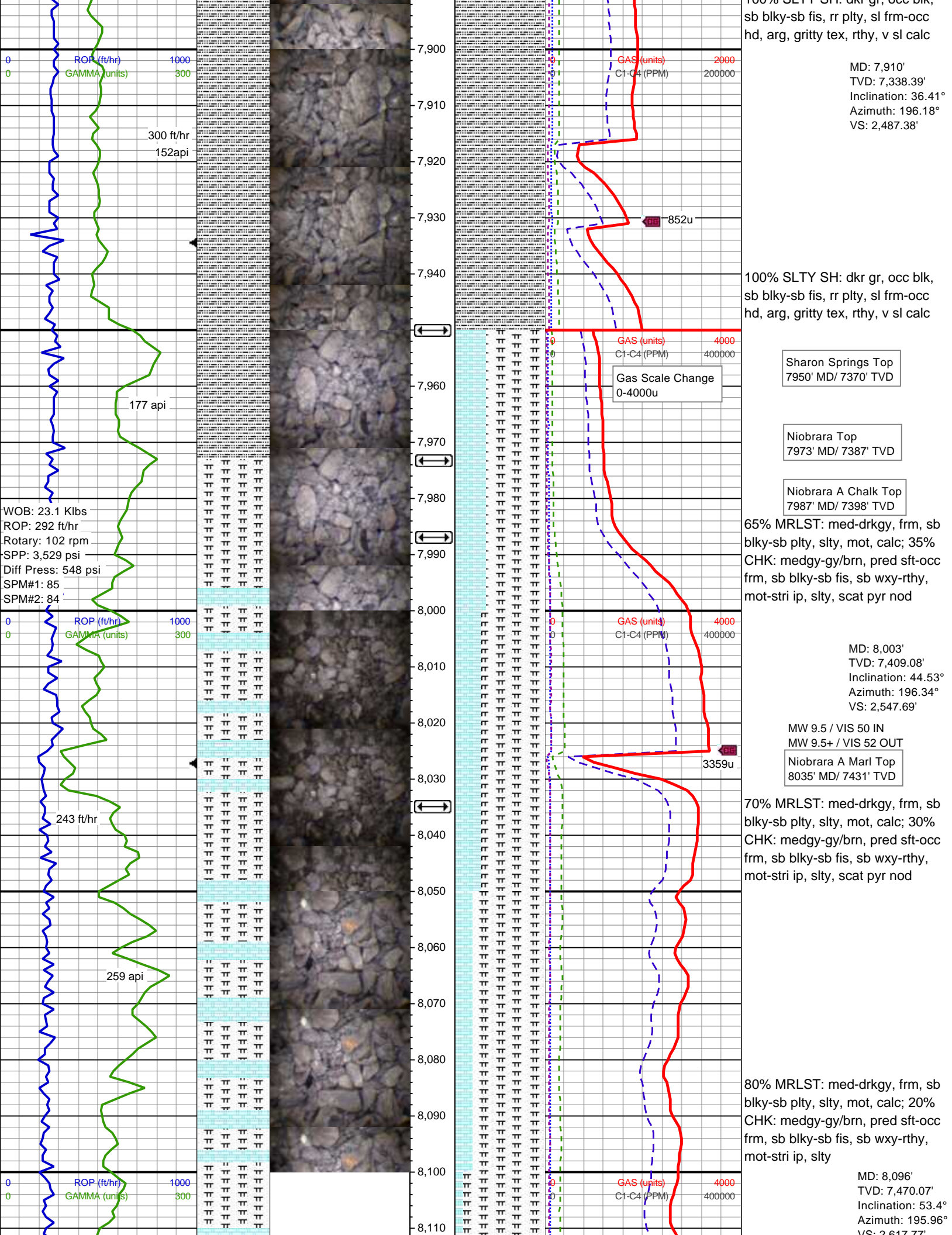
MW 9.5 / VIS 50 IN
MW 9.5 / VIS 51 OUT

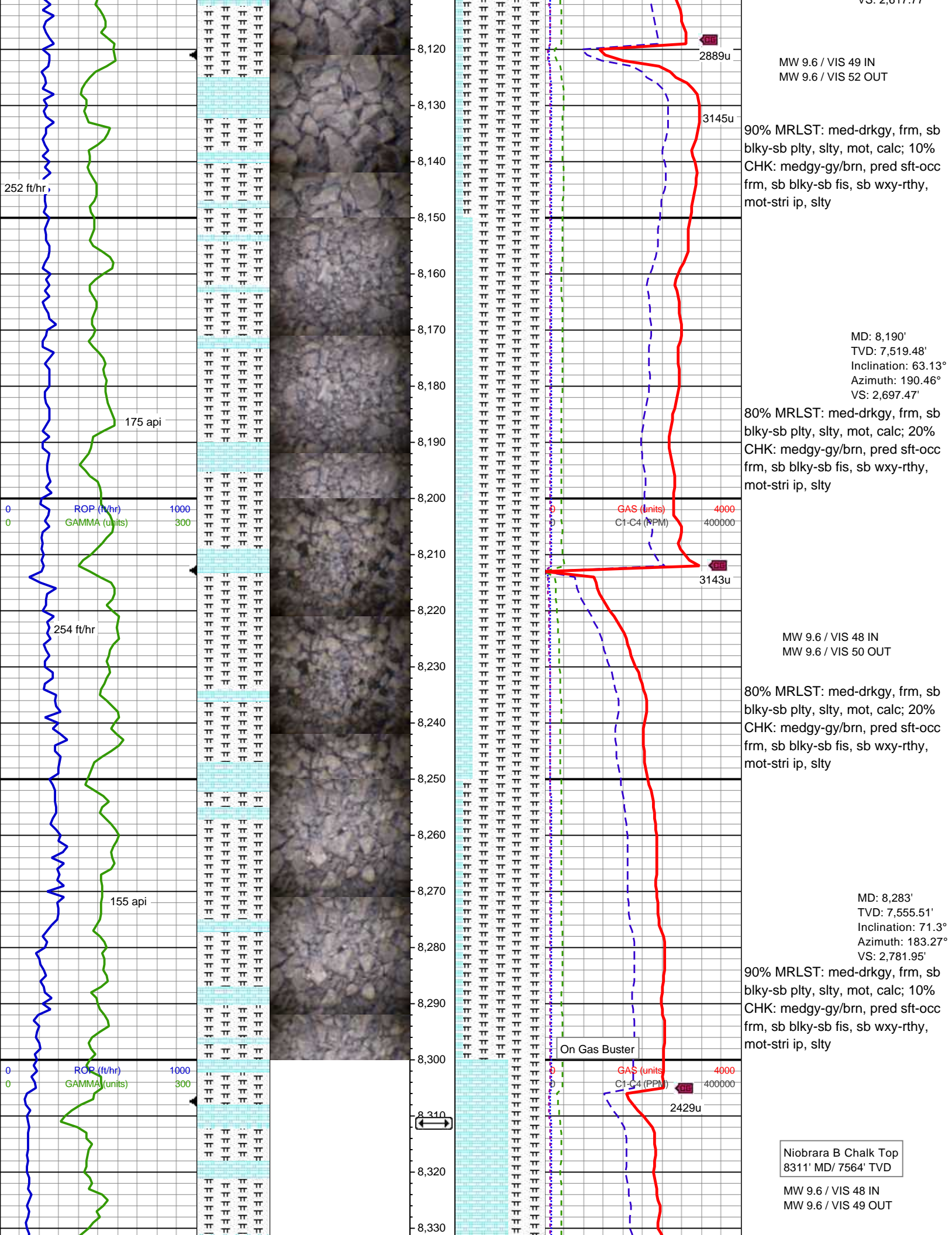
100% SLTY SH: med-dk gy, sb
blky-sb plty, sl frm-occ hd, arg,
gritty tex, rthy, sl calc

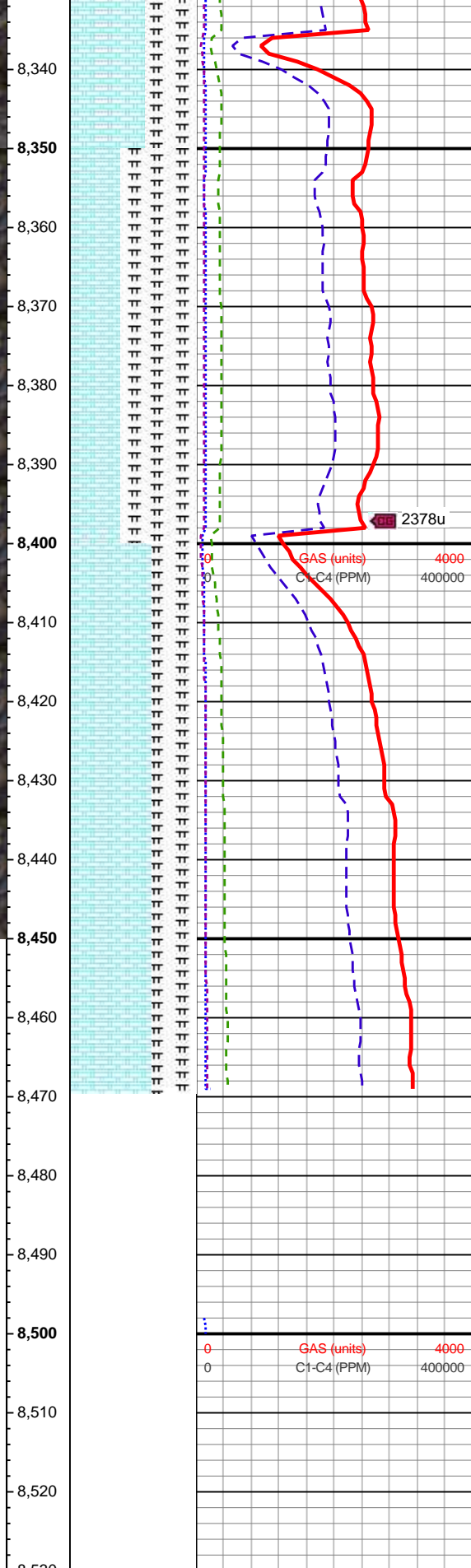
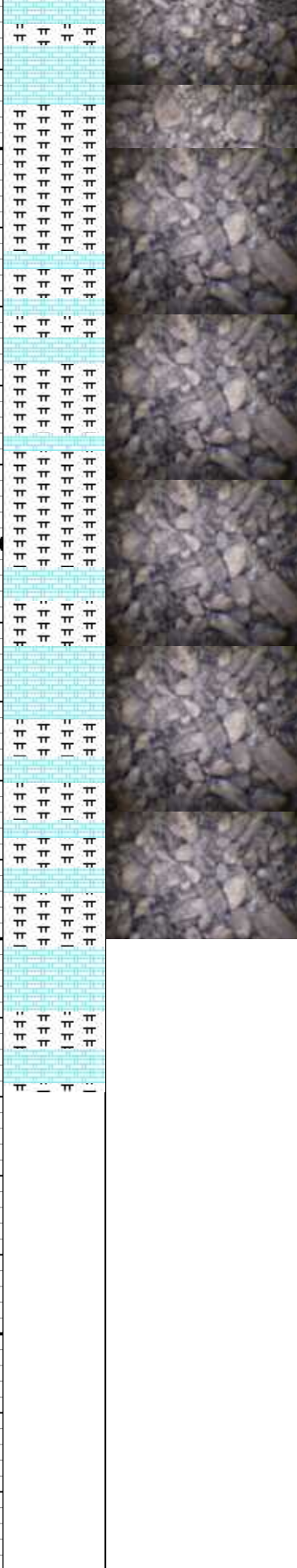
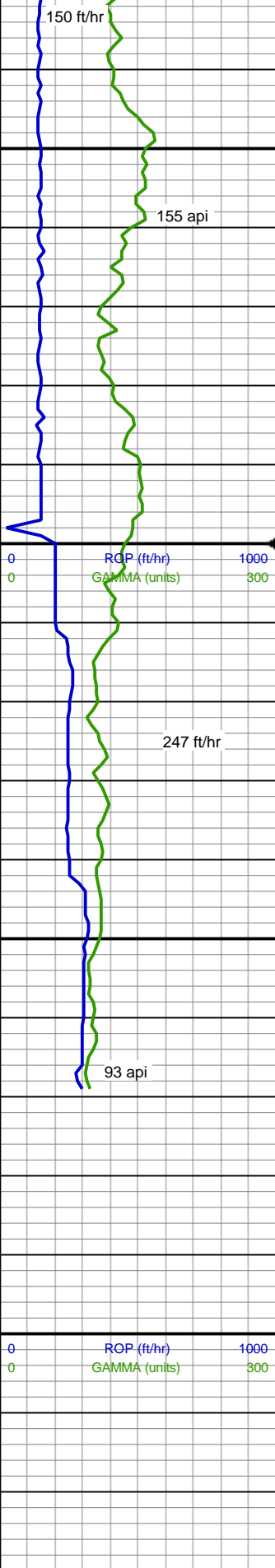
MW 9.4+ / VIS 48 IN
MW 9.4+ / VIS 49 OUT

MD: 7,630'
TVD: 7,088.82'
Inclination: 23.01°
Azimuth: 215.6°
VS: 2,364.12'









60% CHK: medgy-gy/brn, pred sft-occ frm, sb blkgy-sb fis, sb wxy-rthy, mot-stri ip, slty, scat pyr nod; 40% MRLST: med-drkgy, frm, sb blkgy-sb plty, slty, mot, calc

MD: 8,376'
TVD: 7,577.2'
Inclination: 81.69°
Azimuth: 181.77°
VS: 2,869.76'

60% MRLST: med-drkgy, frm, sb blkgy-sb plty, slty, mot, calc; 40% CHK: medgy-gy/brn, pred sft-occ frm, sb blkgy-sb fis, sb wxy-rthy, mot-stri ip, slty

MW 9.6 / VIS 51 IN
MW 9.6 / VIS 51 OUT

65% CHK: medgy-gy/brn, pred sft-occ frm, sb blkgy-sb fis, sb wxy-rthy, mot-stri ip, slty, scat pyr nod; 35% MRLST: med-drkgy, frm, sb blkgy-sb plty, slty, mot, calc

MD: 8,469'
TVD: 7,584.05'
Inclination: 89.85°
Azimuth: 183.07°
VS: 2,959.84'

Landing point reached @ 19:59 MDT, 06/01/2017
Presentation continues on horizontal log
Thank you for using Terra Guidance, LLC!