



Scale: 5" / 100'
Measured Depth Log

Well Name Toews 25-9-4-1 Vertical

Location Langdon

State Kansas

County Reno

Country United States

Rig Duke #20

API Number 15-155-21592

Surface Coordinates N2 N2 NW NW
Section 4
T25S-R9W
150' FNL, 450' FWL

Ground Elevation 1698

K.B. Elevation 1710

Logged Interval 3100

Formation Osage

Operator

Company Dorado E&P Partners, LLC

Address 1401 17th St. Ste. 1500
Denver, CO 80202

Geologist

Name Dave Wheeler

Company Dorado E&P Partners, LLC

1401 17th St. Ste. 1500
Denver, CO 80202

Rock Types

UNKNOWN	DOLOMITE	SHALE GRAY	TILL
ANHYDRITE	CHERT	SHALE COLORED	BENTONITE
GYPSUM	COAL	SILTSTONE	TUFF
SALT	MARLSTONE	SANDSTONE	IGNEOUS
SIDERITE or LIMONITE	CLAYSTONE	CONGLOMERATE	METAMORPHIC
LIMESTONE	SHALE	BRECCIA	

Accessories

Fossils

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

F 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

∩ MOLDIC

- ORGANIC
- PINPOINT
- VUGGY

Engineering

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

Porosity

- E EARTHY
- FENESTRAL
- FRACTURE
- INTERCRYSTALLINE
- INTEROOLITIC

∓ 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

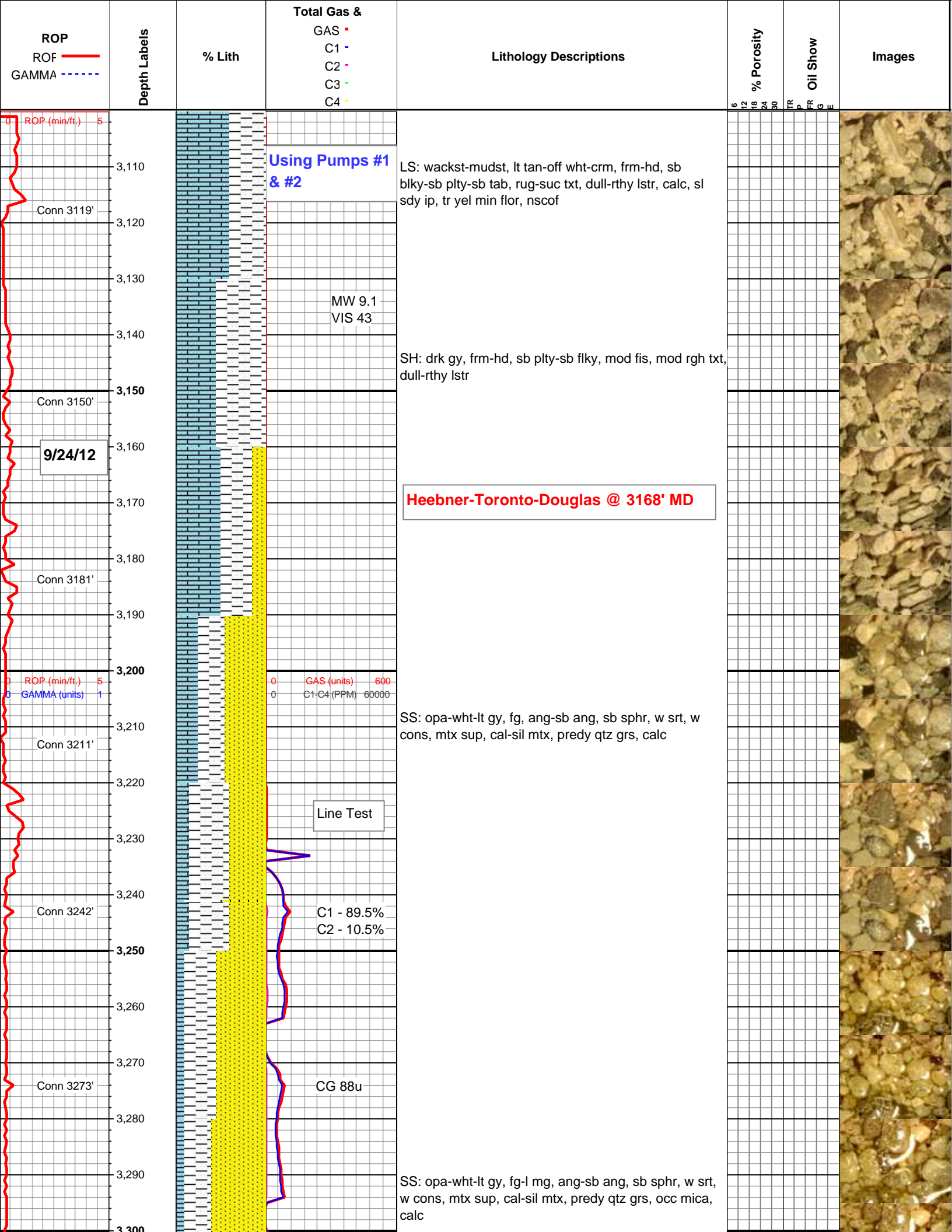
- BOUNDSTONE
- CHALKY
- CRYPTOXLN

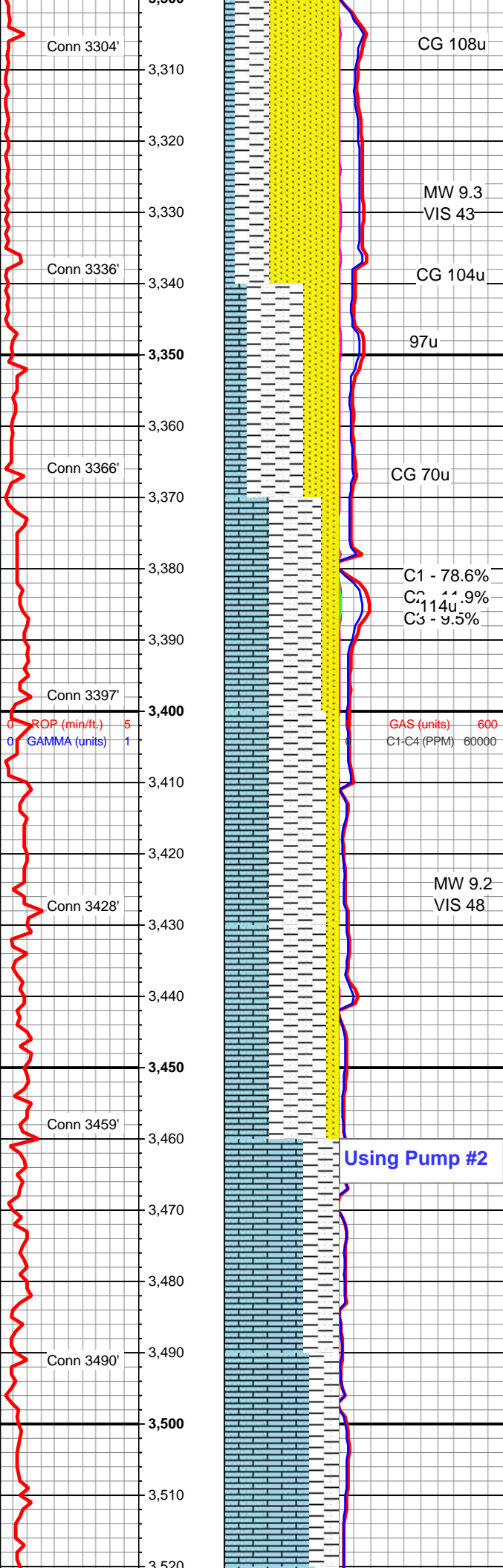
E EARTHY

- FINELYXLN
- GRAINSTONE
- L LITHOGRAPHIC
- MICROXLN
- MUDSTONE
- PACKSTONE
- WACKESTONE

Sorting

- MODERATE
- POOR
- WELL





SH: drk gy-drk tan, frm-mod hd, sb blkly-sb plty-sb tab, sli-mod fis, rgh-mod suc txt, rthy-dull lstr, sdy ip, sme dul yel min flor, nscof

Lansing-Kansas City Top @ 3373' MD

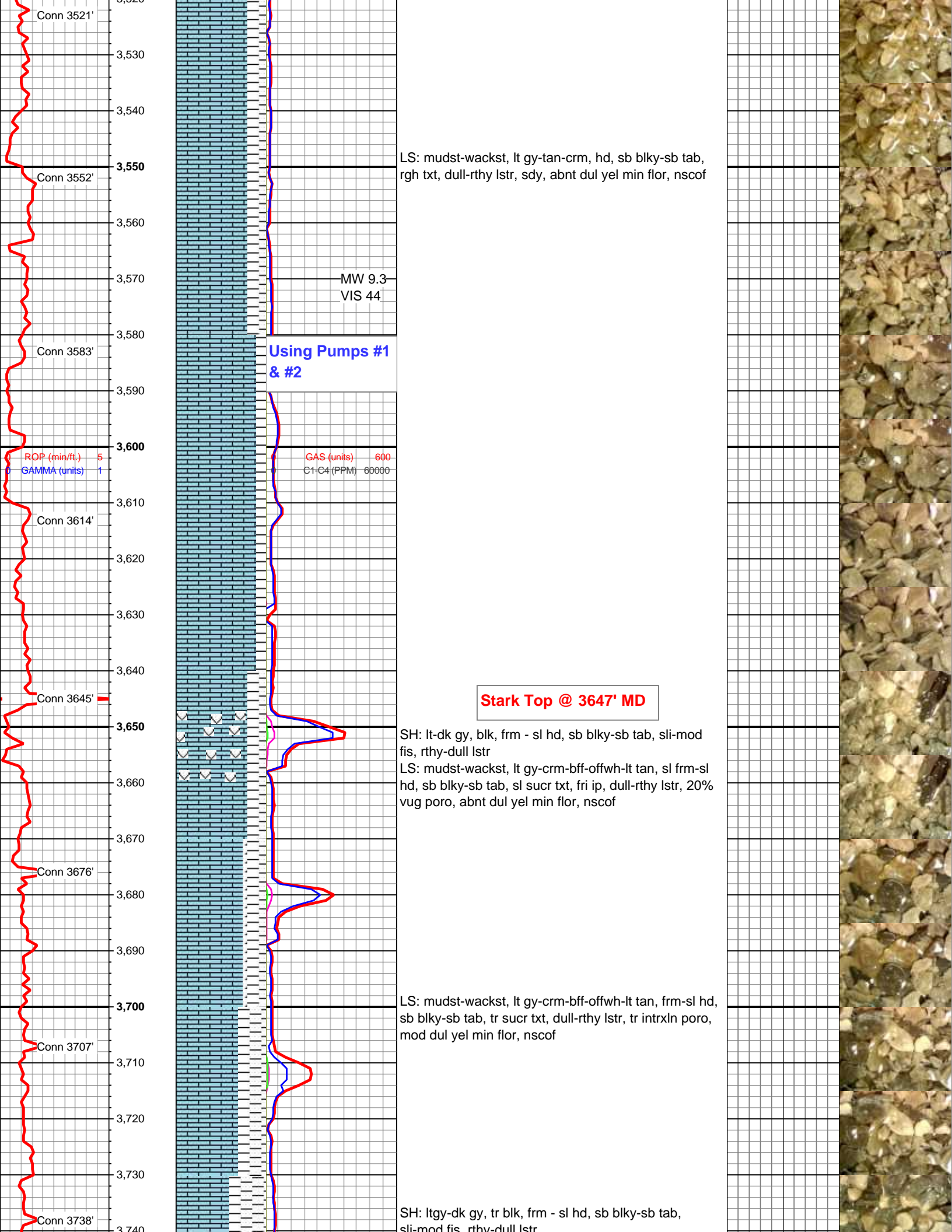
Survey @ 3382' - 0.24°

C1 - 78.6%
C2 - 11.9%
C3 - 9.5%

GAS (units) 600
C1-C4 (PPM) 60000

LS: mudst-wackst, lt gy-tan-crm, hd, sb blkly-sb tab, rgh txt, dull-rthy lstr, sdy, abnt dul yel min flor, nscof





Conn 3521'

3,520

3,530

3,540

Conn 3552'

3,550

3,560

3,570

MW 9.3
VIS 44

Conn 3583'

3,580

3,590

Using Pumps #1
& #2

ROP (min/ft.) 5

GAMMA (units) 1

GAS (units) 600

C1-C4 (PPM) 60000

3,600

3,610

Conn 3614'

3,620

3,630

3,640

Conn 3645'

3,650

Stark Top @ 3647' MD

SH: lt-dk gy, blk, frm - sl hd, sb blk-y-sb tab, sli-mod fis, rthy-dull lstr
 LS: mudst-wackst, lt gy-crm-bff-offwh-lt tan, sl frm-sl hd, sb blk-y-sb tab, sl sucr txt, fri ip, dull-rthy lstr, 20% vug poro, abnt dul yel min flor, nscof

3,660

3,670

Conn 3676'

3,680

3,690

3,700

LS: mudst-wackst, lt gy-crm-bff-offwh-lt tan, frm-sl hd, sb blk-y-sb tab, tr sucr txt, dull-rthy lstr, tr intrxn poro, mod dul yel min flor, nscof

Conn 3707'

3,710

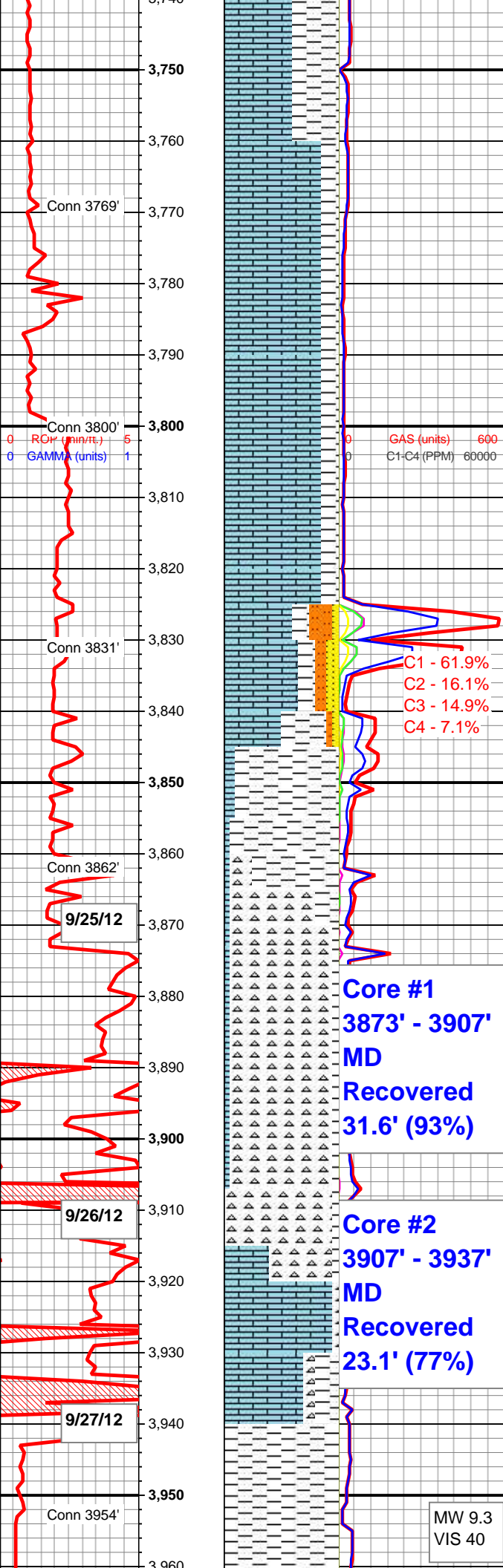
3,720

3,730

Conn 3738'

3,740

SH: ltgy-dk gy, tr blk, frm - sl hd, sb blk-y-sb tab, sli-mod fis, rthy-dull lstr



LS: mudst-wackst, lt gy-crm-bff-offwh-lt tan, frm-sl hd, sb blk-y sb tab, tr sucr txt, dull-rthy lstr, tr intrxn poro, mod dul yel min flor, nscof

Cherokee Top @ 3825' MD

SS: opa-transl, vfn - fg, ang-sb ang, sb sphr, w srt, w cons, mtx sup, cal-sil mtx, predy qtz grs, calc ip, tr intrgrn poro, 55% dl yl fluor, 15% brn - bk stn, pr - fr wet cut, sctd strms, fnt dl yl res

C1 - 61.9%
C2 - 16.1%
C3 - 14.9%
C4 - 7.1%

Osage Top @ 3869' MD

Core #1
3873' - 3907'
MD
Recovered
31.6' (93%)

CHT: WHT-OPA-LT TAN, V HD, SB BLKY-SB TAB-SB FLKY, CRPTXLN, SLI CONCH FRAC, PRLY-WXY LSTR, SM-SL RGH TXT, NON CALC, 30% BRI YEL-WHT MIN FLOR, 20% SLO STRMG VIO-BL CUT FLOR BCMG WHI

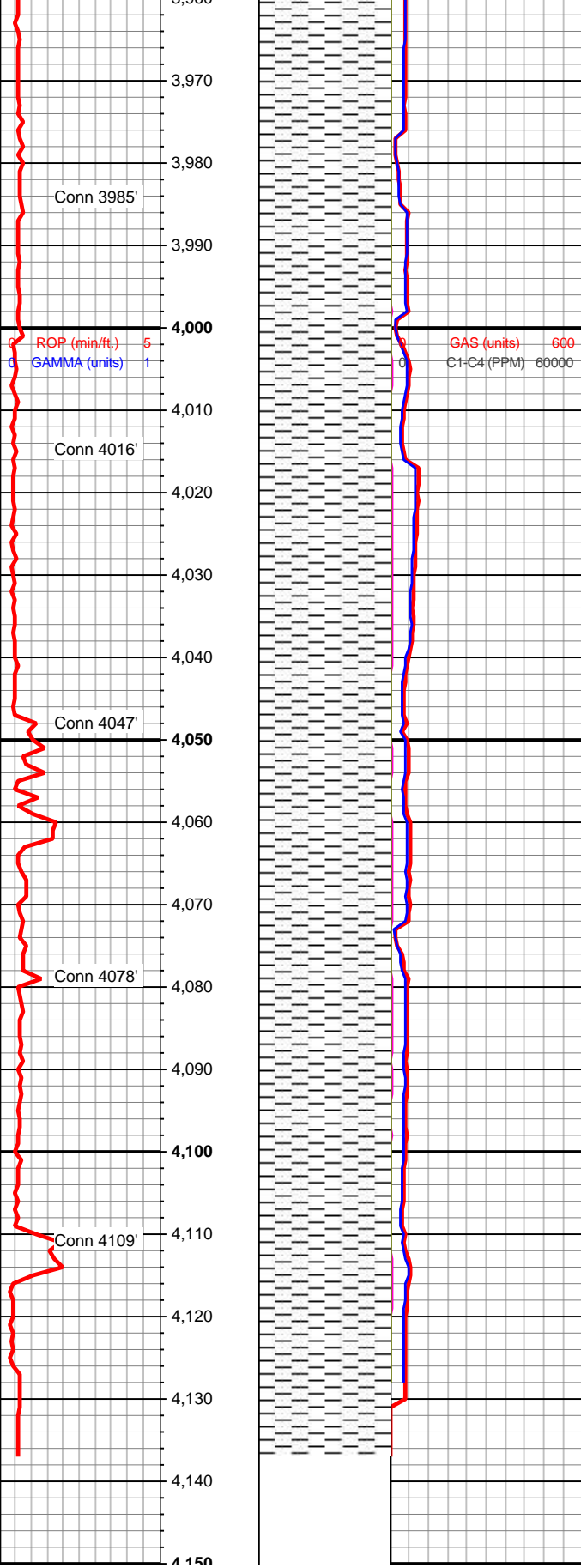
Core #2
3907' - 3937'
MD
Recovered
23.1' (77%)

Osage Base @ 3914' MD

MW 9.3
VIS 40

SH: DRK GY, FRM, SB PLTY-SB TAB-SB FLKY, SL





FIS, SLI SUC-MOD RGHTXT, DUL RTYHY LSTR, SLI CALC

SH: DRK GY, FRM, SB PLTY-SB TAB-SB FLKY, SL FIS, SLI SUC-MOD RGHTXT, DUL RTYHY LSTR, SLI CALC

TD @ 4137' MD
06:00 - 9/27/12

