



TOP EAGLETUSC

SEVERELY RUGOSE
HOLE CONDITIONS
(SONIC DATA INVALID)

CALIPER

TOP "TRADITIONAL" TMS

BIT SIZE

TOP BAIN INTERVAL

BASE TMS / TOP LT

TOP LT "A" SAND

TOP LOWER CRETACEOUS



SILTY / SANDY SHALE
OIL & GAS
RESERVOIR



FISSILE SHALE
OIL & GAS
RESERVOIR



FRAC BARRIER



SILTY SHALE
POTENTIAL SOURCE
OF EXTRANEIOUS
SALT WATER



DURING ROUTINE OVERBALANCED DRILLING WITH WATER-BASED MUD SYSTEMS, THE MICROFRACTURED FISSILE TMS FACIES WASHES OUT IN VERTICAL TMS WELLS, CAUSING CONSIDERABLE HOLE RUGOSITY.

THIS HOLE RUGOSITY NEGATIVELY IMPACTS LOGGING OF THE FISSILE TMS INTERVAL, ESPECIALLY THE ATTEMPTED ACQUISITION OF SONIC AND DENSITY-NEUTRON LOG DATA.

ANY PETROPHYSICAL ANALYSIS OF THE INTERVAL MUST TAKE THIS SIGNIFICANT ISSUE INTO ACCOUNT. THE SEVERITY OF THE ERROR INTRODUCED BY HOLE RUGOSITY SERVES TO INVALIDATE MOST PETROPHYSICAL ANALYSES.