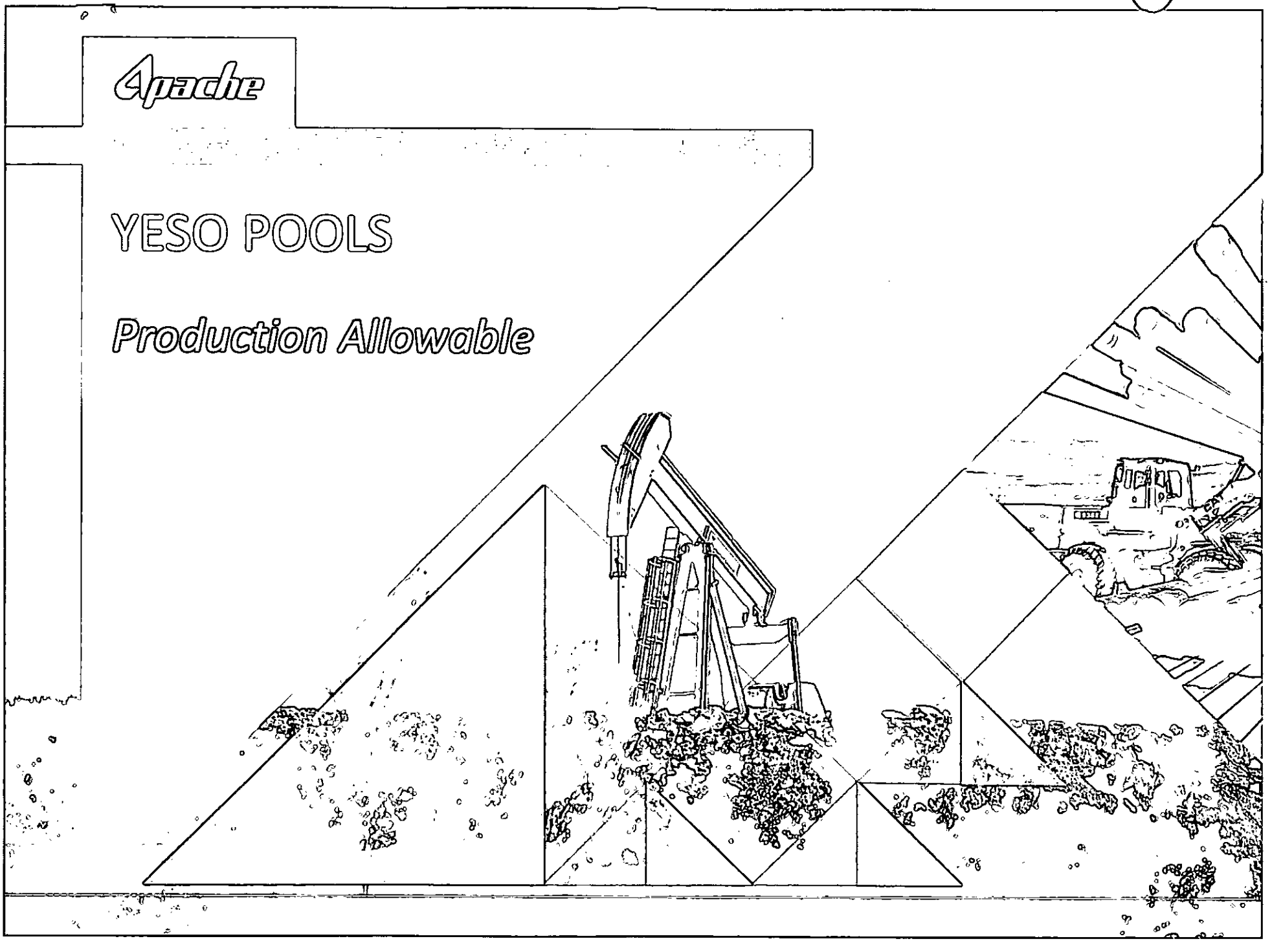
Apache

YESO POOLS

Production Allowable



Findings Order No. R-13382-E: RESERVOIR

(73) The reservoir produces by solution gas drive or dissolved gas drive mechanism. There is no primary or pre-existing gas cap; further, upon depletion, there is no secondary or developed gas cap. As a result, there is no segregation or gravity drainage in this reservoir. In this type of solution gas drive or dissolved gas drive reservoir, the available predominant energy is the expansion of the solution gas, probably aided initially by connate water expansion or pore volume contraction. Without gravity drainage, typical primary recovery range by solution gas drive mechanism of this type is between ten (10%) to twenty-five (25%) percent of the original oil in place (OOIP) by pressure depletion.

(74) The reservoir pressure is very close to or at the bubble point pressure in the area covered by these pools. The solution gas drive mechanism applies once the pressure falls below the bubble point pressure.

(76) In these low permeability solution gas drive reservoirs without gravity drainage, high production rate does not affect ultimate recovery. High production rate does not damage or harm the reservoir. On the other hand, lower production rates will result in lower ultimate recoveries. At lower production rate, gas migrates rapidly out of solution resulting in rapid dissipation of reservoir energy.

(77) Since rate of withdrawal or rate of oil production in this type of solution gas drive reservoir does not harm or damage the reservoir, it is then very beneficial to employ production schemes or practices that will recover more oil than gas. At lower production rates, the producing gas-oil ratio rises much more rapidly. At the same time, any production scheme that allows unlimited gas-oil ratio will result in lower ultimate oil recovery.

EXHIBIT
Apache 11

Apache