

Rock Queen Unit CO2 Pilot--Application for EOR Project Involving Use of CO2 Miscible Displacement Production History and CO2 Project Forecast

- The original Pilot Area was developed as part of the Rock Queen Unit in the mid- to late-1950's when 124 wells were drilled on the Unit's 4940 acres. Wells were drilled on 40-acre spacing.
- Primary production in the Pilot Area peaked in October, 1956, at 1743 BOPD. Production was at a low GOR and gas was eventually vented after August, 1962.
- Production was water-free until waterflood operations were started in 1960. Estimated Primary Recovery is 9% OOIP.
- The Pilot Area was put on a conventional 5-spot, 80-acre pattern by converting one-half of the wells to injection. Injection peaked in August, 1962, at 6886 BWPD until Celero purchased the property after which injection again peaked in October, 2008, at 7474 BWPD.
- Peak waterflood response occurred in May, 1964, at 3347 BOPD with 3045 BWPD. Peak water production occurred in March, 1967, at 6953 BWPD until Celero began returning wells to production when water again peaked in October, 2008, at 13242 BWPD.
- Production continued to decline and the area became marginal by the mid-1970's. From that time to the mid-1980's, 21 wells were plugged in the Rock Queen Unit. Celero plugged 5 additional wells in the Unit since taking over operations.
- Secondary Recovery is estimated at 28% OOIP; total primary and secondary recovery is 37% OOIP. Secondary/Primary ratio is 3.0.
- The Rock Queen Unit has had numerous operators throughout its life. Celero purchased the property in June, 2007, specifically for the purpose of developing the Unit using CO2 miscible displacement.
- Estimated recovery from miscible CO2 is 2.1 MMBO, approximately 9% OOIP. CO2 recovery/secondary recovery ratio is 0.33.
- Purchased CO2 is estimated at 10.7 BCF; produced CO2 will be re-injected. Total CO2 injection is 41 BCF; CO2 utilization is roughly 20 MCF/STB.
- Anticipated date of first injection is January, 2011. Peak oil response is estimated at 708 BOPD.