Justification for Allocation of Future Production

Stonewall EP State No.1, F-30-20s-28E, Eddy Co.

Morrow Completion, Pfs 11250-11258 KB

Cum. Prod. 1,595,072 mcf + 15,181 BO; $g = 0.636$, $P_c = 673$, $T_c = 368°R$

Orig. BHP: 4698.2 psia; $P_{r_o} = 6.98$, $T_{r_o} = 1.79$, $Z_o = 0.985$

Pres. BHP: 1433.2 psia; $P_{r_1} = 2.13$, $T_{r_1} = 1.79$, $Z_1 = 0.9125$

then orig $\frac{P}{Z_o} = \frac{4698.2}{.985} = 4769.7$ psia; pres. $\frac{P}{Z_1} = \frac{1433.2}{.9125} = 1570.6$ psia.

Abandonment Pressure assumed @ 286.2 psia;

$P_{r_a} = .425$, $T_{r_a} = 1.79$, then $Z_a = .9785$ and $\frac{P_a}{Z_a} = \frac{286.2}{.9785} = 292.5$ psia

Remaining Recoverable Gas Reserves =

$$\frac{\frac{P}{Z_1} - \frac{P_a}{Z_a}}{\frac{P_o}{Z_o} - \frac{P_1}{Z_o}} \times \text{cum. prod} = \frac{1570.6 - 292.5}{4769.7 - 1570.6} \times 1,595,072$$

$$= 637260 \text{ mcf.}$$

Remaining Recoverable Oil Reserves $= \frac{1}{2}\left(\frac{15181}{1595072}\right)637260 = 3032$ BO.

Wolfcamp Completion; Pfs 8880-8908 KB

Cum. Prod. 170,275 mcf + 10050 BO; $g = 0.686$, $P_c = 672.5$, $T_c = 386°R$

Orig. BHP: 4205.2 psia; $P_{r_o} = 6.25$, $T_{r_o} = 1.565$, then $Z_o = 0.894$

Pres. BHP: 1634.2 psia; $P_{r_1} = 2.43$, $T_{r_1} = 1.565$, then $Z_1 = 0.825$

then orig. $\frac{P}{Z_o} = \frac{4205.2}{.894} = 4703.8$ psia; and pres. $\frac{P}{Z_1} = \frac{1634.2}{.825} = 1980.8$ psia

Abandonment Pressure assumed @ 286.2 psia;

$P_{r_a} = .425$, $T_{r_a} = 1.565$, then $Z_a = 0.9625$ and $\frac{P_a}{Z_a} = \frac{286.2}{.9625} = 297.4$ psia.

Remaining Recoverable Gas Reserves =

$$\frac{1980.8 - 297.4}{4703.8 - 1980.8} \times 170275$$

$$= 105270 \text{ mcf}$$

Remaining Recoverable Oil Reserves $= \frac{1}{2}\left(\frac{10050}{170275}\right)105270 = 3106$ BO.

Allocation of future Production:

Burton Flat Morrow: Gas - 637260 mcf = 86% Oil - 3032 bbl = 49%

N. Burton Flat Wolfcamp: Gas - 105270 mcf = 14% Oil - 3106 bbl = 51%

742530 mcf 6138 bbl

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