

AVERAGE DRAINAGE AREA CALCULATION

Baldrige Canyon Morrow

$$G_p = 43560 \times \emptyset \times h \times A \times (1-S_w) \times (B_{gi}-B_{ga})$$

$$A = \frac{G_p}{43560 \times \emptyset \times h \times (1-S_w) \times (B_{gi}-B_{ga})}$$

Average values for Baldrige Canyon Wells:

$$G_p = 1,450,000,000 \text{ scf (through 12/88)}$$

$$\emptyset = 8.3\%$$

$$h = 9.5 \text{ ft.}$$

$$S_w = 25\%$$

$$B_{gi} = 35.35 \frac{P_i}{z T} = 35.35 \frac{4248 \text{ psi}}{0.96 \times 642^\circ R}$$

$$B_{gi} = 244 \text{ scf/ft.}^3$$

$$B_{ga} = 35.35 \frac{P_a}{z T} = 35.35 \frac{1000 \text{ psi}}{0.93 \times 642^\circ R}$$

$$B_{ga} = 59.2 \text{ scf/ft.}^3$$

$$A = \frac{1,450,000,000}{43560 \times .083 \times 9.5 \times (1-.25) \times (244-59.2)}$$

$$A = 305 \text{ acres}$$

Exxon Corporation
Exhibit No. 11
Case No. 9832, 9797
November 29, 1989

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Average values for Rock Tank (Upper Morrow) wells:

$$G_p = 1,640,000,000 \text{ (through 12/88)}$$

$$\emptyset = 11\%$$

$$h = 9 \text{ ft.}$$

$$S_w = 25\%$$

$$B_{gi} = 35.35 \frac{3932}{.94 \times 642^{\circ}R}$$

$$B_{gi} = 230 \text{ scf/ft}^3$$

$$B_{gi} = 59.2 \text{ scf/ft}^3$$

$$A = \frac{1,640,000,000}{43560 \times .11 \times 9 \times (1-.25) \times (230-59.2)}$$

$$A = 297 \text{ acres}$$

Average values for Rock Tank (Lower Morrow) wells:

$$G_p = 5,900,000,000 \text{ scf (through 12/88)}$$

$$\emptyset = 9\%$$

$$h = 22 \text{ ft.}$$

$$S_w = 25\%$$

$$B_{gi} = 35.35 \frac{P_i}{z T} = 35.35 \frac{4273}{0.96 \times 642^{\circ}R}$$

$$B_{gi} = 245 \text{ scf/ft}^3$$

$$B_{ga} = 59.2 \text{ scf/ft}^3$$

$$A = \frac{5,900,000,000}{43560 \times .09 \times 22 \times (1-.25) \times (245-59.2)}$$

$$A = 491 \text{ acres}$$

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