# C M MORRIS 100

## MONTHLY GAS PRODUCTION ALLOCATION FORMULA

### GENERAL EQUATION

**Qt = Qftc + Qpc**

WHERE: Qt = TOTAL MONTHLY PRODUCTION (MCF/MONTH)

**Qftc = FRUITLAND COAL (ftc) MONTHLY PRODUCTION**
**Qpc = PICTURED CLIFFS (pc) MONTHLY PRODUCTION (MCF/MONTH)**

REARRANGING THE EQUATION TO SOLVE FOR Qftc:

**Qftc = Qt - Qpc**

**ANY PRODUCTION RATE OVER WHAT IS CALCULATED FOR THE PICTURED CLIFFS (PC) USING THE APPLIED FORMULA IS FRUITLAND COAL (FTC) PRODUCTION.**

PICTURED CLIFFS (PC) FORMATION PRODUCTION FORMULA IS:

**Qpc = Qpci X e^{-(Dpc) X (t)}**

WHERE: **Qpci** = INITIAL PC MONTHLY FLOW RATE (OBTAINED FROM C M MORRIS #1 PRODUCTION HISTORY)

**Qpci** = 1521 MCF//MONTH

**Dpc** = PICTURED CLIFFS MONTHLY DECLINE RATE CALCULATED FROM DECLINE CURVE AND MATERIAL BALANCE ANALYSIS.

**Dpc** 0.0329 / YR = .00274 / MONTH

WHERE: **Np(pc)** = PICTURED CLIFFS ESTIMATED ULTIMATE RECOVERY (EUR)

**Np(pc)** = DETERMINED FROM MATERIAL BALANCE CALCULATIONS OBTAINED FROM THE C M MORRIS #1 (PC) WELLBORE PREVIOUSLY LOCATED IN THE SAME 1/4 SECTION (REMAINING RESERVES = 436.794 MMCF).

THUS: **Qftc = Qt - Qpci X e^{-(.00274) X (t)}**
WHERE: **(t) IS IN MONTHS**

REFERENCE: Thompson, R. S., and Wright, J. D., "Oil Property Evaluation", pages 5-2, 5-3, 5-4.