McGRATH #3

NW/SE 3-29N-12W

MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL EQUATION

$$Qt = Qftc + Qpc$$

WHERE:
- **Qt** = Total Monthly Production (Mcf / Month)
- **Qftc** = Fruitland Coal (ftc) Monthly Production (Mcf / Month)
- **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 (Qpc), Using the Applied Formula is Fruitland Coal Production (Qftc).

The Pictured Cliffs (Qpc) Formation Production Formula is:

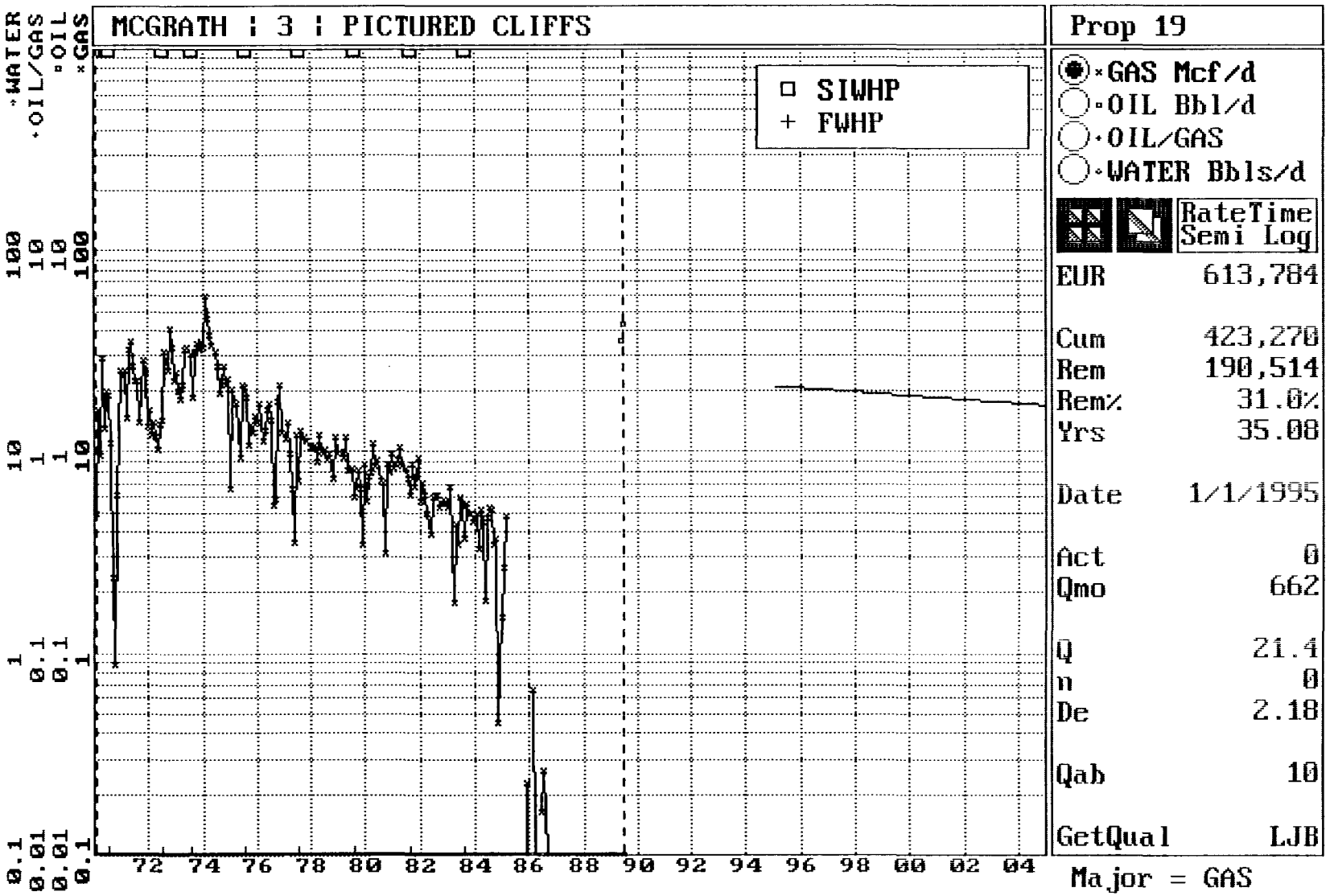
$$Qpc = Qpci \times e^{-(Dpc) \times (t)}$$

WHERE:
- **Qpci** = Pictured Cliffs Initial Monthly Rate = **662 Mcf/M** (Determined from the attached decline curve)
- **Dpc** = Pictured Cliffs Monthly Decline Rate Calculated from Decline Curve and Material Balance Analysis:
- **Dpc** = **(0.0018/M)**

THUS: **Qftc** = **Qt - Qpci X e^{-(0.0018) X (t)}**

NOTE: **(t)** is in Months

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


MCGRATH : 3 : PICTURED CLIFFS
SIWHP
FWHP
*WATER
*OIL/GAS
*OIL
*GAS
72 74 76 78 80 82 84 86 88 90 92 94 96 98 00 02 04
Prop 19
*GAS Mcf/d
*OIL Bbl/d
*OIL/GAS
*WATER Bbls/d
RateTime
Semi Log
EUR 613,784
Cum 423,270
Rem 190,514
Rem% 31.0%
Yrs 35.08
Date 1/1/1995
Act 0
Qmo 662
Q 21.4
n 0
De 2.18
Qab 10
GetQual LJB
Major = GAS