MURPHY B #1

SE/SW 25-30N-11W

MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL EQUATION

$$\mathbf{Qt = Qftc + Qpc}$$

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**:

$$\mathbf{Qftc = Qt - Qpc}$$

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:

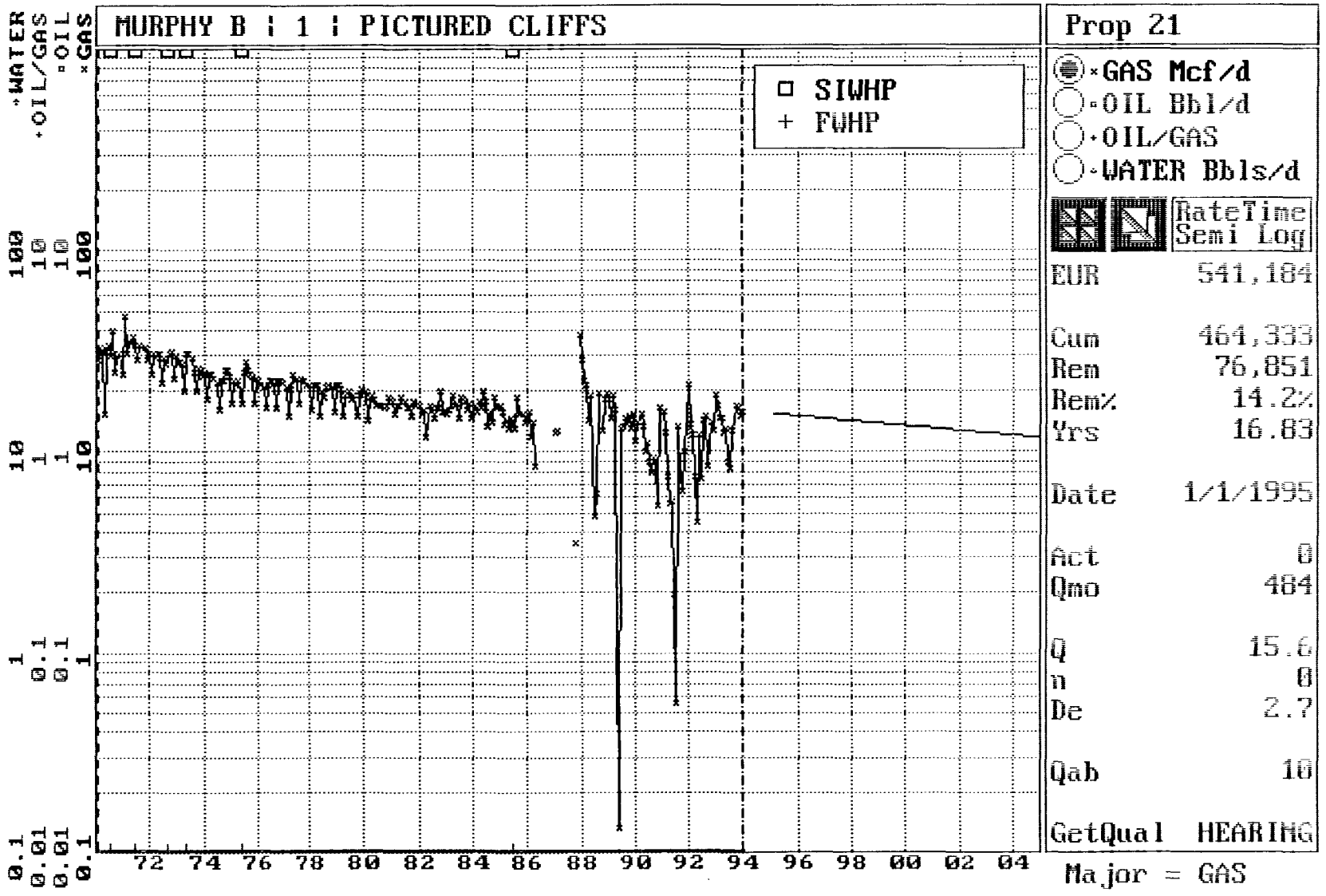
$$\mathbf{Qpc = Qpci \ X \ e^{-(Dpc) \ X \ (t)}}$$

WHERE:
- **Qpci** = Pictured Cliffs Initial Monthly Rate = **484 Mcf/M** (Determined from the attached decline curve)
- **Dpc** = Pictured Cliffs Monthly Decline Rate Calculated from Decline Curve and Material Balance Analysis:
- **Dpc** = **(0.0023/M)**

THUS: **Qftc = Qt - Qpci X e^{-(0.0023) 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.


MURPHY B ¦ 1 ¦ PICTURED CLIFFS
Prop 21
SIWHP
FWHP
GAS Mcf/d
OIL Bbl/d
OIL/GAS
WATER Bbls/d
RateTime
Semi Log
EUR 541,184
Cum 464,333
Rem 76,851
Rem% 14.2%
Yrs 16.83
Date 1/1/1995
Act 0
Qmo 484
Q 15.6
n 0
De 2.7
Qab 10
GetQual HEARING
Major = GAS
WATER
OIL/GAS
OIL
GAS
72 74 76 78 80 82 84 86 88 90 92 94 96 98 00 02 04