

ORIGINAL OIL IN PLACE CALCULATIONS

CROSSROADS, SOUTH FIELD

DATA:

PRODUCTIVE ACREAGE (A) =	600 ACRES
AVERAGE POROSITY (ϕ) =	10 %
AVG. WATER SATURATION (S_w) =	25 %
NET PAY THICKNESS (H) =	25 FT
OIL FORMATION VOLUME FACTOR (B_o) =	1.27 RB/STB

$$OOIP = (7758 * H * A * \phi * (1 - S_w)) / B_o$$

$$OOIP = 6,872,244 \text{ STB}$$

$$\text{TOTAL FIELD RECOVERY} = 3,051,000 \text{ STB}$$

$$\text{RECOVERY FACTOR} = 44.40\%$$

BOUGH FIELD

DATA:

PRODUCTIVE ACREAGE (A) =	300 ACRES
AVERAGE POROSITY (ϕ) =	6 %
AVG. WATER SATURATION (S_w) =	26 %
NET PAY THICKNESS (H) =	118 FT
OIL FORMATION VOLUME FACTOR (B_o) =	1.25 RB/STB

$$OOIP = (7758 * H * A * \phi * (1 - S_w)) / B_o$$

$$OOIP = 9,754,971 \text{ STB}$$

$$\text{TOTAL FIELD RECOVERY} = 3,758,000 \text{ STB}$$

$$\text{RECOVERY FACTOR} = 38.52\%$$

MARALO

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ORIGINAL OIL IN PLACE CALCULATIONS

BARNES AREA FIELD

DATA:

PRODUCTIVE ACREAGE (A) =	288 ACRES
AVERAGE POROSITY (ϕ) =	6 %
AVG. WATER SATURATION (S_w) =	25 %
NET PAY THICKNESS (H) =	28 FT
OIL FORMATION VOLUME FACTOR (B_o) =	1.25 RB/STB

$$OOIP = (7758 * H * A * \phi * (1 - S_w)) / B_o$$

$$OOIP = 2,252,178 \text{ STB}$$

$$\text{EST. ULT. FIELD RECOVERY} = 945,915 \text{ STB}$$

$$\text{RECOVERY FACTOR} = 42.00\%$$

ORIGINAL OIL IN PLACE CALCULATIONS

BARNES "20" #1 PRORATION UNIT

DATA:

PRODUCTIVE ACREAGE (A) =	40 ACRES
AVERAGE POROSITY (ϕ) =	6 %
AVG. WATER SATURATION (S_w) =	25 %
NET PAY THICKNESS (H) =	10 FT
OIL FORMATION VOLUME FACTOR (B_o) =	1.25 RB/STB

$$OOIP = (7758 * H * A * \phi * (1 - S_w)) / B_o$$

$$OOIP = \underline{\underline{111,715 \text{ STB}}}$$

$$EST. \text{ ULT. RECOVERY} = \underline{\underline{46,920 \text{ STB}}}$$

$$RECOVERY \text{ FACTOR} = \underline{\underline{42.00\%}}$$

BARNES "20" #1 PRORATION UNIT

DATA:

PRODUCTIVE ACREAGE (A) =	80 ACRES
AVERAGE POROSITY (ϕ) =	6 %
AVG. WATER SATURATION (S_w) =	25 %
NET PAY THICKNESS (H) =	13 FT
OIL FORMATION VOLUME FACTOR (B_o) =	1.25 RB/STB

$$OOIP = (7758 * H * A * \phi * (1 - S_w)) / B_o$$

$$OOIP = \underline{\underline{290,460 \text{ STB}}}$$

$$EST. \text{ ULT. RECOVERY} = \underline{\underline{121,993 \text{ STB}}}$$

$$RECOVERY \text{ FACTOR} = \underline{\underline{42.00\%}}$$

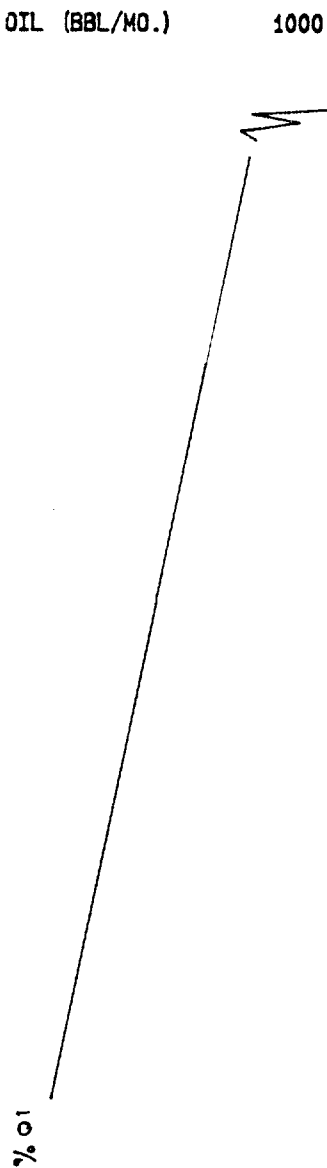
Date: 02/03/93
Time: 15:21.31

PRODUCTION HISTORY

File: TEST.DSF
Get#: 7
BARNES ST "20" #1

LEA COUNTY, NM
MARALO INC

CUM OIL - 8353. CUM GAS -



MARALO	
1067D	7

1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
YEARS

DECLINE CURVE ANALYSIS
BARNES "20" #1

$$\text{REMAINING RECOVERY}(N) = (\text{INITIAL RATE} - \text{FINAL RATE})365/-\text{LN}(1-\text{AY})$$

WHERE AY IS THE EXPONENTIAL DECLINE RATE

$$N = (28 - 5)365/-\text{LN}(1-.10)$$

$$N = 79,679 \text{ STB}$$

$$\text{ULTIMATE RECOVERY} = 79,679 + 6,353$$

$$\text{ULTIMATE RECOVERY} = \frac{86,032 \text{ STB}}{\text{-----}}$$