

SE/4 Section 2 T31N R14W

Current Producing Morrison Wells

Well	10/00 CUM (mmcf)	Decline EUR (mmcf)
Ute Indians A #27-Case #1	680	1,230
Ute Indians A #27-Case #2	680	810

Recoverable Gas In Place (RGIP)

Sand	GIP (mmcf)	RGIP (mmcf)
3rd Morrison	1,675	1,472

Estimation of Remaining Recoverable Gas

Case #1	(mmcf)
Calculated RGIP from Net Sand Isopach	1,472
Less Decline EUR Current Producers	1,230
Estimated Remaining Recoverable Gas	242

Case #2	(mmcf)
Calculated RGIP from Net Sand Isopach	1,472
Less Decline EUR Current Producers	810
Estimated Remaining Recoverable Gas	662

OIL CONSERVATION DIVISION

CASE NUMBER _____

EXHIBIT 8

Cross Timbers Oil Company

Remaining Reserve Estimation - Case #1

Oct-00 21,000 MCFM Start Rate
85 % Decline

550 MMCF Remaining
680 MMCF as of 10/00
1,230 MMCF EUR

UTE INDIANS A 27

CROSS TIMBERS
UTE DOME (MORRISON)
SAN JUAN, NEW MEXICO
21 31N 14W
BGV

BASE
506215

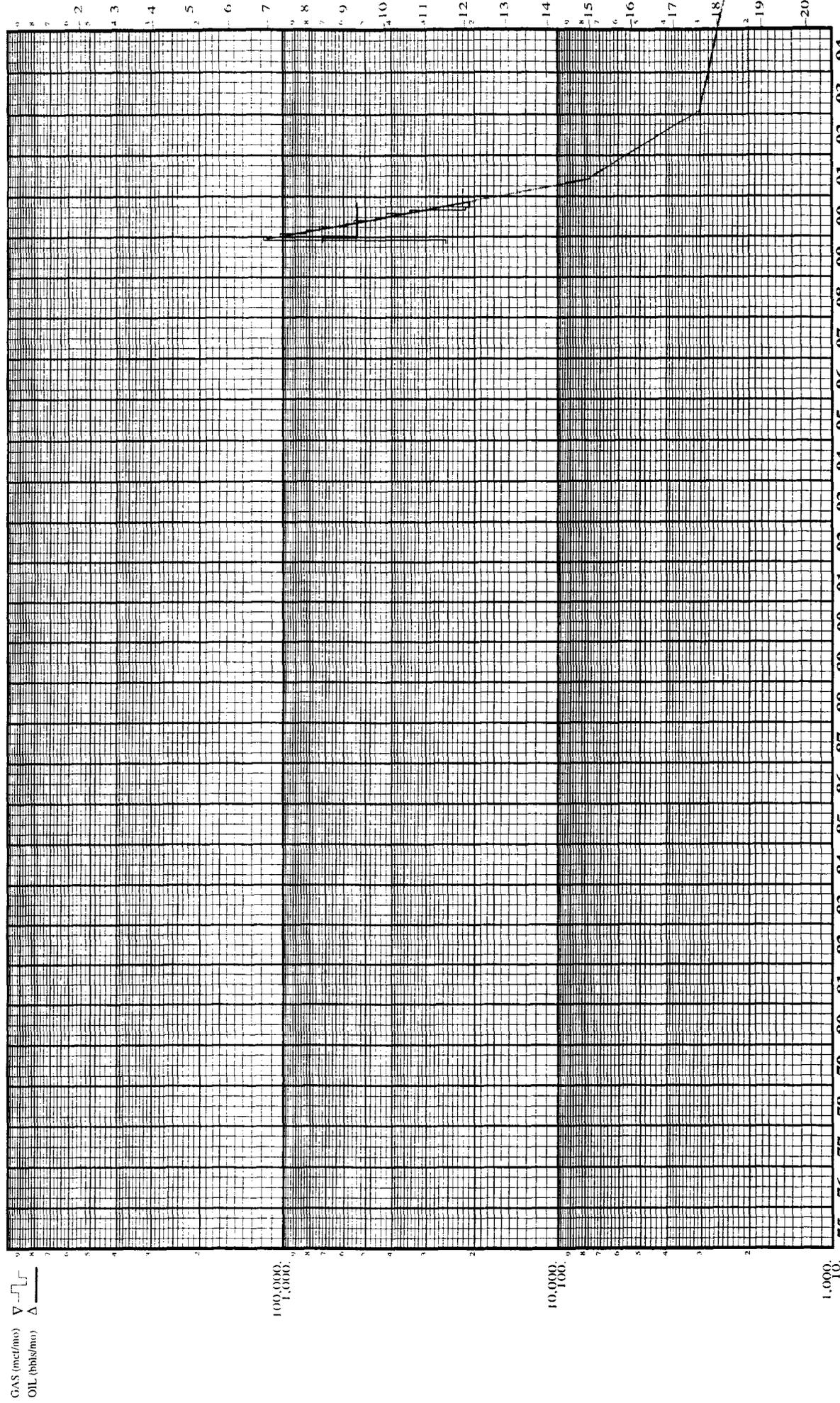
SAN JUAN
71075

CTOC - 1/00

TWD JEB SMJ

Run Date: 07/09/00
Run Time: 15:06:39

GAS (mcf/mo) ∇ \square
OIL (bbls/mo) Δ \square



TIME (years)

Cross Timbers Oil Company

Remaining Reserve Estimation - Case #2

Oct-00 21,000 MCFM Start Rate
 85 % Decline
 130 MMCF Remaining
 680 MMCF as of 10/00
 810 MMCF EUR

UTE INDIANS A 27

CROSS TIMBERS
 UTE DOME (MORRISON)
 SAN JUAN, NEW MEXICO
 21 3IN 14W
 BGV

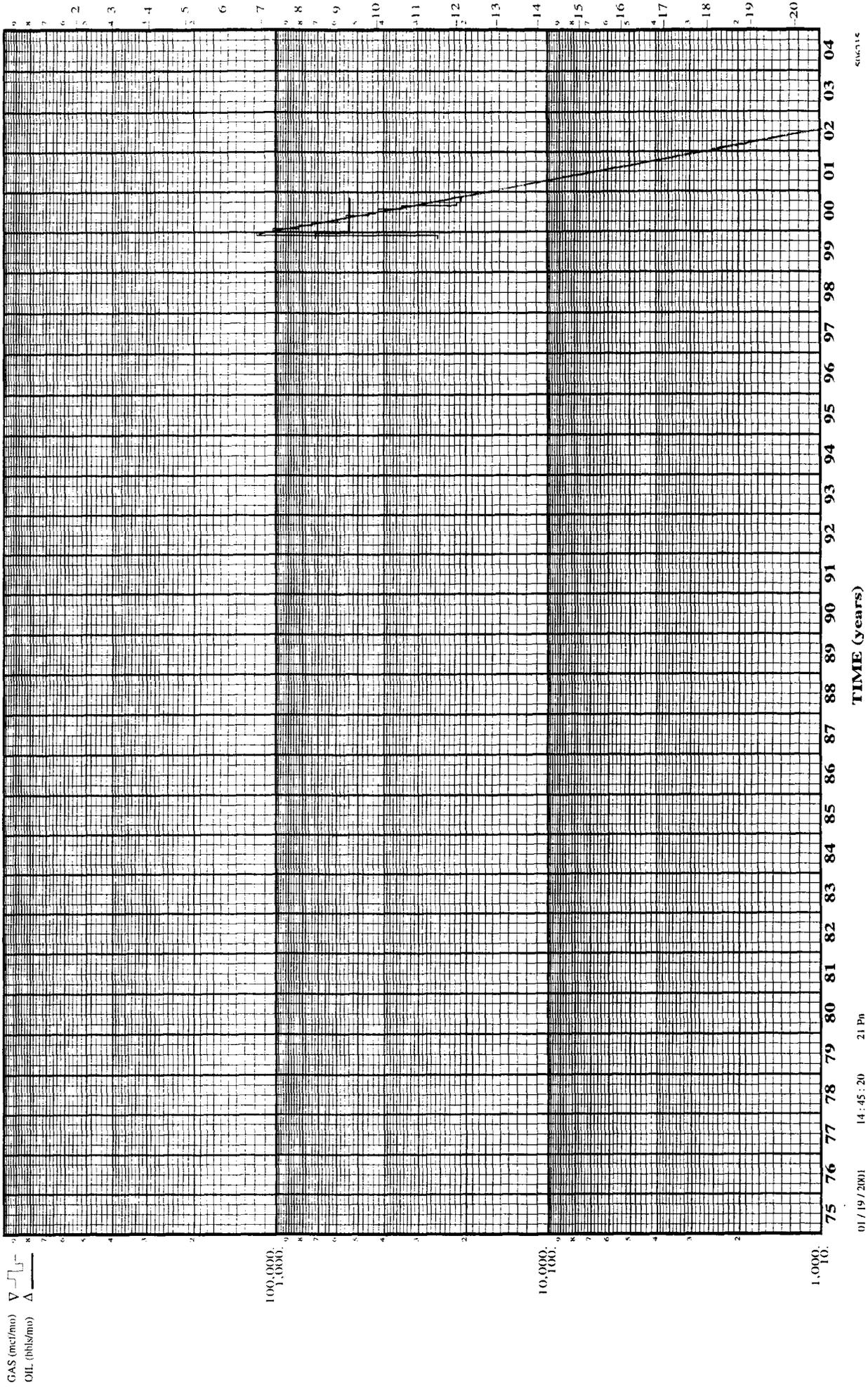
BASE
 506215

SAN JUAN
 71075

Run Date: 03/09/00
 Run Time: 15:06:39

CTOC - 1/00

TWD JEB SMJ



UTE DOME
SE/4 SECTION 2-T31N-R14W
3rd MORRISON

Fluid Properties

Gas Gravity	=	0.630	Gas Analysis
T_c	=	363°R	Standing's Correlation
P_c	=	667 psi	Standing's Correlation
T_r	=	113 °F	Log Measurement
P_{ri}	=	1,000 psi	Calculated from Surface Pressure
P_{ra}	=	135 psi	Estimate
B_{gi}	=	0.01433 ft ³ /SCF	Standing & Katz's Correlation
B_{ga}	=	0.11797 ft ³ /SCF	Standing & Katz's Correlation

Calculate Theoretical Recovery Factor:

$$RF_t = 1 - \frac{B_{gi}}{B_{ga}}$$

$$RF_t = 1 - \frac{0.01433}{0.11797}$$

$$RF_t = 0.8785 \text{ (fraction)}$$

Rock Properties

Acre - Feet	=	3,868	Planimetered from net sand thickness maps
Average Porosity	=	0.19	(Fraction) ϕ_{an} Ute Indians A #27
Water Saturation	=	0.25	(Fraction) Ute Indians A #27

Calculate GIP, Theoretical and Actual EUR:

$$GIP = \frac{.04356Ah_{\phi}(1-S_w)}{B_{gi}} MMCF$$

$$GIP = \frac{.04356(3,868)(0.19)(1-0.25)}{0.01433} MMCF$$

$$GIP = 1,675 \text{ MMCF}$$

$$EUR_t = RF_t \times GIP$$

$$EUR_t = (0.8785)(1,675)$$

$$EUR_t = 1,472 \text{ MMCF}$$