# Ute Indians A 27
# SE/4 Section 2 T31N R14W

**Volumetrics - SE/4 Section 2**

| | | |
|---|---|---|
| First Dakota Sand GIP | 405 | MMCF |
| Second Dakota Sand GIP | 355 | MMCF |
| Third Dakota Sand GIP | 189 | MMCF |
| Total GIP | 949 | MMCF |

9 mcfd x 30 = 270 mcf/mo. (300 mcf/mo. econ limit)

**Ute Indians A 20**

| | | |
|---|---|---|
| Cumulative Production (5/98) | 133 | MMCF |
| Decline Curve EUR | 133 | MMCF |
| Recovery of GIP | 0.14 | |

**Remaining Reserves**

| | | |
|---|---|---|
| SE/4 Sec 2 GIP @ 85% RF | 807 | MMCF |
| Less Ute Indians A 20 EUR | 133 | MMCF |
| Remaining Reserves | 674 | MMCF |

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**UTE DOME DAKOTA**
**SE/4 SECTION 2-T31N-R14W**
**1ST SAND**

Fluid Properties

| | | | |
|---|---|---|---|
| Gas Gravity | = | 0.616 | Gas Analysis |
| $T_c$ | = | 355 °R | Standing's correlation |
| $P_c$ | = | 671 psi | Standing's correlation |
| $T_r$ | = | 110 °F | Log Measurement |
| $P_{ri}$ | = | 843 psi | Calculated (0.32 psi/ft.) |
| $P_{ra}$ | = | 135 psi | Estimate |
| $B_{gi}$ | = | 0.01734 $ft^3$/SCF | Standing & Katz's correlation |
| $B_{ga}$ | = | 0.11747 $ft^3$/SCF | Standing & Katz's correlation |

Calculate Theoretical Recovery Factor

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

$$RF_t = 1 - \frac{0.01734}{0.11747}$$

$$RF_t = 0.8524 \text{ (fraction)}$$

Rock Properties

| | | | |
|---|---|---|---|
| Acre - Feet | = | 1,833 | Planimetered from net pay thickness maps |
| Average Porosity | = | 0.16 | (fraction)$\phi_{nd}$ Avg. (Ute Indians A20 Log) |
| Water Saturation | = | 0.45 | (fraction) Avg. |

Calculate GIP, Theoretical and Actual EUR

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

$$GIP = \frac{.04356(1,833)(0.16)(1-0.45)}{0.01734} MMCF$$

GIP = 405 MMCF

$EUR_t$ = $RF_t$ x GIP

$EUR_t$ = (0.8524)(405)

$EUR_t$ = 345 MMCF

**UTE DOME DAKOTA**
**SE/4 SECTION 2-T31N-R14W**
**2nd SAND**

Fluid Properties

| | | | |
|---|---|---|---|
| Gas Gravity | = | 0.616 | Gas Analysis |
| $T_c$ | = | 355 °R | Standing's correlation |
| $P_c$ | = | 671 psi | Standing's correlation |
| $T_r$ | = | 110 °F | Log Measurement |
| $P_{ri}$ | = | 843 psi | Calculated (0.32 psi/ft.) |
| $P_{ra}$ | = | 135 psi | Estimate |
| $B_{gi}$ | = | 0.01734 $ft^3/SCF$ | Standing & Katz's correlation |
| $B_{ga}$ | = | 0.11747 $ft^3/SCF$ | Standing & Katz's correlation |

Calculate Theoretical Recovery Factor

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

$$RF_t = 1 - \frac{0.01734}{0.11747}$$

$RF_t$= 0.8524 (fraction)

Rock Properties

| | | | |
|---|---|---|---|
| Acre - Feet | = | 1,730 | Planimetered from net pay thickness maps |
| Average Porosity | = | 0.16 | (fraction)$\phi_{nd}$ Avg. (Ute Indians A20 Log) |
| Water Saturation | = | 0.49 | (fraction) Avg. |

Calculate GIP, Theoretical and Actual EUR

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

$$GIP = \frac{.04356(1,730)(0.16)(1-0.49)}{0.01734} \; MMCF$$

GIP = 355 MMCF

$EUR_t$ = $RF_t$ x GIP

$EUR_t$ = (0.8524)(355)

$EUR_t$ = 302 MMCF

**UTE DOME DAKOTA**
**SE/4 SECTION 2-T31N-R14W**
**3rd Sand**

Fluid Properties

| | | | | |
|---|---|---|---|---|
| Gas Gravity | = | 0.616 | | Gas Analysis |
| $T_c$ | = | 355 °R | | Standing's correlation |
| $P_c$ | = | 671 psi | | Standing's correlation |
| $T_r$ | = | 110 °F | | Log Measurement |
| $P_{ri}$ | = | 843 psi | | Calculated (0.32 psi/ft.) |
| $P_{ra}$ | = | 135 psi | | Estimate |
| $B_{gi}$ | = | 0.01734 | $ft^3/SCF$ | Standing & Katz's correlation |
| $B_{ga}$ | = | 0.11747 | $ft^3/SCF$ | Standing & Katz's correlation |

Calculate Theoretical Recovery Factor

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

$$RF_t = 1 - \frac{0.01734}{0.11747}$$

$RF_t$= 0.8524 (fraction)

Rock Properties

| | | | |
|---|---|---|---|
| Acre - Feet | = | 770 | Planimetered from net pay thickness maps |
| Average Porosity | = | 0.15 | (fraction)$\phi_{nd}$ Avg. (Ute Indians A20 Log) |
| Water Saturation | = | 0.35 | (fraction) Avg. |

Calculate GIP, Theoretical and Actual EUR

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

$$GIP = \frac{.04356(770)(0.15)(1-0.35)}{0.01734} \; MMCF$$

GIP = 189 MMCF

$EUR_t$ = $RF_t$ x GIP

$EUR_t$ = (0.8524)(189)

$EUR_t$ = 161 MMCF

# *Cross Timbers Oil Company*

| | Oil (bbls/mo) | Gas (mcf/mo) | | Oil (bbls) | Gas (mcf) | Res_Cat Life | 0.000 |
|---|---|---|---|---|---|---|---|
| Qi | 0 | 0 | Gross Cum @**/** | 0 | 132,902 | As-of Date | |
| Qel | 0 | 0 | Gross Remaining | 0 | 0 | Setup file | |
| Decline | 0.0 % | 0.0 % | Gross Ultimate | 0 | 132,902 | Q_Prod | |
| | | | Net Remaining | 0 | 0 | Q_Owner | |
| | | | | | | Q_Other | |

| | | Oil Price ($/bbl) | Gas Price ($/mcf) | OPC ($/bbl) | Flat Life (years) | Last Production | Net Cash Flow | | P.W. @ 0.0 % | |
|---|---|---|---|---|---|---|---|---|---|---|
| WI - | 0.000000 % | | | | | | | | | |
| NRI - | 0.000000 % | 0.00 | 0.00 | 0.00 | 0.0 | 05/98 | $ | 0 | $ | 0 |

Run Date :
Run Time:

## UTE INDIANS A 20

*CROSS TIMBERS OPERATING COMPANY*
*UTE DOME ( DAKOTA )*
*SAN JUAN, NEW MEXICO*
*2 31N14W*
*J*

*30045246050000*

*CTOC -*