

GEOLOGIC REPORT
for
Application For Compulsory Pooling

Trilogy Operating, Inc.
"Howser" No. 2
Section 1, Unit "O", T-20-S, R-38-E
Lea County, New Mexico

Attached to and made a part of this report is the Geologic Report for Application for Compulsory Pooling on the Howser #1 well, which was drilled one location due north of the Howser #2 location. Trilogy Operating, Inc. also recently drilled the No. 1 Dreessen well in Unit "G" in Section 1, T-20-S, R-38-E, Lea County, New Mexico, which is currently being re-completed to test the San Andres formation. Trilogy drilled the Howser No. 1 well in Unit "J" as a south offset to the Dreessen No. 1 well and is currently producing it from the Blinebry formation. Trilogy now proposes to drill the Howser No. 2 well as a south offset to the Howser No. 1 well.

Enclosed is an updated structure map on the top of the Tubb formation. The Dreessen No. 1 and Howser No. 1 wells were drilled on a seismic interpretation from a line located 900 feet west of both well locations. There appears to be considerable differences in the interpretations and the actual structure possibly due to several factors. The updated structure map is based strictly on regional mapping of the subsurface data.

The Howser No. 1 gained approximately 55 feet of structure over the Dreessen No. 1 in the Tubb formation. The Howser No. 1 was tested in the Abo formation, but had a high water cut, thus making it non-commercial. It is believed that the well was perforated to deep, because other wells in the area at approximately the same subsea were completed as commercial wells in the Abo formation.

Structural interpretation indicates that the Howser No. 2 location should be flat or possibly 30 feet high to the Howser No. 1 well. This should be sufficient structural enhancement for commercial production from both the Drinkard and Abo formations. The House field located in Section 12 to the south produces primarily from the Drinkard formation at the projected subsea datum. Additional potential reserves exist in the Blinebry, Tubb and San Andres formations. The original seismic interpretations indicate that the structure may not extend to the south as per our structural interpretation.

Trilogy Operating, Inc. proposes to drill the Howser No. 2 well at the subject location in order to test the San Andres through the Abo formations.

Randy Hall, Consulting Geologist

GEOLOGIC REPORT
for
Application For Compulsory Pooling

Trilogy Operating, Inc.
"Howser" No. 1
Section 1, Unit "J", T-20-S, R-38-E
Lea County, New Mexico

GEOLOGIC SETTING

The Howser No. 1 well location is in the House Blinebry Field in eastern Lea County, New Mexico. Oil and gas production in the vicinity is from the Permian Yates, Seven Rivers, San Andres, Paddock (Glorieta), Blinebry (Upper Clearfork), Tubb, Drinkard (Lower Clearfork), and Abo (Wichita Albany) reservoirs occurring at various depths between 4250 and 7550 feet in the House (Blinebry, Drinkard, San Andres, and Yates-Seven Rivers), East Warren (Tubb), and DK (Abo) oil and gas pools. The most prolific of these potential producing zones are the Drinkard, Blinebry, and Tubb. Trilogy Operating, Inc. recently drilled the No. 1 Dreessen well in Unit "G" of in Section 1. The well encountered hydrocarbon shows in the San Andres and Blinebry, but did not encounter any significant hydrocarbon shows in the Tubb or Drinkard. Trilogy has completed the well in the Blinebry. It is currently producing an average of 16 BO, 55 MCFG and 100 BW per day. Trilogy proposes to drill the Howser No. 1 well in Unit "J" as a south offset to the Dreessen well to a depth sufficient to test the Abo and Drinkard Formations. Secondary objectives for the prospect are the Blinebry and Tubb reservoirs.

STRUCTURE

As shown on the enclosed structure maps of the Upper Clearfork (Blinebry) and Tubb horizons, the prospect is believed to be a northern extension of the House Field. This interpretation is based largely on a north-south 2-D seismic line (Mobil Line # A87 MOB*NDT 1). Of the Blinebry, Tubb, Drinkard, and Abo seismic events, the Tubb provides the most reliable seismic event for mapping. The structural interpretation for the Tubb horizon incorporates well control with the seismic data.

The seismic data over the prospect exhibits a time high from the level of the Glorieta through the Precambrian basement event. The time high at the Tubb horizon appears to be draped over a low-relief faulted Silurian structure. The faults that form the Silurian structure extend downward into the Precambrian basement. Isochron mapping of the interval between the Yates and Tubb seismic events indicates only 3 milliseconds of separation due to thickening between the prospect and productive wells to the south. To the north 10 milliseconds of thickening suggests that the structure plunges into a deeper syncline which is interpreted to be the northern limit of the DK-East Warren-House structural trend and separates the trend from the Nadine Field platform to the north.

The Tubb structure map was made in the following way: Using some of the available 2-D seismic in the area a regional isochron map was made from the Yates to the Tubb. The seismic data does not tie the nearby wells to the east or west of the prospect, so the structural position relative to those wells could not be directly calculated. However, the interval velocities for a well south of the prospect and all the other wells near the seismic lines used were empirically derived, and a reasonable interval velocity map was made, then used to convert the Yates to Tubb isochron map to an isopach map. The isopach map was then added to the structure map of the Yates (based on well control) to create a structure map for the Tubb.

The Dreessen No. 1 well encountered the Tubb at a structural elevation of -3055, which is 105 feet lower than the depth predicted by the original seismic interpretation. This large discrepancy between the predicted structure and the actual structure is a reason for much concern. Several factors could account for the error in the seismic interpretation. Among them are seismic velocity, structural complexity, and a lack of seismic well ties (the seismic line is 900 feet west of both the Dreessen and Howser well locations). I believe that the Howser well will be higher than the Dreessen well, but am unable to predict the structure with much confidence.

ANTICIPATED WELL COSTS AND POTENTIAL RESERVES

The enclosed AFE for the proposed well shows that the anticipated drilling and completion costs for a producing well are anticipated to be approximately \$494,000. Assuming an average NRI of 75%, an average oil price of \$18.00 per barrel, and production taxes of approximately 8%, it would take approximately 39,450 barrels of oil equivalent (BOE) to pay for a producing well. (Assuming an average gas price of \$2.00/MCF, 1 BO = 9 MCF.) An economically commercial well is one that makes enough revenue to produce a profit to investment ratio (P/I) of at least 3:1. Cumulative production for the nearby wells in the vicinity of the prospect is shown on the enclosed Cumulative Production Map.

Abo - There is no Abo production within three miles of the proposed location. Recent operations conducted by other operators in the area three miles south of the Howser location have proven that the Abo can be a commercial producer when treated with a new procedure called the SXE acid treatment recently developed by Dowell.

Drinkard - In sections 11 and 12 south of the prospect there are 14 Drinkard completions, three of which are non-commercial producers. The remaining 11 wells produced the equivalent of 80,000 to 300,000 BO. Two wells in section 6 east of the proposed location were completed in the Drinkard. The Stanolind Oil & Gas Co. #1 Bilberry well (Unit "E") produced 45 MMCFG and 90.5 MBO, while the C.L. Norsworthy #1 Shell-Waldrep well in Unit "L" has produced 226 MMCFG and 208 MBO.

The presence of two non-productive wells between the prospect and the #1 Shell-Waldrep well adds significant risk to the proposed location. Both wells penetrated the Drinkard. The Damson Exploration, et al. #1 Jones (Unit "H") encountered the Drinkard porosity 40 feet low to the top of porosity in the #1 Shell-Waldrep well. A drill stem in the Drinkard recovered only 328 feet of gas cut mud. The C.L. Norsworthy #1 Sinclair-

Waldrep well in Unit "I" encountered the Drinkard porosity slightly higher than the #1 Jones well, but still 22 feet low to the #1 Shell-Waldrep well. A completion was attempted in the Drinkard. After acid stimulation the well produced 136 BO and 128 BW in a 24 hour period while being swabbed prior to plugging. The slightly higher structural position of the #1 Sinclair-Waldrep well relative to the #1 Jones well probably accounts for its better oil show.

The proposed location is believed to be approximately 40 feet high to the #1 Dreessen well at the level of the Tubb, which is flat or slightly low to the #1 Shell-Waldrep well. Since the Drinkard and Abo structural horizons typically mirror the structure of the Tubb Formation, both the Drinkard and Abo are expected to be at structural elevations that are flat or slightly low to the #1 Shell-Waldrep well.

Secondary Objectives - The Tubb and Blinebry are secondary objectives. In the immediate vicinity there have been only four Tubb completion attempts resulting in 3 non-commercial wells and 1 well which produced 1,304 MMCFG and 24.7 MBO. Blinebry completions were done in 3 wells resulting in 3 non-commercial completions. The Damsen Exploration, et al. #1 Jones well in Unit "H" of Section 1 was reentered by Zia Energy, Inc. and completed in the Blinebry. It was completed with an initial potential CAOF of 585,600 CFGPD, but produced a total of 186 MMCF and 3.5 MBO before being plugged back to the Yates-Seven Rivers. The Dreessen #1 well encountered the Blinebry at a subsea elevation of -2490, which is 25 feet low to the #1 Jones well. The Dreessen well has slightly better developed porosity than the #1 Jones well. The proposed Howser well is expected to encounter the Blinebry at an elevation that is 15 to 20 feet high to the Dreessen well, or flat to the #1 Jones well.

Although there are few commercial wells producing from the Blinebry and Tubb zones in the immediate vicinity, there are several prolific producers a mile or so farther south in the Warren Blinebry Field and the East Warren Tubb Field. Either of these reservoirs is capable of producing as much as 1,000 MMCFG and 100 MBO where the reservoir porosity is well developed and where new frac stimulation techniques are employed.

SUMMARY

The Drinkard and Abo are the primary objectives for the proposed location. The Howser well is expected to encounter the Drinkard at a structural elevation that is flat or slightly low to the prolific Drinkard well to the east in section 6. Additional potential reserves exist in the Blinebry and Tubb Formations. Reservoir variability in the Permian platform carbonates of the Tubb and Blinebry makes it nearly impossible to predict the reservoir risks accurately or to condemn a drilling location. Since production is generally better on structures Trilogy Operating Inc. proposes to drill the #1 Howser at the proposed location up dip from the #1 Dreessen well in order to test the Blinebry through Abo Formations.

George J. Ulmo
Consulting Geologist

