GEOLOGIC REPORT
For
Application for Compulsory Pooling

Trilogy Operating, Inc.
"Ruby" No. 2
1650' FWL & 2310' FSL
Section 24, Unit "K", T-19-S, R-38-E
Lea County, New Mexico

INTRODUCTION

The Ruby Lease (SW/4 Section 24) is part of the Emerald Prospect, located in eastern Lea County, New Mexico one mile east of the Nadine (Drinkard-Abo) Field. The field has produced more than 608,000 BO and 3,260,000 MCFG from 22 wells since its discovery in 1950. Other pay zones in the Nadine Field include the Seven Rivers, Blinebry (Upper Clearfork), and Tubb. In most cases the Drinkard and Abo intervals have been commingled, so it is impossible to determine how much each zone has produced in individual wells. In the Nadine Field the average cumulative production on a per well basis has been 30,000 BO and 163,000 MCFG. It was believed that new acid stimulation techniques would allow increased drainage areas per well, thereby increasing the ultimate recoverable reserves. However, performance by most of the wells drilled to date on the Emerald Prospect has been poorer than expected. Their performance suggests that pressure maintenance may needed in the future.

Trilogy Operating, Inc. has drilled five wells on the Emerald Prospect in Section 24 in the last year, being the Emerald No. 1 (Unit "J"), No. 2 (Unit "O"), No. 3 (Unit "I"), the Ruby No. 1 (Unit "N"), and the Sapphire No. 1 (Unit "G") wells. The five wells, currently producing from commingled Drinkard and Abo pay zones, are producing a total of 90 BOPD and 942 MCFGPD with 57 BWPD. To date, the five wells have produced a total of 45,918 BO, 321,617 MCF gas and 31,624 BW. The Ruby No. 1 is the poorest well in the Emerald Prospect area and is producing only 9 BOPD and 133 MCFGPD with 1 BWPD. We anticipate slightly better reservoir quality in the Drinkard at the proposed location.

In order to preserve leasehold, Trilogy proposes to drill the Ruby No. 2 stepout location in Unit "K" of Section 24 on the Ruby Lease to a depth sufficient to test the Drinkard and Abo Formations.

STRUCTURE

Based on interpretation of seismic data, the Emerald Prospect is believed to be part of a large low-relief structural platform, which is associated with the Hobbs Field structural complex. The platform contains the Nadine (Drinkard-Abo) Field and a few key wells in the East Nadine Drinkard and Abo Fields. (See Structural Cross Section A-A', previously submitted with the Application for Compulsory Pooling for the Ruby No.

1 well). The structural interpretation for the prospect incorporates well control with seismic data. A well drilled at the proposed location for the Ruby No. 2 is expected to encounter the Drinkard and Abo reservoirs at subsea elevations that are flat to the Sapphire No. 1 well and 30 feet low to the Emerald No. 1 well.

RESERVOIR DEVELOPMENT and RISK FACTORS

The carbonate reservoir-forming sediments of the Drinkard and Abo were deposited on a shallow water platform overlying a buried structural platform. Pelletal grainstones, packstones, and wackestones, along with oolitic grainstones, are the typical commercial reservoir facies where they have been dolomitized. The grainstones occur as filling sediments and well as shoal deposits. Many exposure surfaces are evident on logs, indicating that deposition was frequently interrupted by periods of low sea level. Alternating periods of deposition and exposure have resulted in the development of a heterogeneous reservoir composed of many individual cycles within a vertical interval of only a few hundred feet. This is evident within all the producing reservoirs. In the Drinkard reservoir, impermeable layers, composed of either dense limestone or anhydritic limestone, often separate porosity zones. These layers may act as barriers to vertical fluid migration, suggesting that each porosity zone could have its own oil-water contact.

Several of these cycles have been correlated in the three Emerald wells. They have been arbitrarily been named zones "A" through "F", from the bottom of the Drinkard to the top, as shown on Structural Cross Section B-B' (previously submitted with Application for Compulsory Pooling for the Ruby No. 1 well).

Drinkard-Abo - In the Nadine Field production has been established throughout the entire Abo section wherever dolomite porosity is encountered. Production occurs over an interval that is approximately 600 feet in overall thickness. Down structure from the field the lower porosity intervals in the Abo appear to be wet and only the upper half of the reservoir is considered productive. The No. 2 Emerald well encountered better porosity and permeability in the Abo than either the No. 1 or No. 3 wells. Abo porosity development is less continuous, and less predictable than porosity trends in the Drinkard. Log analysis is also less reliable for the Abo Reservoir than for the Drinkard. The Ruby No. 2 well is expected to be flat to the Sapphire No. 1 well and is expected to be productive from only the upper portion of the Abo.

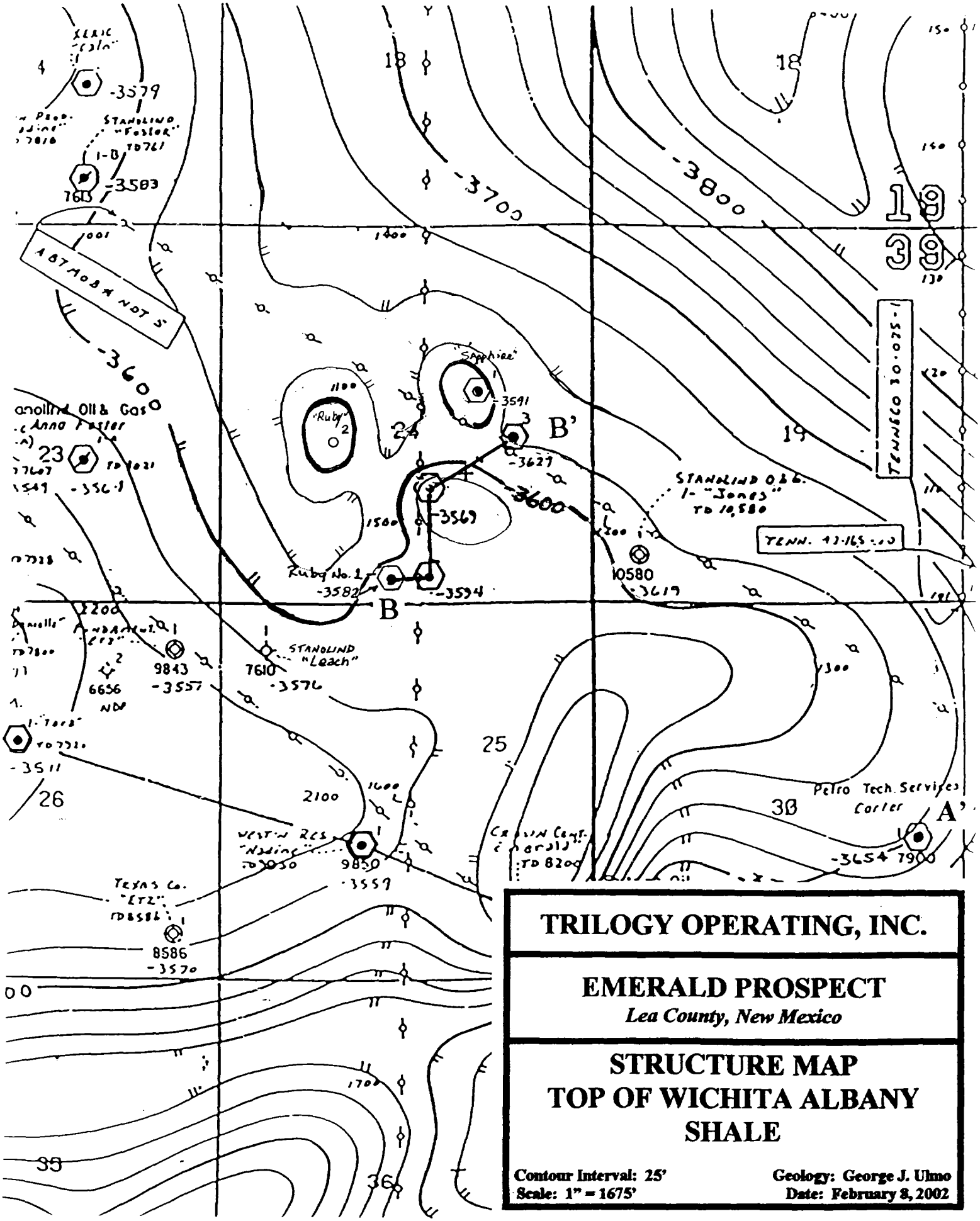
Within the Drinkard reservoir the "A" zone (bottom zone) has the best porosity and permeability. Of the four wells drilled by Trilogy, only the No. 1 Emerald produces from the "A" zone. The "A" zone is wet in all the other wells, which are slightly low to the No. 1 Emerald well. The No. 2 well is completed in zones "B" and "C". The No. 3 well is the lowest of the three wells and is currently being completed in zones "C" and "D". Zone "D" is better developed in the No. 3 well than in the No. 1 well. If not for the fortuitous development of zone "D", the No. 3 well would probably be a non-commercial well. The Ruby No. 2 well is on stratigraphic strike with the Emerald No. 1 well and is expected to be productive in zones "B", "C" and "D".

Secondary Objectives – It was hoped that secondary pay zones would be encountered in the Tubb and Blinebry, but so far, no secondary pay zones have been encountered in any of the wells drilled on the Emerald Prospect.

SUMMARY

In order to preserve the "Ruby" leasehold in the SW ¼ of Section 24, Trilogy Operating, Inc. proposes to drill the Ruby No. 2 well at the proposed location to a depth sufficient to test the Drinkard and Abo Formations.

George J. Ulmo
Consulting Geologist



TRILOGY OPERATING, INC.

EMERALD PROSPECT

Lea County, New Mexico

STRUCTURE MAP TOP OF WICHITA ALBANY SHALE

Contour Interval: 25'
Scale: 1" = 1675'

Geology: George J. Ulmo
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