May 23, 1977

LUZON UNIT AREA

GEOLOGIC REPORT

6028

The recommended *Luzon Unit area is in southern Lea County, New Mexico, about eight miles northwest of the town of Jal. It is located at the western edge of the Central Basin Platform. Union Oil Company of California proposes to drill a 14,800' test located in the NE/4, Section 13, T24S, R35E.

The Luzon Prospect is expected to produce gas and condensate from Strawn carbonates and possibly, Morrow sands. The expected productive limit of the Strawn reservoir is shown in red on the included map. The proposed unit outline is dictated by the configuration of the productive limits. The unit is to include all of Sections 1, 12, 13, 14, 23 and 24 of T24S, R35E and the west half of Sections 6, 7, 18 and 19 of T24S, R36E.

The Strawn formation thickens anomalously over the Luzon Prospect from a regional average of about 300' to over 1000'. Cross-Section B-B' illustrates the geologic interpretation of the anomaly. It is thought to be a detrital apron composed of porous carbonate rocks derived from a Strawn reef that was located to the east. The anomaly is bounded on the east by a large fault that cuts through the Strawn section.

Middle Morrow sands are present in the Luzon area as discrete, elongate sandstone bodies. Gas production is likely where these sands are porous and cross structural highs. The Morrow is regarded as secondary objective in the Luzon Prospect.

All of the deep wells in the Luzon vicinity are on separate structures or are structurally low to the prospect. The following is an annotated list of the nearest wells.

The Amoco Production Company (drilled by Midwest Oil Corp.) No. 1 Custer Mountain Unit well (Section 9, T24S, R35E) is on a separate structure from the Luzon Prospect. It is productive from several Middle Morrow sands. The Strawn in this well is thin (200' thick) and tight.

The Texas International Petroleum Corp. No. 1 Aztec-State well (Section 16, T24S, R35E) is structurally low to the Luzon feature. Middle Morrow sands there are thin and tight as is the Strawn.

The Graham Paige No. 1 Whitten well (Section 5, T24S, R36E) is on a separate fault block from Luzon. The well has scattered zones of marginal porosity in the Strawn, and up to 5' of porous Middle Morrow sand. Neither the Strawn nor Morrow was tested.

*The Spanish word "Luzon" translates to mean "Great Light".

The Humble Oil Company No. 1 Davidson-Federal well (Section 20, T24S, R36E) and the El Paso Natural Gas Company No. 1 Cooper-Federal well (Section 21, T24S, R36E) are structurally high but removed from the Luzon feature by at least two faults. The Humble well penetrated porous Middle Morrow sands that yielded salt water on a DST. The structurally higher El Paso well is productive from a different Middle Morrow sand. The Strawn is thin and tight in both wells.

The four wells nearest to the Luzon Prospect are shallow tests so no evaluation of the deep horizons was possible from them. These wells include the Gulf No. 2 Lea State GB well (Section 10, T24S, R35E), TD Capitan Reef; the British American No. 1 Fields-Federal well (Section 12, T24S, R35E), TD Bone Spring; the Bert Fields No. 1 Baetz well (Section 13, T24S, R35E), TD Yates; and the Gulf No. 1 Lea-State GB well (Section 15, T24S, R35E), TD Delaware.

WKDsm

W. K. Dahleen, Geologist