INTRODUCTION

Spargo Field is located in the Colorado portion of the Blanding basin approximately 13 miles southwest of the town of Dove Creek and 28 miles northwest of Cortez (Fig. 1). Production is from a combination structural-stratigraphic trap in rocks belonging to the Desert Creek Stage of the Pennsylvanian Paradox Formation. The field was discovered in 1984 by Celsius Energy Company in the Celsius Spargo No. 1-36 well (SE SW Section 36, T39N, R20W). The exploration method leading to the discovery was subsurface geology. The Bug Field porosity trend (Martin, 1983) was interpreted to extend toward the southeast paralleling the trend established by the Papoose Canyon and Dove Creek Fields. The test well was drilled in what was interpreted to be oil saturated porosity, updip from the Forest No. 1 Annie-Federal well (Section 26 & 27, T39N, R20W), which had produced salt water from a drill-stem test (DST) of the Desert Creek. An oil-water contact (OWC) of +291 feet subsea, identical to the Bug Field OWC, was anticipated at the prospect. In addition to the nearby Desert Creek production at Bug and Papoose Canyon Fields, Ismay gas production had been established at the Cherokee and Pittsburg No. 1 Cross Canyon Unit (Section 7, T38N, R19W), about 2 miles southeast of the Spargo No. 1-36 discovery well. The Ismay was considered a good secondary objective within the Spargo Prospect, and it tested gas in the discovery well. Development activity by several operators, including Davis, Mobil, Quintana, Tenneco, and Santa Fe, proceeded at a cautious, but steady pace until the oil price decline of 1986 brought drilling to a halt. Access to the field is from the town of Dove Creek via well maintained gravel roads. Land use in the area is dominated by wheat and pinto bean farming.

STRUCTURE

The Blanding basin is a structural depression that was superimposed on the Pennsylvanian-Permian Paradox depositional basin in response to Laramide tectonic and intrusive activity and Miocene to Pliocene intrusive activity. The structural configuration of the Blanding basin in general, and the Spargo Field in particular, is fairly simple when mapped at the Desert Creek level (Fig. 2). The field is located on the southwest flank of the Dove Creek anticline and regional dip is approximately 100 feet per mile (1°) toward the west-southwest. Structure is important...