ALKALI CANYON
(Oil)
T. 37 S., R. 23 E., SLPM
San Juan County, Utah

GEOLGY
Regional Setting: Southern flank of Paradox Basin, 18 miles north of Aneth field
Surface Formations: Cretaceous, Mancos Shale, Dakota Sandstone-Burro Canyon Formation
Exploration Method Leading to Discovery: Seismic
Type of Trap: Stratigraphic
Producing Formation: Pennsylvania, middle Ismay Member of Paradox Formation
Gross Thickness and Lithology of Reservoir Rocks: 88 feet of limestone and dolomite
Geometry of Reservoir Rock: Algal biostrome
Other Significant Shows: None
Oldest Stratigraphic Horizon Penetrated: Pennsylvania, Desert Creek Member of Paradox Formation

DISCOVERY WELL
Name: Continental Oil Company No. 1 Alkali Canyon
Location: NE SE sec. 15, T. 37 S., R. 23 E.
Elevation (KB): 5,875 feet
Date of Completion: December 31, 1965
Total Depth: 6,440 feet
Production Casing: 4 1/2" at 6,440 feet, cemented with 300 sacks of cement
Perforations: 6,153 feet to 6,164 feet; 6,176 feet to 6,184 feet; 6,196 feet to 6,202 feet; 6,213 feet to 6,224 feet
Stimulation: Acidize
Initial Potential: Pump, 15 BOD and 5 BWD
Bottom Hole Pressure: Unknown

DRILLING AND COMPLETION PRACTICES
Set 9 5/8" surface casing to 299 feet; drill 7 7/8" hole with mud; core and/or drill stem test significant porosity and drilling breaks; run 4 1/2" production string if production indicated.

RESERVOIR DATA
Productive Area: 80 acres
Proved (as determined geologically): Ismay 40 acres, Desert Creek 40 acres
Unproved: Unknown
Approved Spacing: None
No. of Producing Wells: 0
No. of Abandoned Wells: 2
No. of Dry Holes: 5
Average Net Pay: Ismay 31 feet, Desert Creek 13 feet
Porosity: Ismay 2 to 19 percent, Desert Creek 18 percent

Permeability: Ismay 0.1 to 0.8 millidarcy, Desert Creek Unknown
Water Saturation: Unknown
Initial Field Pressure: Unknown
Type of Drive: Gas expansion
Gas Characteristics and Analysis: Ismay, unknown; Desert Creek, sweet, rich; Btu 1,519, methane 64.4 percent, ethane 15.1 percent, propane 9.7 percent, butane 5.1 percent, H2S none, N2 1.9 percent
Oil Characteristics and Analysis: Ismay 44 to 48 API gravity, light green, heavy paraffin base; Desert Creek, sweet, yellow, 43 API gravity, thickens in January temperature
Associated Water Characteristics and Analysis: Ismay, salt water; Desert Creek, total dissolved solids 424,021 mg/l, chlorides 257,020 mg/l
Original Gas, Oil, and Water Contact Datums: Unknown
Type of Secondary Recovery: None
Present Daily Average Production: Both wells plugged and abandoned
Market Outlets: Trucks

FIELD COMMENTARY
The Alkali Canyon field is a noncommercial oil field with production established both in the Ismay and Desert Creek Members of the Paradox Formation. The field is located on the southern flank of the Paradox Basin, approximately 18 miles north of the giant Aneth field. Over a thousand feet of salt section and interbedded clastics underlie the Ismay and Desert Creek section. Most exploratory activity in this area has been restricted to the post-salt section with only occasional wells penetrating the salt to test the Mississippian and deeper formations.

The prospective Paradox post-salt sediments in this area are primarily porous carbonate units in the Ismay and Desert Creek Members. Core and drill-stem test data in conjunction with log interpretation show that, for the most part, the Ismay algal mound build-up has its porosity extensively filled with anhydrite. This anhydrite filling has severely damaged producive capability of the potential reservoir rock and to date, no commercial reserves have been found.

Detailed structure mapping on any persistent datum reveals a pronounced southwestward-extending nose across the field area. As in other areas of the Paradox Basin, these Paradox paleo-positives, even though slight, provided a locus for organic accumulation. Structural closure, if present, cannot be substantial in vertical height or areal extent, at least at the Ismay and Desert Creek levels.

The discovery well, Continental Oil Company No. 1 Alkali Canyon (SE 1/4 sec. 15), cored substantially all of the upper and middle Ismay sections. Shows, core porosity, log porosity and 120 feet of highly gas-cut-mud on drill-stem test convinced the operator to run pipe. The few published references