EXPLORATION HIGHLIGHTS AND ACTIVITY IN THE UTAH OVERTHRUST BELT DURING THE 1980s

Thomas C. Chidsey, Jr.
Utah Geological and Mineral Survey
Salt Lake City, Utah 84108

ABSTRACT
During the 1980s the Utah overthrust belt was the site of major exploration and development activities. More than sixty exploratory wells were drilled on the Crawford, Absaroka and Hogsback thrust plates. The giant Anschutz Ranch East field was developed, adding 600 million barrels (in-place) of oil equivalent to the state's total reserves. New field discoveries included North Pineview and Aagard Ranch, with extensions at Lodgepole and Elkhorn Ridge fields. Over 101 million barrels of oil and condensate and 950 billion cubic feet of gas were produced in the Utah overthrust belt from 1980 through 1989.

The Utah overthrust belt is still considered a frontier province, and the potential for new discoveries remains great. A review of the historically significant discoveries and wildcats drilled in the 1980s has delineated several possible types of traps on all three major thrust plates for future exploratory efforts. These include: 1) structures beneath major thrusts, 2) broad, subtle non-faulted folds, and 3) shallow anticlines of Cretaceous rocks developed by imbricate fault slices east of the Nugget Sandstone that truncate against the Absaroka thrust, or that sole into the Preuss salt.

INTRODUCTION
The Utah-Wyoming-Idaho salient of the overthrust belt is defined as the region north of the Uinta Mountains of northeastern Utah and south of the Snake River Plain of Idaho, with the Green River Basin of Wyoming forming the eastern boundary. Thrusting also extends westward into the Great Basin for more than 100 miles. Four major thrusts are present in the Utah portion of the overthrust belt: the Paris-Willard, Crawford, Absaroka, and Hogsback. These thrust plates comprise an area of approximately 4000 square miles, and include nine known oil and gas fields (Figure 1). Producing reservoirs range in age from Mississippian to Cretaceous (Figure 2). Most of the drilling activity during the 1980s was concentrated in all but the Paris-Willard plate, and will be the subject of this paper.

DISCOVERIES AND DEVELOPMENT ACTIVITIES DURING THE 1980s
Three new fields were discovered in the Utah overthrust belt during the 1980s: Cave Creek, Pineview North, and Aagard Ranch. Several others were developed, including the giant Anschutz Ranch East...