

ed ore than the primary ore. The paragenetic position of the different minerals has a direct bearing on these observations.

THOMPSON, D. T., Gulf Research & Development Co., Pittsburgh, Pa.

#### Geophysical Experiments at the Mariano Lake Uranium Orebody

Several geophysical experiments were performed over the Mariano Lake orebody before mining began, including surface self-potential methods, surface-to-hole induced-polarization methods, and reflection seismic methods. These geophysical techniques are interesting from an exploration point of view, and they also provide some data which relate to our conceptual model of this orebody. Currents generated in the productive formation by oxidation-reduction reactions do not generate measurable potential anomalies at the surface. Surface-to-hole induced-polarization measurements appear to be capable of detecting an oxidation-reduction front in the vicinity of an exploration borehole. Reflection seismic techniques can provide information concerning the paleostructure of the area.

WRIGHT, ROBERT J., U.S. Dept. Energy, Washington, D.C.

#### New Mexico and World Uranium

New Mexico is endowed with the world's largest known concentration of uranium ore in sandstone. Through 1977 these orebodies yielded 129,150 short tons of  $U_3O_8$ , about 41% of the United States' supply and 18% of the free world's supply of yellow cake. Only one foreign nation, Canada, exceeds the state of New Mexico in production. From the 1977 level of about 7,600 tons  $U_3O_8$ , New Mexico's output is expected to double within the next 10 years, thus maintaining the state's relative position within the United States. However, the nation's share of world production is apt to slip as new mines come on-stream in such countries as Australia, Canada, and Niger.

The sandstone uranium deposits of New Mexico, Colorado, Wyoming, and Texas have provided models for exploration around the world, and orebodies of this type are now known in at least 10 countries. Some of the foreign deposits exhibit unusual geologic features or have distinctive exploration histories.

*Argentina*—At Sierra Pintada, the largest deposit, the ore is related to pyrite in an eolian sandstone.

*Australia*—In the Beverly basin ore was discovered by drilling continental sediments flanking Mt. Painter which contains uranium-bearing veins in granite.

*Austria*—At Forstau, pitchblende and coffinite mineralization in Perian sandstone beds was not remobilized during regional metamorphism to the greenschist facies.

*Canada*—The Blizzard deposit of British Columbia was found by application of the Tono, Japan, model.

*France*—The Herault deposit, in Permian sediments, is controlled partly by faults and partly by lithology.

*Gabon*—The deposits are in the oldest host rock (about 2,000 m.y.) known to contain sandstone ore.

*Japan*—In the Tono deposit, the ore is contained in paleochannel structures as a uranium-bearing zeolite mineral.

*Niger*—The largest resources in sandstone, exclusive of the United States, have been developed in Niger.

*South Africa*—The main deposits are in the lower part of the Beaufort Group (of the Karoo Supergroup), but northward the deposits are progressively higher in the section and in younger rocks.

#### AAPG-SEPM-EMD ROCKY MOUNTAIN SECTIONS

#### 28TH ANNUAL MEETING

June 3-7, 1979

Casper, Wyoming

#### "Rocky Mountain High"

Headquarters—Ramada Inn

Technical Sessions—America and Rialto Theaters in Downtown Casper

General Chairman: W. J. GUY, Box 534, Casper, Wyo. 82602

#### Entertainment

The traditional "Ice Breaker" cocktail party will be held on Sunday evening following the first day of registration. On Monday night the entire family will be welcome at an outdoor cocktail party and barbeque dinner. Later, the adults can dance to the music of the Milt Clark Trio and play at the exciting Monte Carlo Casino. Late Tuesday afternoon will be a time to gather again for the Exhibitors and Alumni "Happy Hour" as well as seeing and "hashing over" the SEPM-EMD "Poster Boards."

#### Ladies' Activities

For the ladies attending the convention, plans are under way for a brunch, a luncheon, and other interesting activities. During the convention we will have an art exhibit, where you may both view and buy. Early June weather in Wyoming is unpredictable, so bring a light wrap.

#### Exhibits

Approximately 35 professional and commercial exhibits will be presented in the Grand Ballroom of the Ramada Inn from Sunday afternoon to Wednesday noon.

#### Field Trips

Pre-convention field trips on Sunday will include a trip to Casper Mountain to study the Precambrian with the University of Akron, a trip to the Salt Creek area north of Casper to study the Cretaceous, and a trip to the Powder River basin to view three uranium mines—the Highland (Exxon), the 28-33 South Monument Hill (Kerr McGee), and the Morton Ranch (United Nuclear). A post-convention field trip on Thursday will go to the Gillette, Wyoming, area to view three coal