PART III-A
ABSTRACTS OF TECHNICAL PAPERS

1962-1963

October 1, 1962

Orlo F. Childs, U. S. Geological Survey, Denver, Colorado

"Career Opportunities in Geology"

Abstract

Most of the affairs of the AAPG coincide with the terms of elected officers, and thus extend from annual meeting to annual meeting. For the years 1960-61 and 1961-62 a special committee for Industrial-Academic relations was appointed. The objective of this committee was to gather facts that would allow a recounting of the history of employment and academic training of geologists over the previous ten years; then, on the basis of this history, to attempt a forecast of this supply and demand relationship over the coming years to 1965. Two detailed questionnaires were sent out in successive years, and final results arrived in March of this year.

We have recorded a complete cycle of excessive demand over supply, then supply exceeding demand, and are now again on the threshold of a demand that exceeds expected supply over the coming three years. Industry trends continue to emphasize a master's degree as the basic academic training for professional employment. Thus, five years are needed for the training of a geologist. The five-year training period introduces a critical time lag that distorts the relations of demand and supply if industry is only willing to think of its employment needs on a year-to-year basis.

Already there is a disturbing age-spread in the geological employees of major oil companies. There are old geologists and very young geologists. Retirements in the next ten years will bring serious problems to companies hoping for experienced leadership in geological departments.

Despite broad diversification of oil companies into all phases of the oil industry, the production of oil and gas is still the major factor in the economic health of most companies. Long range geological employment policies and practices must be developed and followed if this important aspect of the oil company's business is to survive.

On the other hand, many small colleges have started geology departments in recent years during the peak of employment. Often these new departments have only one or two instructors, and the geologic curriculum is built around the specialization of one professor. In such a case, a graduate education at another institution is especially needed in the training of a professional geologist.

Geological education fulfills a dual role. We must serve the science needs of the student majoring in other subjects. At the same time, we must provide a sound basic knowledge of general geology and allied sciences for the student majoring in geology. General geological training, with emphasis on field

and laboratory courses, is still the most important background for which industry looks in the selection of professional geologists.

Employment demand for geologists will exceed the supply of graduates from universities over the next three years. Already major oil companies are exceeding their normal search for geologists with five or six years of experience. It can be expected that competent, experienced geologists, who have swelled the ranks of the unemployed during the past five years, will again find their professional services needed in the near future.

October 8, 1962

Don Franks, Mid-Continent Map Company, Tulsa, Oklahoma

"How to Obtain the Maximum Information From Your Abstract Map

October 15, 1962

Frank B. Counselman, Consultant, Abilene, Texas

"*Migration and Accumulation of Natural Gas*"

Abstract

Natural gas is now being sought independently of petroleum because of current market conditions. It is therefore appropriate to review our exploration methods to determine whether gas may not deserve its own specialized techniques.

Associated gas reserves will continue to share in the results of oil and gas exploration and development. However, non-associated reserves, which either have never been associated with oil or have dissociated themselves from oil, appear to justify specific study.

Natural gas may originate entirely apart from oil. Significant data on methane, the principal constituent of gas, are available from coal mines, and from metal mines cutting carboniferous sediments, as regards both origin and behavior.

Gases originating concurrently with crude oil may separate by virtue of important physical and chemical differences between the two fluids. Migration need not always be over long distances; there are many examples of commercial gas fields caused by short-range segregation.

New field discoveries in unlikely reservoirs, re-study of the old carbon-ratio idea, and information obtained from the formation of artificial gas caps by underground storage, suggest that gas-finding may involve more than normal oil-finding criteria. We may need to develop new definitions of what is a source rock and what is a reservoir. Our ideas of prospective territory and our methods of prospecting can stand review. Techniques for detection and recognition of gas reserves when drilled can stand improvement. There is adequate gas still in the ground awaiting discovery to take care of our needs for the near future, if the political and economic situation gives us an incentive to find it.

October 22, 1962

B. W. Beebe, Consultant, Boulder, Colorado

"Let's Take A Good Long Look At Ourselves"

November 7, 1962

Robert S. Dietz, U. S. Navy Electronics Laboratory, San Diego, California

"Continent and Ocean Basin Evolution by Sea Floor Spreading"