

3. Responsibilities to the *Geologic Profession*.
4. Responsibilities to the *Public*.
5. Responsibilities to our *Government*.

Appraisal of each of these classes of professional obligations and a review of how as a profession geologists are meeting these charges show a distinct need for acceptance of further professional responsibility to the geologic profession and to the public. Without much needed development in these quarters proper balance between employment opportunities and available properly trained geologists cannot be attained. Neither can the public be assured of receiving ethical and qualified professional geologic counsel when needed unless the profession directs the establishment of some system of certification of professional ability. Geologists are urged as individuals to assess the needs for professional development and to face the responsibilities which accompany desired professional status. The rightful activities of the American Association of Petroleum Geologists should be broadened to include professional development unless the majority of all geologists agree promptly on plans for a purely professional geologic organization to discharge these obligations.

TIPS AND ADVICE ON HOW A GEOLOGIST SHOULD TESTIFY BEFORE THE CORPORATION COMMISSION

W. E. ROBERTSON

The Oklahoma Corporation Commission has the power to establish well spacing and drilling units covering any common source of supply. Several court cases were cited to point out this fact. Vertical communication was also commented on. Some, for example, want the Layton divided into the Upper, Middle, and Lower reservoirs whereas others wish it to be considered as a common source of supply. Comparable pressures, comparable gravity, comparable characteristics of liquid hydrocarbons involved, and comparable chemical composition of the gases all point to common accumulation.

The following suggestions were proposed to geologists testifying before the Oklahoma Corporation Commission:

1. The geologist is testifying as a scientist and expert. Use as big words as are necessary to put your point across satisfactorily. It is up to the court to find out what you are talking about.
2. Do not worry about being fair. All hearings are partisan affairs and all witnesses, including geologists, are partisans. Put your best foot forward and stick by any contouring you present. It is based on your best judgment.
3. All exhibits as maps, charts, and graphs should be prepared with care and with the professional touch.
4. Three-dimensional presentations are more effective than those limited to two. Contoured isopach colored up like a layer cake are extremely effective. So are peg-board model oil fields, in the event the stakes are large enough to warrant the necessary expenditure of time and money.
5. Citations of textbooks and articles in recognized periodicals as U. S. G. S. Bulletins, will add great weight to the cause. Judges, commissioners, and the public

are greatly impressed by the written word, particularly if it is written by a college professor or a man with a lot of credits after his name, who should know what he is talking about.

6. Lastly, there is no real substitute for thorough preparation and study of the problem involved.

SEDIMENTOLOGICAL STUDIES OF RECENT AND OLD SEDIMENTS, A COMPARISON

D. J. DOEGLAS

The author had planned sedimentological studies of modern sediments during the war. Afterward studies were made of the tidal flats in Holland (A. Koning), continued by Dr. van Straaten, of the continental deposits by the Netherlands Soil Survey Institute and by students of the author of the Rhine River (Van AnDEL), the Rhone River and its delta (Van AnDEL and Kruit) and the Persian Gulf (Houbolt).

In cooperation with Prof. Kuenen a study was made of the delta front deposits of the Orinoco delta by Dr. Nota and Dr. Koldewijn.

In the U.S. extensive sedimentological studies have been made of the Mississippi River and delta, the Gulf coast (Fisk, Moore, Scruton and Shepard) and the California coast (Scripps Institute).

In a relatively short time a very large amount of valuable data of various modern environments has been collected. In 1955 the author returned to studies of old sediments. He found with surprise, how little of the data of investigation of modern sediments could be used for the interpretation of old sedimentary formations.

In modern sedimentary environments the regional distribution of the properties of sediments and age are accurately known in a comparatively thin top layer. Modern marine environments, furthermore, have been formed during the last 5,000 years after one enormous transgression with a sea level rise of more than 200 feet. Modern delta deposits, therefore, have thicknesses of more than 200 feet (one sequence).

The study of the recent sediments has been carefully planned. Accurate field and laboratory investigations have been made on a large scale.

In old sediments the exact regional distribution of one layer is hardly known. Studies have to be made in outcrops with a limited horizontal extent. The vertical distribution and sequences of the deposits, however, can be studied much better than in modern sediments. The sequences are much thinner than in modern sediments due to a more rapid change between transgressions and regressions. Cyclothem in the Western European coal measures (delta and coastal deposits) vary between 12 and 24 feet thickness.

The accuracy of the field and laboratory methods has been much less than of studies of modern sediments.

New techniques for accurate studies of the old sediments were needed. The long descriptions only can be compared with difficulty and the general lithological logs don't give enough information.

The graphic methods of Lombard, Carozzi and others only depict a small number of the properties of sedimentary formations.