

General map of Arabia shown as well as moving pictures of typical desert scenes.

7. FRANK HORNKOT, consultant, Los Angeles: Interpretations of Core Analyses (abstract).

Permeability is a measure of the fluid passing ability of a porous material. Porosity is a measure of the void space in the sand that can be occupied by a fluid. Water saturation of a sand is the total amount of water in per cent present in the void space in the porous material. This includes the connate water, drilling fluid, and actual water present. The larger the diameter of the core sample, the more accurate the determination. Oil saturation is only of comparative value, because in deep samples of light gravity oils, only the residual oil is present, the other lost because of temperature and pressure conditions present. Permeability and porosity determinations for the entire oil sand area plus bottom-hole pressure from which a specific productivity index can be determined make it possible to predict fairly accurately the gross barrels per day per foot of sand.

8. J. Q. ANDERSON, Union Oil Company of California, Los Angeles: Comparative Columnar Sections of the Domengine-Arroyo Hondo Sandstone Intervals between Cantua Creek and Waltham Canyon, Coalinga District, California (abstract).

Presentation of a series of slides showing 13 hand-leveled surface columnar sections of the Domengine-Arroyo Hondo sandstone intervals measured at varying distances between Cantua Creek and Waltham Canyon. Correlation of all sections is based on the "black pebble bed" or Domengine Reef. Discussion involves demonstration of lateral variation and facies changes in lithology of both intervals. Deals briefly with Domengine-Kreyenhagen contact, fossil occurrences, and contact relations of the Arroyo Hondo sand with Arroyo Hondo shale and the Moreno shale.

9. HARRY B. ALLEN, student, University of California at Los Angeles: An Eocene Section at Point of Rocks, Kern County, California (abstract).

The sedimentary sequence and formational age of the Eocene rocks in northwestern Kern County have been the subjects of controversy. The results of recent field and paleontological work, conducted in an attempt to clarify this problem, are presented in this paper.

10. ROGER REVELLE, Scripps Institution of Oceanography: Problems of Sediment Transportation off the Coast of California (abstract).

Several kinds of evidence obtained in recent investigations suggest that water movements of sufficient strength to move sand grains over the bottom may exist at least occasionally at all depths in the open sea. Sediments are absent from topographic highs rising one or two hundred fathoms above the general level of the sea floor even at depths of two miles or more. Thin layers of well sorted fine sand intercalated with thicker layers of clayey muds are characteristic of inshore basins off Southern California at depths of over half a mile and at distance of thirty or more miles from land. Current velocities of nearly one-half knot were measured within two feet of the bottom at 1,100 fathoms in the Santa Cruz Basin south of Santa Cruz Island, 500 fathoms below the sill or threshold of the basin. Other similar measurements show that the strongest bottom currents shift irregularly in both speed and direction. They may be regarded as representing lateral turbulence or eddy motion in which eddies have vertical axes and are perhaps a few miles in

diameter. The presence of silts and muds on the bottom in certain areas of highest observed velocities indicates that these eddy currents are not competent to prevent all deposition. Since evenly distributed eddies cannot alone produce any net transport, other factors such as the gravitational component down slope and steady weak currents must cooperate in preventing deposition on certain areas of rocky bottom and in transporting débris to the regions of accumulation.

11. FRANCIS D. BODE, California Institute of Technology: Geological Observations in Italian East Africa (abstract).

Topographically and geologically, Italian East Africa can be divided into three principal areas: (1) the "Ethiopian Plateau" which occupies the north-western third of the country; (2) the "Rift Valley depression" which divides the entire country in two; and (3) the "Somaliland Plateau," the country south and east of the Rift Valley.

The Ethiopian Plateau consists of a series of tablelands, in many places of great elevation, with ranges of high and rugged mountains dispersed across its surface in rugged confusion. This high land area is composed of a thick series of lava flows which rest either on old plutonic rocks or upon a thin section of Mesozoic sediments.

The Rift Valley depression is a long, and generally narrow, trough which trends in a northeasterly direction across the country from the southwest corner of Abyssinia to near the junction of the Red Sea and the Gulf of Aden. Toward the northeast, the trough widens and the scarps which form its sides become continuous with those on the eastern side of the Red Sea and the south side of the Gulf of Aden. For the most part, the floor of the depression is covered by lava flows of Tertiary age.

The Somaliland Plateau is a great area of monotonous relief which slopes very gradually, from elevations near 5,000 feet along the Rift Valley and the Gulf of Aden, southeastward to the Indian Ocean. Most of this plateau is covered by sediments of Mesozoic and early Tertiary age.

12. Informal Symposium on Recent Petroleum Discoveries in California.

These are extemporaneous papers on areas of current interest and they are not intended for final publication at this time. Discussion is invited but deference should be given to the fact that insufficient information is available on many of these for final conclusions to be reached.

A.—L. S. CHAMBERS, Seaboard Oil Company: East Coalinga and Amerada Area.

B.—R. ECKIS, Richfield Oil Company, and G. GARIEPY, Ohio Oil Company: Coles Levee Oil Field.

C.—R. W. CLARK, Western Gulf Oil Company: Paloma Field.

D.—F. A. MENKEN, Tide Water Associated Oil Company: Strand Oil Field.

E.—J. R. DORRANCE, The Texas Company: South Mountain view Field.

F.—C. E. LEACH, Tide Water Associated Oil Company: Aliso Canyon Field.

G.—VERNON L. KING and H. M. PRESTON, consultants: West Montebello Field.

H.—J. R. DORRANCE, The Texas Company: Summary of Development Northern California Gas Fields.

At the annual meeting of the Pacific Section of the Society of Economic