

SCIENCE NEWS

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SOUTH AMERICAN OIL RESERVES

A VAST untapped region extending the whole length of South America promises rich oil reserves, according to Dr. John L. Rich of the University of Cincinnati who gave a report at the annual convention of the American Association of Petroleum Geologists. A belt bordering the eastern base of the Andes mountain system from Tierra del Fuego to the island of Trinidad is the area which he forecasts will be oil-productive. The belt is now productive in the Neuquen, Mendoza, and Salta regions of Argentina, in southern Bolivia, in central Peru and in Venezuela.

Though much of the sub-Andean belt is geologically favorable for the generation and accumulation of oil, the finding and development of that oil promises to be more than ordinarily difficult. Dr. Rich stated that "In much of the belt, except locally close along the mountain base, the prospective oil-bearing rocks lie at great depths, ranging up to 15,000 feet or more, and the structures will be difficult to find owing to a thick mantle of comparatively recent gravels, sands and silts spread eastward from the growing Andes, uncomfortably burying the older rocks."

Transportation of the oil to market is another obstacle: "Some 1,600 miles of the sub-Andean belt, from central Bolivia to the Llanos of central Colombia, is an unbroken tropical rain forest where the heat and humidity are trying and where the presence of tropical diseases will require the utmost vigilance. Transportation in the region is not yet developed, and at best the distance to markets is very great."

According to Dr. Rich, one of the largest areas of potential oil territory, not yet productive, is the huge Parana Basin region of southeastern Brazil, Paraguay and northern Uruguay, where good showings of oil have been found in test wells.

"But most of the basin is covered by an enormous lava field which makes prospecting extraordinarily difficult," Dr. Rich says.

ITEMS

AMERICAN chemists participated in Mexico's Second National Conference of Chemists held in Mexico City during the week ending April 1. The principal theme of the meeting was the future of chemistry in the western hemisphere, particularly as it affects the expansion of Mexican industry. U. S. delegates attending as the guests of the Mexican Government were: Dr. Horace Porter, Philadelphia chemical engineer, Dr. J. Alfred Hall, principal biochemist of the U. S. Forest Service, and Dr. R. O. E. Davis, U. S. Department of Agriculture chemist specializing in fertilizers. Dr. Rafael Illescas Prisbie, connected with a family prominent in California history, was elected president of the conference. A new film prepared by the Mexican Department of Health showing how pinta, sometimes called spotted fever, a contagious skin disease of Mexico and other tropical countries, is fought was shown to the meeting.

REPORTS of the possibility of producing a high-protein stock feed from wood waste, by a slight modification of a process for using the same kind of waste in the production of alcohol for war industries in the United States, have aroused great interest on the part of Mexican cattlemen. Dr. J. Alfred Hall, principal biochemist of the U. S. Forest Service, discussed the process at the meeting of the Mexico Conference. At the same time, an illustrated news feature by Science Service telling about it appeared in the Mexican newspaper, *El Universal*. The process, which consists of first converting wood cellulose into sugar by acid treatment, and then fermenting the sugar, was first developed in Germany, at the great Tornesch distillery near Hamburg. Technical knowledge of it was brought to the United States by the former owner of the plant, Erwin M. Schaefer, an anti-Nazi German, who is now preparing to supervise the installation of a new plant at Eugene, Ore.

A MACHINE for obtaining true perspective diagrams from maps and promising to be a boon to both wartime and peacetime cartographers, was introduced by Dr. W. H. Bradley, of the U. S. Geological Survey, at a meeting of the Geological Society of Washington. Devised by Dr. Bradley, K. E. Lohman, and A. H. Frazier, this machine is the first of its kind to make allowance for the curvature of the earth and for the refraction of air in translating maps into true perspective pictures. The invention, capable of handling maps of any scale range, can be operated to make as many control points as are desired, from which a profile of the region may be drawn, and the drawing refined further with the aid of photographs. The machine has been very successful in making perspective pictures of land as seen from the air and coast lines as seen from the sea.

"SPEED-UP" motion pictures in color are used in a new method of determining efficiency and economy of combustion in stoker fuel beds in industrial furnaces. Pictures were shown and the method explained by Otto de Lorenzi of the Combustion Engineering Company, New York City, at the Alabama meeting of the American Society of Mechanical Engineers. Ordinary motion pictures of stoker fuel bed movements are too slow to have value in studying the burning coal behavior. "The general impression gained, when looking into a stoker-fired furnace, is that the fuel bed is motionless, incandescent and active. While the actual motion is very slow, nevertheless it is positive and regular. The slowness makes it difficult for the human eye to see, follow and remember successive steps during any given cycle. Consequently, to have a true picture of sequence of operation and resulting changes, the action must be speeded up." Interval photographs pieced into a continuous motion picture are found satisfactory for complete analysis of coal behavior in the various fuel bed zones. The exposure rate can be adjusted to secure any desired degree of speed-up. The studies made by this new method are being used in improved designing and engineering.