OUR MINERAL RESERVES.

By George Otis Smith.

INTRODUCTION.

INVENTORY OF MINERAL RESOURCES.

The United States is not only the world's greatest producer of mineral wealth, but, so far as estimates of the earth's treasures have shown, it possesses greater reserves of most of the essential minerals than any other nation. It is to our national mineral resources that the United States Geological Survey has given special attention since its organization in 1879, for the congressional enactment creating the Survey specified as its duties "the classification of the public lands and examination of the geological structure, mineral resources, and products of the national domain."

Geologic investigations have been made with a view of determining the mode of occurrence and the extent of distribution not only of those minerals and rocks that possess present value, but also of those that have only possible future utility, the nature of which may be as yet neither known nor suspected. Thus a geologic map, in so far as its scale permits, is a graphic inventory both of the mineral resources now used and of those that are untouched because they are at present of no value. He is indeed a bold prophet, however, who pretends to forecast either the probability or improbability of future usefulness of any raw material. As has been illustrated by the radium mineral carnotite, the mineralogic curiosity of one decade may become the valuable ore of the next. The principal ore of aluminum, bauxite, was not even mentioned in a list of useful minerals published by the Geological Survey 25 years ago.

The Survey's annual report entitled "Mineral Resources of the United States" contains not only statistical statements of production and consumption, which constitute an annual census of the mineral industry in all its phases, but also a series of comprehensive studies of the sources of mineral wealth, with estimates of the reserves to be drawn upon for future production. The very nature of many mineral resources precludes exact knowledge of the extent of their reserves, and the estimates of other reserves must be made roughly quantitative. At best, future supply and demand can be only approximately measured, but the recognition of this limitation has not discouraged the collection of all available information concerning

the country's mineral resources.