

## INTRODUCTION.

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This volume is the fifth of the series "Mineral Resources of the United States." It extends the information contained in the previous volumes to include the calendar year 1887. The statistical tables have been brought forward, but with this exception only such information as is supplementary to the previous volumes should be looked for. Repetition of descriptive matter has been avoided wherever possible, therefore all the volumes should be consulted for complete information on any subject.

Uniformity of arrangement in all the volumes has been observed as nearly as consistent with the object of showing the changes constantly occurring in the mineral industries. Where a supplementary report was not necessary some subjects have been dropped from the list, while others have been dwelt upon at greater length. The methods of collecting the statistics and the units of quantity adopted are defined in the previous volumes. The units are those in common trade use for the particular substances treated, and are further explained in connection with each chapter. In cases of marked variance in trade usage, the terms least liable to confusion have been adopted; for example, the ton of 2,240 pounds is, in this report, called the "long" ton, and that of 2,000 pounds the "short" ton, the terms "gross" ton and "net" ton, although in common usage, being sometimes misleading; for instance, where a gross ton of ore may be taken to mean a ton (of perhaps only 2,000 pounds) including moisture and where net ton might be understood as referring to the weight after deducting the tare of package, etc.

*Acknowledgments.*—The names of contributors of special articles usually appear in connection with the subjects treated. In so far as possible the chief sources of information are noted in connection with each subject, although it is not possible to mention the many items which have been furnished by agents in the Pacific coast and Rocky Mountain divisions, or to give in detail the proper credit to the correspondents, now many thousands, who have given much valuable time and cheerful co-operation in preparing answers to the heavy demands upon their time and patience. The statistics of imports and exports are, as usual, taken from the reports of the Bureau of Statistics of the Treasury Department.

*Publication.*—In advance of the publication of the completed volume the principal statistics concerning the more important substances have been given prompt publication in special bulletins, and grateful acknowledgment is due to the active co-operation in this effort given by the daily and technical press.