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UNITED STATES GEOLOGICAL SURVEY GEORGE OTIS SMITH, Director

**Bulletin 690** 

## CONTRIBUTIONS TO ECONOMIC GEOLOGY

(SHORT PAPERS AND PRELIMINARY REPORTS)

## 1918

#### PART I.--METALS AND NONMETALS EXCEPT FUELS

F. L. RANSOME, E. F. BURCHARD, AND H. S. GALE **GEOLOGISTS IN CHARGE** 

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### CONTRIBUTIONS TO ECONOMIC GEOLOGY, 1918.

#### PART I. METALS AND NONMETALS EXCEPT FUELS.

F. L. RANSOME, E. F. BURCHARD, and H. S. GALE, Geologists in charge.

### INTRODUCTION.

The Survey's "Contributions to economic geology" have been published annually since 1902. In 1906 the increase in the number of papers coming under this classification made it necessary to divide the contributions into two parts, one including papers on metals and nonmetals except fuels and the other including papers on mineral fuels. In 1915 the year included in the title was changed from the year in which the field work reported in these papers was done to the year of publication, and in consequence there was no volume entitled "Contributions to economic geology, 1914." The subjoined table gives a summary of these bulletins.

Date in title.	Date of publica- tion.ª	Bulletin No.	Date in title.	Date of publica- tion.a	Bulletin No.
902. 903. 904. 905. 905. 906. Part I. Part II. 907. Part I. Part II. 908. Part I. Part II. Part II. Part II. Part II. Part II. Part II.	1907 1907 1908 1909 1909 1910 1910	213 225 260 285 315 316 340 341 380 381 430 431	1911, Part I.   Part II.   1912, Part I.   1913, Part I.   Part II.   1913, Part I.   Part II.   1915, Part I.   1916, Part I.   Part II.   1916, Part I.   Part II.   1916, Part I.   Part II.   1917, Part I.   Part II.	1914 1915 1915 1916 1916 1917 1917 1918	530 531 541 580 581 580 621 640 641 660 661
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United States Geological Survey "Contributions to economic geology."

a The date given is that of the complete volume; beginning with Bulletin 285, the papers have been issued as advance chapters as soon as they were ready.

As the subtitle indicates, the papers included in these volumes are of two classes—(1) short papers giving comparatively detailed descriptions of occurrences that have economic interest but are not of sufficient importance to warrant a more extended description;

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(2) preliminary reports on economic investigations the results of which are to be published later in more detailed form. These papers are such only as have a direct economic bearing, all topics of purely scientific interest being excluded.

Brief abstracts of the publications of the year are given in the annual report of the Director. The complete list of Survey publications affords, by means of finding lists of subjects and of authors, further aid in ascertaining the extent of the Survey's work in economic geology.

The reports on work in Alaska have been printed in a separate series since 1904, the volumes so far issued being Bulletins 259, 284, 314, 345, 379, 442, 480, 520, 542, 592, 622, 642, and 662.

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