

## LETTER OF TRANSMITTAL

IOWA GEOLOGICAL SURVEY,  
DES MOINES, Iowa, December 31, 1897. }

*To Governor Drake and Members of the Geological Board:*

GENTLEMEN—I have the honor herewith to transmit the last of the manuscript for volume VI of the Iowa Geological Reports. In this volume are gathered a number of separate papers of general economic interest. Its publication was authorized early in 1896, in order that the memoir of Prof. A. G. Leonard, on the "Lead and Zinc Deposits of Iowa," and that of Dr. S. W. Beyer, on the "Sioux Quartzite and Certain Associated Rocks," might be placed in the hands of persons to whom they would be of service at as early a date as possible. Accordingly these memoirs were printed, and a sufficient number of copies were distributed to meet the most pressing demands. Professor Norton's memoir, on the "Artesian Wells of Iowa," which, it was believed would soon be ready for publication, has been purposely delayed, owing to the desire to incorporate data from certain important borings which have only recently been finished. The delay has made it possible to add to the completeness and value of the memoir in other important respects. It is now presented as a very complete statement of the accessible facts relating to the subjects of which it treats, to present date, and it is confidently believed that it will be welcomed by the public as a worthy contribution to the economic geology of the state.

The paper of Mr. H. F. Bain, on "The Relations of the Wisconsin and Kansan Drifts in Central Iowa," is a summary of some of the most recent work of the Survey in a very interesting field. The importance of these results seem to warrant their publication in a more general form than the limits of a county report will allow.

The first two papers of this volume were published under the supervision of Mr. H. F. Bain, as assistant state geologist, but Mr. Bain being now absent on leave for one year, the publication of the remaining portions of the volume will be supervised by Prof. A. G. Leonard, who is acting during Mr. Bain's absence. I have the honor to remain, gentlemen,

Yours very respectfully,

SAMUEL CALVIN,  
*State Geologist.*