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# ADMINISTRATIVE REPORT

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SEVENTEENTH ANNUAL

## Report of the State Geologist

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IOWA GEOLOGICAL SURVEY,  
DES MOINES, IOWA, DECEMBER 31, 1908.

*To Governor Warren Garst and Members of the Geological Board:*

GENTLEMEN:—During the year 1908 the Geological Survey has been active in a number of lines affecting the welfare of the state. Co-operation with the United States Geological Survey, in the work of preparing a topographic map of the state, has been continued on the same terms as during the year 1907, the work of 1908 being limited as before to the coal producing portion of the state, and chiefly to the Pella quadrangle. It would be a matter of very great economic importance if our coal areas were covered with standard topographic maps, and it is the purpose to extend the mapping in these areas as rapidly as possible. Such maps are needed as a basis for the study of the vertical distribution of the coal seams, a matter of much scientific, as well as of economic interest. Giving reliable detailed knowledge of the surface configuration of the region they represent, they are of the highest value in the solution of problems relating to drainage and soil conservation. The best location for wagon roads, electric lines and steam railways, so far as grades are concerned, is determined at once by reference to such maps. In a few of the states the topographic work is complete as a result of active co-operation of state and national surveys; in the other states the urgent call for co-operation is very much greater than the United States Survey has been able to meet. It is hoped that the work in Iowa may be continued until, not only the coal areas, but the entire state has been reliably mapped. In the north-central part of the state, where

questions of drainage are vital and must be settled by comprehensive plans that have no regard to township or county lines, maps showing minute details of topography are among the prerequisites to success. The rate at which topographic mapping can be carried on in the several states depends on the national appropriations for topographic work. Iowa, in common with many of the other states, has a very direct interest in the progress of the topographic branch of the United States Geological Survey.

Besides the Director and the Assistant State Geologist the corps employed in the regular work of the State Survey has been about the same as during previous years. S. W. Beyer and Ira A. Williams, with such assistants as they were authorized to employ, have continued the investigations on peat and road materials. The peat work is practically finished and the report will appear as one of the papers making up Volume XIX. It will require another season to complete the field work on road materials. Henry Hinds, under the direction of F. A. Wilder, completed the field work on coal, and the report on this subject will soon be ready for the printer. Dr. Geo. A. Smith of Shendoah has re-studied the section of the Missouri stage, generously devoting a large amount of time to field work in order that he might personally visit and re-observe the natural exposures and gather data for more detailed correlation. His paper has been re-written and is now ready for publication. W. H. Norton has collected the facts disclosed by the activities of the present year relative to deep wells, well sections and underground waters. S. W. Stookey completed the survey of Poweshiek county. M. F. Arey finished the work in Grundy and made a survey of Davis county. T. H. Macbride worked in Calhoun and Greene counties. B. Shimek made a very thorough survey of Harrison and Monona counties, adding to our knowledge many facts of exceeding interest from both the practical and the scientific points of view. The Mineral Statistics have, as usual, been compiled by Dr. S. W. Beyer.

I have the honor to remain, gentlemen,

Yours respectfully,  
SAMUEL CALVIN.