

other States, to authorize the completion of the geological survey in such manner as would at least properly bring into notice her mineral and agricultural resources.

For the purpose of repeating the suggestions made to the last Legislature, relative to a geological survey of our State, the following is extracted from page 8 of the report of 1860 :

From what is now known of the origin and characters of soils, we must conclude that the very foundation of an intelligent and practical application of science to agriculture in any region, must consist in a thorough investigation of its geological and mineral constitution.

A survey of this kind for our State should have for its object the determination of the chemical, physical and other characters of each kind of rock, bed of clay, sand, marl, or other mineral deposit within our borders.

They should be minutely described, *and their position and extent* be accurately shown on a map, and sections upon a large scale. We should make ourselves acquainted with the properties of every mineral that can be usefully applied to the soil, and also with those that may promote industrial operations within our limits. These last should by no means be overlooked, because of their importance in adding to the demand for the products of the farm.

In addition to many obvious advantages, we shall find, if a work of this kind be thoroughly executed, that the wants of our soil can generally be supplied with much less dependence upon manures or fertilizers from abroad than has hitherto been supposed.

So far as I have been able to learn, these views were very generally approved, and I have been much encouraged to prosecute the work to a successful termination.

I well knew, however, that no single individual could properly execute a work of this character within a reasonable time, and therefore suggested four years since, to the proper committees and other members of the Legislature, that provision be made for the requisite assistance. If that had been afforded I should be able at this time to present complete geological maps of much the larger portion of the State. This would have been accompanied by full descriptions of the several geological formations and of the useful mineral substances contained therein, including all the varied resources with which our State abounds. The necessary appropriations, however, were not made, but I have progressed in the work without aid as rapidly as possible under the circumstances.

It might be supposed by some that the proper mode of conducting a survey of this kind would be to finish a single county or other small section at a time, and so on from one