

Oklahoma Geological Survey

Governor C. N. Haskell, State Superintendent E. D. Cameron,
President A. Grant Evans, Commissioners.

CHAS. N. GOULD, Director.
L. L. HUTCHISON, Assistant Director.

Circular No. 1

THE OKLAHOMA GEOLOGICAL SURVEY ITS ORIGIN, SCOPE AND PURPOSE

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THE AUTHORITY.

The authority for the establishment of the Geological Survey, is contained in Section 37 of Article 5, of the Constitution of Oklahoma which reads as follows.

The legislature shall provide for the establishment of a State Geological and Economic Survey.

THE LAW.

The Survey was established by the first legislature of Oklahoma. The bill providing for its establishment, was introduced by Senator R. E. Stafford. The bill follows:

SENATE BILL NUMBER 75.

An Act.

TO AUTHORIZE A GEOLOGICAL SURVEY OF THE STATE, PROVIDE FOR A GEOLOGICAL COMMISSION, AND DEFINE THE POWERS AND DUTIES OF THE SAME. BE IT ENACTED BY THE PEOPLE OF THE STATE OF OKLAHOMA:

Section 1. There is hereby created a bureau, to be known as the "Oklahoma Geological Survey," which shall be under the direction of a commission, to be known as the State Geological Commission, composed of the Governor, the President of the State University, and the State-Superintendent of Public Instruction.

Sec. 2. The said Commission shall serve without compensation, but shall be reimbursed for actual and necessary expenses incurred in the performance of their official duties, said Commission shall have general charge of the bureau, and shall appoint as director of the survey, a geologist of established reputation, who may, with the approval of the commission, appoint such assistants and employees as may be necessary to carry out the provisions of this Act. The director, assistants and employees shall receive such salaries, or compensation as may be determined by this Commission.

Sec. 3. The said bureau shall have for its object and duties the following:

First: A study of the geological formations of the State with special reference to its mineral deposits, including oil, coal, gas, asphalt, gypsum, salt, cement, stone, clay, lead, zinc, iron, and road building material, water resources and all other mineral resources.

Second: The preparation and publication of bulletins and reports accompanied with the necessary illustrations and maps, including both general and detailed descriptions of the geological structure and mineral resources of the State.

Third: The consideration of such other scientific and economic questions as, in the judgment of the Commission shall be deemed of value to the people.

Sec. 4. The directors shall present to the Governor a biennial report, ready for printing, showing the progress and conditions of said bureau, together with such other information as the Commission may deem necessary: Provided, that the Commission shall have authority to print and to distribute said report.

Sec. 5. All materials collected, having served the purpose of the bureau shall be deposited in the State Museum: Provided, that duplicate may be distributed to the various educational institutions of the State under such regulations as the Commission shall formulate.

Sec. 6. In order to carry out the provisions of this act, it shall be lawful for all persons employed by the bureau to enter and cross all lands within the State. Provided, that in so doing, no damage is done to private property.

Sec. 7. Until suitable laboratories, libraries and testing apparatus are provided by the State for prosecuting the work of the survey, said survey shall be located at the State University. The Commission shall enter into arrangements with the Board of Regents of the State University for the use, by members of the staff of the Survey, of such rooms, laboratories, libraries and apparatus as may be necessary for the carrying on of such work.

Sec. 8. The sum of fifteen thousand (\$15,000) dollars or so much thereof as may be necessary, is hereby appropriated out of the funds in the State Treasury, not otherwise appropriated, to provide for the payment of actual expenses of the Commission, and for other expenses authorized by them, and for the salaries or other compensation of the director, assistants or other employes.

Sec. 9. For the preservation of the public peace, health, and safety, an emergency is hereby declared to exist by reason whereof this act shall take effect and be in force from and after its passage and approval.

GEORGE W. BELLAMY, President of the Senate.

WM. H. MURRAY, Speaker of the House of Representatives.

Approved, May 29, 1908.

C. N. HASKELL, Governor of the State of Oklahoma.

ORGANIZATION.

This bill was approved by the Governor, May 29th, 1908. On July 25th, the Governor called the Commission together and the organization of the Survey was accomplished.

In pursuance of the above bill, the Governor C. N. Haskell, the State Superintendent of Public Instruction, E. D. Cameron, and the President of the State University, A. Grant Evans, met in the Governor's office.

Upon motion of E. D. Cameron, seconded by A. Grant Evans, Governor C. N. Haskell was elected President of the State Geological Commission.

The State Superintendent E. D. Cameron, was elected Secretary of the Commission, and the President of the University, A. Grant Evans, was elected Executive Officer. Upon motion, the Secretary was directed to purchase a substantial record book and to make a record of all actions of the Commission therein.

On motion, Chas. N. Gould, a geologist of established reputation, and now acting as Professor of Geology at the State University, was elected Director of the Geological Survey.

The following resolutions were adopted:

That Executive Officer be empowered to certify to the State Auditor, the amount of money required to pay the salaries of the Director and other expenses as may be authorized by the Commission.

That the Executive Officer, be empowered, to arrange with the Board of Regents of State University for such rooms, laboratories, libraries, and testing apparatus as may be necessary for the work of the Survey, as provided in section seven of the Act establishing the Survey.

That President of the Commission make known to the Director of the United States Geological Survey, in Washington, and to heads

of the Geological Surveys in the neighboring state the organization of the Oklahoma Geological Survey, and to ask their official aid and co-operation.

That the Director of the Survey be authorized in the name of the Commission, to solicit the friendly aid and co-operation of all the citizens of Oklahoma, and particularly all teachers, and other professional men of the State.

That in conformity with Article three of Section three of the Act establishing the Commission, the Executive Officer is authorized on the advice of the director to appropriate such funds of the Survey as he may think wise to the investigation of zoological and botanical problems of the State.

That the Executive Officer is authorized to apportion the funds of the Survey, to approve the appointment of assistants and other employees and to see that the instructions of the Commission are faithfully carried out.

INSTRUCTIONS.

The following general instructions to the Director of the Geological Survey were adopted:

To proceed to ascertain the relations existing between the different rock formations at or near the surface of the earth in Oklahoma and to prepare reports properly illustrated, setting forth these facts.

To examine as rapidly as possible, the various mineral resources of the State and prepare reports outlining their distribution.

To collect, name, and arrange a collection of specimens illustrating the geology and mineral resources of the State.

To assist the colleges and high schools in making collections of geological and mineralogical specimens.

To disseminate, as widely as possible, particularly by correspondence and public addresses, correct ideas as to the occurrence, origin, and relation of rocks, minerals and ores.

To answer all reasonable inquiries relative to the mineral resources of the State.

To examine, upon petition of fifty freeholders, properly certified by the county clerk, lands upon which valuable mineral resources may be thought to exist.

To analyze free of cost, such specimens as in the opinion of the director, may be thought, to contain valuable minerals or which would further the work of the survey.

To prepare a schedule of prices to be charged by the chemist of the Survey for analysis made of such material as is not analyzed on the authority of the director.

To co-operate with the United States Geological Survey, other bureaus of the United States Government and other State Surveys, whenever benefit will accrue to the State.

The Director of the Geological Survey was also given special instructions as follows:

Begin immediately to investigate the location and accessibility of various building stones of the State, including limestone, marble, sand stone, granite, gabbro, gypsum, dolomite, and porphyry, with pressure tests to determine the availability of all this stone for the construction of public buildings.

Begin immediately to investigate the location and availability of all stone, clay and other minerals of the state, suitable for the construction of roads, with ample tests to determine the relative value of the different materials in the construction of roads.

Begin immediately to investigate as fully as possible the oil and gas field of Oklahoma. Also to prepare and present to the Commission, reports fully illustrated setting forth the facts relating to these subject.

On September 1st, 1908, Mr. L. L. Hutchison was appointed Assistant Director of the Survey.

FIELD WORK IN 1908.

In pursuance with the instructions of the Commission, the director organized a number of parties for field work, as follows:

Mr. L. L. Hutchison, Assistant Director of the Survey, was in charge of a party consisting of Ben C. Belt, Artie C. Reeds, W. J. Cross, and T. R. Corr, which organized at Tulsa, and spent the season in Tulsa, Creek, Okmulgee, Muskogee and Wagoner Counties, investigating the oil and gas fields in that region.

A party was organized at Ponca City, and placed in temporary charge of Mr. H. A. Everest. Messrs. E. Z. Carpenter and H. G. Powell were assistants. Later in the season, Dr D.

W. Ohern, Professor of Mineralogy at the State University, assumed charge of this party. The party traveled east across Osage, Washington, Nowata and Craig counties, then south and west across Rogers, Tulsa, and Osage counties, to Ponca City. The work consisted in mapping the limestone, sandstone, and clay beds and studying oil and gas conditions and the occurrence of coal.

Mr. Pierce Larkin was assigned to work in the Cretaceous rocks in southern Oklahoma. Starting from Atoka, he worked south and east across Atoka, Bryan, Pushmataha, Choctaw and McCurtain counties, as far as the state of Arkansas. He mapped a number of formations and made extensive studies of building stone, road material, and Portland cement rock.

Mr. C. A. Reeds, spent the season investigating the mineral resources of the Arbuckle Mountains. Mr. Reeds had already spent three seasons in this region and was more familiar with the country than any other man in the state. He is now at work preparing a report on the subject for publication.

Dr. J. W. Beede, Professor of Geology at the Indiana University spent four weeks in the northern part of the state, studying the limestone and shale of Kay, Osage, and Noble counties, with reference to their geological structure and the occurrence of building stone and Portland cement rock. Dr. Beede was assisted several days by Dr. D. W. Ohern, and for the last two weeks by Mr. Artie C. Reeds.

Messrs Frank A. Herald and Chester C. Clark, were assigned to work in the gypsum region in Western Oklahoma. During the summer they visited Blaine, Beckham, Greer, Jackson, Caddo and Grady counties searching for deposits of gypsum and mapping the occurrence of gypsum and salt.

Mr. G. W. Kneialy, undertook the study of the granitic rock of the state. He spent three weeks in Greer, Jackson, Kiowa and Comanche counties, and made good collections of

granite and gabbro from the Wichita mountains. He then visited Murray and Johnston counties and made extensive collections from the Tishomingo region.

Mr. Gaylord Nelson, was assigned work in the eastern part of the state on Portland cement beds. He visited several localities and collected material from Ottawa, Craig, Mayes, Adair, Cherokee, Sequoyah, Muskogee, Wagoner, Rogers, Washington and Pontotoc counties. He visited and took extensive notes on the two Portland cement mills in the state, one at Ada and one at Dewey. He also spent several days in the Miami lead and zinc region, in the tripoli region in the eastern part of Ottawa county, near Seneca, Missouri, and at the marble quarries near Marble City, in Sequoyah county.

Mr. Key Wolf was assigned to the work of tracing out a ledge of limestone in southeastern Oklahoma, known as the Wapanucka limestone. He followed this ledge from Coal county, north and east across Atoka, Pittsburg, and Latimer counties. During the latter part of the season, he assisted Mr. C. A. Reeds, in the Arbuckle Mountains.

During the fall and winter of 1908, Messrs. H. A. Everest, E. L. DeGoyler, and John Bennett, were employed in the eastern part of the state, mapping the outcrops of coal and limestone in that region.

REPORTS

Maps are now being prepared and reports written covering the topics mentioned in the instruction to the Director, viz:

- 1 A preliminary report on the building stone of Oklahoma, by Chas. N. Gould.
- 2 A preliminary report on the oil and gas resources of Oklahoma, by L. L. Hutchinson.
- 3 A preliminary report on the road material of Oklahoma, by Chas. N. Gould.

4. A preliminary report on the Economic Products of the Arbuckle Mountains by Chas. N. Gould and Chester A. Reeds.

It is expected that these reports will be submitted to the Commission for printing at the time of the convening of the next legislature.

PURPOSE.

As stated in the Law and in the Instructions to the Director, the chief purpose of the Survey is to investigate and develop the mineral resources of the State. Few states in the Union have either as many kinds of materials or as much mineral of a kind as has Oklahoma. Our state has vast deposits of coal, oil, gas, asphalt, salt, gypsum, lead, zinc, limestone, granite, marble, sandstone, glass sand, cement rock and clay, and smaller quantities of a number of minerals such as copper, tripoli, volcanic ash, novaculite, and possibly the rarer metals, gold and silver.

At the present time very little of this mineral wealth is being developed. Oklahoma mines a little coal. A small part of the oil field has been developed. There are two Portland cement mills and eight gypsum plaster mills at work. Lead and zinc is being mined on a small scale. A little asphalt has been taken out. Half a dozen pressed brick plants are at work.

Few of these industries, however, are more than started; and in many cases not even a beginning has been made. With vast undeveloped resources, the people of Oklahoma are importing nearly everything they use in the way of manufactured articles. Such things as salt, lime, cement, brick, tile and other clay products, coal, granite, limestone, marble, and asphalt are shipped into Oklahoma, and the consumer pays an excessive freight in addition to the cost of the material.

To develop these dormant resources, is the object of the Survey. To this end, parties are sent into the field to investigate specific problems, reports are written and distributed and

every possible effort is made to call attention to the mineral wealth of the state.

The survey is paid for by the people of Oklahoma and is administered for their benefit. It can undertake the examination of private projects and enterprises only in so far as such examination will advance the public welfare, and aid in the development of the State's dormant resources.

Two mistaken ideas are prevalent, namely: first, that the Survey will examine free of charge any so-called mineral prospect in the state; and second, that the Survey maintains a free assay bureau. Both these notions are erroneous. So many requests of this character are constantly coming in that if all were granted, the staff of the Survey would do nothing else but investigate so-called mines and assay worthless material.

In order to do justice to all and at the same time to render the service of the survey most effective, the regulations on the following pages have been formulated:

EXAMINATION OF PROPERTY.

The Survey has no desire to engage in the work which properly belongs to the practical geologist and mining engineer, and for that reason cannot ordinarily undertake the examination of private enterprises. All prospectors, miners, and private companies, engaged in promoting individual enterprises should secure the services of a competent, practicing, scientific expert.

On the other hand the Survey is ready to examine regions supposed to contain deposits of value, provided that a sufficient number of people are interested in the matter to justify the expenditure of State appropriation. To cover cases of this kind, a special form of petition has been prepared which will be sent on application to the Director.

The petition is worded as follows:

.....Oklahoma.....19.....
To the Director of the Oklahoma Geological Survey:

We, the undersigned freeholders of the County of.....
.....State of Oklahoma, do hereby petition that a
competent Geologist be sent to this County to examine and
report upon the following described lands, towit:.....
..... We have reason to believe that the fol-
lowing minerals may be found upon these lands:.....
.....

When this petition is signed by fifty tax-payers of a com-
munity and properly certified by the county clerk, a geolo-
gist will be sent to examine the region.

EXAMINATION AND ANALYSIS OF SPECIMENS.

The survey was not organized for the purpose of furnish-
ing free assays to prospectors and the Director much prefers
that material to be assayed be sent elsewhere. On request, he
will gladly furnish a list of names of parties whom he consid-
ers to be reliable assayers.

The Survey is willing, however, to undertake the deter-
mination of rocks and minerals found in Oklahoma under the
following conditions:

1. Any rock or mineral sent to the Director will be ex-
amined and if its mineral content can be determined without
an assay, the same will be furnished free of cost.

2. In case the Director believes that the specimen contains
valuable mineral and that its determination will be of value
to the work of the Survey, or aid in the development of the
resources of the State, it will be analyzed free of cost.

3. All samples sent in must comply with the following
conditions:

(a). Each sample must weigh at least 6 ounces, but not
more than two pounds.

(b). Each sample must be enclosed in a canvas bag or strong wrapper carefully labeled.

(c). The parcel must be forwarded prepaid to
The Director of the Oklahoma Geological Survey,
Norman, Oklahoma.

(d). A letter must be sent at the same time to the same address giving necessary information regarding the specimen.

(e). The exact locality where the sample was found (which must be in the State of Oklahoma) must be accurately disclosed.

4. The Director of the Survey reserves the right of publishing at any time the results of any assay made at public expense.

CO-OPERATION.

The Director of the Survey is very anxious to co-operate in every way possible with any one who is endeavoring to develop the mineral wealth of the State. To this end he invites correspondence from stone men, brick manufacturers, coal and oil operators, cement and plaster men, lead, zinc and asphalt miners, and all other parties engaged in exploiting the resources of Oklahoma. He desires to assist cities in securing adequate water supply, to aid in the construction of good roads, to advise with farmer's unions, commercial clubs, and similar organizations, and in every way possible to be of assistance to the people of Oklahoma.