

OKLAHOMA GEOLOGICAL SURVEY
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OKLAHOMA
AMONG THE
SOUTHERN STATES

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—BY—

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Oklahoma Among the Southern States

BY CHAS. N. GOULD

You don't have to lie about Oklahoma; if you tell half the truth people won't believe you.

No equal area that the sun shines upon, during recorded history, has made such rapid material progress as has the state of Oklahoma, during the last decade. Her history reads like a romance. Those of us who have been actively engaged in aiding this development as well as those from other states who have watched the progress of Oklahoma, often stand aghast before the wonderful latent possibilities of the state.

RELATIVE RANK

It is not easy to attempt to condense into a single paragraph a statement of the wonderful resources of Oklahoma and their development. Some idea of conditions may be gained by reference to the government census reports recently issued, where it is shown that during the past ten years, among the sixteen states represented at the Southern Commercial Congress, Oklahoma ranks as follows:

First in percentage of increase of population of the state, 110%.

First in percentage of increase of population of two chief cities, Oklahoma City having 549%, and Muskogee, 494%.

First in percentage of increase of value of farm crops, 242%.

First in percentage of increase of wheat raised, 56%.

First in percentage of increase of cotton raised, 176%.

First in percentage of increase of railroad mileage, 154%.

First in percentage of increase in lumber cut, 901%.

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First in percentage of increase in corn raised, 921%
First in percentage of increase in bank deposits, 1033%
First among the southern states in the amount of petroleum produced during the past four years.
First in the amount of natural gas in sight.
First in the total amount of available fuel.
First in the total amount of asphalt.
First in the total amount of glass sand.
First in the total amount of gypsum.
First in the amount of salt.
First in the total amount of mineral products.
First in the total amount of wheat raised.
And first in the number of acres of fertile soil lying

idle.

If you exclude Texas, our burly neighbor on the South, with an area nearly four times our own, and old Missouri, with an area nearly as large, and with nearly 100 years of development, Oklahoma ranks,

First in corn.
First in oats.
First in cattle.
Excluding Texas, Missouri and Georgia, the Empire state of the South, Oklahoma is,
First in hogs.
First in miles of railroad.
And excluding Texas, Missouri, and West Virginia, she is,
First in assessed valuation.

HISTORY

Twenty-one years ago the greater part of Oklahoma was bare prairie or unbroken forest. In the eastern part of the State, which was owned and occupied by Indians of the Five Civilized Tribes, there were few small villages, little more than trading posts, built up largely of wooden shacks. Western Oklahoma was then totally unsettled. In April, 1889, the first land in the Territory of Oklahoma was thrown open to settlement. Cities sprang up as if

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by magic. An area half as large as that of the State of Maryland was settled in a day. From time to time, various Indian reservations were thrown open to the public and cities sprang up over night. During the past ten years the land of the Five Civilized Tribes in eastern Oklahoma has been allotted and much of it made available for purchase. Farms have been improved, mines and quarries have been opened, factories erected, railroads built and cities have grown, until, today, Oklahoma stands at the forefront of the sisterhood of states.

TOPOGRAPHY

Oklahoma is larger than any state east of the Mississippi River; the total area being 70,740 square miles. Generally speaking, the state is a level plain, sloping from and elevation of about 5,000 feet above sea level in the northwest corner to less than 400 feet in the southeast corner. Western Oklahoma is a flat or rolling prairie. In southern and eastern Oklahoma, this plain is interrupted by a number of ranges of high hills, dignified by the term mountains. These are known as the Wichita, Arbuckle, Ouachita, and Ozark mountains. The eastern half of the state contains forests of pine, oak and hickory. Western Oklahoma contains little timber except along the streams.

RAINFALL AND SOIL

Three-fourths of the State has an abundant rainfall, varying from 40 inches in the southeastern corner to 25 inches near the western line. The extreme northwestern part of the State, old "No Man's Land," lies in the semi-arid region of the Plains, the rainfall varying from 10 to 25 inches per annum.

Oklahoma is well watered by streams. Ten large rivers cross the State. All the drainage is into the Mississippi through the Arkansas or Red Rivers. The chief tributaries to the Arkansas are the Grand, Verdigris, Poteau, South Canadian, North Canadian, Cimarron and

Salt Fork. The chief tributaries of the Red are the Kiamichi, Blue, Boggy and Washita. The general course of these streams is from northwest to southeast across the State. In each stream valley there is a broad belt of exceedingly fertile bottom land, averaging from one to three miles in width. The upland soil throughout the greater part of the State is very fertile. In western Oklahoma much of the soil is red, which color is due to the large percentage of iron which it contains. Eastern Oklahoma contains several large areas of limestone soil.

AGRICULTURAL RESOURCES

The happy combination of abundant rainfall, warm climate and fertile soil, all conspire to render Oklahoma one of the most productive of the agricultural states. Practically everything that is cultivated between the Canadian line and the Gulf of Mexico, and between the Atlantic and the Rocky Mountains can be raised in Oklahoma. The four staples are corn, wheat, cotton and oats. In 1910, Oklahoma led the southern states in the production of wheat, more than 25,000,000 bushels being harvested. She ranks second in the production of oats, with 23,000,000 bushels; fourth in the production of corn with 92,000,000 bushels; and fifth in the production of cotton with 962,000 bales. In addition to these crops, Oklahoma ranks first in the production of broomcorn and among the first in the production of alfalfa. Many of her farmers have become wealthy shipping potatoes to northern markets, two crops a year being produced. Truck and vegetables are grown in all localities. The wild hay crop every year adds hundreds of thousands of dollars to the total wealth of the State.

Practically all kinds of fruits grow well. The apples of eastern Oklahoma rival those raised in the famous Ozark country of northern Arkansas and southern Missouri, this section of the state being a part of "the land of the big red apples." Elberta peaches, the finest raised in the Mississippi valley, grow big as pint cups, and are often

a drug on the market at fifty cents a bushel. Cherries, plums, pears, grapes and fruits of all kinds grow in the greatest profusion. Pecans, walnuts and other nuts are abundant.

It must not be imagined for an instant, however, that Oklahoma has yet come into her own in the matter of agricultural development. The State Board of Agriculture is authority for the statement that at the present time, taking into consideration all known data, only about 24 per cent of the tillable land in the State is yet in cultivation. That is to say, three-fourths of our acreage, which includes much of the finest agricultural land in the United States, is still lying idle.

LIVE STOCK

In former years, Oklahoma was the stockman's paradise. Before the opening of the country to settlement, great herds of long-horned, Texas cattle roamed at will over the broad prairies. The nutritious grasses, indigenous to our soil, and the abundant water supply, made Oklahoma the best cattle country in the world. These conditions have passed. Instead of the half-wild long-horned cattle, we have well-kept herds of Herefords and Jerseys; instead of the tough and wirey cow pony, the draft horse and the racer; and instead of the wild hog, the Poland China and Berkshire. In 1910, Oklahoma ranked third among the southern states in the number of cattle and fourth in the number of hogs produced.

MINERAL WEALTH

No state in the Union possesses a greater variety or larger amount of undeveloped mineral wealth than does Oklahoma. During the past three years she has led the United States in the production of petroleum, and last year produced 54,000,000 barrels of crude oil. The amount of natural gas in sight, including that being utilized, that going to waste and that shut in, will approximate 2,000,000,000 cubic feet per day. At a conservative estimate,

not to exceed 20 percent of the productive oil and gas fields have been developed. The United States Geological Survey is authority for the statement that the amount of coal in Oklahoma is 79,000,000,000 tons. These facts being true, it is obvious that so far as we have available data, Oklahoma possesses a greater amount of fuel than any other state in the Union. When it is remembered that approximately 90 per cent of all the power used in manufacturing and other industrial purposes is derived from one of these three fuels, it will be easily understood what the future development of Oklahoma may be.

But not in fuels alone is Oklahoma rich. The asphalt deposits in the southern part of the State are the most extensive in the Union. Complete data are not available, but at a conservative estimate, there is enough asphalt in this region to pave all the streets of all the cities in the United States for the next hundred years, and even then one would scarcely know from where the material was taken.

The lead and zinc deposits in northeastern Oklahoma are among the most prolific in this country. Within the last two years a million dollars have been spent in mines and mills on a single square mile near Miami, and more than that amount has been taken from the ground at this place in the form of lead and zinc ore. The area in which we may expect to find lead and zinc in paying quantities includes several thousand square miles.

Oklahoma possesses more gypsum than any other state. It is estimated that there are 123,000,000,000 tons of this material in sight in the western counties, which is enough to keep 100 mills, each manufacturing 100 tons a day, busy for 34,000 years. Oklahoma has enough salt water going to waste to make 100 carloads of salt a day. Her glass sand deposits are among the most extensive of those of any state. There is in southern Oklahoma a ledge of glass sand averaging fifty feet thick, and sixty miles long, which, on analysis, is found to be often 99.98 per cent pure silica.

The granite deposits of Oklahoma are among the finest in the country. Twenty or more varieties of shade and texture are found. The Wichita Mountains, 1000 feet high and sixty miles long, in southwestern Oklahoma, are composed entirely of granite. An area of more than 100 square miles in the Arbuckle Mountains is covered by granite.

Oolitic limestone, superior to the famous Bedford stone, occurs in very large quantities. Six separate areas in Oklahoma contain inexhaustible deposits of limestone, the greater part of which is suitable for the manufacture of Portland cement, for burning into lime, for concrete rock, and for building stone. Sandstone suitable for building is widely distributed. Clays and shales, suitable for the manufacture of brick, tile, sewer pipe and a large variety of clay products, are found in all parts of the State.

Oklahoma contains considerable deposits of high grade manganese iron ore; some of the finest tripoli in the country; great beds of volcanic ash; extensive deposits of novaculite; and a large variety of other minerals of minor importance.

WATER POWER

The water power resources of Oklahoma are extensive, but at the present time practically undeveloped. A number of swift-flowing streams, carrying constant volumes of water, cross the State. Power plants are now in operation at only four places, namely at Anadarko, Chickasha, and Pauls Valley, on the Washita, and at Tishomingo on the Pennington. Such rivers as Poteau, Kiamitia, Blue, Boggy, Grand, Verdigris, Illinois, North Canadian and Little River, and creeks such as Rock, Honey, and Mill, contain an ample supply of water to run scores, not to say hundreds of power plants, capable of generating many thousands of horse power.

Two rather ambitious projects are now being considered. One, located in south-central Oklahoma, contemplates the construction of 10 or 12 plants, at various points,

along the Washita River, between Lindsay and Berywn. The combined power from these plants is to be carried to Oklahoma City, Shawnee, Ardmore and other towns in the central part of the State. A second project of nearly as great magnitude in the eastern part of the State contemplates the erection of a dam across Grand River near Muskogee. It is estimated that the power generated at this point, would be sufficient to supply light and power to a city of 200,000 people.

Other projects have been surveyed at Keokuk Falls and Weleetka on the North Canadian, at Carnegie, Fort Cobb, Cloud Chief, Lindsay, Pauls Valley and Dougherty, on the Washita; near Belton and Milburn on the Blue; at Tahlequah and Cookson on the Illinois. Suffice it to say that if the immense deposits of coal, oil and gas now lying dormant in our hills are ever exhausted, there is enough water power yet unutilized to supply all the plants, factories and mines that Oklahoma will ever need.

TRANSPORTATION

Oklahoma has 6,106 miles of railroad. Only Texas, Missouri, and Georgia among the southern states, exceed her in mileage. Most counties have two or more competing lines of railroad.

Five trunk lines across the State, namely, the Atchison Topeka and Santa Fe; the Missouri, Kansas and Texas; the St. Louis and San Francisco; the Kansas City, Mexico and Orient and the Chicago, Rock Island and Pacific. The Santa Fe has direct connection with Chicago, Kansas City, Denver, Galveston and California. The Missouri, Kansas and Texas connects with St. Louis, Kansas City and Galveston. Four lines of the St. Louis and San Francisco cross Oklahoma, giving direct connection with the Kansas City, St. Louis, Chicago and Texas points. The Rock Island crosses Oklahoma from both the north and east, connecting Chicago, Kansas City, Memphis and El-Paso. The Kansas City, Mexico and Orient reaches Kansas City on the north, and is building toward the Pacific Coast.

Besides these trunk lines, there are a number of lines of minor importance, including the Missouri Pacific; Missouri, Oklahoma and Gulf; Fort Smith and Western; Midland Valley; Oklahoma Central, and several shorter lines.

THE NEED OF FACTORIES

Oklahoma's greatest need today is more factories. With unlimited natural resources, both agricultural and mineral, with a larger amount of fuel than any other state, and inexhaustible water power, Oklahoma is, at the present time, manufacturing very few of the comforts and necessities of life used by her people. Nine-tenths of the manufactured articles used in Oklahoma are imported from other states. Our people are today paying the market price plus the freight for the greater part of the articles which they use. At the same time the farmers of Oklahoma are able to sell their five staple crops; corn, wheat, cotton, cattle and hogs, only in outside markets, and for these things they receive the market price less the freight.

To quote a few specific examples: Oklahoma has enough salt water going to waste to make 100 carloads of salt a day, yet all the salt used in the State comes from Kansas, Michigan and Louisiana. There is enough limestone in Oklahoma to burn all the lime that the world will ever use, yet practically all our lime comes from Texas, Arkansas and Missouri. With as good shale as any state possesses, practically all the brick, terra cotta and other clay products used are imported from Kansas and Missouri. Oklahoma has as good granite as can be found in the world, yet in our cemeteries are monuments, and in our large buildings, pillars and cap stones, made of granite from Scotland, Vermont, and Massachusetts, but practically none from Oklahoma. With the largest deposits of gypsum in the United States, a considerable amount of our gypsum plaster comes from Kansas and Texas. With Portland cement rock enough to supply cement for all the world, and fuel in abundance for its manufacture, we have but three cement

plants, and much of the material we use comes from Kansas or Texas. With enough native asphalt in our hills to pave all the streets of all our cities, the greater part of our street paving is being done with the burned-out residue from the oil refineries. There is in Oklahoma but one cotton mill, but three glass factories, and six small oil refineries. We manufacture no shoes and but little clothing. Within the last year, two packing plants have been established in Oklahoma City. There are a few canning factories in various parts of the State, and most of the towns of any size have creameries.

It is safe to say, however, that at the present time, not 10 per cent of the materials used for building, food or clothing by the people of Oklahoma, are manufactured in the State. There is no state in the Union where opportunities are better, where greater returns may be made on investment, or where the people are more willing and anxious to give support to legitimate manufacturing industries. We appreciate the fact that the lack of these industries is a part of pioneer conditions. We accepted these conditions when we came to the new country, but because we were willing to accept them, is no reason, in itself, why we should always be willing to live under them. As soon as plants and factories are established, and mines and quarries opened, and the workmen necessary to carry on these industries are here, our farmers will be able to raise a still larger variety of crops and will receive a higher price for the products of the farm.

EDUCATION

No southern state has a greater number of state schools than has Oklahoma. The head of the educational system is the State University at Norman. The Agricultural and Mechanical College is at Stillwater, and in addition there are six district agricultural schools. Six state normal schools are located respectively at Edmond, Alva, Weatherford, Tahlequah, Durant and Ada. There are university preparatory schools at Tonkawa and Claremore, and a

girls' industrial school at Chickasha. Agriculture and domestic science are taught in all the common schools of the State. Most counties now have consolidated rural schools. The work done in the high schools is up to the standard. The requirements for admission to the freshman class of the state University of Oklahoma, are with a single exception, higher than for any other southern university. Graduates from the University of Oklahoma take rank along with those from any institution in America.

THE PEOPLE

In opening a conversation with a stranger in Oklahoma it is not necessary to talk about the weather. The proper thing is to ask "Where are you from?" We're all from somewhere. The oldest native has been voting less than a year. Oklahoma is a meeting place for the clans. The northern farmer and the southern planter live side by side. The southerner harvests a wheat crop each year and the northern man is learning to grow cotton. The descendant of the Puritan and Cavalier vote at the same precinct. The grandchildren of Sam Houston and the offspring of Daniel Boone ride to town in the same automobile. Different traditions, different ideas, different view points, mingle and commingle, yet out of the turmoil and tumult of ideas and opinions there is arising a newer, greater and grander civilization.

Oklahoma is preeminently the young man's country. A man will make more advancement, attain a greater eminence in his profession or achieve greater success in business in five years in Oklahoma than in 20 years in one of the older states. We are not hampered by tradition nor have we any great respect for authority, as such. Precedent interferes with us not at all. We ask of a man one thing, and only one, namely, that he produce results.

We have no heroes; neither Clays nor Calhouns, Lincolns nor Lees. We are not interested in either heroes or ancestors but we are interested, intensely interested in the half million boys and girls growing up in our midst.

We have no past, and queerly enough we do not care for one. Oklahoma is a country with a future and we would rather live in a country with a future than one with a past.

In the older states a man, applying for a position, must be recommended, indorsed, vouched for, certified to, and analyzed, and not only he, himself, but his father and mother, brother and sister, his rich uncle, his maiden aunt, and all his numerous relatives, even unto the third and fourth generation. One of the best recommendations a young man can have in the East is that he belongs to one of the best families.

In Oklahoma conditions are entirely different. We assume that a man is a gentleman and a scholar, that his grandfather did not steal sheep, and that his maiden aunt did not elope with the coachman. We are not in the least interested in the family history. We ask a man two questions: First, "Can you do this work?" and, second, "Can you do it right now?" If so, well and good. If not, get out of the way, and let a man at it who can produce results.

This is the spirit that is today making Oklahoma great. This is the spirit that is at work among our people, developing farms, constructing railroads, building factories, and erecting sky scrapers. What we need is more men, more money. We are working as best we can, and the work is not always easy but we are not discouraged. We say to all the world, "Get out of the way and watch us grow, or, better still, come in with us and help us grow."

STATISTICS

The following statistics based on the most recent available data will indicate some present conditions, and something of the development of Oklahoma's resources.

	1900	1910	Per cent of Increase
Population	790,391	1,657,155	110
Population of two chief cities			
Oklahoma City	10,037	64,205	539
Muskogee	4,254	25,278	494
Cotton used, pounds		1,029,200
Cotton crop, bales	349,355	962,000	176
Corn, bushels	11,114,052	92,355,000	921
Wheat, bushels	18,657,373	25,363,000	56
Oats, bushels		23,068,000
Cattle	3,029,000	1,992,000
Swine	1,235,000	1,302,000	6
Mineral products, value	\$3,000,000	\$20,000,000	566
Coal mined, tons	1,922,298	2,700,000	42
Petroleum, barrels		55,000,000
Railroad mileage	2,399	6,106	154
Bank deposits	\$9,000,000	\$102,000,000	1033
Property, true value (exclusive of minerals)	\$811,000,000	\$1,200,000,000	48
Lumber cut, feet	22,104,000	226,000,000	921
Land area		70,470 square miles	
Gypsum, tons, (estimated)		125,000,000,000	
Glass sand, tons, (estimated)		100,000,000,000	
Asphalt, tons, (estimated)		50,000,000,000	
Natural gas, cu. ft. per day (estimated)		2,000,000,000	
Granite, gabbro, limestone, marble, sandstone, clay, shale, building sand			Inexhaustible and widely distributed