

MINERAL SURVEY
Boone Co. IS UNDER WAY
Headlight
3-10-38, Boone Co.

R. G. Waggoner, county supervisor of the state mineral survey, began Monday on the work of instructing fifteen WPA workers in the art of doing the field work for the survey here. His "class" met at the court house from Monday until Wednesday evening when a recess was taken. They will convene again on the 15th for more instruction and discussion and will then go on active duty.

This survey is being made in 31 counties of the state and is considered a great thing for Arkansas, so everyone is asked to co-operate. The work is to be completed by July. Miss Annie Ruble is stenographer for the project.

SURVEY COUNTY
FOR MINERALS
Boone Co. 4-38

Two Groups To Make Geological Survey of Boone County As WPA Project

Under the direction of Robert G. Waggoner two parties of eight men each are at work in Boone County as part of a great WPA project to make a complete mineral survey of the whole state, the work being sponsored by the State Geological Survey of which Dr. George C. Branner, State Geologist, is the guiding genius.

In discussing the survey in Boone County, Mr. Waggoner told a Headlight reporter: "It is planned to cover the areas to be surveyed almost foot by foot so that no part of the surface area being studied will be overlooked. After the surface survey is made it is possible that the work of the surveying crews will be followed up by other crews who will make subsurface investigations by drillings or other suitable methods."

At present one party is investigating the area between Lead Hill and Zinc, while the other party is working in the southern part of the county along the Newton County line. Explaining the general purpose of the state's survey, Mr. Waggoner said: "Arkansas has an extraordinary variety and wealth of mineral deposits which range from diamonds in the southern part to zinc and lead in the Ozark region. Besides those mentioned, these resources include manganese, mercury, titanium, antimony, barite, bauxite, coal, lignite, and a great variety of limestones, sandstones, dolomites and clays."

Continuing Mr. Waggoner said: "Because of lack of detailed information many of these have not been developed, and, in many cases, their existence has not even been suspected until they were discovered by chance. Reputable and experienced mining engineers in the past have examined and declared worthless, mineral lands which are now producing valuable products. This state mineral survey hopes and expects to uncover new and additional information as to all of the state's mineral resources, which will be of great value to the state and its economic development."

"In addition the survey includes studies of the wells, springs, caves and municipal water supplies. Reports will be made on all kinds of road and construction material which are found. The State Geological Survey has secured the co-operation of the State Highway Department, the State Sanitation Commission and other public bodies whose activities are touched by this study of the state's resources."

Mr. Wagner says that mineral samples will be taken in the field, sent to Little Rock and analyzed by the best chemists available. Water supplies will be tested and analyzed by the State Sanitation Commission. The State Highway Department will study and test road and construction material.

State Geologist
In Harrison To
Supervise Survey
Boone Co. June 1938

Visitors in Harrison today were Dr. Geo. C. Branner, State Geologist, and Robert C. Beckstrom, State Supervisor of the State Mineral Survey. The purpose of the visit was to hold a meeting in the office of R. G. Waggoner, Boone County Supervisor of the State Mineral Survey. At this meeting, in addition to Dr. Branner and Mr. Beckstrom, were Lester Hall, Searcy County Supervisor, Claude Huddleston, Marion County Supervisor and D. S. Tedford, Newton County Supervisor, as well as Mr. Waggoner, Boone County Supervisor.

Reports were made by the county supervisors showing the progress that has been made in this work. In the four counties mentioned interesting material which has possible economic value has been found, as follows: Oil shale, asphaltic sand, asphaltic limestone, black marble, red marble, white pottery clay, Fuller's earth.

In Boone County 85 square miles have been surveyed, amounting to 14% of the area of the county.

In Searcy county 240 square miles have been surveyed, or 35% of the area.

In Marion county 176 square miles have been surveyed, covering 26% of the county.

In Newton county 92 square miles have been surveyed, amounting to 10% of the county.

Dr. Branner and Mr. Beckstrom expressed great pleasure and satisfaction at the progress that has been made. It can hardly be questioned that the results of the State Mineral Survey will be of great economic value to the state as a whole and the counties in which the work is being done. It is expected that the work will be carried on for at least one year before the area being studied will be completely surveyed.

At the present time the Boone County payroll amounts to between \$300.00 and \$1,000.00 per month.

MINERAL SURVEY Boone
County IS BIG PROJECT
Headlight 10-20-38
The State Mineral Survey which

is now active in 37 counties of Arkansas, including Boone County, is being nationally recognized.

From Washington, information was received on October 11th that a project for the construction of a laboratory to test and analyze state minerals has been approved by the President. The project is sponsored by the Arkansas Geological Survey. The new laboratory will furnish the Geological Survey with much needed facilities for analyzing the samples now collected, mapped and classified by the State Mineral Survey. Several thousand samples from various sections of the State are now on hand to be tested or analyzed.

The State Mineral Survey is covering 37,000 square miles and about 700 people are employed. The object of the survey is to locate, map, estimate, sample and describe the mineral resources of the State of Arkansas. The field work covers in detail each section of land, which is carefully examined for surface indications of minerals. In many places, where it appears necessary, bore holes are made to determine the depth and extent of deposits which do not appear on the surface. In some districts, where clay is the chief natural resource, subsurface cross-sections are being taken. In addition, two maps are made of each township, one of which shows the cultural development, while the other reveals the mineral and water resources. These maps give valuable detailed information for future development and improvement of any area showing promise of mineral wealth.

The water resources of the State are also being investigated. Plans are now in progress which will make it possible within a few days for the various counties to test the hardness and chlorides of water wells and springs. This information will be compiled in bulletin form and maps will be made showing the results of this Survey.

Finds Lime Increases
Democrat 2-5-39
His Hay 50 Per Cent

J. W. McAlpin, Boone county, has found that lime adds about 50 per cent to the production of red clover and alfalfa on his farm, and since there are no available lime crushers, he has built an old-time lime kiln, said O. L. McMurray, county agent. "The kiln is the type in which you place a layer of logs and a layer of lime rock, and with it Mr. McAlpin can obtain lime for 40 cents per ton," the county agent related. "If it cost him 20 cents per ton for applying the lime, it would cost only \$1.20 per acre to increase his clover one ton per acre."

State Laboratory
Harrison
Project Daily Times
10-15-38
Approved

Presidential approval of a project for construction of a state laboratory to test and analyze minerals was received October 11th, R. G. Waggoner, supervisor for the state mineral survey in Boone county, announced today. The State Mineral Survey is active in 37 counties, including Boone county.

The laboratory project is sponsored by the Arkansas Geological Survey, and the new laboratory will furnish the survey with much needed facilities for analyzing the samples collected, mapped and classified by the State Mineral Survey. Several thousand samples from various sections of the state are now on hand ready to be tested and analyzed.

Nineteen people are employed on the project in Boone county and the state survey is covering 37,000 square miles and about 700 people are employed. The object of the survey is to locate, map, estimate, sample and describe the mineral resources of the state, and the field work covers in detail each section of land, which is carefully examined for surface indications of minerals, Mr. Waggoner said.

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Boone

SURVEY SHOWS MANY MINERALS

Boone County, Lead Hill
Many Mineral Deposits Located
Here With Some in Commercial Quantity

12/22/38
The Mineral Survey which has been in progress in Boone County for the last nine months is a part of the statewide WPA project of which Robert C. Beckstrom is State Supervisor and R. E. Vandruuff is Technical Supervisor. The project is sponsored by the State Geological Survey under the direction of George C. Branner, State Geologist.

Five hundred and forty-six square miles of Boone County were designated for inspection during the course of the survey, with Robert G. Waggener of Harrison in charge of the work.

The completed survey of 519 miles of the County indicate the presence of minerals, the development of which will be of substantial value to the people of the County; among the minerals located and mapped are dolomite, limestone, sandstone, marble, oil shales and galena, kaolin and other clays and road building materials. Approximately 300 samples of these minerals have been sent to the laboratory in Little Rock for testing.

In the southwestern part of the county have been found oil shales, some of which bear a distinctive odor of petroleum. These will be analyzed and their values as specimens of petroleum will be determined.

On Gaither Mountain, also in the southwestern section of the county, are deposits of kaolin and other clays. Some of the kaolin is pure white and will probably prove suitable for porcelain manufacture and for use in refining petroleum. Other clays can doubtless be used in making brick, tiling and earthenware. Part of the work of the survey consists in making burning tests of these clays in the laboratory in Little Rock to determine their economic use.

Scattered throughout the county are deposits of limestone and sandstone adapted to building purposes. Many of the limestones are crystallized and are therefore marble. These take a high polish and can be used for interior trim.

The Survey has also located and mapped numerous deposits of clean washed gravel suitable for road construction work as a concrete aggregate. The detailed information concerning the location of these deposits will prove of value to construction industries.

An examination has been made of the scattered phosphate and iron deposits and their relation to the soil. The phosphate occurs as brown pebbles, ranging in size from tiny particles to those of several inches in diameter. The traces of iron and copper, zinc and lead, together with lime found in the soils of the range country, account for the superior grasses suitable for grazing cattle. The excellent quality of livestock finished for

market on these grasses proves the value of these minerals for the soil. The U. S. Soil Conservation Service is working with the Mineral Survey in comparing notes as to the effect of minerals upon the fertility of the soil in the growth of native grasses. The State Forestry Commission has an educational program, designed to teach the destruction to fertility when fire burns over the range country. The need of conserving these unusual soil values is apparent.

The Survey has not yet reached all parts of the county in which lead and zinc will be investigated; however, the territory near Lead Hill and the northern border of the county has been investigated and mapped and several new deposits of lead and zinc have been uncovered.

At the Boone County Fair, 1938, the creditable showing of minerals was made possible through the Harrison Chamber of Commerce, the Directors of the Fair and the Mineral Survey. The samples of black and pink marble, both in the rough and the finished product, attracted widespread attention and favorable comment. In addition to the minerals from Boone County, the Mineral Survey included specimens sent from other parts of the State where the Survey is being carried on. Among these were manganese, bauxite and bentonite.

Members of this Survey cooperated with all interested persons and organizations. Considerable interest has been shown by the class in Geology of Drury College, and Mr. Waggener has exhibited the samples of his office and conducted field expeditions for these students. Advice has been given individual land owners who ask for information

regarding the minerals of the county.

The scientific knowledge of the county's resources is being recorded and locations mapped. The effect of the Survey so far has been to promote the wide interest and cooperation of the people of the county.

While the primary work of the Mineral Survey is the investigation of the minerals of the State, cultural features of each section also receive attention. Important among these are the highways and roads of the county. These are carefully checked and where errors are found to exist on prevailing maps, necessary corrections are being made.

Samples of all minerals, including clays examined and mapped, have been sent to the laboratory in Little Rock for analysis. On the completion of this work, a complete report of the findings of the laboratory will be attached to the field report of the surveying crew.

From this information, George C. Branner, State Geologist, will issue bulletins from time to time and keep on permanent file the complete record for the benefit of those interested.