

MINERAL SURVEY TO BE
MADE IN ARKANSAS
13-38 Scott Co.

A mineral survey, sponsored by the federal government is to be made for a number of counties in Arkansas. Scott county is included in this group. The purpose of this survey is to inspect, locate and map the territory to ascertain its mineral resources. Clawson Crutchfield is the supervisor for this county. Offices are located in the Forrester office building upstairs. Mr. Crutchfield began his work Wednesday with setting his crew of workers lined up for the project. These workers were taken from the WPA and will number 15 to start with. Mr. Crutchfield gave the crew a very instructive lecture Wednesday morning, outlining the purpose of the contemplated survey, giving definite instructions as to the nature of the work and the benefits to be derived at getting the inside data on our local natural resources in a business like and practical way. Work will be started in the north section of the county, in the coal area and will be extended south. Each section will be surveyed and gone over closely by a well trained crew.

NEWS

LECTURE GIVEN

Scott Co. 4-78

Paul Owens gave 45 minute lectures for three different high school Science classes on "The Mineral Survey in Arkansas." This discussion was parallel to our study in the text for the past week. We especially enjoyed the discussion about the work being done to locate and map our different mineral deposits here in Scott county. This work is being done under the supervision of Clawson Crutchfield, project superintendent, in Scott county.

Mr. Crutchfield has offered to furnish us specimens of each collection which he makes of the mineral deposits of Scott county. This collection is to be put on display in the Science room for future reference in our science work.

Much Work Accomplished in County By Mineral Survey

The state mineral survey which is sponsored by the state geological department has just completed the Jackfork sandstone formation in the southern part of Scott county. Tons of building stone have been located and mapped. Information may be had on these as to their size, color, etc. by going to the Scott county office in the Forrester building and seeing L. C. Crutchfield, supervisor. Rocks suitable for crushing purposes and sand and gravel were also located and mapped.

The men working on this survey have been moved to the northern part of the county to begin work on another formation.

Mineral Testing Laboratory Is Approved By Official

Information was received October 11, from Washington stating 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 building will furnish the Geological Survey with a much needed laboratory to analyze the samples now collected, mapped, and classified by the State Mineral Survey. Several thousand samples from sections of the state are now on hand to be tested or analyzed.

The State Mineral Survey is now active in 37 counties covering 37,000 square miles, and employing approximately 700 people. The object of the survey is to locate, map, estimate, sample, and describe each section of land to determine the surface indications of minerals. In many places, bore holes are made to determine the depth and extent of deposits which do not appear on the surface. Subsurface cross-sections are being made of some of the districts where clay is the chief natural resource.

Maps are made of each township covered showing the cultural development which with the mineral and water maps, gives detailed information for future development and improvement of any area showing promise.

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.

At the present there are 17 persons employed on this project in Scott county, under the supervision of L. C. Crutchfield, county supervisor.

The office space for this work is donated by C. E. Forrester and is located in the Forrester building. Persons having interesting samples that they have found are invited to bring them into the office on any Saturday morning. At this time they can also see the samples taken from all over Scott county.

Mineral Survey Will Cover Entire County

L. C. Crutchfield, supervisor of the State Mineral Survey in Scott and Sebastian counties has been notified by Robert C. Beckstrom, state supervisor, that this entire county would be mapped. Previous to this only a few formations were to be included in this survey. The people of Scott county should be proud of the fact that they have the water testing station here at Waldron and will get tests from representative wells from all over the county. Also that the state Geological Department, which is sponsoring this work, has seen fit to cover this entire county in this survey.

Mineral Survey Is Popular in Scott County

Good Building Rock Was
Discovered and Is Now
Being Used in Many
Homes

When the State Geological Survey, through George C. Branner, state geologist, assumed sponsorship of a mineral survey to be conducted by WPA, Scott county was one of the 37 counties designated for investigation. Robert C. Beckstrom, who completed the mineral survey of Oklahoma, was appointed state supervisor.

Soon after the survey got underway in March, 1938, work was begun in the southern part of the county with L. C. Crutchfield as county supervisor, and the minerals were mapped over an area of 103 square miles. One of the principal resources mapped was building stone of several varieties and silica shale suitable for road making. Due to the fact that the stone lies in layers with little or no overburden, quarrying is an easy matter.

Within the last nine months, eight of the fifteen new buildings in Waldron, including residences, school and business houses, have used native stone for the construction of the exterior, all of which was located and mapped by the mineral survey. These include the home of O. S. Thomas, the home and tourist camp of Ted Yates and the residence of Mrs. Marvin Whitaker; also the Smith-Hughes building being constructed by NYA labor, the Home Economics building for Waldron High School and the new Drive-In-Cafe of O. C. Hise. All are creditable examples of what can be done with the material near at hand. In several other buildings recently remodeled, this stone was used for foundations, chimneys, porch pillars and trimmings.

When it became known that the survey had located building stone and road making materials nearby, Mr. Crutchfield's office became an information bureau for those with building problems.

To meet this situation, samples of material available were arranged in his office, with complete information as to its location, accessibility, distance, color, hardness and durability. This has proved to be of much value both to the prospective builder and those with stone to sell.

The import of this is better realized when it is known that of the 84 buildings erected within the city limits of Waldron in the last three years, only a few utilized the native stone at their own doors. It seems to have remained for the mineral survey to bring the appreciation of this material to the people of Scott county.

The survey has been of assistance to the WPA in its road building program and to the state Highway Department by locating stone and gravel suitable for use as road material and for concrete aggregate. In addition to building stone and road materials, the survey workers have found coal and graphitic shale, amounts of which have not been determined. In addition to mapping the minerals, the field sheets of the workers show the location of wells, springs, railroads, highways, bridges, dams and all buildings. This material will be used to correct the county maps now in use. When the survey has been completed, all data collected will be filed with the Arkansas Geological Survey at Little Rock where it will be compiled and published as county reports. Samples collected in the field are sent to the laboratory conducted in connection with this survey, and analyses are made and recorded.

The citizens of Scott county have shown much interest in and appreciation of the work done by the survey. The science class of the High School has become so interested in the minerals of the county, that the school board has provided cabinets at the school and has asked Mr. Crutchfield to supply samples of all minerals listed and mapped by his workers.

Albert Oller, newly elected county judge, in order to cooperate with the survey, has ordered a new truck for its use.

B. S. Hinkle, county agent, supplied the mimeograph paper for the work sheets which were made up by the office force of the Soil Conservation Service. The Forestry Service supplied maps to every man on the mineral survey project, donated the use of their cabins and supplied wood for fuel. The survey workers reciprocated by compiling a record of all "witness trees" and restoring fallen or destroyed markers.

Dr. C. Beville proved himself a true public benefactor when he donated his geological library to the mineral survey group of Scott county. Mr. Crutchfield reports that every book has been used by every member of the project.

Scott

Waldron Advance - County Testing Station Here For Water Wells

Reporter

The equipment for the water testing station to be located at Waldron has been received and set up. This station was made possible through the cooperation of the donations of individuals of Scott county.

This testing of water, taken from representative wells over the county, will be carried on in connection with the State Mineral Survey of which L. C. Crutchfield is supervisor. It is sponsored by the State Geological Department under the direction of Geo. C. Branner.

The station will be located in the Forrester Building at Waldron. Tests will be made here for carbon dioxide, iron, chlorides, and hardness with the final check to be made in Little Rock.

Persons having water they wish to have tested should get in touch with Mr. Crutchfield as tests can only be made on samples taken according to instructions and brought in in the regular sample bottles.

MINERAL SURVEY DETERMINES KIND OF SOILS, WATERS

The industrial development of a region may be either materially advanced or seriously retarded because of the quantity and quality of surface and ground water supply.

Ground water conditions are influenced by the physical character of the soils and bed rocks. The two provinces into which the state of Arkansas is divided—the Highland and Lowland sections—are examples of different types of soil and rock formations. In the highland section the water producing horizons consist of sandstones, limestones, dolomites, shales, chert, river bottom gravel, or sand and gravel beds. In the lowland section the water bearing beds consist of silt, clay sand and gravel, and are usually more productive than are the rocks of the highland area.

The quality of the water available for human use in any locality is of paramount importance to the well-being of its inhabitants, but because water is acceptable for domestic purposes it does not necessarily follow that it is acceptable for certain industrial uses also.

Industrialists of today investigate the water situation of potential locations for their plants. The mineral content of some water prevents its use in the manufacture of certain products because of the chemical reaction of the material to be made up. The quality of the water available is also a factor in the operation of hospitals, sanatoriums, railroads, laundries and dye houses, chemical plants, ceramic industries, to mention a few.

The popular idea that because a spring flows "sparkling cold water" necessarily means that the water is fit for human or industrial use is as erroneous as are many other popular beliefs.

Surface waters are always susceptible to bacterial pollution from surface drainage. The water from shallow wells along or near stream beds in the Coastal Plain of lowland is sometimes rendered unsafe for drinking for this reason.

The WPA Mineral Survey is investigating the water wells and springs of the state as well as its commercial minerals. Samples of water for analysis are taken from all parts of every county in which

the survey is being made. In order to make the necessary analysis of minerals and waters and the testing of clays, a laboratory has been constructed in Little Rock at the west end of the old penitentiary in the southwestern part of the city.

In addition to this central laboratory the Mineral Survey is installing field stations in many counties where a partial analysis will be made of county water samples. Tests are made for carbon dioxide, (the excess presence of which causes pipe corrosion), chlorides, iron, and for hardness.

At the present time water testing stations are operating in Jonesboro, Craighead county; Mountain Home, Stone county; Mena, Polk county; Waldron, Scott county; Marshall, Searcy county; Camden, Ouachita county; Danville, Yell county. Other counties have signified their intention of sponsoring testing stations at an early date.

The advantage of sampling the water of wells and springs and of having them tested without delay is that test for carbon dioxide should be made as soon as possible after taking the sample, or within 18 hours.

In the course of sampling the water of wells and springs the county supervisor in charge selects representative water specimens from all parts of his county for further analysis at the Little Rock laboratory where 15 additional tests will be made. These are for total solids, alkalinity, total iron, aluminium, calcium, magnesium, sodium, potassium, manganese, sulphate, phosphate, nitrate, zinc, lead and total hardness.

The cost to the county sponsoring a water testing station is about \$50, covering the cost of equipment and chemicals. The county also provides a location for the plant at some point convenient to the town where the county supervisor has his headquarters. The station is under the direction of the county supervisor, who selects a member of his crew to make the tests, the latter receiving instruction in the standard method of water testing at the laboratory in Little Rock.

The field workers make an accurate record of the exact location of each well and spring from which samples are analyzed. This record is attached to the sample until the analysis is completed, when the record of the result is attached to the field report and filed in the office of the State Geological Survey. This reference matter pertaining to the quality and quantity of the water in the different parts

of the state will be a valuable addition to previous compilations on the water wells of Arkansas, the last of which "List of Arkansas Water Wells" was issued by George C. Branner, state geologist, in 1937.

The new information collected will be available to the public and will be of especial value in supplying data to those who intend to use ground water for industrial use.

The State Mineral Survey is under the direction of Robert C. Beckstrom, state supervisor, with offices at 117 N. Victory Street, Little Rock. R. E. Vandruff, technical supervisor, is head of the laboratory in Little Rock; he also superintends the installing of field water testing stations and gives instruction for their operation.