

# STATE MINERAL VALUE REACHES \$22,650,924.35

Gazette, Jan 9, 1938

## Three Oil Fields De- veloped.

The estimated value of Arkansas's mineral production for 1937 reached \$22,650,924.35, the highest since 1930, state Geologist George C. Branner said yesterday in a preliminary report of Arkansas Geological Survey activities for the year. The 1937 valuation represented an increase of \$3,212,475.93 or 16.53 per cent above the 1936 valuation.

Twenty-one mineral items were produced by 280 mineral producing companies operating in 52 counties. This compared with 21 items produced by 265 mineral producing companies in 51 counties in 1936.

Petroleum, coal and bauxite retained their positions as the most valuable minerals. These three items had a combined value of \$17,344,259.30 or 76.6 per cent of the total value of all minerals produced in 1937. Petroleum was valued at \$10,631,530.64; coal at \$3,837,471.16, and bauxite at \$2,875,257.50.

The value of the state's mineral production by years since 1930 has been 1930 — \$30,022,890.01; 1931 — \$15,839,754.62; 1932 — \$12,409,631.53; 1933 — \$10,111,896.56; 1934 — \$13,233,590.53; 1935 — \$15,208,538.63; 1936 — \$19,517,389.46 and 1937 — \$22,650,924.35.

## New Oil Fields Most Important Developments.

The most important development in the mineral industry in Arkansas during the past year, Mr. Branner said, was the discovery of three new oil fields—Shuler field in Union county, the Rodessa field extension into Miller county, and the Buckner field in Columbia county.

The Rodessa field added approximately 1,232,500 barrels of oil and the Shuler field 1,046,600 barrels of oil in 1937. Buckner production figures were unavailable but are small to date.

"The production from the Shuler and Buckner fields is doubtless of much less importance than the proving of the productive possibilities in a deep and heretofore almost entirely untested horizon in Arkansas," Mr. Branner said. "The Shuler field produces from the Travis Peak and the Buckner field from an older formation.

"The Shuler and Buckner fields give positive encouragement for deep prospecting over an area of at least 5,000 square miles in southwestern Arkansas which may well result in the discovery of several important new fields."

The discovery well in the Shuler field—the Lion Oil Refining Co. Edna Morgan A-1, in section 18-18-17—was completed April 5, 1937 to a depth of 5,559 feet with an initial production of 264 barrels per day. This well was deepened to 7,683 feet on October 21, and the maximum reported production has been 720 barrels per day. To date 24 wells have been completed in the field. Of this number 21 are producing.

Fifty-four wells have been completed in the Rodessa extension and all are producing. The discovery well was the W. L. McClanahan Capps Bros. No. 1 in Section 11-20-28 completed June 12, 1937 to a depth of 6,103 feet with an initial production of 1,440 barrels per day.

The discovery well in the Buckner field was the Standard Oil Company of Louisiana John P. McKean No. 1 in Section 8-16-22 completed November 30, 1937 to a depth of 7,309 feet. The initial reported production of this well was 2,184 barrels per day. This is the only producer to date.

Mr. Branner said that the recent production regulations which have been put into effect by the state Board of Conservation on a basis of acreage and bottom hole pressure in the Shuler, Rodessa and Buckner fields indicates that wasteful field operations such as were practiced during days of the Smackover development in 1925 are a thing of the past.

## Three Classes of Mineral Products Hold Positions.

The three classes of minerals—fuels, non-metals and metals—maintained their relative positions with reference to values in 1937, Mr. Branner reported. During 1937 the respective percentages were 68.4, 24.7 and 6.9. This compared with 67.5, 24.8 and 7.7 per cent in 1936.

Of the structural materials, the value of common brick and clay used in the manufacture of fire brick, sewer pipe, stoneware and pottery increased from \$869,840.94 in 1936 to \$973,719.36 in 1937. Sand and gravel values jumped from \$824,212.10 to \$929,252.24, or 12.7 per cent. Glass sand increased from a value of \$96,238.33 to \$155,564.89 or 61.7 while stone increase from \$388,675.64 to \$472,135.01 and cement rose from \$984,520 to \$1,293,768. Total value of all structural materials increased from \$3,163,482.01 to \$3,824,439.50, or an increase of 20.9 per cent.

Coal production value showed a decrease of 11.8 per cent while mercury values dropped 79.9 per cent and bentonite fell 39.8 per cent.

With the assistance of the WPA, the state Geological Survey completed and published three reports during the year. They were "Mineral Production Statistics for the Period 1880-1935," "Arkansas Oil and Gas Wells," and "Arkansas Water Wells." Three other reports—"Stone, Sand and Gravel Deposits in Arkansas," "Lakes in Arkansas" and "Springs in Arkansas"—have been completed and are ready for publication.

## Newest Tube Can Detect Earth's Age

Democrat Feb. 1938

Bloomfield, N. J. (AP)—The world's most sensitive vacuum tube, a new marvel that can read the electrical emanations of rocks and through them the age of the earth, was announced today.

The tube was invented in the laboratories of the Westinghouse Lamp Company. It has the appearance of a medium-sized radio tube. But instead of ether waves, it picks up electric currents.

It can detect a current so small that its flow would need about fifty million years to produce enough electricity to light the smallest lamp in the world. The smallest lamp is the size of a grain of wheat and is used in medicine.

Experiments with the tube in detecting radio-active potassium in rocks show it can measure the age of the earth.

One of potassium's three forms is radio-active and thus it disintegrates into calcium. By measuring the amount of calcium that has formed from potassium geologists can tell

how long a rock has existed. This is because the potassium changes into calcium at a uniform rate.

This rate would change one pound of potassium into calcium in 1,500 billion years. Dr. W. H. McCurdy, one of the engineers experimenting with the new tube, said it is capable not only of detecting this slow change in potassium, but of accurately measuring it. To read a rock's age it is necessary to get the amount of potassium, its rate of change and the amount of calcium.

## M. and A. Railroad to Develop Natural Resources.

Harrison, Feb. 23.—After a year and a half survey of natural resources along the rails, officials of the Missouri and Arkansas Railway Co. have announced a development promotion through co-operation with towns, firms and individuals, in the movement of minerals, timber and commercial stone, and the development of farm lands.

Officials say the railroad intends to press the development of every resource along its line. "Increased business in this territory can come only through industrial and agricultural development," an official declared.

The recent revival in mineral activities already has been spurred by M. & A. assistance and has brought increased business. Mineral developments already progressing include zinc, lead, manganese, iron pyrites and mundig. Some lead and zinc deposits along the railroad are being worked for the first time since the World war.

## State Geologist Gets Committee Appointment

Dr. George C. Branner, state geologist, today received notification

from A. B. Parsons of New York of his appointment as a member of the industrial preparedness committee of the American Institute of Mining and Metallurgical Engineers. Mr. Parsons is secretary of the organization of which Dr. Branner is a member.

The committee is charged with making reports on strategic mineral resources of the nation in respect to military preparedness. Dr. Branner said, adding that Arkansas boasts three minerals in such classification. They are manganese, quicksilver and bauxite.

## Map Program Given Backing Of Engineers

Ark Gazette, Mar 6, 1938

## State Association Urges Congress to Support Projects.

Congressional support of a Federal mapping program, on funds marked by President Roosevelt for carrying out such a project on a nation-wide basis, had the backing of the Arkansas Engineers' Club opening its thirteenth annual two-day convention this morning at Hotel Marion.

Resolutions calling attention to the country's lack of mapping facilities and seeking congressional aid for a mapping program set-up were passed at a "Ways and Means for Mapping" conference during the afternoon.

The governor's office also made public today an exchange of correspondence between Governor Bailey and President Roosevelt on the subject. The president previously had announced that he was delaying making recommendations to Congress on the mapping program until Congress completed action on his proposed reorganization of the federal government.

Bailey asked whether this meant some new agency would be set up under the proposed reorganization to handle the mapping work.

"Under the reorganization authority," the president replied, "it would be possible after careful study of the situation to determine whether our mapping work should be carried on by the existing agencies in their present form, or in a consolidated form, or under the co-ordinating direction of an agency newly established for that purpose and in that connection to determine the extent of the program to be carried out. In other words, I thought that a determination of the extent and rate of progress of any new mapping program would necessarily involve a determination of the agency to conduct such a program."

Dr. William Bowie of the United States Coast and Geodetic Survey, and former director of its Geodesy division, led the conference discussions.

Civil and road engineers, geologists, planning board members and other leaders from Arkansas and other states in the Southwest regional basin, participated in the conference.

Attention was focused on the proposed national mapping program recommended by Department of the Interior Secretary Ickes last year, and later "sidetracked" in allocation of Federal funds. The program as then proposed called for \$5,000,000 annual expenditures on a 20-year basis.

**Country Half Mapped.**

Resolutions passed here today took cognizance of last year's proposed program and its shelving, and proposed that Congress get behind it to expedite its set-up.

It was pointed out that only about 50 per cent of the United States is mapped, with only about 24 per cent of this figure representing adequate mapping—leaving 76 per cent of the country either unmapped or inadequately so.

Through the conference, it is hoped to cause Congress to realize the seriousness of the country's inadequate mapping. It was brought out that the condition presents a serious problem to engineers of all types "who know the cost of not having maps."

As an illustration of the costliness of few mapping facilities, conference discussions brought out that it is impossible to estimate costs of flood control projects, public roads, pipe lines, soil and forestry conservation programs and numerous other developments and building.

**Flood Control Handicapped.**  
U. S. Army engineers now working on the White River basin flood control project are handicapped because of inadequate mapping facilities, the engineers pointed out as an illustration of the need for a mapping program. Need of maps in the Southwest Regional Basin for control of the Arkansas and Red rivers in Arkansas, Oklahoma, Texas, Kansas, Nebraska, Missouri, Colorado and New Mexico, was especially emphasized.

Out-of-state representatives included P. G. Fammill, Oklahoma Planning and Research Board director; Robt. H. Dott, Oklahoma Geological Survey director; J. W. Pritchett, state Board of Water Engineers at Austin, Tex.; Cyrus K. Moresi, Louisiana state geologist; John C. Carpenter, District U. S. Bureau of Public Roads, Fort Worth, Tex.; Capt. Lester F. Rhodes, U. S. Army Engineers, Little Rock.

Col. E. Reybold, Southwest Division U. S. Army Engineers' Corps director, was among those at the conference. As conference leader, Dr. Bowie represented the American Society of Civil Engineers as chairman of its Executive Committee on Surveys and Mapping. He is now sojourning at Hot Springs.

Col. Reybold is scheduled to talk on "Department Problems of the Southwest Division" at a luncheon at the hotel tomorrow. H. T. Harrison of Little Rock will speak on "Dogmatism of a Barking Dog" at this time.

S. L. Wonson, assistant chief civil engineer for the Missouri Pacific railroad, addressed the body.

His talk was based on the subject "Economics of Transportation," in which he reviewed the history of transportation in this country and declared that "existing transportation facilities are more than adequate for the country's needs and will be adequate for some years to come."

Mr. Wonson touched on taxation and declared that "it is contrary to the public interest that public funds be used in adding to the surplus of transportation facilities. And as to existing facilities, created by public funds, those who use them for commercial and industrial purposes should pay into the public treasury their full share of the annual charges for construction and maintenance."

## Geological Survey Needs More Funds

Late news from the state Geological office gives the warning that enough funds have not been provided for the Geological Survey which was announced recently. "Unless the large land owners support the project," says George Branner, state geologist, "it must fall through." It will take much more money than at first estimated and the transportation problem must be solved by those who own large sections of land.

## Bureau of Mines May Analyze Oils and Gases.

Probability that the United States Bureau of Mines will conduct analyses of oils and gases produced in Arkansas fields was indicated in a letter received by state Geologist George C. Branner yesterday from John W. Finch of Washington, director of the federal bureau.

Dr. Branner wrote Mr. Finch recently asking if it would be possible to have analyses conducted of Arkansas gas and petroleum production, such as have been conducted in Michigan, Pennsylvania and other states. Mr. Finch replied yesterday, "I feel sure that we can undertake to analyze samples of crude oils from Arkansas in line with our regular work of this sort."

He indicated the gas analyses probably could be made also.

# Cinnabar Mine Interest Ark. Gazette. Increasing Clark County 4-24-38.

Special to the Gazette.

Arkadelphia, April 23.—Encouraged by reports of the purchase by banks of large stocks of quicksilver and statements that the mercury-bearing ore of Clark and Pike counties is among the richest in the world, residents of Amity and Murfreesboro are taking steps to make the potential mining areas more accessible.

It is said that the embargo placed on the exportation of quicksilver from Spain and Italy where large quantities are mined and refined has caused a shortage in this country and that the United States army will have to look to American supplies for quicksilver for munitions and other uses.

A delegation of Amity residents, including W. H. Olds, A. J. Hunter, T. W. Rose, Ed Holmes, C. W. Wheeler and others, called on County Judge Joseph Callaway here and a Pike county delegation called on Judge Tom Jones at Murfreesboro requesting that a good road be built into and through the cinnabar belt of the two counties. Existing roads are rough. The delegations received encouragement from the judges who said they would act favorably if possible.

Several Western banks are reported to be buying quicksilver and storing it in their vaults. Quicksilver is indispensable in the manufacture of certain munitions and war equipment as well as many articles of commerce. Cinnabar, quicksilver-bearing ore, is found in only a few of the American states.

## Taeniolite Found In Magnet Area

Gazette. 5-9-38  
Nobody appears to know what will come of it, but excavations will be extended in shafts around Magnet where Lawton D. Kinzey has discovered several deposits of "taeniolite" an extremely rare lithium magnesium mica—George C. Branner, state geologist, disclosed yesterday.

The rare mineral—used primarily for lithium salts and for glazes and enamels in ceramic uses—was discovered by Mr. Kinzey on land in Hot Spring county owned by Adam Smith, while searching for titanium, considerable of which was found.

It was found in irregular veins about 50 feet in rock, and was identified by the United States Geological Survey by chemical and X-ray analyses, as a particularly rare lithium magnesium mica. The analysis showed the stuff to be 3.1 per cent lithium oxide.

Dr. Branner was asked to examine the deposits. Mr. Smith sought the aid of State Senator Joe Kimzey of Magnet in determining the quantity of the mineral available, and whether it would be "available," or sufficiently easy to excavate to be profitable for production.

Two chemical companies with whom Branner communicated have expressed an interest in the deposits as a source of the mineral for lithium salts. The Ceramic Engineering Department of the University of Illinois expressed a desire to obtain the mineral for ceramic material.

## Shells Ground for Poultry Grits, Agricultural Lime.

Special to the Gazette.

Newport, June 17.—Ground mussel shell for poultry grits and agricultural lime is being produced this year by the Jackson County Gin Company here, Alf James, an official of the company, said. Waste shell from button factories is used as raw material. Most of the ground shell used in poultry producing sections of north Arkansas is ground oyster shell, shipped from coast towns.

The local company "grinds" the mussel shells with a battery of hammer mills.

M-S-C



# Limestone Found at State Hospital

"Democrat" \* 3-13-38 \* Pulaski Co \* \* \*

Will Be Used On Property.

By RALPH HULL.

When a block of 3,200 acres of land near Benton was selected a few years ago as site for the new Farm Colony of the Arkansas State hospital, the chief concerns were the location's desirability from a standpoint of health and its value for what the top-soil might produce to help meet the expense of upkeep of the state institution.

These thoughts still are uppermost but recently it occurred to someone that nature and the property itself might help make the farm land more productive. Someone else recalled that when the new hospital unit was under construction workmen digging a tunnel for steam and hot water pipes had to cut through a stratum of limestone, and limestone, it was known, is a fertilizer, a soil builder, and particularly is efficacious in correcting the acidity of "sour" land.

Investigation was started to see if there was enough limestone on the property to justify trying to quarry it for use on the farm land. It was found that those tunnel diggers had not discovered anything new. Dr. G. C. Branner, state geologist, knew all about it. He was able to furnish pretty accurately from memory a diagram showing that a layer of limestone outcrops near the main building group and that practically all the south half of the 3,200 acres is underlain with the stone at varying depths. What he could not fur-

nish was information as to the thickness of the layer.

Benton Farm Colony authorities, therefore, began following up Dr. Branner's information and Claude Caple, farm foreman, reported that he had found the limestone outcropping in three separate spots on the property. Dr. R. E. Rowland, in turn, gave instructions to make what tests may be necessary to determine the location of the thickest part of the layer having the least overburden of soil. When it is ascertained where the greatest amount of the stone may be obtained with the least expense and effort, steps will be taken to remove it.

Labor for removal of the stone may be obtained from among the able-bodied patients at the Farm Colony, most of whom prefer to work on the outside, rather than be unoccupied in the wards. This applies to the farm and dairy workers of the colony generally. It is thought that a small crusher may be obtained at little or no cost for rental for the short periods for which one would be needed and the unit already has ample power to run a crusher in its tractor equipment.

The first objective in the lime fertilizing plans will be to build up sufficient alfalfa land to supply the needs of the dairy herd and work stock with hay. It is proposed first to lime 80 acres, so located that it may be irrigated from wells, several of which were dug during the construction period, or which already existed on farms purchased for the colony. Irrigation would make the alfalfa land independent of rainfall and impervious to drouth. If the original acreage should be found insufficient to meet the needs for hay, more land would be added.

It also is believed the liming of other farm lands at the colony would be beneficial. This year's crop program at the unit calls for utilization of 659 acres of land, including approximately 100 acres to be planted to vegetables, exclusive of corn, field peas and other edible field crops.

Dr. Rowland has made it clear that there is no thought on the part of hospital authorities of trying to produce limestone commercially. The sole object, he said, will be to the sole benefit of the hospital and make the land more productive, for its patients. This applies to the farming operations in general, he said, the idea being, first, to provide healthful occupation for patients who will be benefited by such employment, and then to help support the institution and at the same time benefit the patients by providing fresh, wholesome vegetables for the table and producing an ample supply of

high grade milk for the patient population.

Besides using the lime for fertilizer it is possible that development of the supply may lead to its use in other ways at the colony. Even when crushing the stone for use on the land, a sufficient quantity of fine stone may be screened for use as "chicken grit" at the poultry farm. If processed properly the lime also may be used in stock feed as a calcium builder. The colony operates its own water treatment plant, filtering and purifying its supply of water, pumped from Saline river at a point three miles away. This plant uses lime in its treatment process and although it is not an early likelihood it also is possible that the limestone deposit might at some time in the future supply the needs of the water treatment unit.

Dr. Branner is authority for the information that the limestone found at the Benton Farm Colony, is part of a string of outcroppings which mark, approximately, a prehistoric shoreline extending from northeast to southwest across the center of the state. The limestone outcrops at Grandglaise in Jackson county and at Bradford and Russell in White county. The outcrop appears again in South Little Rock and Mabelvale in Pulaski county, and again at Bauxite and Benton in Saline county. The same shore line extends southwestward from Saline county.

At this time tests are being made at Mabelvale, as a WPA project under direction of the State Geological Department, to determine the quantity of limestone available in that vicinity. These tests will be extended in both directions, Dr. Branner said, with a view to ascertaining if the findings would justify establishment of some lime processing plant—possibly more than one—along the old shore line.

Dr. Branner suggested the possibility of the limestone deposit being inducement to some concern to establish a burnt lime industry in this section of Arkansas. Even if the supply does not seem to justify a lime plant, he said, there is little doubt but that the survey will mean the beginning of removal of the stone for agricultural purposes.

All of this limestone, and specifically that at the Benton Farm Colony, Dr. Branner said, is of excellent quality for agricultural use. Even the associated clays at the Benton Farm, he added, are fairly rich in lime and would "sweeten" the land if spread on it. These clays, it has been found, contain the remains of long-dead sea creatures and shells and fragments of shells frequently may be seen.

# Dr. A. H. Stephens Writes Interestingly Of Commercial Ore Prospects

Morrilton Democrat, Conway Co- April-38

Dr. A. H. Stephens, well known Casa physician, and a consistent booster for Arkansas, writes interestingly regarding the mineral resources of this section of the state in a letter received by the Democrat Tuesday.

The letter reads:

Casa, Arkansas  
Mar. 28, 1938.

Editor Morrilton Democrat:

I see by the papers that the legislature has demobilized, and am sorry that it failed to make any provision for caring for the Arkansas Geological Department.

As you know the office of Commissioner of Mines has been abolished and no other agency has been created to take its place. When John Page was commissioner of mines, he induced lots of capital to come to Arkansas and mine different minerals. I think the Arkansas Geologist should be empowered with some of the authority of Commissioner of Mines. I think he should also be given more authority and more funds with which to exploit Arkansas' wonderful mineral resources. The reason I am so much impressed with the neglect of this the most important department of the state is that we now have with us Mr. W. E. Glasco and a bunch of helpers, who are making a mineral survey of Perry county. They are finding quite a lot of different minerals that when they are developed will add to the wealth and prosperity of Perry county. They are confined to the limits of Perry county, and cannot go outside of the county. They have found an immense deposit of iron ore that reaches into Conway county. They have found where the early settlers used to melt the lead with which to make bullets. They hear more tales and traditions of different lead deposits found by the early settlers than they can remember. About half of these lead deposits are claimed to have been found in Conway county and the balance of them in Perry county. They have found quite a lot of porphyry that lead prospectors always look for in the vicinity of lead and silver deposits, but have found no outcroppings of lead. However they think that in all probability this lead mine will finally be found.

They have found an old mine that was worked just after the Civil War. But as there was no roads in this country and no railroads through the country nearer than Little Rock, the mine was abandoned. Do not know what the mine will turn out to be as the crew has no tools with which to explore it. Some of the porphyry shows a trace of gold and some of it looks like silver.

They have found the same kind of porphyry at three other places leading on to the same mountain west of the old mine. They have found the casing in an old well that was cored to a depth of about two hundred and fifty feet in 1904 by a bunch of coal prospectors employed by the Ft. Smith Lumber Co.

These prospectors were looking for coal. They struck a natural gas formation and the well was set on fire and burned the leaves off the trees. The well was allowed to burn for two days and then was plugged up with cement.

They have found a ridge for five miles and have found tons of fos-

sils. They do not have a Core drill or even a hand drill and sledge hammer or a stick of dynamite. This survey is going to do lots of good. But it would do more good if Dr. Branner had funds enough to properly equip the workers with the necessary tools. We are sure grateful for what the geological department is doing for us. I for one, think Arkansas is the richest state in the union in natural resources, and believe that some day these resources will be developed.

A. H. Stephens.

## Gypsum Deposits Sought In South Arkansas.

The Arkansas Geological Survey wants to find several large deposits of gypsum in southern Arkansas, with the virtual assurance that a new mining industry can be opened in the state if the deposits are located.

Geologist George C. Branner expressed conviction yesterday deposits of "considerable size" could be found in Pike and Howard counties, if the state had sufficient cash to go prospecting. The United States Gypsum Company advised more than two years ago that it is seeking deposits west of the Mississippi river in sufficient size to justify large scale mining, he said.

Gypsum is being mined in small volume in Pike and Howard counties.

Dr. Branner's office is preparing an application for a WPA project to conduct the prospecting work. It is estimated the work would require about 12 men. Gypsum is used in plasters, to retard setting of cement, and for other purposes.

## Phosphate Fertilizer Successful

Gazette 2-5-39

Pulverized in the soil of 10 Arkansas counties is new plant food that in 1938 produced two and one-half tons of lespedeza hay per acre where only three-quarters of a ton grew the year before.

In those counties 155 farmers had faith in the advice of the Tennessee Valley Authority and the University of Arkansas College of Agriculture. They applied 500,000 pounds of high-analysis phosphate to their farms, or an average of about 150 pounds an acre. Lime was added. The fertilizer was recommended and sold by TVA.

The program was instituted to determine the place and value of high-analysis phosphate and lime in an improved five-year farm management system on different types of farms.

"By taking advantage of the demonstrations, farmers will be able to readjust their cropping systems to make the best use of legumes and sod grasses for maintaining fertility, conserving water and soil feeding livestock," C. C. Randall, assistant extension director of the university, said yesterday.

The project was inaugurated last spring in Washington, Prairie, Sebastian, Polk, Pope, Marion, Independence, Craighead, Cleveland and Columbia counties.

Four more counties will be added to the experiment this year. They are Chicot, Izard, Arkansas and Saline. In addition, demonstrations will be set up on a strip of black soil in southwestern Arkansas, extending from Arkadelphia to the Oklahoma line, Mr. Crandall said. Counties in which this work will be conducted have not been selected.

## Rich Vein of Antimony Found

East of De Queen  
Gazette 3-27-38

Special to the Gazette.

De Queen, March 25.—Antimony mining in the vicinity of Gillham, in north Sevier county, gained impetus this week with the discovery of a rich vein of ore on the R. A. Luttrell farm a mile east of town. The discovery was made by Ernest and John Barnes, Wayne Ross and Henry Byes, who had done considerable prospecting.

A dozen segments of ore, weighing from 50 to 300 pounds and containing a high percentage of antimony, were taken from the shaft. The vein was only six feet under the ground, and appeared to extend for a considerable distance. The operators opened a shaft to a depth of 10 feet and continued to bring out large chunks of ore today. Some experienced miners said the vein appeared to be the mother lode of that vicinity, where thousands of tons of antimony were mined before and during the World war.

A Joplin (Mo.) company has sent a buyer to Gillham and opened an office and warehouse. Laboratory equipment has been installed for testing the antimony content of ore brought to the

## Manganese Ore Prices Increased

12/14/38 \$2 Per Ton.

Special to the Gazette.

Cushman, Dec. 14.—The new rearmament program has had its effect on all materials going into the manufacture of steel, and the price of high grade manganese ore has advanced \$2 a ton. For the past year miners have been paid \$10 a ton, and it is now up to \$12. The demand is good for high grade ore, and the reserve stocks held here by Walter Denison, who buys most of the ore produced in this district, are moving rapidly. Many of the miners who formerly produced this ore have taken PWA jobs, and if the demand continues under present conditions, buyers may have trouble filling orders. The demand for the lower grades is poor. This is attributed to the large production in Cuba, which is imported into the United States. Notwithstanding the \$2 increase, the price of high grade ore is being held down by the influx of ore from Russia, which is coming in under the new trade agreement. The tariff has been reduced 50 per cent under this agreement, which reflects on the price of ore produced in the Batesville-Cushman field.

## Extra "Wet" Water Livens Up Oil Wells

May 1938

Tulsa (AP)—Water in which a duck would sink was exhibited at the International Petroleum Exposition here today. This water is used in oil wells and is chemically treated to make it extra "wet."

The liquid becomes so moist, it was explained, that it would penetrate a duck's feathers all the way to the skin and render the bird too heavy to float.

The water is mixed with acid and pumped into oil wells to increase production. Because of its extreme wetness the water penetrates deeply into the stony formations which trap oil within their pores. Many of these oil holdings pores are too small to be seen except under a microscope.

The acid mixed with the water opens the rock pores and makes new drainage channels to untap oil reservoirs. This "moist moisture" is one of the developments in acidizing oil wells. The acidizing is confined to limestone wells, but these wells furnish about 20 per cent of America's petroleum.

Acid is used after oil ceases its natural flow. To date the process has added about 450 per cent to the production of limestone wells.

## FIBERS MADE FROM COAL.

Washington, Feb. 4 (AP)—The Agriculture Department received reports today that German scientists had developed a method of making artificial fibers from brown coal. Whether the method is feasible on a commercial scale has not yet been determined, the reports said. Dem. 2-5-39



## Remains Are Identified As Missing Woman July 1938

Discovery of bones and pieces of clothing identified as having been worn by Mrs. Mary Jane Campbell, 89, when she disappeared from her home near Devil's Den last October solved the eight-months mystery of his disappearance yesterday.

Officers believe that Mrs. Campbell was drowned in a mountain stream and that her body was under water during the period when for several weeks CCC workers and others combed the rugged area. The bones, her walking stick and remains of her clothing were found in what is now a dry gulch, but which was running a full stream last fall. Mrs. Campbell is survived by only one son, Lee Campbell, with whom she made her home, and a sister, Mrs. Cinda Dodson, to whose home she was going when last seen.

Coroner Glenn Riggs and Deputy Sheriff Arthur Davidson went to the scene of the discovery of the bones yesterday afternoon and took charge of the bones for burial.

The discovery was made by workers of the Washington County Geological survey. W. C. Williams, Herbert Farless and Jack Elkins were the members of the party who found the remains.

## Earth Tremor Causes Much Excitement

An earth tremor of deep intensity that lasted for about half a minute shook houses and other structures in all sections of Little Rock perceptibly shortly after 9:30 last night but apparently caused no damage.

The quake seemed to be centered east of Little Rock since numerous reports were received in Memphis and in eastern Arkansas towns and cities. Reports were received from Dardanelle and Fort Smith in western Arkansas.

The seismograph at St. John's seminary, the one instrument of its kind in Arkansas, has been disconnected since June 15 and no reading was available, the Rev. Joseph A. Murray, seismologist at the institution, reported.

### Many Residents Disturbed.

The Gazette was swamped with calls from all sections of the city for several hours after the shock. Most of them were from the eastern and southern sections of the city. Those who were upstairs in two-story houses said that the sense of insecurity and movement was pronounced. Several reported that portions of the ceiling and walls at which they happened to be looking at the time of the shock moved perceptibly.

The sense of dizziness and lack of equilibrium which are commonly described as sensations occurring during earthquakes were uniformly described by those who reported the earthquake.

Dogs, cats and other pets sensed the shock and were disturbed over the unusual conditions, several persons reported.

Internes at St. Vincent's infirmary reported that the tremor shook bottles from a table in the hospital laboratory. Attaches at City hospital said internes and nurses on the top floors of the building felt the shock and hurried downstairs to discover the trouble. Persons in the basement felt nothing.

W. B. Smith, 1510 Battery street, reported that the quake caused a large crack down the center of stone steps in front of his house.

### Utilities Report No Damage.

The quake caused considerable disturbance among patients at all hospitals. Nurses did double duty answering calls from patients who wanted to know what the commotion was about.

The Arkansas Power and Light Company and the Southwestern Bell Telephone Company reported they received many calls for information about the shock but no reports of damage. An engineer at the power and light company said the shock registered distinctly on instrument boards at the plant. Some persons who called in said they felt two separate shocks but the engineer said the instrument boards registered a single shock that lasted about 30 seconds.

### Quake Felt Elsewhere.

Reports received at Pine Bluff said the shocks were sufficiently strong to create waves on usually calm lakes in the

vicinity. Jonesboro reported a tremor at 9:33 p. m. which shook buildings in all sections of the city but caused no damage. Other reports were received from Batesville, Harrisburg and Newport. Residents of Hope in southeast Arkansas said they felt no shock in that area.

### Church Shaken.

The congregation of the Greater Arch Street Baptist church, Negro, Eleventh and Arch streets, had visions of the millenium when the quake mysteriously rocked walls of the church during services. Members halted proceedings while a cursory inspection was made.

### Felt on North Side.

The shock appeared to have been felt quite generally on the north side of the river, numerous residents of North Little Rock, Rose City and Levy reporting that their homes and business houses responded to the shock for several seconds. In North Little Rock, the shock was felt at police headquarters, in several cafes, at theaters and throughout the residential section.

Patrolmen Gaty and Copeland responded to a prowler call in the 1500 block on Maple street which probably was the result of the earth shock rather than the effort of a burglar to force a window. Residents of two homes reported that prowlers were shaking the windows of their homes, but there was no evidence of burglary attempts.

The shock was felt definitely at the Franklin hotel, 118 1-2 Main street, where one person was awakened and reported that he thought someone was shoving his bed about the room. Flowers on a piano and a radio were set in motion and quivered several seconds.

### Pipeline Safe.

Marion L. Crist, engineer for the Municipal Water Department said last night the 35-mile pipe line from Lake Winona from which Little Rock obtains its water supply, was not damaged. He said it would require a quake of great proportion to move the line which is heavily reinforced with steel.

### Californian Speaks.

Mrs. A. M. Miller of California, in Little Rock on a visit, said the quake here reminded her of several severe ones which she has experienced in her native state. She said that while earth tremors in California were recorded rather frequently it had been several years since she felt one of such intensity as was experienced here last night.

### Reports Due Today.

Seismographic records of the quake will not be available at Cape Girardeau, Mo., and the St. Louis University until sometime today.

Attaches of Fordham University in New York city said the disturbance would not be recorded on their instruments unless it was of severe intensity. The Loyola University seismograph at New Orleans, nearest instrument except those in Missouri, was undergoing repairs at the time of the disturbance and no record was made.

### Theory of Quake.

The quake was attributed by the Rev. Father Murray, to a slight recurrence of conditions which caused the Madrid (Mo.) earthquake of 1811. The latter was the most severe ever recorded in the United States. It caused the town of Madrid to fall into the Mississippi

river and among other effects created the huge Reelfoot lake in Tennessee. The quake was believed to have been caused by a shifting of rock in the New Madrid fault, a geological formation.

The Rev. Father Murray said it was likely last night's quake centered in the New Madrid area, which he described as an area with the town of New Madrid, Mo., as its center, embracing sections of northeast Arkansas, southwest Kentucky, northwest Tennessee and southeast Missouri.

The seismograph at St. John's Seminary here records one or two tremors each year in the New Madrid area but they are not felt in Little Rock, the Rev. Father Murray said. He described last night's quake as a minor disturbance.

The priest said he returned from vacation a few days ago. The seismograph is not operated during the summer and under normal procedure would not be in operation until late next week, the Rev. Father Murray said. He expressed regret that last night's quake was not recorded.

The quake was the first of record to be generally perceptible in Little Rock, the Rev. Father Murray said.

## Many Reports of Quake With No Damage at Memphis.

Memphis, Tenn., Sept. 16 (P).—Reports of earth tremors in the Memphis territory swamped newspaper offices and radio stations here tonight. No damage was reported although many persons said mirrors and pictures shook on their hangings, and windows rattled. An engine set in concrete was reported to have been rocked loose from its foundation at West Memphis, Ark.

## Quake Felt by Residents Of Okmulgee, Okla.

Okmulgee, Okla., Sept. 16 (P).—Residents of Okmulgee reported an earthquake tremor was felt at 9:33 p. m. today. Several telephone operators said the tremor was strong enough to shake the switchboards at their office. Other persons in the community reported the phenomenon. No damage was reported.



# Prehistoric Bed of Oysters Lies Beneath Main Highway At Edge of Crowley's Ridge

A gigantic oyster bed millions of years old, literally a graveyard of antiquity that was a teeming mass of live bivalves as big as four inches across, has been lying quietly all these many years on Highway 70, at Crow creek, just east of Forrest City, where some 2,000 motorists daily pass unknowingly over the historic spot.

This place is on the very brim of what was once the Gulf of Mexico that in prehistoric times extended as far north as Cairo, Ill., and since the sea receded, back in the time when man probably hadn't reached even the stone age, untold millions of fossil shells have been lying there, plainly visible from the concrete bridge that spans the creek.

The deposit has just been surveyed by the state-wide WPA project of the state geological survey, with Dr. George G. Branner, state geologist, as director, and some interesting facts have been revealed.

In September, 1938, while on a tour of the South, Dr. Gilbert D. Harris and Mr. and Mrs. E. Lawrence Palmer, paleontologists from Cornell University, visited the area and estimated the deposit as being millions of years old. They took various specimens home with them for further study. (The science of paleontology has to do with the study of the remains of plant and animal life from past geological periods).

Exposed for a mile or more at this particular point on Crow creek the oyster bed is a part of an immense deposit of fragmentary oyster shells laid down in a horizontal bed. The exposed banks of the stream disclose masses of shell firmly embedded in a bluish-gray clay in which glisten tiny particles of mother-of-pearl. Stretches of sandy beach along the water's edge are strewn with broken pre-historic sea shells, some of which were of remarkable size. Whole oyster shells are occasionally found, measuring four inches across the hinge and 12 inches in length. From exposure to the atmosphere and elements most of the shells have become brittle and crumble at the touch or pull apart like wet paper. Oyster shells taken from the Atlantic coast today between Long Island Sound and Florida are very similar in appearance to these shells which contained living organisms millions of years ago.

The shell deposit at Crow creek has a thickness of five feet and extends from considerable distance back into the bank. A similar deposit was reported found at a depth of 250 feet in a well dug at Forrest City.

Whence came oyster beds in eastern Arkansas?

There was a time, millions of years ago when a part of the Gulf of Mexico extended inland as far north as Cairo, Ill. That this period lasted for millions of years is indicated by the thickness of the clay which was deposited as sediment on the bottom of the sea.

Fresh water streams from the North flowed into this embayment, which covered all the land now known as the Gulf coastal plain in which are now included Florida, Mississippi, Louisiana, the southern half of Georgia and Alabama, eastern Arkansas and parts of Texas and Oklahoma. As the Gulf waters receded southward, the clay beds were exposed and became dry land, and the hardened sediment contained the remains of various forms of marine life.

The withdrawal of the sea occupied an immense period of time and the land drainage from the north extended slowly, as the sea withdrew. Eventually the drainage, principally

the Mississippi and Ohio rivers, carved out the soft coastal plains land and left Crowley's Ridge as an erosional remnant.

During the Glacial epoch either fresh water borne debris from the glaciers, or wind borne debris covered eastern Arkansas with the so-called loess which caps Crowley's Ridge. All but the Ridge capping was removed by south flowing drainage.

Among the artifacts recovered from Indian mounds, villages and burial grounds in eastern Arkansas have been found many articles made of shells. Early archeologists and historical writers assumed that these Indians had come from, or had visited the Gulf coast country, bringing the shells with them. But is it unlikely that they were taken from the region adjacent to the Crow creek fossil shell beds?

The surveying crew in St. Francis county, under Lewis Bohlinger, district supervisor of the State Mineral Survey, investigated the fossil shell deposit, measured its extent and sent samples of the shells

and the soil impregnated with shell decomposition to the state laboratory for analysis. The amount of this deposit has been estimated by the survey at 6,833,000 cubic yards and is easily accessible, the main line of the Rock Island railway and U. S. Highway No. 70 passing through the section.

The chemical analysis shows the shell deposit to contain calcium carbonate, magnesium carbonate, iron oxide, phosphorus penta oxide, aluminum oxide, sodium oxide, potassium oxide and a relatively high per cent of insoluble. This composition should prove beneficial for liming the sour soil to the east and west of Crowley's Ridge.

Interest has recently been stimulated by the work of the State Mineral Survey in St. Francis county.

Robert C. Beckstrom is the state supervisor and R. E. Vandruff is the technical supervisor. The state offices of the mineral survey are at 117 N. Victory street, Little Rock.



# PICTURE MAKING FROM AIRPLANES IS SLOW PROCESS

By JIM MONTGOMERY

If anybody likes a pretty good job requiring only four days' work a month, he might try aerial photography. Not just going up in a plane and taking a picture from the cabin window, but waiting for everything to be perfect, and then, from a height of 13,750 feet, "shooting" a lot of countryside so that it turns out exactly right.

That's what Edward L. Toler and Royal King (his real name) have been doing—or trying to do—in Western Arkansas. They're photographing whole counties, with the pictures turning out on a scale of 3.17 inches to the mile!

Toler does the actual picture-taking. He's the photographer, and King pilots their big plane. The pilot must watch his course just as carefully as the photographer, and if either makes a slip, a picture—and sometimes a whole trip—is ruined. These young men, who live at San Antonio, Texas, are making Fort Smith their base while "shooting" 17 counties from the air.

They are employed by Kargl Aerial Surveys, Ltd., of San Antonio. "Photogrammetric engineers" is the way the Kargl officials style themselves, and they have six planes "mapping" parts of the United States. They're doing it for the government, and when Toler was asked about the future use of his pictures, he replied he didn't know, and that was the company's business, anyway. "It's just a government contract," he explained. Different departments have been known to use the aerial maps, and it's been pretty well "talked" nationally, that the pictures are going to play a part in the new crop control program, and maybe other things.

## Weather "Cramps" Style

Back to this "soft" job of Toler's—and King's. Aerial photographers work an average of four days a month, as far as actual picture-making is concerned. The weather cramps their style on the other days. Even when the weather is perfect, they can "shoot" only between 9 a. m. and 3 p. m. At any other time of the day, the shadows are too long and would interfere with an exposure.

Toler and King have been in Fort Smith three weeks, and have put in one day's work. They have finished their job over Johnson county, and lack two big rolls of film on Franklin county. The others haven't been tackled yet. (It's the weather, not the boys.)

A roll of their film is 75 feet long, and 100 exposures, each measuring 7x9 inches, can be made on it. The film costs \$35 a roll. Toler has made as many as 1,000 exposures (ten rolls) on an ideal day. He used four rolls, or 400 pictures, in getting Johnson county, and is about half through with Franklin.

King pilots a Fairchild 71 with a Wright 450 horsepower motor. It's a big ship but because of the extra things needed for pictures, it can carry only the pilot and one passenger—the photographer. This plane travels at about 125 miles an hour, and carries enough gas for eight and one-half hours. "No coming back for lunch," Toler grinned. Kargl has one plane, he added, that can travel at a speed of 220 miles an hour.

The tiniest cloud, floating under the plane, knocks out chances for a picture. It not only gets in the way of the view itself, but throws a dark shadow down on the earth which was to have been photographed, Toler explained.

## Long Training Required

When King and Toler are 13,750 feet up, they're that high off the ground. Their average altitude above sea level is 14,500 feet, in this part of the country, Toler estimated. The temperature, of course, is bitter cold, and they carry oxygen along with them. The least exertion tends to wear anyone out, and the task isn't easy. Plenty of training is required, and 50 hours' experience in actual aerial photography is a prerequisite for getting a job. The 50 hours are pretty hard to get, too, because one hour costs something like \$100, Toler said.—not to the person making the pictures, but the government or the company having them made.

Toler has been at it ten years, nine in the army and one with Kargl. At Brooks field, San Antonio, he was a first class air mechanic, with camera repair work his specialty. King, a transport pilot, had been an instructor before joining the surveys.

# Young Texans Here on Aerial Photography Job

"Southwest-Times Record" Sebastian Co. 4-10-38



The pilot has a "window" in his floor, as well as sticks projecting from each side of the motor, to measure the plane's approximate drift. The photographer watches a view-finder, to keep everything "flowing" in a straight line. His big, heavy camera peeks through a big hole in the floor of the ship—there isn't any glass bottom there—and he can swing the camera on a ring, to get the perfect adjustment needed. A "level bubble" is part of the equipment for the view-finder as well as the camera.

The two men are separated by dark cloth, and depend on signals. (The dark material helps the photographer in the plane just as the black covering on a studio camera aids a portrait photographer.) When Toler is all set, he squeezes a little bulb attached to the camera, and a red light flashes in front of King, who knows an exposure is going to be made. King can signal, too.

## Pictures Become Maps

Once everything is ready, and stays put, a continuous series of exposures can be made, on an average of 20 to 30 seconds apart; sometimes 15 to 20 seconds. Each object below is photographed three times; a scene has a 60 per cent overlap, as well as a 30 per cent overlap on a side. This system is known as radial line control, and instead of pasting the pictures together, the experts later "arrange" a county so that all of it can be transferred to a map.

The allowance for an error in overlap is 5 per cent, and the plane (and camera) can't vary more than 15 per cent on its north-south course. After the picture-maps are finished, about a half-dozen field men take copies of the picture, locate a marker in the country which has been mapped, then "mark the marker" on the picture itself and the actual measuring can be done on the picture.

Including the overlap, each picture takes in 5.88 square miles. Toler and King know of one plane capable of covering 1,000 square miles a day, in the mapping. About 9,000 square miles in Arkansas are being mapped.

In ten years, Toler has had no narrow escapes as an aerial photographer, because, as he put it, "The weather must be ideal before you can go up, anyway."

Mapping Western Arkansas from the air is the job of Edward L. Toler, left, and Royal King, standing beside their big plane. The young San Antonio men have been at their Fort Smith base for three weeks, but the weather has given them only one day's working time that was good enough for aerial photography. The objects on the ground, left to right, are: A view-finder which aids the photographer; a big film can, holding a 75-foot roll; and the camera itself. (Staff photo.)

# DIGGERS FOR PEARLS AND SHELLS HAVEN'T MUCH ENCOURAGEMENT

Gazette 7-3-38

Special to the Gazette.

Norfolk, July 2.—Shell digging on the Upper White river is getting off to a late start this year, and the industry is confronted by a bad market. Because of high water since early spring men who work at this occupation are about a month late in getting started. This, combined with a bad market, will probably mean a short production of shells this season.

Jack Bonner, shell buyer here, said today: "I have recently heard from the larger Eastern users of shells whom I buy for, and they say there is a large surplus of shells on hand now. Production was heavy last year and they bought freely, but the buttons manufactured from the shells did not move as freely as expected, and a surplus has piled up which will depress the market."

The fate of the shell-digging industry is in the hands of the ladies of the nation. Most of the buttons made from domestic shell go into the suit, dress and "undy" business, and when ladies are slow in buying, as they seem to be this year, a surplus of buttons piles up. Men do not contribute much to the market: "A few pearl buttons for shirts and underwear, and that is about all."

## Prices Down Considerably.

With demand light this year, the price for shells will be low compared with recent years. The first grade shells will bring about \$20 a ton, second grade about \$10 and third grade about \$5. When the suit and dress business is good first grade shells sell as high as \$55 a ton.

The muckets, which are hard, thick shells, bring the top price. The grandmas, pistol grips and nigger heels constitute the second grade, and the three bridges or washboards the third grade. Because the latter have ridges across shell, they have little value for button making. A perfectly shaped blank cannot be sawed from them. Button factories buy them to keep them from multiplying as much as for anything else.

Shell digging is one industry in which you don't have to ask for a job. All you have to do is go to work. You

can start with as little equipment as an old tow sack and a dull knife. Equipment, of course has a great deal to do with your catch. The better equipment the more shells you will produce. The average equipment of the shell digger on the Upper White is a good boat, a steaming vat and a couple of dull knives. Lower down the river, where the water is deeper, they use crows feet bars and tongs. The tongs resemble potato forks that work on a pinion like a pair of scissors. They have long handles, and are thrust into the bottom of the river, opened, closed, and pulled up.

If you are lucky, there will be several mussels in the clutch. Crows feet bars are pieces of iron pipe, with short lines, tied about every foot. Little pieces of wire bent in the shape of crows feet are attached to each line. The bar is lowered so these drag over the bottom of the river. When mussels are feeding their shells are open, and when the crows feet drag over them, they close on them and hang. The boat is moved slowly over a shell bed and the bar is lifted at intervals and the mussels removed.

Most men engaged in the industry now are men who gain their living from the river winter and summer. They fish for the market and dig shells during the summer months, and trap for furs during the winter. Before the WPA and other forms of relief were organized many others engaged in the industry. During drouth years the industry was really a life saver for the farmers living adjacent to the river. They made up their crop losses in shells. The head of a house would go to the river, find a good shell bed or several of them, and the whole family would move to the river and make camp. The male members of the family would dig the shells, and the women would steam them, open them, and get them ready for market.

## Pearls Provide Major Incentive.

One of the big incentives that keep shell diggers at work is the hope of finding a good pearl. One shell, if a digger happens to pick up the right one, may be worth \$1,000. There are few shell diggers, who work during a whole season, who do not find a pearl with some value.

In opening the shells diggers watch for pearls carefully. When the shells come from the river they are first placed in a steamvat—a crude affair with a small furnace beneath, and a wood metal-lined box, or an old tub or two above. A little water is put in the vessel and a small fire built in the furnace. Just enough to raise steam. The whole is covered with old sacks and in a few minutes the steam kills the mussels and the shells open. They are then dumped onto a wagon sheet on the ground and opened. As the meat is taken out and thrown away, a close search is made for pearls. If any fall from the shells they can be easily recovered from the wagon sheet.

While the term, "shell digging," is applied to the industry now, it was known as "pearl fishing" in the early days. Back in the nineties when it was discovered that the mussels of White and Black rivers were pearl bearing, there was no market for shells and millions of mussels were dug solely for the value of the pearls they produced. It was a

big business in those days. Hope ran high in every pearl fisher's breast and some very valuable pearls were found. Even after the White River railroad was constructed, and as late as 1915, pearl fishing was no small business in the territory. Many years as many as \$100,000 worth of gems were sold in one season.

Buyers were always on the ground and competition was high. Buyers bought from the river men and Eastern buyers came in and bought from them. The year's find would gradually work East, to New York and New York dealers would take them across to Paris and London. Many American women have paid an enormous price for a pearl in Paris, sold as an Oriental pearl, and paid a big duty on it when she brought it back home, that originally came out of the White river.

Compared with the early days of the industry few pearls are found now. It is the opinion of a lot of people acquainted with the industry that this is because there are few old shells in the river. An average mussel will produce in five years a shell that is large enough for button making. It takes an old shell to produce a pearl of much value. Because shell digging has become an active business most of the old shells have been taken from the river.

## Missouri Firm to Build \$10,000 Gravel Plant Near Rogers.

Special to the Gazette.

Rogers, Feb. 9.—A \$10,000 gravel plant will be constructed on the Rogers-Pea Ridge road, about three and a half miles north of here by the Independent Gravel Co. of Joplin, Mo., Mayor Ernest W. Vinson announced today.

Frank Sizemore, manager of the company's \$25,000 plant at Sulphur Springs, said that his firm had leased a tract and would build a plant to manufacture gravel, fertilizer, road rock and concrete gravel. Products will be shipped over the nation.

An abundance of limestone is available at the site to enable operation indefinitely. The plant will provide steady employment for 10 workers at the beginning. The company has asked the city and county to repair the rough Pea Ridge-Rogers dirt highway.

## Clay Testing Laboratory Will Be Established. Dec 9, 1938

The Arkansas Geological Survey has secured services of T. E. McCutcheon, ceramic engineer in charge of the state clay testing laboratory of Mississippi, in setting up testing procedure for Arkansas's mineral survey. Dr. George C. Branner, state geologist, said on his return from Mississippi yesterday. Mr. McCutcheon will direct formulation of testing procedure and instruct a supervisor who will manage the laboratory here, Dr. Branner said.

In connection with a state-wide survey of Arkansas mineral deposits, the Geological Survey will conduct exhaustive tests of clays to determine their possible uses, Dr. Branner said. There are enormous deposits of many kinds of clays in Arkansas, particularly between Little Rock and Texarkana. Several brick plants and pottery firms are using deposits in the area.

The Arkansas survey will have its laboratory, including a small kiln, ready for use early in January.



Fellow Citizens:

I recently spent a couple of days in the north part of Carroll county searching out and listing the various mineral resources having industrial and commercial values which mother nature has so bounteously bestowed upon that section.

It has long been said here: "We have minerals but not in paying quantities."

The truth is the average citizen of Eureka Springs and the average farmer, aside from lead and iron, doesn't know minerals when he sees them, and consequently frequently passes up minerals which have a value and might be profitably exploited.

For instance in and near the valley of Butler creek and Indian creek adjacent to the Missouri and Arkansas railway I found an enormous deposit of red and grey marbles of deep coloring and close texture a good half-mile in length and probably extending back into the mountain to a point underneath the apex.

Also thousands of tons of excellent dolomite, limestone, and cotton rock, all of which, when times become normal, may be quarried and shipped to the cities for building and paving purposes, the making of cement, etc.

When hiking up the valley with both eyes open I found in a farmers bottom field an extensive deposit of low-grade manganese and two miles farther on blessed if I didn't find another one.

I promptly took a mineral lease on the latter one for future reference.

Manganese is used in steel making very extensively and is mostly imported from foreign countries. For instance 20 pounds of manganese with a ton of pig iron will when smelted make the resultant steel much tougher and more resilient.

A good big mill and smelter for the big deposit of iron and sulphur pyrites at Freeman station on the railway near Berryville (and I know where there is plenty more) and for my thousands of tons of manganese ore would be the making of this section and give many men employment. Think I'll have to ask Mr. Louie Watkins of the M. and A. to install a mill and smelter.

I also found a deposit of muscovite or mica, very useful for electrical purposes and as windows in stoves and furnaces.

Next was a large deposit of white, black, silver and salmon-colored crystallized calcites or carbonate of lime with only the merest trace of manganese thus being useful material for making mineral stock feeds and in sugar refining.

I took a mineral lease also on this and already two mining engineers for mining and development companies have been out and inspected it.

Calling this a fair day's work I stayed all night at Tom Waldens and next morning went up a little creek and found pieces of float jasper, yellow "Mexican" onyx and a half mile farther on spied a chunk of beautiful blue agate

or Chalcedony and within an hour located two of the ledges of these semi-precious stones containing literally tons of material aside from ornaments souvenirs, and jewelry I think probably the jasper and Chalcedony might be used in the tombstone industry.

In a cave facing White river I found hundreds of stalactites and considerable vari-colored onyx.

Another cave in a hillside disclosed a copper-head snake (which promptly departed this life) and tons of calcium and magnesium carbonate more than 90 per cent pure and useful in liming farmland.

I also have found some eight different colored clays when low enough in alumina and iron oxide make good porcelainware, etc.

I have not mentioned the phosphates, kaolin, silica, slates shales, steatite etc: also abundant in this area and which I may discuss in a later article.

I have samples of the above minerals upon display in my room at the Basin Park hotel which citizens and tourists may inspect at any time.

JOHN JENNINGS.



THE ORIGINAL AIRBRUSH was used 35,000 years ago. First colors were ochre, native yellow earth, and black made from manganese, mixed with animal fat to keep from washing away, and blown through the legbone of a reindeer.

## MYSTERIOUS PACIFIC OCEAN CANYONS HOLD BEDS OF PHOSPHORUS

By HOWARD W. BLAKESLEE.

(Associated Press Science Editor.)

La Jolla, Cal., July 2.—Discovery of phosphorus in the Pacific ocean canyon 1,000 feet under water opens a new world for fortune hunters.

Finding of the phosphorus was described today at the Scripps Institution of Oceanography by Dr. F. P. Shepard, geologist of the University of Illinois. He dredged this fertilizer rock from the upper walls of a submarine canyon 50 miles off shore. The phosphate rock, he said, was determined by K. O. Emery, who is making a study of the rocks collected from the submarine canyon.

This canyon is one of scores discovered in ocean bottoms by geologists in the last two years. The canyons are in all oceans. Unlike most bottoms, they are not muddy. Their walls are rocky and the rocks are of all kinds, like those on land.

There is reason to believe that these submerged walls contain all the varieties of minerals known. Some of the underwater canyons are as huge as the Grand canyon of the Colorado river.

### Canyon V-Shaped.

The phosphate rock canyon is V-shaped. Its bottom lies half a mile under water. Its sides are from 1,200 to 2,000 feet high. Dr. Shepard's dredge took the phosphate rock samples from a stretch 20 miles long, indicating that the deposit is probably extensive and rich.

The phosphate was identified as of Miocene age. That period ended about 17 million years ago. It is possible, Dr. Shepard said, that phosphate may be forming now in the submarine canyon. From this same area where the phosphate was found Dr. Shepard brought up fossil bones of an unidentified animal.

### Origin Not Known.

The geological prospecting seeks to learn the origin of these great chasms in ocean bottoms.

Their walls range from granite to soft shale. Some of the rocks are volcanic, most are sedimentary, which means they were formed by the weight of huge deposits of earth which lay above them at some period in the past.

The walls are as steep as those of

land canyons. The slopes vary from a few degrees to almost vertical. The mystery of their formation is not their only puzzle. Why they do not fill with mud is another.

### Erosion Suggested.

Erosion by flowing mud, Dr. Shepard said, has been suggested as a cause of the submarine canyons, but does not appear to be sufficient explanation. Rise and fall of land fails to explain them, because they are uniformly scattered under all oceans and uniformly "young" formations. There has not been time for rise and fall of land over such wide areas.

Great glaciers of the past, by locking up water in land ice, may have lowered sea level enough to put these areas above water where rivers could cut canyons. There is dispute about how much the ocean might have been lowered.

But Dr. Shepard pointed out that if Antarctic's present glaciers should melt, sea level would be raised 150 to 200 feet. Only New York city's skyscrapers would show their tops.



Ark. Democrat  
**State to Get  
Mineral 'Lab'**

**WPA Provides Funds to  
Complete Survey of  
Arkansas.**

10/16/38  
A new laboratory for testing and analyzing state minerals, sponsored by the Arkansas Geological Survey and constructed by the WPA, will be built at the old penitentiary, it was announced yesterday by Robert C. Beckstrom, supervisor of the WPA state mineral survey.

Dr. George C. Branner, state geologist, said the building would be one story, 44 by 47 feet, and that bricks from the old walls would be used in its construction. Work on the project is expected to begin immediately, since it has been approved in Washington.

He said the new laboratory will provide facilities adequate for testing and analyzing the thousands of samples of minerals collected in 37 counties during the survey. About 700 people are employed in the survey.

The object of the survey is to locate, map, estimate, sample and describe each section of land to de-

termine 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 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 the 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.

**Project To  
Construct Laboratory  
Is Approved**

Moberly Daily Record  
10/13/38

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 about 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. Sub-surface 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 the survey.

For any further information concerning the work and progress of the state mineral survey, see Louis M. Hannum, county supervisor of Hot Spring county, with office in the county judge's quarters at the court house.

Hot Spring county's crew of surveyors doing this work are now working in township 5 south, range 18 west.

**Mining Of  
Mercury On  
Increase**

Special to the Gazette. 10-24-38

Murfreesboro, Oct. 22. — There is more activity in the mercury belt in Pike and Clark counties than has been shown since the discovery of the mineral eight years ago. Like all new mining fields it has had its ups and downs. Engineers point out that lack of capital and experience in mining this type of ore have been the chief reasons for the slow development of this district. It is believed that if properly mined the field would be one of the leading producers of quicksilver in the United States.

**Sees "Bright Future."**

W. E. Thorn, an engineer of international experience and a member of two of the world's largest mining institutes, said that in his opinion the district has a bright future. The Big Six Mining Co., composed of a group of men from Mimia, Okla., is working night and day on property west of the Little Missouri river, while the Magnolia Mining Company, a new Arkansas corporation, also is working two shifts and producing high grade ore. This company is trucking its ore nine miles to a plant belonging to the Mid-Continent Quicksilver Company where it is processed, but plans are nearing completion by the Magnolia company for the erection of a large induction plant on its property.

**New Discovery Reported.**

The Holmes Mining Company recently made a new discovery of a high grade ore. Samples brought to Murfreesboro ran as high as \$800 a ton. The Mid-Continent company also has resumed operations under a new manager, a Mr. Thomas of Hutchinson, Kan., operating its own properties as well as processing ore for the other companies.

T. J. Pate and associates of Murfreesboro have just finished prospecting a large acreage in the east part of Clark county. A mass sample of 447 tons of ore processed showed an average of nine pounds of quicksilver to the ton. Plans are under way to install a 50-ton processing plant.

The companies are receiving an average of \$1 a pound for the mercury which has been the average price for the past 10 years. The United States produces less than one-third of its supply, having imported 10,000 flasks last July.

**State's Coal  
Production In  
Decrease**

Gazette 10-27-38

A slump in mining activities in Sebastian county caused coal production in Arkansas to drop to 1,320,620 tons during the year ending June 30, 1938, compared with 1,480,059 tons during the preceding year, State Mine Inspector J. W. Fitzgerald of Fort Smith said in his annual report submitted to Governor Bailey yesterday.

Normal annual production for Sebastian county, which ranks first in coal production in the state, is about 1,000,000 tons, whereas production for the year ending June 30 was only 512,364 tons. Twenty-one mines in the county employed 1,604 men.

The coal mining industry in Arkansas gave employment to 4,884 men during the year, the mines operating an average of 121 days. Eighty-three mines were listed as active producers, but, Mr. Fitzgerald said, only 59 made reports, the others being small and operating principally for local trade during winter months.

Nine miners lost their lives in mine accidents during the year covered by the report. During the previous 12-month period, 13 miners lost their lives.

**Production By Counties.**

Leading coal producing counties, their tonnage for the year and the number of persons employed in coal mining included:

Sebastian—512,364 tons; 1,604 men.  
Logan—413,446 tons; 1,526 men.  
Johnson—183,114 tons; 966 men.  
Franklin—145,879 tons; 582 men.  
Pope—40,816 tons; 170 men.

Mr. Fitzgerald attributed rapid development of the Excelsior field in Sebastian county and the Paris field in Logan county to the strong market for Arkansas semi-anthracite coal.

He said several thousand acres of coal land in Scott county had gone undeveloped because of the excessive cost of mining in that area due to natural physical conditions.



# Marvels Of Magnet Cove

Wide Variety of Minerals Is Found in Unique and Limited Area in Hot Spring County Which Has Been Visited by Many Scientists and Investigators.

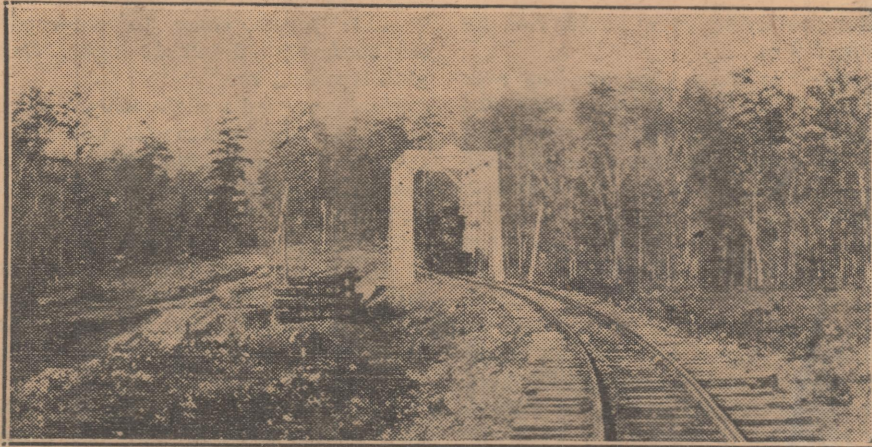
By Mary Dengler Hudgins.

Magnet Cove in Hot Spring county is appropriately named. It is a magnet which has drawn man's attention through nobody knows how many centuries. There is every evidence of the fact that the Indians knew "the Cove" and its natural wonders hundreds of years before the coming of the white man. Even in the early part of the Nineteenth century geologists found their attention turning toward Magnet Cove in Arkansas Territory. Reports made by these men led investors to try out commercial possibilities held in the bewilderingly wide variety of ores and gems to be found in the area. Collectors from all over the world have sought specimens of Magnet Cove minerals.

State Senator Joe W. Kimzey, who lives at Magnet Cove, says that one of the best and most elaborate collections to be assembled there was prepared and shipped to Germany about the year 1900 by Dr. Otto Koonce. It is believed to be in a Berlin museum. It has been said that there is scarcely a collection of minerals in the United States which attempts completeness that does not boast a few Magnet Cove specimens.

Books and pamphlets have described the region and its wonders for better than a century. Scientific brochures are released on Magnet as a whole and on certain of its products in particular with surprising frequency. G. W. Featherstonhaugh, Englishman, who visited Arkansas in 1834, was the first geologist to report on the district. The book he wrote about his trip, "Journey Through the Slave States," was published in London in 1834. The picture of Hot Springs reproduced with the Frederic J. Haskin page in the Gazette Magazine of May 29 was taken from the Featherstonhaugh volume.

Quite a number of details about the Cove are given in the book. The geologist was amazed and delighted with what he saw, both in quality and quantity of minerals. Since his time expert after expert has given serious attention to the phenomenon of Magnet Cove. A current pictorial map, "Historic Map of Arkansas," sold on behalf of the building fund of the 4-H Club girls' dormitory to be erected at the University of Arkansas and sponsored by the Arkansas Council of Home Demonstration Clubs, gives Magnet Cove a place of prominence. A pamphlet released by the Arkansas Highway Department describes the spot as a "Point of Interest" for tourist travel. The Encyclopedia Britannica neglects to mention the Arkansas diamond mines at Murfreesboro, but gives Magnet Cove due attention.



The old "Diamond Jo" stopping to "wood up" at Magnet Cove in the early days.

Many persons probably have passed through Magnet on United States Highway 270, 12 miles east of Hot Springs, without realizing they were encountering anything unique. This elliptical bowl when mapped looks a bit like a giant oyster on the half-shell. The whole district covers scarcely 5.1 miles—a space about 15,000 by 10,000 feet, at its greatest length and width. Yet within that space may be found more than 50 different minerals. There is every reason to believe that not nearly all of the varieties have yet been isolated.

Of the four-page list of "Gems and Semi-Precious Stones of Arkansas," distributed by the Geology Department (Miss Lucy Crooks is librarian for the extensive collection of books and brochures) 30 may be found in the Cove. Old-timers tell of finding garnets and opals lying on the surface. So many specimen hunters have traversed the little bowl and the district has been so long under cultivation that few are encountered today. But pyrites still may be seen gleaming along the shoulder of the highway between Malvern and Hot Springs. Up to the time of the hard-surfacing of United States Highway 270, fragments of magnet could be picked up in the middle of the road, especially in the stretch fronting on the Magnet Cove Consolidated School grounds.

Magnet is a strange district. Topping the hill just beyond the Rammel dam cut-off, the motorist dips down into the natural bowl of the Cove. Unless he is quite observant he will fail to notice anything unusual in his surroundings. Perhaps he will notice that trees tend to be all hardwood, instead a blending of pine and oak. Maybe he will note outcroppings of strange rocks, some of them gleaming with flashes of purple and red and green. If he knows tuff, he can find at 50-foot hill of it, the only elevation in the bowl. But unless he is

interested in geology and steps out of his car to walk, accompanied by a guide or a well planned itinerary (one is issued by the Geology Department) he is unlikely to find out very much about the natural wonders surrounding him. There is the story—to be read plainly—but one must know minerals to be able to read it correctly.

It is said that for its size, Magnet Cove has the largest variety of minerals of any spot in the world. It is also asserted that it is the bed of an extinct hot spring. But whether that completely accounts for the fact that such an accumulation of minerals was joggled into five miles of nature's handiwork, nobody can say.

Perhaps that is why few things have been done about it commercially. Now and then, however, someone discovers new possibilities. On June 8 this year the Arkansas Gazette carried a long story concerning the discovery of taeniolite, an extremely rare lithium magnesium mica (used chiefly in ceramics and enamels). The deposit came to light while Lawton D. Kimzey was searching for titanium, the product which has been most widely commercialized in the Cove. No one can say as yet what the results will be, but the findings of Dr. Branner and the United States Geological Survey have caused the Ceramic Engineering Department of the University of Illinois to investigate possibilities of the Cove product.

However, it didn't take modern laboratories to prove the importance of the Cove. "That ancient Americans engaged in mining," says one clipping, "is evidenced by the old novaculite quarries found on Indian mountain, three miles from Hot Springs, and in Magnet Cove. These mines were worked hundreds of years ago in search for the proper kind of stone fitted for shaping into cutting and piercing implements. Weapons were in demand and chert in several forms, including novaculite, jasper, agate and flint and

some varieties of quartz with brittle eruptive rocks, were found."

Richard Buhlis, who has been connected with both the one-time Arkansas Permanent Exhibit at Hot Springs and the Arkansas Museum (now stor-

ed) in Little Rock, says: "From all indications, the American Indians were also very much interested in Magnet Cove—there being a prehistoric Indian village site near Lodestone Hill. Archaeologists also have found many artifacts made from the rocks and minerals of Magnet Cove in numerous localities of Arkansas, Louisiana and Missouri."

G. W. Featherstonhaugh, the first trained geologist in the area, visited Little Rock in 1834 and then made his way to Hot Springs by way of Magnet Cove, where he made extensive study of the formations. Of the human side of his trip, he said: "Colonel Conway, the surveyor general of Arkansas Territory, was at this time building a cottage for his family—and has been kind enough to give me a letter of introduction to his lady, desiring her to receive us hospitably for the night if we found it convenient to stay there. The cottage was in a secluded place called Magnet Cove.

"Mrs. Conway received us very politely and though unprepared for visitors, as she was with carpenters and labourers to provide for, she had some supper got for us. Seeing that we were very much in the way, we retired to rest in a room which was not enclosed and still open to the weather on the side the chimney was afterwards to be built.

"Colonel Conway informed me that on surveying the country the needle would not traverse on approaching this locality and the cause was here apparent from a mound in the Cove covered with pebbles of magnetite oxide from one ounce to four pounds in weight. Some of the specimens which I brought away, especially one which contained a portion of a large crystal of iron, possessed of an intensity of magnetic power which is truly surprising."

Featherstonhaugh, highly impressed by what he saw at the surface, predicted phenomenal possibilities in the commercialization of the magnetic ore. Later developments proved that the outcroppings are more concentrated than the deep-lying deposits. One of the largest specimens of lodestone was dug up by a steam shovel in excavating for the Hot Springs-Malvern highway. Buhlis estimates its weight at 100 pounds. Mrs. Bernie Babcock, head of the Arkansas Museum formerly housed in the City hall, Little Rock, refused to estimate its poundage, but said it was 12 to 15 inches in diameter and too heavy for her to lift.



Through the years which followed Featherstonhaugh's visit the Cove grew in reputation. "In 1891 the posthumous report of J. Francis Williams on the igneous rocks of Arkansas was published. This volume contained three chapters on Magnet Cove which constitute a classic in petrographic and mineralogic literature. Further contributions to the petrogenesis were made by H. S. Washington in 1900 and 1901 and by K. K. Landes in 1931."

Men and women have traveled far and near to study Magnet Cove's wonders. Senator Kimzey, who has perhaps the best private collection of Cove minerals in the state, wrote: "I have had the pleasure of being associated with many of the world's best authorities who have come here from time to time to visit and study minerals, and since my father's death in 1906 I have helped many eminent scientists complete collections from this section. My father did a good deal of such work for Drs. Jenny, Foote, Nevin and others, as well as Dr. John C. Branner."

In fact for many years the news that a famous scientist was to visit central Arkansas caused many to jump to the conclusion that Magnet Cove was the destination. Once it was rumored that Madame Curie was coming to Arkansas to investigate the possibilities of radium.

Titanium is a Titan among metals and it has proved so in the Magnet Cove area. The power of its inertia for many years kept it from being commercialized to any extent. It still remains most useful in pigments for paints; but it is also used in arc lamp electrodes, ferrotitanium and smoke screens, continually increasing in importance.

In 1890 Williams mentions rutile and brookite (both varieties of titanium) as occurring in the Cove. Probably on the strength of this report, H. E. Perkins attempted rutile extraction. He dug a shaft 81 feet deep with drifts west 100 feet and east 125 feet. Ore was reported to run high. Today the shaft has caved. Samples of ore still are lying on the old dump. This project was begun about 1912.

In 1931 Senator Kimzey aroused the interest of H. R. McKnight. The Titanium Corporation of America was formed. Shipping began in May, 1932. Since that time work has gone steadily along. The plant is small. The method of extraction is very simple, compared to the elaboration of some processes. But it is highly effective.

Radio is presumed to be affected by the magnetic deposits of the Cove. It has been frequently asserted that radio reception is poor throughout the district. However, many motorists assert that their auto radio sets are undisturbed by passage through the bowl. Programs continue to come through undisturbed, they report. Stephen A. Cisler, general manager of KTHS at Hot Springs, says he has driven all over the Cove for the purpose of determining loss of reception and has found no spot materially affected.

Cove residents love their country and believe in it. The Kimzey family has been untiring in its efforts to bring Magnet Cove into its own. A recent letter to the Gazette from F. P. Lappin proves that he, too, is alive to its possibilities.

It seems rather odd, with wonders of the Cove known to all that some of the wealthy men who have visited Hot Springs for many years have not taken advantage of its promises. When "Diamond Jo" Reynolds, millionaire grain

stream becomes filled with tin cans and the refuse of civilization—and most fishing waters do in this day—Bluegill won't mind a whole lot. When no better fare is at hand, he'll eat the tin cans!

The fish culturists transplanted the native Bluegill to their hatchery laboratories. They gave him every advantage, making conditions favorable for his propagation. Bluegill came through with flying colors! The fish culturists hailed him the "fish of the future," and started fish propagation on factory scale production. Bluegill was elevated to the ranks of game fish, and he showed anglers he deserved that ranking.

Both the state hatchery at Lonoke and the federal hatchery at Mammoth Spring raise bream by the thousands.

## NEW USES DEVELOPED FOR ARKANSAS BLACK MARBLE BY-PRODUCTS

10-30-38

Special to the Gazette.

Mountain Home, Oct. 29.—What is believed to be the finest deposit of black marble in the United States is now being quarried by the Batesville Black Marble Company, Batesville. It is 18 feet thick, lying in a blanket formation, with nine distinct veins varying from eight to 38 inches thick. The veins are separated from one another by thin layers of black shale from 1 to 4 inches thick.

The Batesville concern is said to be the only one in the United States now manufacturing terrazzo from domestic black marble, although a few concerns in the east are making it from Belgian black marble chips.

In addition to the production of terrazzo, the company produces black marble flour as a by-product which is being used extensively as an ingredient in the manufacture of several grades of paints. A small experimental laboratory is now being operated by the company to develop new uses for black marble flour.

**New Products in Development Stage.**

Several products are being developed, including a fireproof paint for application to wood, a plaster that dries to the hardness of concrete, floor tiles in plain and variegated colors, razor hones and abrasive wheels.

To meet the increased demand for these products, the Batesville company has increased the daily capacity from 40 to 60 tons. The principal additions to the plant include the installation of a Raymond hammer mill for secondary crushing, and a rod mill with a daily capacity of 25 tons, which reduces to a flour dust all of the fines running smaller than 12 mesh. Black marble dust, which carries a silica content of 20 per cent, is a new product for this concern.

Domestic black marble terrazzo is made in four standard sizes: No. 0, 3-16 inch; No. 1, 1-4 inch; No. 2, 3-8 inch, and No. 3, 7-16 inch.

While the manufacture of black marble terrazzo from domestic stone presents no difficult technical or mechanical problems, it has to be handled in a careful manner to insure a clean, uniform product. Most of the product manufactured to date by the Batesville company has been from small boulders and undersized and broken pieces coming from the quarry.

**Terrazzo Production Method.**

The first step the stone passes through is the cleaning operation. All of the heavier dirt and clay is scraped off, and then it is thoroughly washed with a hose.

When the stone is dry, it is passed through a 14-inch jaw crusher which reduces the material to egg size and smaller. From the jaw crusher the product flows by belt conveyor to the hammermill, where it is further reduced

in size. From this mill it is carried by belt conveyor to a 16-foot trommel screen, with four four-foot sections of different mesh, each section conforming with one of the four standard terrazzo sizes manufactured. All of the oversize is passed back through the hammer mill and screens and the fines, under 12 mesh, are blown into the rod mill and reduced to dust. The four standard sizes of terrazzo go through chutes by gravity to their respective bins.

At the bins the terrazzo is sacked in 100-pound burlap bags and is ready for shipment.

Terrazzo floors are used principally in corridors, courts, rotundas and lobbies in public buildings. The terrazzo is imbedded in Portland cement mortar, after which it is honed down level and polished. It is laid by men skilled in the practice. Not every tile-setter has the ability to lay it.

Architects' specifications for terrazzo floors usually accompany specifications for interior marble and tile, and the marble and tile contractor usually bids for the entire job.

Most producers of finished marble carry a stock of terrazzo chips in stock in various colors. A large tonnage of terrazzo chips is made abroad, waste from foreign marble, and is shipped into the United States as crushed stone chips. Other chips are manufactured in this country from waste and cull stock of imported marble. Black marble terrazzo is used in the construction of high grade floors because of its wearing quality and its excellent contrast with lighter colored marble wainscoting and trims.

**Foreign Competition Serious.**

At the present time producers of Arkansas black marble terrazzo have to contend with serious foreign competition. Belgium black marble producers ship black marble blocks and terrazzo into the United States as ship ballast, which carries a rate as low as 25 cents a ton. Domestic black marble, outside of Arkansas, does not offer serious competition, for the reason that the terrazzo made from this marble does not polish a jet black, which detracts from its appearance as a contrast with lighter marble.

Arkansas producers of black marble terrazzo have held the price f. o. b. their plant at about \$11 a ton. The difference in price between the Belgium black and the Arkansas product is a measure of the distance, in terms of freight rates, to which Arkansas producers can ship their product at a profit. The large potential market for the latter, in the United States, lies between the Appalachians and the Rocky mountains. A lot of their product is going into this territory now, and some shipments have been made to New York and other seaboard states. The Belgian black marble concerns, however, are keen competitors, and it

is to be expected that they will not surrender their former practical monopoly of the business to Arkansas producers without strong resistance.

There has been plenty of grief in the development of the black marble industry in north Arkansas, and only the strong hearted have held on. George Terry of Batesville, who organized the Batesville Black Marble Company, might be termed the pioneer, at least of latter day developments. He opened up the only commercial quarries that have lasted, and developed the terrazzo business.

While the occurrence of black marble in north Arkansas has been heralded as a new discovery, it was well known to the early settlers of the region as far back as 1859. The principal reason for the lack of development in the early days was bad roads, from the vicinity of Oil Trough, near Batesville, in Independence county. In 1879 a wagon load of black marble was quarried on a ridge three miles southwest of Oil Trough and shipped by water to Louisville, Ky. for finishing. This was the first recorded shipment of this marble from the district. About 1890, three wagon loads of black marble were quarried two miles northeast of Leslie in Searcy county. This was hauled over the mountains to Plumerville and shipped by rail to Kansas City, Mo., for cutting and finishing. These activities constitute the early day operations of the field.

The deposits lay inland from the railroads and it was practically impossible to move heavy blocks by wagon to shipping points. Road improvement began in 1925, and as a result of this improvement and a heavier demand for dark colored stone, interest was revived in the development of the black marble deposits, particularly in the vicinity of Batesville, in Independence county.

**Early Difficulties Overcome.**

Latter day prospectors for black marble quarries found plenty of hard nuts to crack in their search. Some thought they had found fine, commercial deposits, but when the stone was cut and polished it showed fine, white silica hair lines. Others found the marble in boulder formation, with the boulders too small for commercial blocks. Many prospectors abandoned their efforts due to lack of adequate financing or because they did not find deposits that could be worked profitably.

Mr. Terry is one of those who persisted in the work. He studied overlying formations as well as the marble deposits, and finally determined those conditions under which commercial black marble occurred.

To be certain that the Arkansas black marble would compete with the Belgian product, comparative tests were made of the two. These tests indicated that the physical character of both stones, as well as their appearance were approximately the same.



10/25/38  
**Laboratory For Mineral Tests Okayed For Ark.**

Information was received October 11th 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 thirty-seven counties covering 37,000 square miles, and employing about 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.

*Modern News  
Hamshurg Ark.  
Dec. 9, 1938*

**WPA CONDUCTING STATEWIDE MINERAL SURVEY**

The Works Progress Administration is conducting a survey of discovered minerals in the State. This project is sponsored by the Arkansas Geological Survey of which George C. Braner, State Geologist, is the director.

Arkansas is rich in minerals as yet undeveloped which should be turned to an asset in this period of growing demand for metal machinery, mineral fuel and the minerals used in many types of construction.

The work of the survey now going on includes locating, mapping and estimating all mineral resources of the State. In counties where the work is in progress a County Supervisor has a group of WPA men under him who cover the entire county, recording on field sheets exactly what they find as they work over the section. They are looking for outcropping minerals, both, metallic and non-metallic, and other geological features. Samples are procured of what is found and sent to the State Offices for classification.

Another feature of this work is that of listing all improvements in a given region, including bridges, highways, county roads, railway facilities, dams, streams, power and gas lines. All data sent to the State Office by these field workers is compiled by counties and the information preserved for the benefit of those interested.

**Staff of New WPA Setup Announced**

Appointment of administrative personnel of the six new areas set up by the WPA to replace the 12 present area offices was announced by Floyd Sharp, state administrator, yesterday. The office of field supervisor was abolished and the three supervisors, T. J. Collier Jr., Newport, D. B. Cutler, Little Rock, and Henry Armstrong, Fort Smith, were assigned to three of the new district offices as area supervisors.

Except for Frank Kirk, all new supervisors are with the organization now. Kirk resigned as district engineer for the state Highway Department at Fort Smith recently and will take charge of the Pine Bluff office Monday. He was Sebastian county administrator for the FERA from July, 1934, until July, 1935, when he became assistant WPA director of the Fort Smith district. He joined the Highway Department in 1937.

Area offices abolished are Newport, Camden, Monticello, Brinkley, Waldron, and Russellville. New offices will be at Jonesboro, Pine Bluff, Little Rock, Fort Smith, Hope and Batesville.

**Staffs of New Offices.**

Personnel for the new offices:

Area No. 1, Jonesboro: T. J. Collier Jr., supervisor; H. E. Phillips, engineer; Davis S. Patterson, chief clerk; Nelle C. Favor, women's and professional projects; A. L. Bell, chief social worker, and Burnus Payne, labor assignment officer.

Area No. 2, Pine Bluff: Frank Kirk, supervisor; Barney B. Brown, engineer; Earl E. Zoch, chief clerk; Josephine Y. Chidester, W. & P. projects; Hershel Abbott, chief social worker, and Marvin Thomasson, labor assignment.

Area No. 3, Little Rock: D. B. Cutler, supervisor; Glenn Douglass, engineer; Burney Ashbridge, chief clerk; Nell Hearn, W. & P. projects; Tommie Lee Phillips, chief social worker, and Guy Lippard, labor assignment.

Area No. 4, Fort Smith: Henry Armstrong, supervisor; J. N. Rutledge, engineer; Tom Jones, chief clerk; Eva Patterson, W. & P. projects; Alice Smith, chief social worker, and Ireland Duty, labor assignment.

Area No. 5, Hope: Wayne C. Fletcher, supervisor; M. T. Bond, engineer; Joe Floyd, chief clerk; Cornelia Lee, W. & P. projects; Thomas Wagoner, chief social worker, and John W. Allen, labor assignment.

Area No. 6, Batesville: Robert L. Jacobs, supervisor; Harry Winters, engineer; E. B. Weaver, chief clerk; Carmalita McKamay, W. & P. projects; John McCall, chief social worker, and James Rutherford, labor assignment.

**Counties Served.**

Counties to be served by the new offices:

Jonesboro — Randolph, Clay, Lawrence, Greene, Crittenden, Craighead, Poinsett, Cross, St. Francis, Lee, Phillips and Mississippi.

Pine Bluff—Grant, Jefferson, Arkansas, Dallas, Cleveland, Desha, Ouachita, Calhoun, Bradley, Drew, Union, Ashley, Chicot and Lincoln.

Little Rock—Pulaski, Monroe, Prairie, Lonoke, Garland, Saline, Perry, Faulkner and Conway.

Fort Smith—Benton, Carroll, Boone, Washington, Madison, Newton, Crawford, Franklin, Johnson, Pope, Sebastian, Logan, Yell and Scott.

Hope—Polk, Hempstead, Montgomery, Pike, Howard, Sevier, Nevada, Miller, Lafayette and Columbia.

Batesville—Marion, Baxter, Fulton, Searcy, Izard, Stone, Sharp, Independence, Van Buren, Cleburne, Jackson, White and Woodruff.

Mr. Sharp said that the new area officials will meet at 10 a. m. tomorrow in his office to discuss a uniform method of further reduction in the farm rolls. Malcolm Miller, WPA regional representative of New Orleans, will attend the conference.

**New Uses For Aluminum Predicted**

New York, Nov. 10 (AP). — A "very bright" future for the aluminum industry during the next 50 years was predicted by Arthur Vining Davis, chairman of the Board of Directors of the Aluminum Company of America here tonight.

To his associates celebrating the 50th anniversary of aluminum as a commercial metal at a banquet, Davis said:

"I am sure we will see improvement in labor conditions and relations with employer and perhaps such a great improvement and such a change that we have not at present the capacity to grasp or foresee it.

"Certainly it strains my capacity to grasp the change that I have seen in the last 50 years."

Davis, speaking to leaders in aviation, transportation, and metal fields, advised his listeners "not to be discouraged by the darkness which comes just before the dawn."

"Some way or other out of this welter of war and unemployment and political theories will eventually rise the sun of intelligence and tolerance." He prophesied vastly extended uses of aluminum, which he characterized as still in the growing period.

"I venture to predict that the dirigible is going to come into its own, but whether it does or not, transportation in the air is bound to assume tremendous proportions, and so far as anyone can see that transportation is going to be dependent to a large extent upon aluminum."

Of the difficulties of the early days, Davis said once the pioneer company had produced aluminum, it was forced into many lines of fabricating in order to provide an outlet for the metal, for existing fabricators could not be persuaded to try it.

**Other Speakers.**

Another speaker was George S. Clapp of Edgeworth, Pa., one of the original backers, who told how he and friends scraped together \$20,000 in 1888 to build a pilot plant for testing the electrolytic process, which has since reduced the price of virgin aluminum from \$8 a pound to 20 cents.

Others were Luke D. Stapleton Jr. of Fairmont, W. Va.; John H. Goss of Waterbury, Conn., and H. Hobart Porter, chairman of the board of the American Water Works and Electric Co., and toastmaster tonight.

10/25/38  
**Laboratory Planned To Test Arkansas Minerals**

Information was received Oct. 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 about 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.



**Clay Testing Laboratory Will Be Established.**

12/17/38  
 The Arkansas Geological Survey has secured services of T. E. McCutcheon, ceramic engineer in charge of the state clay testing laboratory of Mississippi, in setting up testing procedure for Arkansas's mineral survey, Dr. George C. Branner, state geologist, said on his return from Mississippi yesterday. Mr. McCutcheon will direct formulation of testing procedure and instruct a supervisor who will manage the laboratory here, Dr. Branner said.

In connection with a state-wide survey of Arkansas mineral deposits, the Geological Survey will conduct exhaustive tests of clays to determine their possible uses, Dr. Branner said. There are enormous deposits of many kinds of clays in Arkansas, particularly between Little Rock and Texarkana. Several brick plants and pottery firms are using deposits in the area.

The Arkansas survey will have its

**Minerals Top Best Figures In Four Years**  
 Democrat 1-22-39  
 ark Democrat

**Prospect of Additional Development Is Seen for 1939.**  
 Jun 22 1939

Arkansas's mineral production in 1938—valued at \$28,163,900—reached a new high for a four-year-period, and the outlook for even greater production in 1939 is encouraging, due to reopening of properties in the zinc, manganese and copper-producing areas.

The biennial report of state Geologist George C. Branner filed with the general assembly showed total mineral production the past year exceeded that of 1937 by more than \$4,000,000 when the total figure was \$24,025,994.95.

Increases have been steady since 1935 when the value of all minerals produced in the state aggregated only \$15,208,538.63 and \$19,438,448.42 in 1936.

Several large mining concerns are eyeing the state in anticipation of beginning extensive explorations, and in at least three fields actual mining is getting under way. These are in the zinc fields of Marion county, where development plans have reached the stage attracting local residents and outside capital into the formation of a company which will operate in the vicinities of Rush and Yellville, once centers of one of the greatest zinc producing regions in the nation.

**To Mine Copper.**  
 Another concern—the Arkansas Copper Company—is pushing work for construction of a mine mill 16 miles southwest of Norman, Montgomery county, where exploration work has revealed ore that possesses a value of from \$15 to \$160 per ton in copper, gold and silver. The company is headed by W. C. Stenger, general manager.

The Montgomery county mine shows a copper content varying from seven to 92 per cent. Officials of the concern say that ore containing only two per cent is mined profitably in several states.

In Independence county, near Cushman and Batesville, there are increased operations in the manganese fields, which have been more or less idle since World War days. Larger demands have been made in recent months from the nation's steel mills for the ore which is a component factor in steel manufacture.

At the beginning of 1938 there were 308 concerns engaged in the production of various classes of minerals, with petroleum, coal, bauxite, and cement leading the list in order. During the year petroleum production reached the substantial figure of \$11,044,577.37. The output was 11,575,976 barrels.

Coal production was 1,584,134.66 short tons valued at \$4,815,769.37.

**State Mineral Production Increasing**  
 Gazette 1-6-38

The state WPA mineral survey will be continued in 44 counties this year, state Geologist George C. Branner said in his annual report to Governor Bailey yesterday.

They are:  
 Baxter, Benton, Boone, Carroll, Clark, Clay, Conway, Craighead, Crawford, Dallas, Franklin, Fulton, Garland, Grant, Greene, Hempstead, Hot Spring, Howard, Independence, Izard, Johnson, Lafayette, Little River, Logan, Madison, Marion, Miller, Montgomery, Nevada, Newton, Ouachita, Pike, Polk, Pulaski, Randolph, Saline, Scott, Searcy, Sebastian, Sevier, Sharp, Stone, Washington and Yell. The work will be done by WPA labor, Dr. Branner said.

Field surveys of petroleum, phosphate, clay, quicksilver and other natural resources will be conducted if funds are provided, he said.

The state mineral survey was originally set up for the examination of 23,086 square miles, or 43 per cent of the state's area. On October 29, a total of 12,371 square miles had been surveyed.

In addition to mineral analyses, the project utilized WPA labor in 1938 to collect samples of Arkansas water from springs and wells to be examined for chlorides, iron and hardness.

Cost of the project, which was borne by the WPA, was \$229,285.41 from January 7 to November 14, 1938, Dr. Branner said. On the latter date, 663 persons were employed in the work.

**Laboratory Being Built.**  
 As an addition to the survey, a laboratory is being constructed at the old penitentiary. It will be equipped to make chemical and physical analyses of minerals.

Listed among the Geological Department's accomplishments in 1938 were the drilling of 76 test holes in Pulaski and Saline counties in search of limestone beds for use as agricultural lime. Samples of limestone were discovered in 27 test holes, the report said.

"Results of tests have indicated the presence of limestone in both counties in a considerable quantity," the report said.

**Value of Minerals Produced.**  
 The estimated value of minerals produced and severance tax collected on minerals in Arkansas from 1935 to 1938 were reported as follows:

Year.	Value of Minerals Produced.	Severance Tax Collected on Minerals.
1935	\$15,208,538.63	\$242,778.69
1936	19,438,448.42	274,300.85
1937	24,025,994.95	377,937.71
1938 (est.)	28,163,900.90	450,622.41

**Arkansas Enters Confidence in Trade Upturn Is Reflected**  
 Ark Democrat 1-22-39  
 Democrat 1-22-39

**From September Payrolls Have Been Climbing to New High Marks. Near 1937 Level**

**Only 10 States Register Greater Gains During September.**

Entering 1938 with its industries throttled down by the recession, Arkansas finished the year and struck into 1939 to the music of a swelling hum of activity in its mills and factories.

Pay rolls recovered in September from their spring and summer decline, under the double stimulus of the usual fall upturn in business and a nation-wide stir of new confidence.

Private employment in Arkansas during September went up slightly more than five per cent over August. Only 10 of the 48 states registered a greater gain, as shown in government reports.

From September on, the pay rolls of Arkansas began to climb toward the best monthly figures of recent years.

In November the total of manufacturing wages distributed among the state's workers was within a few thousand dollars of the \$2,600,000 paid them in November, 1937, according to the University of Arkansas School of Business Administration.

**Nearing 1937 Level.**  
 Based on the 11-month showing, it appears that the state's manufacturing pay rolls in 1938 were only about \$3,000,000 under the 1937 total of \$32,000,000 computed by the School of Business, which was the largest amount of manufacturing wages paid out in Arkansas in any year since the big slump started in 1930.

The indicated pay roll for 1938 was around \$28,900,000. Except for 1937, that sum would be greater than for any other year of the past seven—though only slightly ahead of 1936. It would be 17 per cent above the average of the five years beginning with 1933, when Arkansas started to shake off the depression.

The value of the state's manufactured products has not been recorded since the last federal census of manufactures was taken in 1935, when the figure was put at \$122,448,000.

However, over past periods the value has run about five times the amount of manufacturing pay rolls. Applying that ratio to the indicated 1938 pay roll total of around \$28,900,000 would give \$144,500,000 as the value of the state's manufactured output in 1938.

That would be a gain of some \$22,000,000 since 1935.

Manufacturing in Arkansas, though

under the shadow of the recession most of the year, showed a sturdy spirit of growth. A number of plants were expanded, a variety of new ones were launched, and an encouraging list is scheduled or planned for 1939.

The Crossett paper mill began a \$750,000 increase of its capacity last fall, to add five units, a finishing and storage room, a power plant, a turbine generator, a bleaching plant and a mill for the recovery of by-products.

In North Little Rock, the Rose City Cotton Oil Mills entered the fast-growing soybean industry by adapting its equipment to crush oil from this crop. Several other oil mills about the state took the same progressive step—which may mean a great deal to Arkansas.

Soybeans have so many industrial uses and possibilities that informed men believe they will become one of the nation's major crops.

A wide diversity in the state's industrial growth is evident from a glance at a few of the industries started in 1938.

Canning plants were opened at Lonoke, Grannis and other points. Several wood specialty plants began operation. The manufacture of Venetian blinds came into Little Rock's industrial picture.

**New Bauxite Plant.**  
 News stories through last year told of a factory at Everton starting to ship kitchen ware; of Berryville getting a dish-washing-machine plant; of an establishment appearing at Pine Bluff to make attic fans; of the state's count of cheese factories increasing; of alfalfa-drying mills set going.

And among the new industries slated for 1939 are a plant in Little Rock to produce an oil-refining material from bauxite, a creosoting plant at Heber Springs, a number of other miscellaneous wood-using plants here and there; a small factory at Morrilton to turn out electric matches for blasting; chick hatcheries at several points, and additional canning factories.

Communities up and down the state are talking hopefully of such development as quick-freezing plants for preserving fresh fruits and vegetables; mineral-processing industries various kinds of wood-working enterprises; more cheese factories, and various industries which have come about in recent years with the rise of chemical manufacturing, to make new uses of farm-stuffs and timber.

There is a strong belief in informed quarters of the state that Arkansas is in position to make gratifying industrial progress in 1939.

"The prospects are now the brightest they have been for many years," declared Nathaniel Dyke Jr., Arkansas industrialist and chairman of the State Agricultural and Industrial Commission.



# MUSINGS OF A MOVIE TRAVELOGUE DIRECTOR ON STATE'S INDUSTRY

Gazette 11-13-38

By TOM SHIRAS.

Batesville, Nov. 12.—After spending a day making movie shots of recreational and industrial possibilities in the White river country, Randall M. White, who is directing the Arkansas travelogue that will be shown at the New York World's Fair, had just a one-word comment to make on its development, that was "advertise." He was accompanied by Walter West, cameraman, and Erwin Oller, sound engineer.

His first stop was at the Batesville Marble Quarries Company quarry and plant near here. Locking over the property and mapping out his shots, taking note of the number of men at work, he said: "Instead of the few men employed on this work there should be over 100. Sales, advertise," he said. "That's the answer."

### Amazed at Potentialities.

Mr. White, who is an Easterner, was amazed at the industrial and recreational possibilities the White river country presented. By profession he is an advertising man, having followed advertising promotion for many years. As he looked over the immense deposits of commercial stone, glass sand, manganese, zinc and lead ores and the possibilities for recreational development of the territory, his mind naturally reverted to the one factor that would develop them. Tell the world about them.

"You have everything in this section to make a great country out of it. Enormous quantities of raw material, hundreds of thousands of undeveloped horsepower in your rivers to turn it into finished products, and one of the most wonderful undeveloped recreational sections in the United States.

"The recreational possibilities are tremendous. Miles and miles of beautiful mountain rivers for boating, swimming, fishing and water sports. Mountain scenery that compares with any mountain section in the country; national forests, with highways and recreational centers that are almost on a par with national parks; fine hunting; deer and small game that should bring sportsmen from every section of the United States into your country. As I said before the answer is, advertise.

### Advertising Is the Answer.

"How to advertise? That's not a hard question to answer. Advertise in those publications that will reach the people you want to reach. Get out booklets telling what you've got and distribute

them nation-wide, getting them into the hands of people most likely to be interested. It helps a lot, too, to let a person who is interested in a certain thing see it with his own eyes. Select the biggest men in the country who are interested in your raw materials and invite them in here once a year to have a look. Take them fishing and otherwise entertain them to the best of your facilities. And don't stint."

Mr. White thinks that the picture they are making of the state, which will be a part of Arkansas's New York World's Fair exhibit, will have a far-reaching effect on advertising the state. Making a picture of this kind is not as simple as it might seem. "Remember, you have to show the whole picture of the state in 30 minutes and 20 would be better," Mr. White said. "Many people will probably be provoked because we do not fully cover in detail their respective sections.

"But, if we would do that we would have to make a film many thousand feet long, which would take hours to show, and people visiting a world's fair will not devote that much time to one feature. They have to see everything in a short time and are constantly on the move, and it wouldn't be logical to make a film that would be so long they would walk out before it was all run. Obviously it would not have the advertising value it would have if it was shorter, and they would stick for the whole show. This is our point of view in the matter, and this is the way we are filming the story of Arkansas. We are trying to cover every section of the state with short takes. An industrial plant here, a mine there, a beautiful mountain scene yonder, and such like.

### Says Celebrities Could Help.

"You have a number of national, or I might say international, celebrities who are natives of Arkansas. They, if they would, could help you build those undeveloped recreational sections of the state into popular vacation spots. There is Dick Powell, Bob Burns, and many others who were born and raised in this state. Obviously they spend a vacation some where. If you could induce them to come to Arkansas once a year for a short vacation, others would follow, for the crowds follow the big men.

"These people were born and raised in Arkansas, and no doubt would a lot rather come back to their native state to shoot deer, birds, and fish, than to go to some outlandish, society watering place where they are constantly annoyed by autograph seekers. The reaction to their visits would be like this: 'Dick Powell killed a deer down in his native Stone county. I believe I will go down there hunting.' The whole world reads, and has an interest in what the celebrities are doing, but have little interest in what the average person does."

Mr. White dwelt on competition among states and sections. And viewing the development situation from that angle, Arkansas has plenty of competition in both new industries and the development of its recreational facilities.

### Northwest Section Has Competition.

In the development of its recreational possibilities, North Arkansas has plenty of aggressive competition. The principal competitors for this business are the Lake of the Ozarks, Cowskin River country and Lake Taneycomo, and Shepherd of the Hills country. All in South Missouri. All of these sections are not only competitors of North Arkansas, but actively compete among

themselves. All of them have their sectional organizations and all are aggressive advertisers.

They advertise over the radio, with beautiful illustrated booklets and in outdoor magazines and newspapers. They do this advertising sectionally, and by doing it this way have much more money to spend than if it was done locally, by towns and communities.

The mountain section of Arkansas does no advertising of consequence, except in the extreme northwestern part, and they get most of the tourist business that comes into the north part of the state. Sectional advertising in the White River country would bring many new people into the section, many of whom would be brought in from the South. Most of the people visiting the Missouri Ozarks resorts come from the West, East and North. As a result of proper advertising people from those sections who visit the Missouri Ozarks resorts would travel down into Arkansas, and those from the South, brought into the White River country, would naturally drift over the state line to the Missouri resorts which would weld the Ozark region as a whole into an enormous resort section.

The same competition is also present in the location of industrial plants. Every state adjacent to Arkansas does aggressive advertising and planning. As a foundation they have a workmen's compensation law and tax exemptions for new industries. Behind these laws they throw their printers ink and encouraging convincing arguments. They make the sales. In order to meet this competition, the White River country, with its enormous quantities of raw materials, and other sections of the state with their resources, will have to work diligently if they sell what they have to sell to the world at large.

### Film Held Good Advertising.

The 3,000 foot film picture that is now being filmed of Arkansas will probably be the best advertising the state ever had. Literally millions will see it, and no doubt it will change the present picture of Arkansas as a backwoods state, which people now carry around in their minds, to one of a modern, progressive state which Arkansas really is.

## ICKES PROPOSES STRICT CONTROL OVER RESOURCES

### Recommends Survey of Minerals.

Washington, Dec. 18 (AP).—Secretary Ickes recommended legislation today which he said would open the way for the government to check overproduction and waste of mineral resources vital to the national defense.

In his annual report to the president, the interior secretary said the Bureau of Mines reported to him that a factor contributing to the waste of mineral resources was "unrestrained production that results in stock piles that frequently deteriorate before they are used."

"A way would be opened to enable the government to check this overproduction," Ickes told the president, "if we could determine the nation's requirements of the principal minerals.

"I am in favor of legislation which will permit this department to make this determination in the interest of national defense as well as in the interests of conservation of natural resources."

Ickes renewed his recommendations that the name of the Interior Department be changed to that of Department of Conservation. He long has contended that conservation is the real function of the department and that it is improperly named.

### Private Concessions In National Parks Opposed.

The secretary urged that Congress consider a policy as to private concessions in national parks. His own view, he said, was that providing of accommodations to park visitors through private corporations "in many instances has not worked out satisfactorily."

He reported attendance at national parks reached an all-time high of 16,233,688 during the year.

### Sharp Increase Reported In Helium Production.

Ickes said the government's helium plant at Amarillo, Tex., produced 6,100,000 cubic feet of helium during the 1938 fiscal year, an increase of 1,300,000 cubic feet over the previous year. The United States has a virtual monopoly on this non-inflammable gas, which is used as a safe lifting agent for airships.

"This production," Ickes told the president, "was only about one-third of the quantity which a foreign country [Germany] desired under terms of the amended helium act which permitted export of the non-inflammable gas.

"No helium was exported because the secretary was not persuaded that the supply sought was not of military importance as described in the act."

### Hails Government Victory In Securing Oil Lands.

He cited as "in the realm of true conservation" the Interior Department's court victory declaring the government owner of valuable oil and mineral lands in the Elk Hills oil fields of California. Previously private companies had operated leases there on authority of the state of California.

The secretary reported that the accident rate in mining had been much lower during the last five years than in any other period for which statistics were available. He gave credit for much of this to the fact that the Bureau of Mines had trained 1,146,854 persons in mine safety courses.

### 82 Indian Tribes Operating Under Own Constitution.

Taking advantage of larger responsibilities for self government, under the Indian Reorganization Act of 1934, Ickes said, 82 Indian tribes now are operating under constitutions and by-laws.

Of this number, 57 tribes were incorporated under federal charters. With the Indians increasing at twice the rate of the population as a whole, Indian land areas at the end of the fiscal year had increased from 49,000,000 acres in 1933 to 51,540,307 acres, he reported.

Ickes said that a program for wider use of agricultural land which might make Puerto Rico a strong competitor with foreign countries in the production and marketing of vanilla was contemplated.

Hawaii reported an increase in business and a favorable trade balance during the year, he said. Value of pineapple production increased by \$4,000,000.

## Arkansas Democrat Jan. 22 - 1939 Mineral Output of State in Democrat 1-2239 1938 Valued at \$28,163,900

Product	Amount	Value
Bauxite	473,456 tons	\$2,786,762.02
Cement	855,500 barrels	1,291,805
Clay	254,717 short tons	927,502.84
Coal	1,584,134 tons	4,815,769
Gravel	1,310,213 cubic yards	668,208.91
Natural Gas	12,485,052 cubic feet	583,388.10
Natural Gasoline	11,277,000 gallons	541,296
Petroleum	11,575,976 barrels	11,044,577
Sand	390,091.79 cubic yards	333,528.47
Stone	374,646 short tons	431,977.57
Glass Sand	91,152.98 short tons	154,960.07
Mineral Water	3,119,200 gallons	123,325.52
Manganese	11,227 long tons	121,716.40
Novaculite	104.18 short tons	75,208.93
Tripoli	4,186 short tons	60,697
Rutile	947 short tons	37,904
Zinc, Bentonite and Lead	997 short tons	20,000
Mercury	78 flasks	7,333.63

### Clay Making Among Leading Industries

Arkansas, rich in clays and with ample stores of fuel, is in a strong position to develop the manufacture of clay products on an important scale, in the opinion of Dr. George C. Branner, state geologist.

At many points in the state, he said, clay deposits, gas and railroad transportation, the three basic necessities for manufacturing brick, tile and pottery are all found together.

The state's clay industries, numbering several brick and tile plants and two pottery factories, now turn out products to a value normally of about \$1,500,000 a year.

Dr. Branner sees in the increasing use of brick and tile, an opportunity for Arkansas to develop their manufacture on a larger scale.

He points out that Arkansas not only has advantages for brick and tile industries, but that the state has at its doors the huge Southwestern plains area, where the use of clay products for building is favored by the lack of timber.



# Greater Little Rock's 1938 Upswing Goes Forward With Plans for Expansion in 1939

Democrat 1-22-39

Greater Little Rock feels a lift of confidence as it looks into 1939 from the rise of a gratifying upturn of business recorded during the closing months of the past year.

Impressive gains were marked up in all the main affairs of the twin cities as December, 1938, fluttered down from the calendar and January, 1939, smiled its greeting.

Surveying the results of the forward surge that became evident last fall, and taking notice of cheering promises and tokens for the year ahead, business leaders of Greater Little Rock are expressing a faith in the outlook that goes beyond hopeful words into "good works."

Substantial additions will be made this year to the expansion of business and industrial facilities which accounted for much of the building boom that flowered out of the fading end of 1938 in the twin cities.

The M. M. Cohn Company announced in December that it will erect a modern five-story department store on Main street between Capitol and Sixth, on the location now occupied by the McClellan variety store and the Sally Frocks establishment. The structure is to cost "several hundred thousand dollars."

In the industrial field, the Tuf-Nut Garment Company, Third and Cumberland, Little Rock, comes up with a bright pointing for the city's new year.

## Tuf-Nut to Expand.

Additions to the Tuf-Nut plant, estimated to cost \$50,000, will give the company 25,000 feet more of floor space, accommodating an increase of 150 sewing machines, and opening a prospect of the number of employees being stepped up from 500 to 700, it is announced. Plans are that the enlarged quarters will be ready for occupancy about May 1.

Further industrial expansion will be contributed to Little Rock by the National Wood Products Company, which manufactures kitchen furniture and is ready to go on a new plant to cost around \$20,000, in the eastern part of the city. The plant is expected to be finished within six weeks, and will mean a considerably enlarged working force and production, officials said.

Formerly, this company sold most of its kitchen furniture in the Southwest. But the management reports that an exhibit of its products at the American Furniture Mart, in Chicago, brought a 200 per cent increase of orders from states in the upper Mississippi valley, and now the company is planning on an important expansion of its business in that section.

An attractive offer was made to the National Wood Products Company from a point in Texas, with inducements to its location there. The Little Rock Chamber of Commerce devoted a great deal of effort to re-establishing the industry in the new location it will occupy.

## New Bauxite Industry.

Another industrial plant which will add to the 1938 hum of activity in Little Rock is one to make a product from bauxite for use in refining petroleum. This establishment is scheduled by its builders, the Porcel Corporation, to be completed and begin operation around March 1.

The plant, which will be located

on the Arch street pike about seven miles out of the city, will represent a "substantial investment," officers stated, and will employ somewhere around 30 men at the start. Growth of the enterprise is anticipated as the market for its output—a comparatively new product—is developed.

Much improvement was built into the industrial facilities of the twin cities in 1938, which will reflect in the pay rolls and production values of 1939 and succeeding years, it is pointed out.

The Big Rock Stone and Material Co., which distributes a monthly pay roll of some \$175,000 to around 125 employes, rebuilt its establishment last spring at a cost of \$90,000, and now has what is declared to be the largest and most up-to-date industry of its kind between Chicago and Birmingham.

## Lumber Plant Rebuilt.

The E. L. Bruce Co., in the eastern section of Little Rock, restored its big wood-working plant to full capacity by erecting a large modern building to replace one of its units destroyed by fire. Reported to have cost in the neighborhood of \$200,000, this structure is used to prepare lumber for finishing into the many types of flooring which the Bruce Company manufactures.

Rebuilding is under way on another fire loss in Little Rock, a storage house of the Swift and Co. oil mill, at the foot of East Seventeenth street.

An outstanding achievement for 1938 was the opening of the stockyards in North Little Rock, February 1. The pay roll of the yards, which runs about \$15,000 a year, is a small item of the value of this establishment to Greater Little Rock and the agriculture of a far-reaching area.

Each month since their opening, the yards have written checks for livestock to a total of around \$150,000—a little less in some months of normally light receipts, but much more in other months when the bulk of meat animals moves to market.

Men who are competent to judge say that the yards should develop into an enterprise handling several million dollars worth of livestock a year.

## Building at High Point.

New construction of all types in Little Rock during 1938 was shoved up to pleasant figures as the year wore along, by such large items as the Sears-Roebuck store, at Seventh and Main, the addition to the Southwestern Bell Telephone Co., at Seventh and Louisiana, and the St. Vincent's infirmary annex.

A total of 25 permits for new business structures were issued in 1938.

Aided by public buildings and a swell in residence construction which chalked up robust figures in the final stretch of 1938, Little Rock swept into the last three months of the year to record a 260 per cent gain in the value of building permits over the same months of 1937.

In the light of that showing, the slight drop for the whole year under the 1937 building total—amounting to only about six per cent—is regarded as of small weight.

Public building in Little Rock last year included the School for the Blind and city auditorium, on

both of which construction work is carrying over into 1939.

The F. W. Dodge Corporation, commenting in December on the local up-surge of building, said:

"It is highly significant that privately financed construction in the Little Rock metropolitan area has established a favorable margin over public financed work."

## Other Indications Cheerful.

And the statement added that there was "no present indication of slackening" in the city's "up-swing" of building during the latter months of 1938.

Other indicators of business conditions in Greater Little Rock joined with the increase of building in the second half of last year to give further proof of the general improvement under way.

Retail sales recorded a definite gain over the holiday end of the year.

Total resources of the five banks in the Twin Cities added up to a gain of almost four million dollars for 1938.

Convention crowds in the city during the final months of the year gave evidence of a clearing economic sky, in their size and spirit, it was observed. Some 80 conventions, totaling 17,000 delegates, were recorded in 1938 by the local Chamber of Commerce.

Postoffice receipts, often cited as an index of business, went \$50,000 over the 1937 figures, to the highest total for Little Rock since 1930—reaching \$887,278.

On two days during the Christmas season, new all-time records were set at the capital city mail-windows.

All together, the beginning of 1939 with its rising note in Greater Little Rock's affairs, is in happy contrast with the dullness that marked the opening months of 1938.

## Forestry Building

Dedicated May 2

Russellville—The Ozark forestry headquarters building here is to be

dedicated May 2 and plans for the dedication are in charge of the board of governors for the Russellville Chamber of Commerce. Floats are to be entered in the parade by the forestry department, the CCC, the WPA, the state park commission, the Arkansas National Guard units of Pope and Yell counties and business firms and civic groups, it was announced.

Exhibit booths are planned by the NYA, the FHA, the SCS and other agencies. The exhibits will be housed in the education building at the Arkansas Polytechnic College.

# M. & A. Line Scouting for New Business

Democrat 1-5-39  
Development Program Under Way; Ore Shipments Increasing.

Harrison—A large timber treating plant at Heber Springs, shipments daily of pyrites of iron, a project which will result in carload shipment of poultry; a strawberry project which will bring carload shipments of strawberries, and increased shipments of lead and zinc ore, will be avenues for increased freight shipments over the railroad during the coming year, according to L. A. Watkins, vice president and general manager of the Missouri & Arkansas railroad, in a statement at Harrison this week.

The timber treating plant, which will treat pine posts, piling and other timbers with creosote, is being built by the Lincoln Creosoting Company of Shreveport, La., at Heber Springs, the manager announcing that it will be completed and in operation by March 1.

As 80 per cent of Cleburne county and neighboring counties, of which Heber Springs is the center, grow much pine timber, according to recent aerial surveys, this plan will furnish a nearby market for this pine in all sizes. It is especially designed, Mr. Watkins states, to supply poles for the power lines which will be constructed in the state as part of the federal rural electrification program. The machinery and plant at Heber Springs will employ the latest method of applying the creosote under pressure.

The National Lead Company is to immediately take over the mining of extensive deposits of sulphide of iron, or pyrites, developed last year by Mr. Watkins and his associates near Freeman in Carroll county. This company expects to ship two cars daily to St. Louis, where it will be used in the making of sulphuric acid. Last year the railroad conducted extensive drillings and now has more than 500,000 tons of the ore blocked out for mining.

Although the zinc and mining industries in this field have lagged because of a slump in prices, Mr. Watkins states that the railroad is now securing the shipment of two carloads daily from the mines at Stark City, Mo., developed by Mr. Watkins and his associates last year in their program of developing industries and new resources along the line for increased car lot shipments.

## Financing Livestock.

In Boone and Carroll counties the railroad management is promoting a program for financing better livestock and also for creating a broiler industry and poultry business, which will rival in extent that of the Rogers and Springdale fields.

A revolving loan fund has been created through the Harrison bank with which thoroughbred cattle, hogs and sheep will be purchased and placed with progressive farmers. Poultrymen are also being financed for baby chicks and feed in promoting the broiler industry.

In past months, Mr. Watkins has made extensive surveys of the black marble and other high class marble deposits near Leslie, the phosphate deposits near Rumley, St. Joe and other points, and the zinc and lead ore deposits in the Ponca field in Newton county, and the zinc and lead ore fields in the triangle between St. Joe, Yellville and Marshall.

When mining and ore prices come back, Mr. Watkins states that his road will make further investigations of proposed development and will also make extensive drillings along the railroad for coal deposits.



# WPA Mineral Survey Gets \$483,000

Gazette 4-30-39

A \$483,000 WPA fund with which the state hopes to develop industry in counties this year was released to the Arkansas Geological Survey's mineral study project yesterday.

The mineral survey, designed to determine quantities of each mineral available for commercial development and to provide an accurate record of the state's deposit, began January 7, 1938. It cost approximately \$413,000 last year.

The first period for which the original appropriation was made, expired April 15. The new fund is available immediately.

"Approval of the second appropriation was an expression of confidence in the Arkansas Geological Survey's work," said Floyd Sharp, state WPA administrator.

Work for 1939 will include field surveys, analyses of minerals discovered in the 30 counties and mapping of the areas for use of industrial organizations and state and private agencies. State Geologist George C. Branner said.

## Laboratory Tests.

Minerals collected will be tested in a new laboratory erected by the WPA at the old penitentiary walls at a cost of \$5,000. It embraces a clay-burning kiln and facilities for chemical and physical analyses. More than 14,000 specimens, 4,000 of which are clay samples, have been gathered for testing.

Information will be made available to industries which manufacture bricks, phosphates and lime products, and to sand and gravel, stone and marble companies.

Water tests to determine supplies adaptable to industrial uses will be made at special laboratories situated at Mena, Jonesboro, Mountain View, Waldron, Marshall, Melbourne, Danville, Paragould, Salem, Camden and Hardy, Dr. Branner announced.

Other laboratories are contemplated this year in Crawford, Madison, Montgomery, Marion, Sebastian and Newton counties.

## 690 Persons Employed.

The survey personnel of 690 persons completed an investigation of 18,546 square miles in the state during the first year. The work was approximately 70 per cent finished when the last report was compiled March 29.

Each county included in the project has an independent organization composed of a county supervisor and a staff of 16 field workers, members of which were obtained from WPA rolls.

## Report To Be Published.

"The survey has not discovered many minerals new to Arkansas," Dr. Branner said. "The workers don't claim credit for discovering deposits already known to exist. But the detailed information and the analyses of samples collected will constitute a permanent reference work for those interested in the commercial development of the state's minerals."

Results of the survey, when completed, will be published in a bulletin under Dr. Branner's direction.

State offices of the work are at 117 North Victory street. Robert C. Beckstrom is state supervisor. R. E. Vandruif is technical supervisor.

# New Forestry Building Will Open Tuesday

Democrat 4-30-39

## Dedication Program at Russellville Feature of Tech Agri Day.

The only building in the United States constructed by the Treasury Department primarily for use as a Forest Service supervisor's headquarters will be formally dedicated at Russellville Tuesday. This building will house the administration offices of the Ozark National Forest, which is under the direction of Supervisor H. R. Koen.

The dedication of this building will attract many prominent state and federal officials. Among those participating in the program will be Congressman D. D. Terry; F. A. Silcox, U. S. Forest Service, Washington, D. C., and Joseph C. Kircher, Southern regional forester of the U. S. Forest Service, Atlanta, Ga. Governor Bailey is expected to attend and take part in the program. The program will be held jointly with the annual Agri Day celebration by Arkansas Polytechnic college and attendance in excess of 5,000 is expected.

The building, which has been constructed at an approximate cost of \$155,000, occupies an entire block on West Main street. It is a new departure in federal building design and construction. Built of native stone and timber in a modified English style, modern in every detail and equipment, its simplicity and design are in complete harmony with a forest setting.

Bought from the government August 20, 1838, for \$1.25 an acre, the block where the handsome new building stands, with the remainder of the 40 acres purchased by Dr. Thomas Russell, for whom the city of Russellville was named, brought the small sum of \$50.

Sold back to the United States 100 years later, the same block brought \$12,500 to its present owner, the Bank of Russellville.

The day's program will open at 8 a. m. with an inspection of college grounds at Arkansas Tech, followed by exhibits in the Physical Education building by the Soil Conservation Service, Forestry Service, National Youth Administration, Farm Security Administration, WPA, state Planning Board, State Park Commission, Highway Department, Employment Service, Extension Service and the Yell County Fair Association.

The program from 10 a. m. until noon calls for coronation ceremonies at Buertle field, an assembly program at the college armory and an address by Mr. Silcox.

At 1:30 p. m., the Agri Day parade will move over streets of Russellville.

The actual dedication of the building will take place at 3 p. m. with Congressman Terry giving a resume of the construction of the building and introducing the dedicatory speaker, Mr. Kircher.

At 9 p. m. an invitational dance will be held at the Tech armory.

Exhibits will be open for inspection from 8 until midnight and tours will be arranged for visitors to the CCC camp, Ozark National Forest nursery, Hughes Co-operative project and Soil Conservation Service projects.

The program was arranged by J. W. Hull, president of Arkansas Tech, and H. R. Koen, supervisor of the Ozark National Forest.

# Forest Chief Main Speaker At 'Agri Day'

Democrat 4-2-39

## Thousands Attend Joint Celebration at Russellville Today.

### CARL OLSSON.

(Staff Correspondent.)

Russellville—Arkansas is of the Old South, stripped of much of its fertile top soil as result of shingle-cropping, but it is of the New South, busily "coming back" into its own, F. A. Silcox, Washington, chief of the U. S. Forest Service, told a crowd today that jammed Arkansas Tech armory in observance of annual Agri Day at the school, and also for dedication of a new headquarters building of the Ozark National Forest.

Speaking on the topic "Symbols of Progress," Mr. Silcox referred to the new building as one of the symbols of the progress of the New South. "Nature has been kind to Arkansas and forest land is still one of her greatest potential assets.

"If nature is aided by man, if destructive woods practices are stopped and cropping on a sustained yield basis substituted for them, Arkansas's forest lands can become an inexhaustible reservoir of wealth and work, a broad base, and a sound one, for prominent prosperity," Mr. Silcox said.

Several major considerations enter into development, particularly in the soft pine industry of the South, he said, mentioning accessibility to markets, labor requirements, scientific research, but "a note of warning may not come amiss."

"The modern paper plan requires a heavy investment. Properly safeguarded, and labor, stability is essential, to assure stability, there must be an adequate and continuous supply of wood," he declared.

Urging a sound forest practice and continuous operations to provide an adequate supply of wood as needed by lumber industries, Mr. Silcox said, public co-operation is essential in fire protection, control of insects and diseases, taxation of forest lands, credit facilities for forest industries and marketing problems.

But the conditions I have mentioned and others that exist convince me that public regulations of cutting practices is also necessary on all forest lands, no matter of cutting them," he said.

"Although I believe the federal government must be very definitely in this picture, I am also convinced that as wide a margin as is possible should be left for voluntary action by industry and that there is both need and ample opportunity for the states to exercise their own initiative, resourcefulness and sovereignty."

Mr. Silcox praised Congressman D. D. Terry for the new forest service building, saying he was due, "in large part," for its construction.

Mr. Silcox was accompanied here by Joseph C. Kircher, Atlanta, Ga., Southern region forester, both of whom arrived last night at Little

Rock with Congressman Terry by airplane from Washington.

Prior to the address by Mr. Silcox and a varied program in the armory, Lieut. Gov. Bob Bailey crowned the "Agri Day" king and queen in a colorful ceremony on the steps of the Tech administration building. A procession to the steps opened the ceremonies.

Keith Harris of Lonsdale and Miss Anna Fulton of Dardanelle, selected king by agricultural students and queen by home economics students, respectively, received their crowns from the hands of the state's second ranking official and witnessed a brief May Day pageant which consisted of Maypole dances by a score of little tots and one by 80 beautiful young women students. The latter conducted their portion of the program around four Maypoles on the building lawn. J. W. Hull, CCC commander; H. R. Koen, supervisor of the Ozark National Forest, and others were in evidence during the morning, making the last arrangements for the day's celebration. Many of the early visitors inspected exhibits at the school of various projects of governmental agencies, among which were the Soil Conservation Service, Forest Service, National Youth Administration, State Highway Department, Farm Security Administration, WPA, State Planning Board, State Park Commission, Agricultural Extension Service.

Russellville's Boy Scout troops assisted officers in directing traffic during the day and were in readiness to assist this afternoon in the "Agri Day" parade and the building dedication.

### Elaborate Parade.

The Agri parade, the most elaborate in the history of Russellville, formed at 1:30 p. m. at the college, extending from the southeast corner of Buertle Field, on Arkansas avenue out highway 7 to the dairy barns north of the college.

In the parade formation were 10 college and high school bands, from Arkansas Tech, State Teachers' college, Subiaco college, and high schools at Morrilton, Atkins, Paris, Charleston, Booneville, Waldron and Clarksville.

More than 30 elaborate floats, entered by various firms and organizations and constructed under the direction of C. W. C. Aulsbury of the Tech faculty, were in the parade.

The parade marched from the college along Arkansas avenue to its intersection with Commerce avenue, traveling Commerce avenue to its conjunction with Main street in the business district, and then west on Main street past the new Forest building, and then south on Glenwood avenue to Second street, then east to Denver avenue, then north to Main street, east on Main street to Arkansas avenue, making a "U" turn and traveling Main street to surround the Forest Service headquarters building block with the floats, for the dedication of the Forest building.

The annual Agri Day banquet will be held in the Methodist church beginning at 6:45 p. m., with C. W. C. Aulsbury, professor of animal husbandry at Arkansas Tech, as the principal speaker.

The day's celebration will close with an invitational dance in the Tech armory, beginning at 9 p. m. The Arkansas Tech orchestra, directed by Marvin Williamson, who has been band and orchestra director at the college since it was established, more than 25 years ago, will play for the dance.

# Thousands See Dedication of Forestry Home

Democrat 5-3-39

## Prominent Officials Attend Twin Celebration at Russellville.

### By CARL OLSSON.

(Staff Correspondent.)

Russellville—A 16-year dream of H. R. Koen, supervisor of the Ozark National Forest, and forest conservationists of this and surrounding territory reached a successful conclusion yesterday afternoon when a new \$150,000 building was dedicated here as headquarters for the Forest Service. The annual Agri Day of Arkansas Polytechnic institute was observed along with the forestry celebration and attracted between 8,000 and 10,000 persons, the largest crowd ever gathered in Russellville.

The dedication ceremonies took place in front of the new building, located immediately west of the business section of the city, following the Agri Day parade and an address at the Arkansas Tech armory by F. A. Silcox, chief of the U. S. Forest Service. Tours through the forest and to nearby forestry projects, a dinner for the distinguished visitors and a dance at the armory last night concluded the day's festivities.

Congressman D. D. Terry of Little Rock, speaking at the dedication, said the building was the result of "long efforts on the part of Mr. Koen and the people of Russellville" and that it would be "something they will be proud of through the years." He told of the co-operation given by the Forest Service and the Treasury Department in preparing plans for the building.

Mr. Koen, supervisor of the forest for 16 years, was mentioned as a "guiding hand in its development," in the dedicatory address by Joseph C. Kircher of Atlanta, Ga., Southern region forester. Mr. Koen was born near Harrison and began his work with the Forest Service as a ranger in the Ozark National Forest, returning there in 1922 as its supervisor.

"It is fitting that we should dedicate this building on this site, near these two large trees, which probably are older than any of us," Mr. Kircher said. "I am glad to dedicate this building to social and economic betterment of northwest Arkansas."

### Parade Is Colorful.

The Agri Day parade required more than an hour to pass through the crowded streets of the city, being headed by more than 100 horsemen. Included in the procession were floats representing practically all the governmental agencies here, nearby communities, businesses and professions and the usual commercial representatives.

The Ozark National Forest float, representing forest and water conservation, was judged the winning float in the parade. It was a large truck and trailer, covered with pine branches, with a lookout tower built on one vehicle and a miniature pool with an actual waterfall on the other. The pool was surrounded by a bevy of young women in bathing suits, including Mrs. Minnie Koen Hicks of Lonoke, and her four and one-half-month old daughter, Penny Koen Hicks, daughter and granddaughter of Supervisor Koen of the National Forest.

Second place among the floats went to the National Youth Administration, which depicted a "work experience program" in a gaily decorated display. Honorable mention was awarded a Yell county "live-at-home" idea, one of seven floats entered in the parade from the "Free State of Yell."

The National Youth Administration, Works Progress Administration and the Soil Conservation Service were announced winners of first, second and third places, respectively, in the exhibits on display throughout the day at Arkansas Tech.

Beautiful loving cups were presented Mr. Koen and Jake Terry, NYA supervisor, for work of their services winning in the two contests. The cups will become permanent possession of the agencies winning them two years in succession.

### New Building Started.

Prior to the parade, Mayor Charles M. Howell, State WPA Administrator Floyd Sharp and Reece Caudle, chairman of the SCS District Supervisors' Association, broke ground for a new city building of 40 rooms, which will be occupied by the Soil Conservation Service, National Youth Administration, the WPA and several city offices.

J. W. Hull, president of Arkansas Tech, presided during most of the sessions throughout the day. Many Little Rock visitors were introduced at various times, including Homer M. Adkins, collector of internal revenue; Sam Rorex, attorney; T. H. Alford, commissioner of education; Charles Evans, representing Harvey C. Couch, president of the Arkansas Power and Light Company; John M. Page, senior highway engineer of the Bureau of Public Roads; Glenn E. Riddell, state SCS co-ordinator; Jack Holt, attorney general; J. J. Harrison, state NEC director; W. W. Mitchell, state highway director; Earl Page, state treasurer, and others.

A near-tragedy occurred as the parade was disbanding when a team, driven by Earl Davis, employe at the school dairy farm, ran away and struck a small tree, throwing Davis into freshly-dug ground at the side of the new Forestry building. The team was pulling a wagon loaded with milk cans, denoting the supply from the dairy farm. The wagon was stopped when it hit the tree and the horses were quieted without causing any damage.

Mr. Silcox and Mr. Kircher planned to spend today in the Ozark National Forest and tomorrow morning visiting the Soil Conservation Service project at Mount Magazine. They plan to leave Thursday afternoon from the Little Rock airport by airplane to return to Washington.



# CONSERVATION IDEA STRESSED IN CELEBRATION

Gazette - 5/3/39

## Throng at Event At Russellville.

By CLOVIS COPELAND.  
(Staff Correspondent of the Gazette.)  
Russellville, May 2.—The United States Forest Service and various organizations of Pope, Yell and Johnson counties joined Arkansas Polytechnic Institute in making the college's annual Agri Day celebration here today the largest and most elaborate in the 12-year history of the event.

The physical education building at the college, which housed the agricultural and industrial exhibits, was jammed throughout the day.

The armory, where the first speeches were made, was filled to capacity, and many stood outside and listened to the speaker system. Streets along the route were packed an hour before parade time. The lawn of the new Forest building, headquarters for the Ozark district, was filled with bands, and people stood in the streets.

It was said to be the largest crowd in the history of Russellville.

### Man's Debt to Nature Keynote of Dedication Rites.

Eugene Warren, president of the Tech student body, said the keynote of the celebration was: "We are in debt to Nature for food, clothing and shelter; let's show what can be done with the tools with which Nature has provided us."

Everything connected with the event bore out that thought. Results of scientific agriculture were exhibited. It was a fine display. Most of the exhibits were made by the students.

Keith Harris of Lonsdale and Miss Anna Fulton of Dardanelle were crowned king and queen of Agri Day, by Lieut. Gov. Bob Bailey whose home is here. The ceremony opened the festivities. A May-pole dance in front of the administration building followed.

James B. Roberts of Booneville, student manager of Agri Day presided over the program in the armory. Eugene Warren gave the address of welcome. Miss Clara Usrey outlined the 12-year history of the event.

Glen Rose of Malvern said Agri Day developed leadership and business ability among students. "While youths of other nations are being taught to obey commands of others, we are learning to think and act for ourselves," he said.

President J. W. Hull introduced the distinguished guests, including Mr. Silcox, J. W. Sargent of Fort Worth, Tex., associate regional conservator for the Soil Conservation Service; Attorney General Jack Holt, Sam Rorex, Little Rock lawyer; Homer M. Adkins, federal collector of internal revenue; Marvin Bankston, president of Arkansas A. & M. College at Monticello; State Senators Roy Milum of Harrison and Arnil Taylor of Clarksville; State Treasurer Earl Page, and Steve Turner of Ozark, chairman of the Board of Trustees for Arkansas Tech.

### Arkansas Urged to Preserve Its Natural Beauty.

Mr. Silcox said he had prepared an address for the occasion, but decided to discard it after viewing the exhibits. He said forestry and agriculture should always work hand in hand.

"Neither forestry nor agriculture has done right by our country," he said. "We would be much better off if we would use some national pride and patriotism along with our work. We should treat the basic thing upon which we live, kindly and gently."

"The land is a horrible sight, while properly cultivated, gardens and the beautiful scenery are the beautiful sights on earth." The

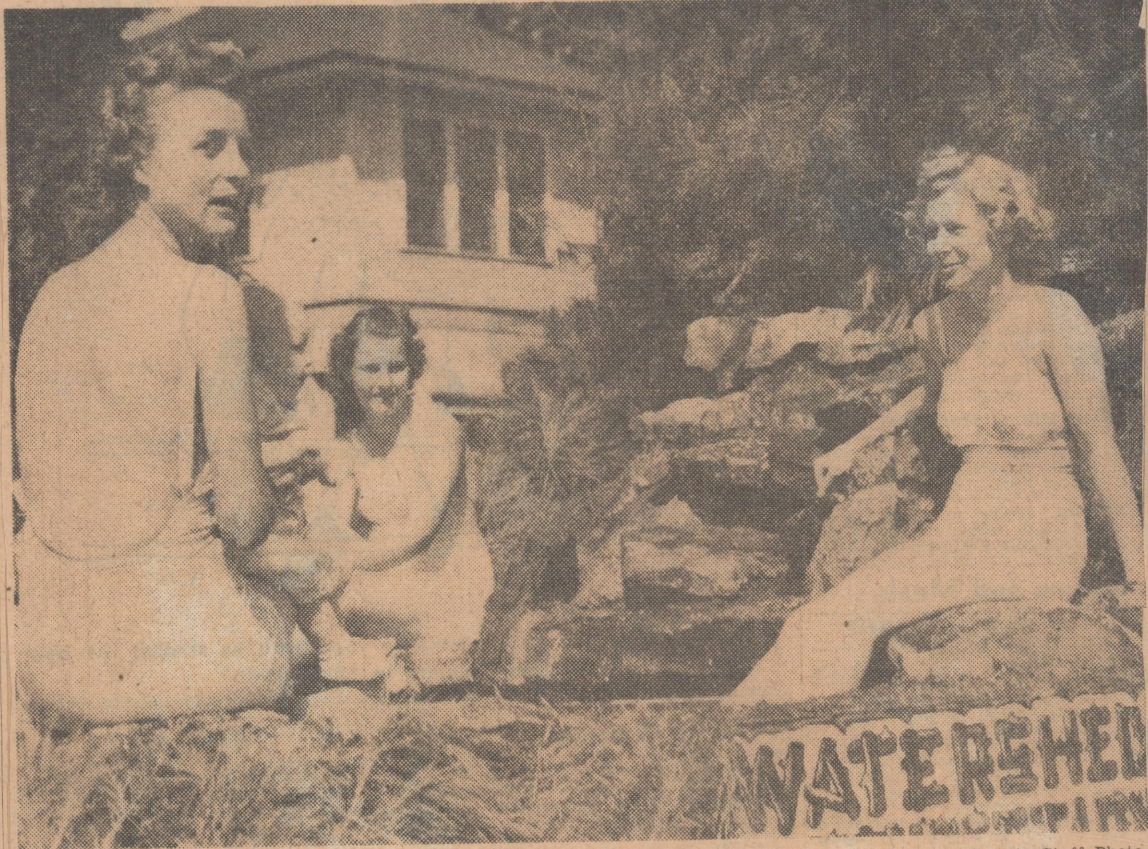
## ROYALTY RIDES



The picture shows the Agri Day royalty riding in the parade at Russellville yesterday afternoon. Back row, left to right: John Newkirk of Jesseville and Helen Louise Dean of Alma, (partially hidden), attendants; Queen Anna Fulton of Dardanelle, King Keith Harris of Lonsdale and Snowden Arrington, Russellville, attendant. Front row, Bob Nichols and Jimmy Cole, train bearers; Carolyn Bryan, crown bearer, and Evelyn Keathly of Danville, attendant.

Gazette Staff Photo.

## STUDENTS IN FORESTRY



Top picture shows a portion of the prize-winning float, "Ozark National Forest." The front of the float was a forest watch tower. Behind the tower, pretty wood nymphs were playing in a blue pool of water, under a waterfall. The nymphs are, left to right: Dorothy Pattison of Little Rock, holding a temporary passenger; Tomela Wright of Dardanelle and Imogene Chappell of McCrory.

Gazette Staff Photo.

forestry chief said he was deeply impressed while on a tour of Europe recently, about how Europeans accomplish so much with so little to work with, while Americans accomplish so little with so much to do with.

Few rivers run clear in America because they are taking the fertile soil away, Mr. Silcox added.

"We must treat our land so people who follow us can live upon it, instead of die upon it."

He complimented Arkansas on its natural beauty and urged the people to retain this beauty instead of destroying it by lining the river banks with rubbish and the mountain sides with signboards.

### Ground-Breaking Ceremony For New Municipal Building.

A ground-breaking ceremony for the new 40-room municipal building was the first part of the afternoon program. The building will be erected

by the WPA, NYA and city of Russellville. It will house various governmental agencies.

Floyd Sharp, state WPA administrator, Mayor Charles R. Howell of Russellville, Van A. R. Moores, president of the Russellville School Board, which donated the ground, and Reese Caudle, chairman of the state Board of Supervisors of the Soil Conservation Service, took part in the ceremonies.

### Parade Is Largest and Most Elaborate in College's History.

The Agri Day parade, held at 1:30 p. m., was by far the largest and most elaborate in the history of the college.

Heading the parade were about 140 mounted horsemen. There were approximately 30 floats in the parade. Several were entered by Yell county clubs and organizations.

Fort Smith's unique Bell Lyre band, composed of girls, was carried on a float entered by the Fort Smith Chamber of Commerce featuring the slogan "Let's Talk Ozark National Forest." Other bands in the parade were those of Morrilton and Atkins High schools and Tech.

Units of the Arkansas State Police and the Arkansas National Guard added color to the parade.

### Prize Winners Announced At Dedication Ceremony.

At the assembly under the large oaks in front of the new forest building for the dedication, at 3 p. m., J. W. Hull, president of Arkansas Tech, presided. He announced the winners in the float contest of the parade and exhibits contest at the college as follows:

Floats: Ozark National Forest, with a float featuring pine trees and recreation won first place.

The National Youth Administration float, featuring the training of youth for employment, was second, and the Yell county better homes float, third place.

In the exhibit contest, the National Youth Administration won first; the Works Project Administration, second; and the Soil Conservation Service, third.

Loving cups were awarded first place winners, but must be won two years in succession to be awarded permanently.

In accepting the cup for the Forest Service, Henry R. Koen, supervisor of the Ozark National Forest Service, paid tribute to Congressman David D. Terry

for his efforts in securing appropriation for the forest building.

Maj. Charles M. Howell brought official greetings to the assembly.

Speaking briefly on the history of the new headquarters building, Congressman Terry said that the building was a "culmination of long efforts on the part of Mr. Koen and the citizens of this section."

Joseph C. Kircher of Atlanta, Southern regional forester of the United States Forest Service officially received the building and made the dedicatory address.

The present stage of achievement has been reached largely through cooperation of the public and the leadership of Mr. Koen who has been supervisor of the forest for the last 16 years, he said. Mr. Kircher also paid tribute to Congressman Terry, without whose assistance in Congress, he said, there could have been no building.

"It is fitting that we should dedicate this forest building here under these large oaks, which were standing before any of us were born and which will continue to stand for a long time to come," Mr. Kircher said. He dedicated the building "to the social and economic betterment of northwest Arkansas."

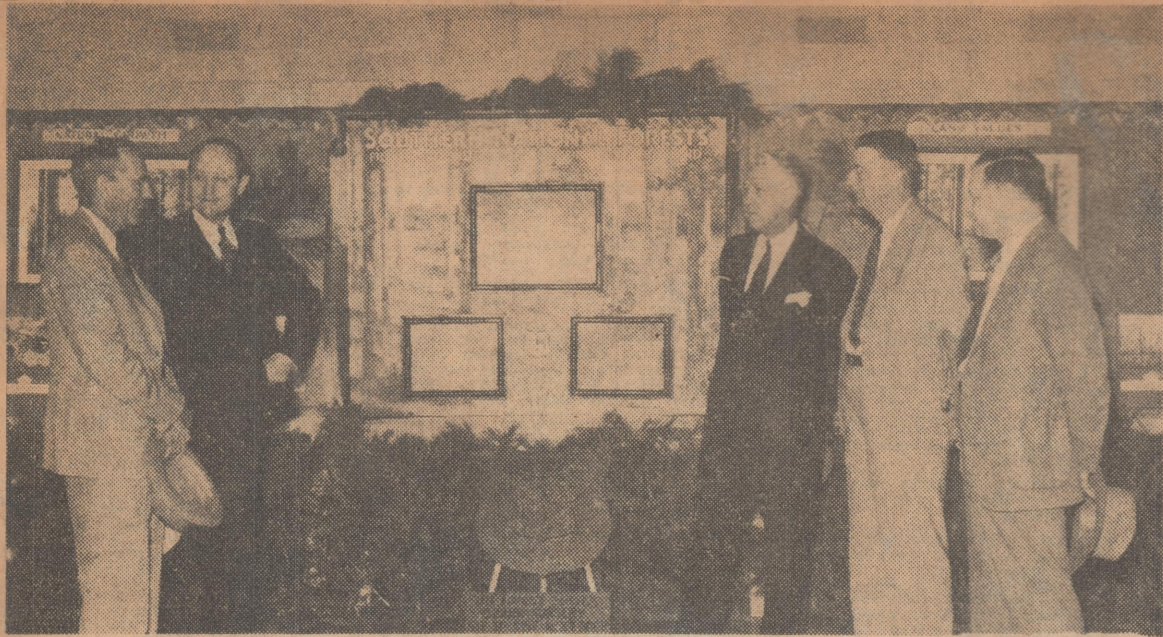
Sitting on the speakers' stand during the program were a number of notables.

### Tours, Banquet and Dance Conclude Festivities.

Following the dedication, visitors were taken on tours of Arkansas Tech, the Ozark National Forest nursery, CCC Camp Shiloh, Hughes NYA co-operative project, and Soil Conservation Service projects in this area.

The annual agri-home economics banquet at 6:45 p. m. at which C. W. C. Aulsbury, of the Tech faculty, was principal speaker, and an invitational dance at 9 at the Tech armory, concluded the program.





—Gazette Staff Photo.

This group was photographed as they inspected the forestry exhibit in the physical education building. They are, left to right, Leigh Kelly, a member of the Fort Smith delegation; President J. W. Hull of Arkansas Tech; F. A. Silcox, chief of the Forest Division, Department of Agriculture; Maj G. C. Graham of Little Rock, state director of the CCC, and Joseph C. Kircher of Atlanta, Ga., Southern regional forester.

## LOW PRICE, NOT LACK OF TONNAGE, RETARDS STATE'S ZINC MINING

By TOM SHIRAS.

Special to the Gazette. 5-22-39

Mountain Home, May 20.—Low ore prices, rather than lack of tonnage, are responsible for lack of development of lead and zinc deposits in several north Arkansas counties, Howard Millar said yesterday after completing a survey of approximately 200 mines and prospects in Marion, Searcy, Newton, Boone, Benton and Carroll counties.

A resident of Murfreesboro, Pike county, Mr. Millar is making estimates of ore reserves in north Arkansas in connection with the statewide mineral survey sponsored by the Arkansas Geological Survey. He will make his final report about August 1, after studying ore deposits in Baxter, Lawrence and Sharp counties.

Development of cheap electricity through construction of proposed power dams on the White river and its tributaries and an increase in ore prices would result in the building up of an important zinc mining and smelting industry in this section of the state, Mr. Millar believes as a result of his survey thus far.

There has been a demand for several years from investors in zinc and lead properties in the field for some kind of a report on potential ore reserves of the area.

One of Mr. Millar's recommendations for development of the zinc field in north Arkansas is that deep drilling be done on known shallow ore deposits. Most of the zinc ore shipped from this section is zinc carbonate, which usually is found high on the mountains close to the surface.

Most generally accepted theory is that this was deposited by surface waters that had percolated over and through zinc sulphid ore, picking up some of the ore in solution. It is considered possible that valuable beds of sulphid ore lies beneath these upper runs of carbonate.

Expressing belief there is sufficient commercial zinc ore in the north Arkansas field to support a large zinc industry, Mr. Millar said:

"I think central milling plants in each of the several districts will solve the production problem when the price of ore justifies development. Each plant should have sufficient capacity to process and concentrate all the ore mined in a particular district. They either should maintain a cash market for ore or operate on a custom basis."

No large company has operated in the north Arkansas zinc field since the World war. Small operators have no facilities for milling the mill ore produced, hence they mine primarily for free ore, which is found in chunks, ready for the market as it is taken from the ground. Utilizing the mill

ore, which has to be treated before it is marketable, requires much equipment.

Mr. Millar also thinks zinc smelters or electrolytic plants should be operated in the field to convert the clean ore into metal. He said with such plants operating, other plants using zinc as a raw material might locate here.

The metallic content of manganese as well as zinc ores can be abstracted by the electrolytic process, which is one of the reasons construction of White river power dams is being urged. The territory has no coal or gas and use of wood is not economically feasible.

Arkansas carbonate of zinc ores is adaptable to all metallurgic and chemical purposes to which zinc ores can be put. The best grade of slab zinc that can be processed from virgin ores is obtainable from our zinc carbonates. For this reason the field, with cheap power available, might be attractive to chemical plants.

One of the first efforts to smelt ore in the United States was made in 1857 at Calamine, Sharp county. It was not a financially successful venture. A considerable amount of zinc ore was mined and smelted at Calamine in the '60s and some of it even was shipped to Germany for use in the manufacture of munitions for the Franco-Prussian war.

