

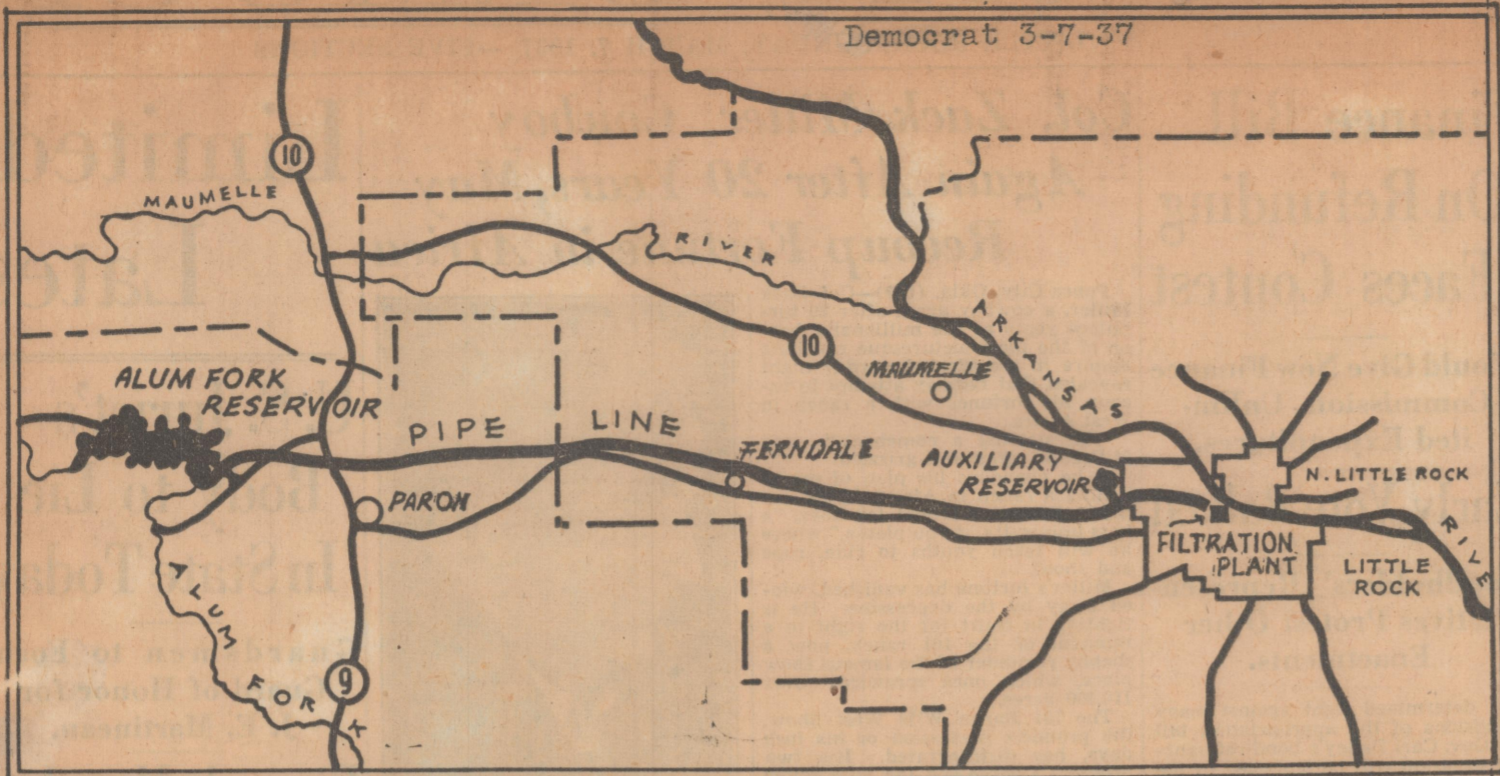
Gathering Data for Book On Rivers of Arkansas.

Special to the Gazette.
Hot Springs, Aug. 21.—Mrs. Magruder Gordon Maury (Jean West Maury), writer and newspaperwoman of Boston, is the guest of Dr. and Mrs. F. M. Williams, 408 Prospect avenue. Mrs. Maury is doing research work here for a book on the rivers of Arkansas, including the Ouachita. Mrs. Maury will leave tomorrow for Little Rock to collect data on the Arkansas river, later going to the White river and St. Francis valley sections. Mrs. Maury is a native of Jackson county. She hopes to find pioneer settlers in towns along the river and collect and publish their stories.

aug 22 1935

Map Shows Auxiliary Dam Site

Democrat 3-7-37



The above map shows the approximate location of an auxiliary storage reservoir, a short distance west of the city limits, which will be constructed as part of Little Rock's water supply system. The auxiliary reservoir will have a capacity sufficient to supply Little Rock with necessary water for 12 days or more in case of a break in the pipeline leading from Alum Fork, where the main reservoir of the new supply system is being constructed. In the map, the short black line leading from the pipeline to the auxiliary reservoir represents approximately a mile of added pipe which will serve as a connecting link. Highway 10 is shown north of the new reservoir, and the line south of the pipeline represents the Twelfth street pike. The map was copied from a blueprint drawn by Marion L. Crist, resident engineer for Burns & McDonnell, water supply engineers, for the Democrat. Plans for the storage unit were announced in Friday's Democrat.

Rice Growers Would Benefit By Proposed Reservoir System.

Special to the Gazette, 5-2-37

Stuttgart, May 1.—A movement of interest to Arkansas rice growers is the proposal pending before Congress for a reservoir system of flood control along the Arkansas and White rivers, and their tributaries. While the movement is intended primarily for flood control and watershed development, the water stored up by flood control reservoirs would open up a new source of water for rice field irrigation.

It was suggested at a meeting here that the irrigation phase could be handled successfully through the Lands Reclamation Department in Washington, when and if the work was authorized.

Bayou Meto, paralleling the Grand Prairie a considerable distance on the west, could furnish one reservoir approximately 250,000 acre-feet of water annually. It is believed that this, augmenting present supplies, would be adequate for rice lands in the adjacent territory.

The need for new sources of water for irrigation is not so much in lack of available water, but in the expense of obtaining the supply. Most of the water is supplied from deep wells—expensive to sink and expensive to operate. Geologists have reported at various times that the water level in underground reservoirs is sinking. However, farmers continue to irrigate from these reservoirs, and except for occasional well failures, they still are getting a consistent flow of water.

"Human Divining Rod"

The Late H. B. Allen Sickel of Little Rock Had the Uncanny Knack of Finding Water Where Other Well Diggers Failed.

By Harry Farrar.

The late H. B. Allen Sickel of Little Rock might have been called a "human divining rod."

To prove it: Mount Pulaski, Ill., had 25 wells in many parts of town, but they didn't supply enough water for the city. After futile attempts to find a spot that would provide a prolific and sanitary source of water, the Town Council called on Mr. Sickel. He guaranteed that he could dig two wells on what had been considered by his predecessors as the driest spots in town that would produce about twice as much water as the 25 wells then in use.

The "divining rod" beat his promise—the volume exceeded his expectations by 100 gallons per minute—a well that provided 350 gallons a minute. The Council had asked for only 125 gallons.

Mr. Sickel was an efficient consulting engineer who was called upon by some of the nation's leading industrialists.

His ability to locate water revolutionized one of Arkansas's industries—rice growing. This industry was foreign to what is now the Arkansas rice belt—the Grand Prairie—only three decades ago.

One May morning near the beginning of the Twentieth century, a young Stuttgart school teacher was admiring a small bundle of rich straw and rice heads. A Texas friend of one of the pedagogue's pupils had sent the bundle to him as a souvenir. Rice had been a Texas product for some time. That day, his school class heard him cite a reason why he thought the area around Stuttgart could be developed into a rich rice country.

Whether that young school teacher ever saw his "dream" of waving rice, it is not known. However, a few years after, in 1904, Ernest Sampson and Jerome Tindall observed that when water was supplied at the proper seasons, the soil of Grand Prairie yielded abundantly; they organized the Pioneer Irrigation Company to grow vegetables and fruits.

Their makeshift well was the first attempt at irrigation in that section for the growing of edibles on a commercial scale. They attached a gasoline engine to a centrifugal pump. Their efforts failed, because their well was only 50 feet deep and no water was obtained. Their company failed, because of lack of capital and of knowledge.

Two years later one of the co-planners, Jerome Tindall, brought in the first successful irrigation well and was followed closely by J. W. Beckler, who had bought and put into operation a specially constructed outfit for the digging of irrigation wells.

The first four owners of wells for irrigation purposes in Arkansas county were a Dr. Moorehead, Fagan & Ingram, Christ

Lorenz, and a German neighbor of Lorenz.

Several years after these four irrigation projects were started, the Layne & Bowler Company guaranteed its clients that if it failed to produce enough water, there would be no charge in the well-installation process. Mr. Sickel, who became manager of the latter organization, plied his powers and brought in about 300 irrigation wells in the Stuttgart area. One of his wells is in its twenty-first season and is as good as ever. The others also are producing profusely.

The "human divining rod" was vice president of Layne & Bowler for 11 years.

A few years ago, the rice farmers suffered, along with other farmers, severe financial losses. The Farm Credit Administration, in Washington, refused to lend money to the rice growers because United States engineer-appraisers had reported the underground water levels rapidly sinking.

Mr. Sickel was appointed by the state geologist, Dr. George C. Branner, to make a survey of the water supply of the affected territory. He gathered data and defended successfully his report before the farm loan commissioner in Washington and his Appraisal Department. His efforts netted the stricken area a quarter of a million dollars in loans during 1935.

Former Gov. J. Marion Futrell lauded the consulting engineer's "result attained through your able investigation because of your knowledge of this subject matter by reason of your lifetime work in the development of large quantities of water from underground sources."

Cities and private companies that have called in Mr. Sickel for consultation or "fashioning" of deep-water wells include Dayton, O.; Middleton, O.; Jonesboro, Ark.; Clinton, Ill.; the Illinois Central railroad, and the Arkansas Water Company. The seven million-dollar wartime picnic munitions plant at Little Rock obtained its water from wells constructed by the "human divining rod."

There are innumerable other huge projects which Mr. Sickel engineered, but his most famous one—the one that brought him into national prominence, was the bringing in of the wells that supplied Camp Pike with enough water for a cantonment of 80,000 potential American soldiers for entrance into the World war.

In 1917, Chambers of Commerce throughout the nation were bidding for camp sites for the training of American soldiers. George Firmin, manager of the Little Rock Board of Commerce, rushed a bid to the War Department in Washington for the construction of a military training base at Camp Pike. Federal investigators took many factors into consideration relative to the feasibility of camps. They approved

Little Rock's electric power, telephone service, railroad transportation facilities, drainage and many other details.

However, they said Little Rock's water supply was questionable. The War Department gave the city 10 days to secure a sufficient and sanitary supply of water.

Mr. Sickel was in Stuttgart at the time. Mr. Firmin telegraphed asking how long it would take him to locate a water supply.

Told by Sickel that three or four weeks was the usual period necessary to complete such a project, Firmin telegraphed back and asked if it were possible to attempt to make the deadline.

Sickel's little peace-time "army" set out for Little Rock that night, gathering material and men on the way. The contingent traveled all night and had the rig ready to drill the next morning in North Little Rock—right in the middle of one of its streets!

By working 24 hours a day, using hastily strung electric lights in the street, and smashing all records for the erection of a derrick, Mr. Sickel supervised that job in a fashion that brought victory on the fourth day—almost a month's work done in four days.

Hair-rendering was in order, though, when chemical analysis found the water to be rusty—useless—after emitting 2,000,000 gallons per day.

What was to be done?

The man with seemingly clairvoyant power merely moved two blocks away and built another derrick. A storm blew it down. The workers were pretty well shot.

Much in the manner of an army general, the almost exhausted discoverer of water sources, rallied his forces and finished the gigantic task 24 hours before military officials arrived for final inspection.

Pumps were installed and the well proved to have a capacity of 3,000,000 gallons daily; the water was found to be soft—free from iron—and entirely satisfactory.

Mr. Sickel, son of Frederick W. and Florence Allen Sickel, was born in Homer, Ill., July 3, 1885. Academically educated in Homer High School, probably his most valuable training came from his "roughnecking" in rice fields where he garnered technical knowledge in geology and other sciences pertinent to his later calling.

March 29, 1909, he was married to Miss Ethel A. Hollingshead in Ganado, Tex. Five children were born to them: Allen A., Frank H., Frederick W., Florence E. and Floyd B.

From 1908 until 1910, Mr. Sickel operated the Farmers Rice Warehouse Company at Ganado, the first rice warehouse built in the South to clean and ship rough rice in the bulk.

After several years of success in the rice business in Texas, Mr. Sickel's interests in that state collapsed. In financial straits, he came to Arkansas. Although he had been boss of many "roughnecks" in a responsible position that ultimately left him penniless, Sickel donned work clothes and took orders as one of the "roughnecks" in Stuttgart in 1910.

His ability to speak the language of the farmers proved an asset. It enabled him to introduce and to sell his neighbor-agriculturists a new farm machine, the semi-Deisel type oil engine. In 1913, he became state agent for the company that brought the first Bessemer engine to the Grand Prairie. Soon after, he came into control of the Bessemer agency and merged it with the Layne & Bowler Company.

He edited the Arkansas Rice News, a monthly magazine published in the interest of the Arkansas rice industry. From 1915 through 1921, Mr. Sickel was general manager and chief engineer of the Arkansas division of Layne & Bowler Company at Stuttgart. During this period the gravel wall well, since nationally used, was developed under his supervision. After the installation of 300 of these, the engineer trained many men in this work.

In 1915 the Arkansas Water Company was in a controversy with the city of Little Rock over the provision of an auxiliary water supply for use in diluting the water



THE LATE H. B. ALLEN SICKEL.

gineer was employed jointly by the water company and the city for the construction of impounding dams and the impounding of rain water for dilution purposes.

Mr. Sickel was engaged by the Chamber of Commerce. He advised that, in his opinion, water could be obtained from shallow wells from an underground strata of gravel about 60 to 75 feet below the surface. He then was employed by the water company and "accurately locating the flow," said W. B. Smith, president of the Chamber of Commerce, "he drilled some test wells." The result was the modification of the decree of the court (to which the controversy had gone) requiring the construction of impounding dams, permitting the company to obtain the auxiliary supply from wells that had been located by Mr. Sickel, which resulted in a large saving to the company.

For a few years in the late 1920's, he conducted his own water developing business in Aurora, Ill. Leaving that business, he re-entered the employ of a former employer, Mr. Layne, who, in 1929, had established the Layne Ohio Company. While with the latter concern, Mr. Sickel was consulted by many of the nation's larger railroads relative to deep-well projects. During this period he brought in a 25,000,000-gallon well for the city of Dayton, O.

In 1931, an entire page of the "Who's Who in Engineering" was devoted to Mr. Sickel.

He held a membership in the American Water Works Association and the Engineers' Club of Columbus, O. He also was a Thirty-second degree Mason, a Knight Templar, Shriner and an Elk.

In the May-June, 1929, issue of the Military Engineer, Mr. Sickel described his gravel wall well, the idea that revolutionized the Stuttgart area's rice industry.

"A large-diameter surface caisson," he wrote, "is driven from the surface of the ground to the top of the water-bearing sand stratum, from which it is proposed to develop the water supply. A smaller-diameter perforated pipe of sufficient length to penetrate the water-bearing stratum is prepared. On the bottom of the pipe in question is attached a large perforated cone. The bottom diameter of this cone is large enough to fit loosely inside of the surface caisson.

"This cone forms the cutting edge for the perforated pipe or strainer and also a footing for the gravel wall. The perforated pipe with cone attached is lowered inside of the surface caisson until its larger diameter rests on the top of the water-bearing stratum at the bottom of the surface caisson. To the top of this strainer are attached sufficient lengths of pipe to extend above the surface of the ground.

"The annular space between the two casings is then filled with carefully screened coarse gravel, forming a wall of coarse gravel around the screen. The water-bearing sand beneath the bottom of the cone is then removed by means of a plunger-bailer or sand-pump, and, as the sand is removed, the screen, with its surrounding gravel wall, settles down through the water-bearing stratum.

"This process is continued until the strainer has entirely penetrated the water-bearing stratum. Additional lengths of pipe are added at the surface as the screen settles through the water-bearing stratum, and additional quantities of gravel are introduced in the annular space between the casings.

"After the installation of the screen, a plunger is operated and it washes the

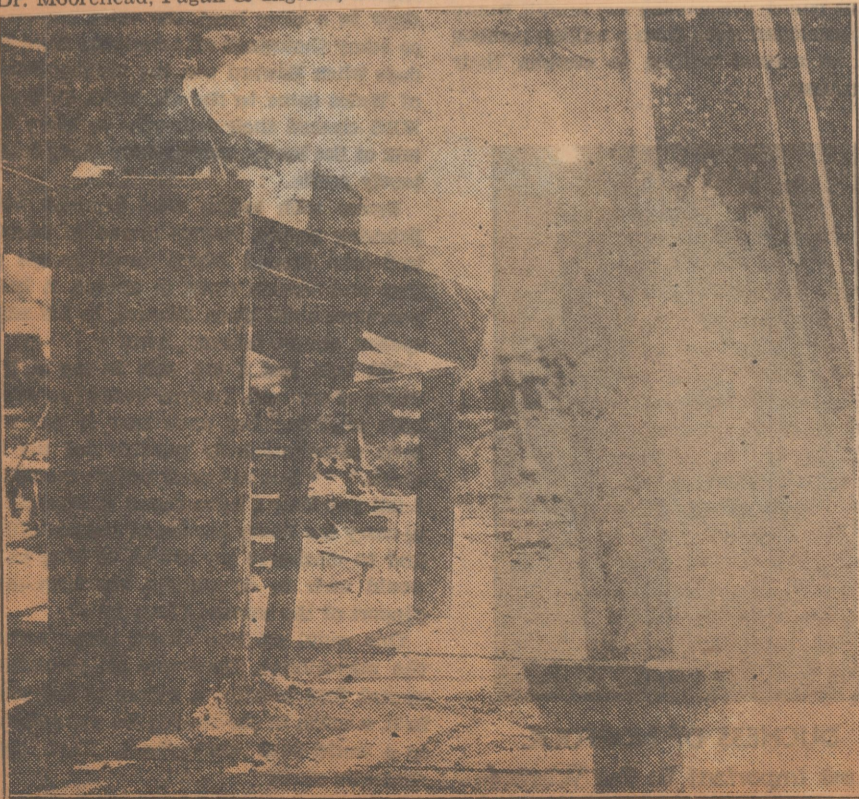
water back and forth through the openings in the screen and draws all loose, fine sand into the screen. The sand is then removed by bailing.

"When the removal of all sand possible in this manner is completed, high-capacity pumps are installed in the inner casing and the well is 'surged' and pumped at a high rate of speed to remove additional sand and to secure the introduction of more gravel around the screen.

"The openings in the inner strainer are quite large, because this strainer acts only as a support for the gravel wall—the separation of the sand and water occurring at the outer diameters of this gravel wall."

The result of this is a greatly increased capacity of production of water, flowing through coarse openings in the screen at a low velocity.

Among the notable installations of this method for municipal supply are those at Camden, N. J., Dayton, O., Jamaica, N. Y. and Norwood, O.



This is a picture of the bringing in of the demonstration well in the middle of a North Little Rock street, the well that resulted in the location of Camp Pike.

Improving Health By Cleaning Out A Bayou

Sponsors of Malaria Control Project Say Southeast Arkansas Counties Would Benefit by Plans.

Pending in Washington is a petition for a federal aid project that the sponsors content will improve health and relieve unemployment in six southeast Arkansas counties. It is said that, in addition, many indirect gains for the state as a whole can be expected.

The project calls for clearing the channel of Bayou Bartholomew, rising 15 miles above Pine Bluff, and flowing through Jefferson, Lincoln, Desha, Drew, Chicot and Ashley counties.

Sponsors of the project point out that this will be necessary only as far down as Baxter, in Drew county. From that point south the stream is considered navigable and if it is cleared above there, the War Department has reported that it will be forced to clear out the channel below Baxter to keep the water moving southward.

It is estimated that the work would cost about \$150,000. Through this expenditure, sponsors of the project contend that the malaria mortality rate in the six counties, now ranging from 54 to 90 per 100,000, can be greatly reduced, together with the number of cases of illness from the disease.

The latest recommendation is that a Civilian Conservation Camp be established about half way between the source and the point of navigation on the bayou, which would be somewhere near Monticello, to carry on the work.

Probably no federal aid project, not only in Arkansas, but in any other state, has been undertaken along as many different lines as has this project, which is now offered as a malaria control project.

Clearing the channel of the bayou was a plan originally conceived about three years ago by the late R. H. Williams, Jefferson county judge, who called a meeting of interested persons at Monticello to organize his plan as a WPA project to improve the drainage along the bayou. A small portion of the work had been undertaken in the vicinity of Pine Bluff, but because this was at the head of the stream it only made matters worse from a health

standpoint, because it caused water to pile up and overflow below there.

A year earlier, in 1933, a group of Pine Bluff Chamber of Commerce had visited the United States Army engineer's office at Vicksburg, accompanied by the mayor and health director at Pine Bluff, asking that the stream be cleared to afford better drainage, but since the engineers had supervision only as far up as Baxter, this plan failed.

CWA, FERA and PWA assistance all were sought later to accomplish the objective, but no definite action was taken.

In 1934, The Pine Bluff Chamber of Commerce called a mass meeting of about 150 interested persons at Monticello and the Bayou Bartholomew Health and Improvement Association, a strictly volunteer body of business and professional men, was organized. But a complete program for the entire Arkansas part of the bayou never was adopted by federal authorities.

All these steps having failed, leaders in the counties then turned to Senator Robinson. The result was that Maj. John R. Hall, medical officer of the Seventh Corps Area, made an inspection tour of the bayou, and prepared a report and recommendations. It is upon these recommendations that final action is expected to be taken within the next few weeks.

After his tour, early in December, Major Hall was supplied with a complete report on conditions in the Bayou Bartholomew drainage area, compiled by George C. Merkel, secretary of the Pine Bluff Chamber of Commerce. This report embraced a history of the efforts to obtain a clear channel, as well as numerous exhibits to support the claim that the need for improved malaria conditions in the bayou valley are steadily increasing.

Bayou Bartholomew meanders 340 miles to reach the point where it goes into the Ouachita river just above Monroe, La., a distance of only 132 miles from the mouth of the bayou. The bayou drains an area of about 1,490 square miles in Arkansas,

which is discharged, at a maximum, at a rate of 25,000 cubic feet per second down a grade of about three-tenths of a foot a mile.

Because of the slight fall of the stream channel, any slight obstruction tends to stop the flow of water, and any obstruction, such as logs, tree tops, etc., results in silting, forming breeding places for mosquitoes. The banks of the stream are high and in cases of overflow the bayou creates small undrained lakes and marshes.

L. A. Henry, engineer for the state Planning Board, in a report incorporated in Mr. Merkel's, says:

"The work indicated for the improvement of this stream to reduce its menace as a producer of anophelen varieties of mosquitoes, which are the carriers of malaria, is complete removal of all logs and debris between the bayou banks and the establishment of an even grade line by dredging or ditching, which will permit the drainage of low water in

the main stream for its entire length. In addition to this drainage for low water, it will be necessary to enlarge the channel capacity at several points where the channel is naturally constructed to prevent overflows which are due to the constricted conditions. In other words, it is believed that a type of channel improvement can be carried out which will prevent the majority of the overflows without the necessity of any more expensive work, such as levees to afford full protection."

The population in the counties affected by Bayou Bartholomew as given Major Hall are as follows: Jefferson, 64,154; Lincoln, 20,254; Drew, 19,928; Ashley, 25,151; Desha, 21,814; Chicot, 22,646.

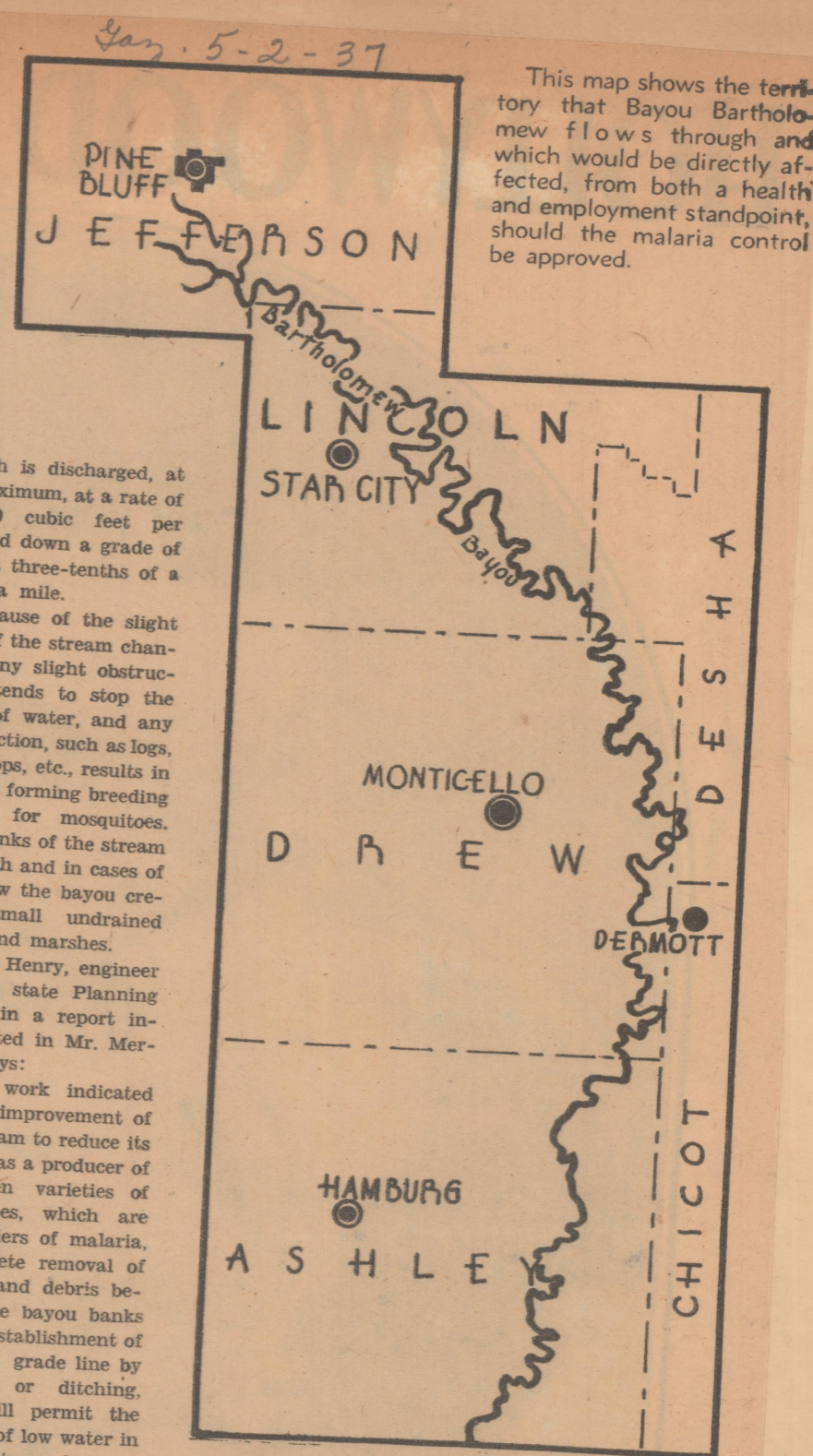
James P. Slater assistant state director of the United States Public Health Service, in a report which Mr. Merkel attached to his report to Major Hall, stresses the need for malaria control on Bayou Bartholomew. He says:

"The percentage of malaria cases among school children in Chicot county is 13.2 according to a survey of the United States Public Health Service. Therefore, we have 3,051 cases of malaria in Chicot county annually. In Desha county, we have a 15.74 per cent positive cases of malaria or 3,562 cases of malaria. In Lincoln county we have 7.85 per cent positive or 1,648 cases. In Jefferson county we have 5.31 per cent positive or 3,514 cases. This type of work has not been done in Ashley or Drew counties, but by using Chicot county rate for Ashley county we find

that there are 3,250 cases of malaria in Ashley county annually, and by using the Lincoln county rate in Drew county, we find 1,482 cases. There are approximately 16,507 cases in this drainage area. This fact is more evident when we realize that almost 50 per cent of one county in this district has a delinquent tax rate. If a project could be devised to clear, clean and maintain the stream in a satisfactory manner, 75 per cent of the malaria would be eliminated. The clearing and channel work for the stream could be satisfactorily handled by the CCC, as is being done in Missouri. There is a necessity for clearing the stream from its source to Baxter and also cutting certain laterals through the sandy banks into the stream to drain the outlying portions. If this could be done the malaria menace would be reduced and much land reclaimed.

The death rate from malaria per 100,000 based on the 1930 census and computed over a period from 1930 to 1934, in the six counties affected by the bayou, is as follows: Ashley, Chicot and Jefferson, 36 to 53 per cent; Lincoln, Desha and Drew, 54 to 71 per cent.

Sponsors of the project found increased hope in their plans during the visit of Major Hall to the bayou area, when it was learned that he worked with General Goethals in the elimination of malaria during the construction of the Panama Canal and he considers conditions in the Bartholomew bayou valley similar in many respects.



This map shows the territory that Bayou Bartholomew flows through and which would be directly affected, from both a health and employment standpoint, should the malaria control be approved.

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Big Reservoir For Rice Area Near Stuttgart

The new reservoir is one of many constructed throughout Grand Prairie in recent years, lowering of the level of underground water being largely responsible for the program.

June 4, 1937.
Gazette

Special to the Gazette.
Stuttgart, June 3.—Construction of a \$45,000 reservoir to supply water for approximately 1,500 acres of rice has begun northeast of Stuttgart.

The project, financed by the Lost Island Reservoir Company, will replace 15 rice irrigation wells. The reservoir, to be L-shaped, will occupy 640 acres and will have a drainage area of approximately 4,000 acres. It is being built under government supervision.

Three 10,000-gallon-a-minute pumping units will be installed to transfer water from the reservoir into canals. Bar pits will be dug outside the reservoir levees to trap surplus water from the fields.

Irrigation experts say normal rainfall from September to May will be sufficient to half-fill the reservoir. Three large wells will provide a supplemental supply.

Paul R. McCoy, chairman of the board of the Peoples National bank, and Richard J. Diekhoff, rice grower, are sponsors of the project.

They began advocating it after they made a five-year survey which showed the per-acre yield of rice when reservoir water was used was greater than when farmers used underground water.

Mr. McCoy and Mr. Diekhoff said that "this is not due to any fault of the wells, but to the fact that many farmers planted more rice than they could water properly and had to abandon some of the acreage."

Yield Increase Expected.

Reservoir-watered rice in the district in which the project is located yielded, over the five-year period, an average of 10 bushels an acre more than well-watered rice.

The project is being financed locally, without government aid. It will be operated on a share-profit plan.

Incorporators are Mr. McCoy, Mr. Diekhoff, Joe McGehee of Kansas City, Bill List and J. B. Gage, Kansas City.

The List Construction Company has the contract for the project, which will be completed about September 1.

The reservoir is located in an area in which game and fish are plentiful. A clubhouse will be built near the reservoir.

A Precautionary Measure.

The Lost Island reservoir will be one of many that have been built throughout Grand Prairie during the past few years.

Lowering of the level of underground water largely is responsible for the building program.

While rice growers are convinced by surveys of competent geologists that their supply of irrigation water is not in any immediate danger they are guarding against too heavy a drain on the underground source.

Several growers, the output of their shallow wells diminishing rapidly, have sunk deep wells to find an abundant supply of water.

Work Started On Reservoir To Supply Water for 1,500 Acres of Rice Land.

Stuttgart—Work has started on a large reservoir, to be located northeast of Stuttgart, which will supply water for approximately 1,500 acres of rice land. The reservoir is being constructed at a cost of approximately \$45,000.

Fifteen rice irrigation wells will be replaced by the project, which is financed by the Lost Island Reservoir Company. Constructed under government supervision, the L-shaped reservoir will occupy 640 acres and will have a drainage area of about 4,000 acres. Three 10,000-gallon-a-minute pumps will transfer water to the canals, and bar pits will be provided outside the reservoir to trap surplus water from the fields.

It is believed that with average rainfall during the months from September to May will half fill the reservoir. Three large wells will supplement the supply.

The project, sponsored by Paul R. McCoy, chairman of the board of the Peoples National bank, and Richard J. Diekhoff, is being financed locally and will be operated on a share-profit plan. Incorporators are Mr. McCoy, Mr. Diekhoff, and Joe McGehee, Bill List and J. B. Gage of Kansas City. The List Construction Company has contract for the work, which is expected to be completed by September 1.