

Walnut Ridge—A new gravel pit is being made by the Twin Rivers Sand and Gravel Company, near Black Rock, which will make two gravel pits to be operated by this company. Both of the pits are on Black river.

Little Grains of Sand

There Is Plenty of Sand in the Arkansas River, But the Kind That Has Commercial Value Is Not So Easy to Get as the Layman Might Suppose. "Finding" Process Is One of the Most Important Functions of the Tow-Boat Pilot.

By MARCIA WINN.

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Little drops of water and little grains of sand may make a mighty river and a mighty land, according to the nursery rhyme, but they also play proportionately as large a part in the modern sand industry—in fact, they play the whole part.

So important is their role that the Big Rock Stone and Material Company has had to chart the movement, whims and location of every drop of water in the Arkansas river for 15 miles to get from its depths the grains of sand necessary to keep its patrons supplied with sand.

Actually it is not the little grains of sand that are used in this business. As a matter of fact they are the ones that almost ruin it. It is the larger grains, the coarse grains, that are sought. To dispute a widely held public opinion, these grains are found only in the depths of the river and not, as the layman would have it, on the sandbars. If they were found on the bars, life would indeed be simple for the sand dredges, for the Arkansas, at all seasons of the year, is nothing but a maze of protruding shelves of sand.

It is upon the shoulders of Cap'n Edward Wilcox, pilot of the Big Rock, towboat of the sand company, that a large part of the work of locating sand deposits, charting the river and directing the work falls. Cap'n Wilcox, who has been a river pilot on the Arkansas since 1913, is not at all the grizzled old sea dog in navy jerseys that one expects all water-frequenting men to be, but looks like a modern business man in his suit of gray flannel, his 10-gallon felt hat, his blue tie and his eyes to match. Not only does he know as much of the business of sand dredging as any man, but he knows the Arkansas from alpha to omega and is an ardent supporter of the move to revive river traffic.

This will never be done, he claims, by a process of dredging the channel, for the swiftly shifting sands of the river would make such an enterprise both impracticable and interminable. A possible installation of dikes, however, more probably would achieve the desired results. The dikes could confine the water to a small channel, and the water then could twist back and forth to scour the inclosed space to any desired depth. Cap'n Wilcox favors a six-foot depth rather than the proposed one of nine feet.

Dredging, moreover, is both expensive and ineffective. Cap'n Wilcox tells of an incident that occurred several years ago on the Arkansas below Pine Bluff.

"I was piloting a boat that made connections with the Mary Kate on the Mississippi, and we made two-day round trips. There was a government dredge working on the channel near Pine Bluff at that time, and one morning as we set out, they stopped us and said for us to follow the channel they had been dredging. They pointed it out to us, and we got along without any trouble going down the river, but on our return trip, a day later, the places they had dredged stood up over the water with sand. It had shifted so swiftly over night that not only had all their work been wiped out and the channel refilled, but where they had cut it away, the sand had piled up three times as high as before, enough to make good-sized bars above the water. . . . So you see what good mere dredging will do on this river. Diking might do it, though. . . . the Arkansas isn't as bad a river as the Missouri and they diked and dammed it to make it navigable.

"There's no doubt," he continued, "but that a navigable river would be of immeasurable benefit not only to Little Rock but to the whole state. The river hasn't been navigable from Little Rock for many years, but it has been used from Pine Bluff down to the Mississippi for a long time now. They haul a lot of freight tonnage there. They could haul cotton on the river easily enough, even in the condition it is now, in fall and early winter, but the trouble at Little Rock is that the people don't take enough interest in river traffic. They don't cater to the river either for pleasure or for profit."

The average layman's knowledge of the business of dredging sand from the river for commercial purposes is indeed small, according to Cap'n Wilcox. He (the layman) bases his opinion on the fact that the Arkansas in midsummer or lower water is a sandbar heaven, and decides accordingly that the sand business must be both easy and profitable. He is, however, quite mistaken. The bars are composed of silt and fine sand, a mixture altogether unsuitable for commercial purposes. The real sand is found scattered all over the river, according to the latest whim it takes when ready to deposit, within 15 miles of Little Rock, and is located by a "finding" process which entails a more or less exact knowledge of the idiosyncrasies of the river in making deposits.

This "finding" is done by means of a sounding rod. The rod will drop easily into coarse sand, whereas in the deposits of finer sand and silt, it stops near the surface. The belief, persisting even among river men, that coarse sand is found near the heads of the bars, is fallacious.

To get even a general idea of the manner in which the Arkansas relinquishes its sands to the forces of man, one should go with Cap'n Wilcox on his sturdy towboat, the Big Rock, for a two-hour trip. To get to the boat, you descend a steep 100-step flight of wooden steps, teeter across a wavy gangplank and so on board. Then, up an inclosed stairway and you're in the pilot house of the master towboat of the Arkansas.

Outside it may be freezing cold—the very flag on the roof may be shivering in the few swirling snowflakes—but inside all is cozy and warm. Glass-paned windows on all sides furnish views of the horizon, a leather-cushioned window seat provides comfort and a radiator makes for warmth, while Cap'n Wilcox, standing at the wheel (which he twirls as casually as if he were turning over the pages of a familiar book) chats of rivers and sanding and the manifold experiences of a river pilot.

Meanwhile the boat puffs stoutly along—under the Broadway bridge, under the railway bridge (and here Cap'n Wilcox leaves his wheel long enough to tell of exciting times around this second bridge in high water; when the drawbridge is slow in working, the water is rushing to get through the narrow funnel opening and you're pulling a loaded barge down the river) . . . and out into the open. There in the distance, like a squat little duck in the middle of the river, sits the sand dredge, happily named Big Sandy.

The Big Rock, with many heaves and puffs, pushes its heavy 100-foot barge alongside the Big Sandy. Men on the dredge rush to and fro making the barge fast, and then, with a wild roar, the machinery on the dredge is going. For a minute nothing seems to be happening, and then a steady flow of sand begins dropping into the barge.

To follow this sand's progress upwards from river to barge is easier suggested than done. Through a heavy rubber tube placed on the sand deposit, sand is pumped with terrific force up to the dredge where it is hurled against a screening device. Here the screen separates the sand and the larger rocks, the latter going out a refuse pipe into the river. The sand then is carried to a circular washer where it is stirred round and round, the silt dissolved, the finer sand and muddied water carried back into the river and the coarse sand, screened and washed, cast into the barge. That is the complete process. Simple? . . . well, just try doing it for yourself.

This sand, with no further treatment save for drying, is ready for use. Not only

is it ready for use—it is practically perfect. Constant analysis shows the finished product (as it is in the barges) to contain less than one-half of one per cent of mud, while a handful of it dropped into a glass of distilled water leaves the liquid as crystal clear as before its addition.

It takes from one to two hours to load one of the immense barges with 250 yards of sand (there are approximately 2,600 pounds to a yard). There is plenty of time while this is going on to watch the river quietly flowing past—so quietly that its current is estimated to be three miles an hour—and to listen to Cap'n Wilcox's many reminiscences of the Arkansas at her best and at her worst.

It is a quiet river as a rule, he will tell you, with its fastest current, that of the 1927 flood—20 miles an hour—and its lowest never under one-half mile, and that at extremely low water.

Contrary to the general opinion, the Arkansas does not have undercurrents. Sometimes there may be a movement under water, but no more than on top and certainly no undertow. That entirely foundationless report has done more to discredit the river both in the public eye and in the eyes of prospective rivermen than any other one thing, according to Cap'n Wilcox.

"Little Rock could make a big thing out of its riverfront, if it only would wake up and take an interest in it," he said. "I know of many other cities not half as large as Little Rock that have excursion boats. There once was an excursion boat here—the 'Grand'—and later the 'Kabakona,' both steamers, but that was quite a few years ago, and because the boats were not conducted right, they obtained an unsavory reputation. But some one could make a big thing out of an excursion boat now—and both the river and the state would profit from it. Why, there's some of the most beautiful scenery up the river here that I've ever seen anywhere! California and Colorado don't compare with it—and who sees it? One person in 10,000. It's pretty not only in the spring and summer, but all the year round, and is within 15 miles of here—between Little Rock and Natural Steps."

The old river has seen some very fine boats in her more watery days, according to Cap'n Wilcox. The most recent of those came in 1913 when the "Golden Fleece" and the "S. S. Brown," elaborate excursion boats, came up the Arkansas as far as Little Rock. The Sea Scouts in Little Rock may help to arouse this long-dying interest, he thinks.

There are on the river queer sights for the seeing—sights ranging from 1,000 floating pumpkins to a terrific sandstorm. The pumpkins were seen one year at flood-tide, the result, evidently, of some poor farmer's farm having caved into the river. Watermelons, too, are a familiar sight in spring, while quite occasionally some little rowboat which has become loosened from its moorings will come floating down. Then, too, of course, there is always an abundance of garbage to be viewed.

One of the queerest phenomena—and incidentally most tragic—ever to happen to the Arkansas, occurred in 1923 when the river became inexplicably muddy. Not a mere ordinary mud, either, for the Arkansas always has had an abundance of that, but a thick, all pervasive muddiness. So muddy was it that all the fish died, and the government snagboat "Arkansas" on which Wilcox was working at the time—could navigate the river for only 10 hours before having to stop to cool down the boat and wash out the boilers.

"The worst experience I ever had on the Arkansas," he recalled, "was being in a sandstorm. I was piloting the ship when

I noticed a little bar down the river and a little cloud hanging over it. Then, all of a sudden, everything got so deathly still that I knew something was about to happen; I didn't know whether to tie her up or not. The owner of the packet, however, said we could outrun the storm, so we tried it. The storm hit anyway . . . hit just when we were alongside a three or four-mile shoreline of sand. We tried to land on the bank, but couldn't because of snags. Then we headed her against the wind, trying to land beside the bar, but the wind was so strong and the sand so thick that we couldn't see the head of the boat. It came in gusts and in between gusts we'd pull up by the bar and stop a few feet off so we wouldn't crash into it. Then before we could get it started again, up the wind would start. We never did get in to land, and the wind was so fierce that it blew the superstructure into the river.

"There's a big difference between braving standstorms and quietly dredging for sand," he concluded, "but they both occur on the Arkansas. To do either of them, you have to know your river, and that is the business of a pilot."

three years.

INCORPORATION MATTERS.

The Arkansas Sand and Gravel Company of Fort Smith yesterday filed a certificate of dissolution with the secretary of state's office, signed by H. P. Warner, president, and W. W. Dills, secretary.

Lumber and Sand and Gravel Plants to Reopen.

Special to the Gazette, 3-11-32
Lewisville, March 10.—The Max Springs Lumber Company lumber mill, one of the chain of Burton Bros. mills, will resume operations Monday after a shutdown of several months. This will provide employment for approximately 50 men.

The Meriweather Sand and Gravel Company of Shreveport also will reopen its sand and gravel plant Monday. It has orders sufficient to maintain operations about six months. A. E. Meridith of Shreveport will be plant superintendent.

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**To Open New Sand Deposit
Near Everton Soon.**

Special to the Gazette, 5-19-35
Everton, March 18.—The Everton Silica Sand Company, Inc., of this place is building a new sand plant on a 30-acre sand deposit on Clear creek at the edge of town. The plant will have a capacity of 35 tons of washed sand an hour. Construction has been in progress about two weeks and the plant will be in operation late in June or July. Glass and steel sand and molding sand will be produced. J. E. Potts of this place is president and C. C. Garner, general manager. A spur from the main line of the M. and N. A. railroad will be built to the plant. The owners estimate they have 360,000 tons of sand in their deposit. When in operation they will employ 25 men.

**Silicosis Damage Suit Decided
In Defendant's Favor.**

A jury in Third Division Circuit Court yesterday returned a verdict for the defendant in the suit of Mrs. Ella Venetta and her two children against the Big Stone and Material Company seeking \$20,000 for the death of Thomas T. Venetta, husband of Mrs. Venetta, in January, 1935. The plaintiff sought to establish that silica dust at the company's plant caused him to develop silicosis during 10 years' of employment. The defense denied liability, contending that medical science had no knowledge of the malady until recently, after which safeguards were installed by the company. The jury was reported to have held prayer service before returning its verdict. There were eight women and four men on the jury which deliberated less than an hour.

**Widow Lays Husband's Death
To Silicosis, Asks \$20,000.**

Seven witnesses were heard yesterday in Third Division Circuit Court as attorneys for Mrs. Ella Venetta, mother of two children, sought to establish that Thomas T. Venetta, employe of the Big Rock Stone and Material Company from 1923 to 1933, died of silicosis. His death occurred January 10, 1935, and the plaintiffs contend a chemical analysis of lung tissues revealed the presence of large amounts of silica. Medical testimony will be offered in an effort to establish that breathing silica dust was the cause of death. Among witnesses yesterday were fellow employes, who testified that Venetta worked in silica dust at the company's rock crusher. The widow is seeking \$20,000 damages on the grounds that proper safeguards were not provided for the protection of her husband's health. Judge Utley is presiding.