Economic Possibilities of Mining in the Wichita Mountains

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Mining and potential ore reserves in the Wichita Mountains of southwestern Oklahoma have been items of interest for nearly 400 years. These granite hills hold valuable minerals, but the question is whether these minerals are in commercial quantities.

Earlier mining exploits were executed by Spanish miners under Don Deigo Castillo when, in 1650, his expedition explored the Wichitas for a period of several months in search of gold and silver (Wright, 1930). However, in 1611, a Spanish Catholic priest, Friar Juan de Salas, established a mission among the Indians in or near these hills. A historic trail, known as the "Great Spanish Road," passed up the east side of the North Fork of Red River and by the mouth of Devil's Canyon, now located near Quartz Mt. State Park (Foreman, 1942).

Numerous adobe ruins have been discovered in the Devil's Canyon area; exploration has also uncovered crude smelters, mining tools, and ancient mine shafts. Today, treasure hunters search for burro loads of gold which are reputed to have been mined and later hidden in the vicinity.

In 1849, men again were bitten by the gold bug and came to the Wichitas (Wheeler, 1849). In August, 1849, a company of men with pack horses and mules carrying guns, ammunition and provisions left for the reported Wichita gold placer.

The earliest mine known to historians, other than Spanish, was put down about 12 miles south of Granite in 1886 (Rose, 1910). In 1893 a shaft was dug on Navajo Mountain west of Snyder. During this same time miners and prospectors began rushing to the reported bonanza hills. In 1901 United States Troops, instructed to keep miners out, raided a mining camp in the Otter Creek mining district, destroying the smelter at the head of Otter Creek. At this time it was illegal for men to stake claims, for this area was still the Comanche, Kiowa, and Apache Indian Reservation.

The great "Oklahoma gold rush" finally began August 6, 1901 (Wilson, 1961). It was then legal to stake mineral claims. Thousands of prospectors hurried into the hills to discover prodigious deposits of what was reported to be gold, silver, copper, lead, platinum, zircons and diamonds.

This motivation for gold was at its height in the years prior to 1915. Flourishing and flaring with excitement, mining camps of Wildman, Oreanna, Meers, Doris and Golden Pass, to mention only a few, sprang up overnight. Tents were pitched in remote canyons, shafts and tunnels dug, smelters erected, and ore-grinders built. Sound of crude machinery echoed off mountain sides. Miners held miners' rights meetings, prospectors panned the creek sands for weighing nuggets, and printing presses related the latest results of the boom.

One of the numerous shafts was the Hale Copper Mine located just outside the western end of the Wichita Wildlife Refuge. Foster Bain in 1903 wrote in his "Reported Ore Deposits of the Wichita Mountains:"

> It is located near the contact of the granite and gabbro upon a granite dike rock technically known as grorudite. This claim has been known for many years to show copper . . . Small pieces of native copper have been repeatedly found in the outcropping edge of the dike . . . Copper stains were found and occasionally small pieces of chalcopyrite. The sample taken represents the best material that could be picked up from the dump. It is probably not so good as has been obtained by others, since the show was probably better material than could be obtained in continuous workings of the vein, and offers in the author's judgment no encouragement for further development of work.

Silver was discovered in this area March 19, 1902. While digging a well at the edge of the forest reserve, a man struck a pocket of silver and took out 25 pounds which assayed 83 per cent silver. Over 85 pounds were mined (Daily Republican, 1902).

Records indicate that six smelters were constructed in the Wichitas between the years 1901 and 1915 (Rose, 1910). The first one was Silas and G. W. Ison's smelter in the western part of the Refuge. The smelter has long since been torn down. Silas Ison later constructed another small smelter near his mines. These are located five miles north of Indiahoma where he now lives.

The second smelter was the Sam Remer smelter, southwest of Mt. Sheridan at the Snake Lode Mine. The third was built at the foot of Mt. Sheridan; the fourth was the John Pearson smelter; the fifth was erected by Ollie Wells. The sixth was constructed by T. E. Cook at the foot of Elk Mountain.

The fourth smelter, located 8 miles west and 5 miles north of Lawton, was erected during 1905 at a reported cost of $10,000. The location has since been included in the Ft. Sill Military Reservation. The mine near it, slanting back into the granite hill, is said to have reached a depth of 100 feet. A reported 2,400 pounds of ore, which showed a value of $25 per ton in gold and silver, was smelted here. This smelter also was closed down (Morgan, 1959).

In 1904, 40 tons of ore taken from the Snake Mine were smelted in the Remer smelter. The assay showed 80 ounces of silver as well as some copper and platinum. The gold present was worth an average of $400 per ton. The smelter soon broke down, however, and the excitement died.

The Patterson Mining Company in the Camp Doris district, now covered by the waters of Lake Quannah Parker, claimed they located a three foot vein which tested 20% lead, 18% zinc, and 4% cobalt; however, this vein never paid for itself (Morgan, 1958).

Silas Lee Ison, 91-year-old hard-rock miner who lives by himself in the Refuge, mined in the Wichitas during the early days of Oklahoma Territory. He claims there are still valuable minerals in this area. He still has a bar of metal he states is worth $1,000. To Ison, this proves the wealth of these hills. He claims he has found molybdenum, tungsten, gold, silver, copper, platinum, cobalt, nickel, uranium, chromium, and zircon.

Interior department records show that a United States mining engineer accompanied Ison May 30, 1935, on an inspection of some of his mining shafts which dirt and water had partly filled. From Ison's Old Maid claim, tin, gold, silver, and copper were found; however, analyses indi-

cated negligible quantities. Other tests showed non-paying quantities of molybdenum, but not tungsten or platinum.

The only mineral ever known to have been marketed by Ison was some zircon stones bringing $43.35. Also these records show that Foster Bain, a geologist from Norman, tested samples from 71 mines throughout the Wichitas in 1903. All analyses, using some of the best specimens, showed no values of importance.

In the Lawton News Republican, 1903, appeared the following:

> Mrs. Dora Pierce lives in one of the little mountain homes that dot the hills and dales of the Wichita mining region near Meers. Christmas Eve she caught a fine young hen and was preparing it for morrow's dinner. The craw was opened and from therein was taken a small nugget of gold fully as large as a number 8 bird shot—the pure stuff. Indications point to the fact that gold is so plentiful about that section that even a hen with an eye to business can find the yellow metal.

A calcite mine in the Wichitas was once opened in the limestone hills 6 miles north and 5 miles west of Porter Hill. The mine was first found by two prospectors in 1898. It is said that $60,000 worth of calcite was taken out of this mine, but the operators lost $10,000 in the operation. The calcite was reported to be 98% pure. It was ground and used as chicken grit and as a supplement for calcium deficiencies in cattle feed.

According to Merritt (1958), the following minerals are present in certain granite rocks in the Wichitas: labradorite, bytownite, olivine, diallage, hypersthene, hornblende, biotite, apatite, zircon, garnet, pyrite, calcite, zoisite, chlorite, and serpentine. None of these minerals is found in commercial quantities.

In 1957, a uranium rush stirred in the Keechi Hills near Cement. At this time 27,010 dry pounds were mined. The uranium bringing $3.50 per pound, had a total value of $3,366.83. However, the second shipment failed to yield a profit; hence mining operations ceased.

All analyses of previous mining operations in these hills indicate there is no gold, silver, lead, copper or zinc in paying quantities. However, hematite and titaniferous magnetite deposits occur, and these present debatable possibilities.

Hematite deposits in the limestone "Slick Hills" have already been worked. The most extensive deposit mined is in Sec. 17, T 4 N, R 12 W. It is reported that 35 car loads of ore have been shipped to Michigan for use in the manufacture of paint. If more research were done on the hematite deposits, it is believed that this ore could be mined economically for paint purposes (Mineral Resources of Southwestern Oklahoma, 1948).

Also, if and when a commercial smelting procedure is developed for titaniferous magnetite, it is possible the Wichitas could produce magnetite iron ore on a paying basis.

According to Chase, 1952:

> A potentially economic deposit of ilmenite was discovered by drilling on the north shore of Lake Lawtonka, where an ancient stream channel of Medicine Creek was filled with approximately 180,000,000 cubic feet of sand that contains 3.4 to 6.8 percent ilmenite. . . From the 13 holes drilled it is estimated that the deposit contains approximately 370,000 short tons of ilmenite. . . Ilmenite is the major source of titanium dioxide.
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> During floods a large amount of ilmenite-bearing sand is carried down Medicine Creek to be deposited in Lake Lawtonka. Thus, the lake itself is a potential source of ilmenite-bearing

sands. . . The ilmenite concentrates contain 44.1 percent titanium dioxide, which is about average for ilmenite concentrates being processed by industry today.

In conclusion, the Wichita Mountains hold an array of opportunities for the study of minerals which might be mined economically if a great enough need develops. Although it has been proven by extensive research and mining that these mountains contain no ores of the more precious metals, there are possibilities of discovering new and cheaper methods of smelting and processing low grade iron and titanium ores.

In the event that these economic methods are developed, vast tonages of ore from this area might be profitably exploited.

BIBLIOGRAPHY

Bain, H. Foster. 1903. Reported ore deposits of the Wichita Mountains. Dept. Interior. Bul., 31:82-93.

Chase, Gerald W. 1952. Oklahoma Geological Survey. Cir. 30.

Daily Republican. March 22, 1902. Silver galore.

Foreman, Grant. 1942. A History of Oklahoma, pp. 66-67.

Ison, Silas Lee. 1942. Appeal on mineral claims. Dept. Interior.

Lawton News Republican. Dec. 31, 1903. It's in its chickens.

Merritt, C. A. 1958. Oklahoma Geological Survey. Bul., 76.

Mineral resources survey of southwestern Oklahoma. 1948. Pub. Serv. Co. Okla.

Morgan, Buford. 1958. Chronicles of Comanche County, 4(2).

..... *ibid* 1959. 5(1).

Rose, C. W. July, 1910. Sturms Oklahoma Magazine, 10(5):46-48;

..... May, 1959. Mining in the Wichita Mountains. 8(3):34-40.

Wilson, Steve. 1961. Oklahoma Today. 7(1):8.

Wheeler, John F. 1849. Ft. Smith Herald. Aug. 8, University Library, Austin, Texas. Chron. of Oklahoma, 19(5):281.

Wright, Muriel H. 1930. The story of Oklahoma. The lost Spanish mines. Webb Publ. Oklahoma City. p. 23.