

books are worthy contributions to understanding the Cerrillos Hills, the Real de Dolores, and Lake Valley, as well as the broader view of New Mexico's mining, especially the Spanish and Mexican periods and the speculative boom of the 1880s. Mining historians, specialists interested in the Southwest, and general readers interested in these locales' histories will welcome these additions to the too-short shelf of New Mexico mining history books.

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Evan Y. Jones and York F. Jones. *Iron Mining and Manufacturing in Utah: A History*. Cedar City, UT: Southern Utah University Press, 2019; 484 pp., 111 b&w illus., 3 append., gloss., notes, bib., ind., paper, \$24.99. ISBN: 9780935615547

York Jones, former mine manager of an iron-ore mine in Utah (deceased), and his son Evan have compiled the history of iron mining and manufacturing in Utah from its geological origins through discovery and the ups and downs of the industry to final closures. That history begins with the geological formation of the host rock, followed by the igneous sourcing of the iron deposits in what was to become southwestern Utah. Although the iron outcrops were prominent, travelers through what is now Iron County, Utah, did not recognize the formations for what they were until members of a group in 1849 noted the existence of iron ore in the area.

The second and third chapters relate the early efforts to establish an iron mining and smelting industry in Iron County. Brigham Young and other leaders of the LDS Church desired for Utah to be self-sufficient to the extent possible. With the realization that iron deposits existed in the southwestern corner of the state, along with the presence also of coal and limestone, the leaders organized travel to and settlement of the area near the deposits, so that iron mining and smelt-

ing could commence.

Early mining of the iron ore was simple, as several deposits outcropped at the surface. Iron manufacturing was much the same as it had been for several centuries. In 1852 the first iron was produced by the Iron County residents, who had settled the area in 1850. The group continued its attempts at iron smelting with more failure than success due to a lack of capital and expertise. In 1858, Brigham Young suggested that the effort be abandoned, and the community's energies directed to other pursuits. In 1868 a new company was formed to pursue iron manufacturing in Iron County. After some success, financial difficulties ended this venture in 1877. Another company formed to manufacture iron in 1881 but never became operational and was dissolved in 1885.

From 1885 until 1923 no physical activity occurred in Iron County to produce iron. Mining claims were made on the iron ore resource, as people speculated that someday the industry would return to the area. Beginning in 1921 all of the elements for an iron industry in Utah began to come together. The construction of a railroad into Iron County, the construction of a state-of-the-art blast furnace in Utah at Ironton, and growing demand for steel created a long-term future for iron mining and manufacturing in the state.

Columbia Steel Corporation, one of the primary investors, operated the blast furnace at Ironton and the first mine, located at Iron Springs. Although the ore was close to the surface, the mining venture depended heavily on human and horse power. Tunnels were driven under the ore body, and the ore was pulled down into glory holes and loaded into mine cars in the tunnels for transport to the railroad loading facility.

In 1924 the Milner brothers began developing their mining claims on a large iron-ore reserve called Desert Mound, using open-pit mining methods with one steam shovel and one electric shovel. Gasoline-powered trucks hauled away the waste, while rails were laid into the pit for trans-

porting the ore. In 1926, after only three years of operation, the Iron Springs mine was shut down and Archibald Milner and Brothers was awarded the contract to supply ore to the Ironton plant. In 1929, at the beginning of the Depression, U.S. Steel entered the industry in Utah with the purchase of the smelters at Ironton. In 1936 the Desert Mound mine shut down and U.S. Steel opened its own mine at Iron Mountain. The Iron Mountain mine and all subsequent mines opened in Iron County used electric shovels and diesel trucks to haul both ore and waste.

World War II brought the need for more steel and expansion, with government support, of the Utah steel industry. The federal government erected a used blast furnace at the Ironton site and funded the construction of the Geneva complex, consisting of three blast furnaces, near Provo. The open-pit mines in Iron County expanded not only to meet the captive demand for iron ore at the Ironton and Geneva plants, but to supply the Colorado Fuel and Iron smelter at Pueblo, Colorado. Utah Construction Company became the contract miner for leases owned by CF&I.

The fifteen years after the war were the height of iron mining and manufacturing in Utah. After the war, the federal government sold the Geneva Plant to U.S. Steel and the second Ironton furnace to Kaiser Steel. U.S. Steel continued its captive iron-ore operations at Iron Mountain. When available reserves were depleted there, it moved to Desert Mound where it had procured leases from the Milners. Besides continuing to contract mine for CF&I, Utah Construction Company became an independent producer on its own mining leases that it had procured in the Iron Springs area, not far from where Columbia had opened the first mine. This ore was shipped to meet demand at iron smelters throughout the West.

The boom period of the post-war years saw increasing labor strife and higher taxation by state and county governments on all aspects of the steel industry. Environmental regulations added to the capital and operating costs of the smelters. The

pressures of increasing costs and the “dumping” of cheap steel from other countries put the steel industry in Utah into a slow decline. The last operating blast furnace at the older Ironton smelter shut down in 1966. In 1987 U.S. Steel exited the steel industry in Utah, selling the Geneva plant to Basic Manufacturing and Technologies of Utah. BMT operated the Geneva works under the challenging circumstances of high costs, aging plant, stiff competition, and a need for capital, but was finally forced to close the plant in 2002.

Mine production in Iron County declined with the closure of the smelters not only in Utah but also in Colorado and California. Mining by Palladon Ventures, later reorganized as CML Metals, continued in intermittent starts and stops with sales to various markets, including some export sales, until 2014. Iron ore remains in the ground in southwestern Utah awaiting a future opportunity for extraction. Geological estimates of unmined resources run as high as three hundred million tons, almost three times what was mined from 1852 until 2014. In 2020, Gilbert Development Corporation resumed production at the CML mine, and began again shipping ore to China.

The authors intermingled personal accounts, correspondence, newspaper articles, company reports, and photographs among their historical narrative. The people, organizations, technologies, and economic realities associated with the rise and decline of iron mining and manufacturing in Utah are therefore related in detail and often in the words of the people directly involved. A glossary is included for those unfamiliar with mining terms used in the area. This book chronicles the history of an important industrial sector involved in the development of Utah and the American West.

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