



## IDAHO STATE HISTORICAL SOCIETY REFERENCE SERIES

### LODE MINING IN IDAHO, 1864-1869

#### Number 167

Development of lode mining, or quartz mining, brought stability to communities in various parts of Idaho after the gold rush. Some placer camps, especially Florence, declined abruptly after the better claims had been worked. Others, particularly in Boise Basin, lasted for years. Quartz mines generally could not be exhausted quickly, no matter how fast the owners tried. Attempts to work many of the lodes failed in the early days, and some of these failures, often for different reasons, were repeated time and again. As a result, lode mining went on year after year, maintaining Idaho's economy during long intervals when placer mining lagged or disappeared. Lode mining differed from placer mining in a fundamental way. In quartz mines, gold was found in mineralized veins or lodes that had come up through great fractures or fissures in solid rock that made up the mountain ranges. Some gold quartz veins outcropped on the surface where erosion had exposed bare rock that showed through the soil that covered most of the land. In the beginning, all gold that could be mined had come from mineralized veins. Placer gold resulted after water had eroded away some gold bearing quartz veins, grinding up the original vein rock and freeing the gold which sank into stream gravels. Prospectors finding placer gravel generally tried to trace their gold deposits back to their source in quartz veins up the streams--hopefully not too far away. In places like Florence, such efforts resulted mostly in failure. In other camps, such as Rocky Bar, Silver City, or in parts of Boise Basin, important lodes were located without too much difficulty. Quartz miners, once the lodes were found, faced a major problem that erosion had solved for placer miners: they had to get the gold-bearing rock out of the interior of a mountain; they had to crush the gold bearing rock to powder; then, like the placer miners (who already had these steps accomplished for them by stream erosion), they had to separate their gold from the crushed rock. Placer miners often had difficulties solving this final problem of separating gold from gravel in which they found their values. But lode miners usually had a lot harder time simply getting their gold recovery process started.

Placer mines often could be operated by a company [meaning a group] of several miners, often a group owning adjoining claims.

Lode mines required a much larger company [meaning a

corporation] which could supply major capital investment necessary to employ a large force of miners (rarely if ever the owners) to work a quartz lode. In addition, large amounts of capital had to be invested in bringing in a stamp mill (to crush the ore) and a separating and amalgamating plant (to separate the gold from the rock) to a remote, often almost inaccessible mountain wilderness.

Placer miners often had problems with gold deposited under a lot of gravel that could be removed only with difficulty. Sometimes their claims were in a flat bottom in which they could not use streams of water to cut through the gravel and wash their gold-bearing sand and rock away from the gold because they had no place (at lower elevation) to let their water pile up the worked-out gravel. Sometimes they had no large stream of water that they could divert into a ditch above their claims so that they could run an efficient separation system of hydraulic giants and sluices. But generally, except for prospecting, they had enough sense not to try panning gold. Anyone, faced with having to put acres of gravel through a washing system, usually could figure out a better, faster way than handling a large volume of gravel manually, a pan at a time. When water was available at adequate elevation, gold and gravel went through a wooden flume with slats across the bottom to catch the heavy gold which sank quickly in a sluice box. Otherwise, gravel could be packed or hauled to a stream and rocked in a rocker (a box with holes in the bottom to let the gold and gravel separate in a small space with a cleated surface below to catch the gold) which produced [through rocking] the effects of a sluice without having to run a large volume of water down a sluice box. Eventually hydraulic elevators and dredges and drag lines were employed to work ground too extensive to put through a rocker and too flat to sluice. But even these devices, not available in the early days of placer mining, did not require anything like the capital investment nor the advanced technology demanded of quartz miners in the beginning.

When Idaho's lode miners went to work in 1864, they often did not foresee the difficulties they faced. Both in Silver City and Rocky Bar, they had extremely rich surface samples that assayed at thousands of dollars a ton. What they often failed to notice was how little they had in the way of exceptionally high grade ore. (Ore is mineral-bearing rock which can be worked commercially.) Assured by surface prospecting that they had located a true bonanza, lode mines started to work their claims with simple arastras while they were in the process of getting major investors to bring in stamp mills and recovery plants to get large production underway. Arastras were painfully slow. Of Spanish origin, they ground up gold ore in a circular rock-lined trench: drag stones acted as a crushing agent, and a tired horse or a slow water power attachment ran the device. Few Idaho miners had the patience necessary to keep an arastra turning very

long. But eighty arastras were in use around Rocky Bar in 1864 and many other camps--especially those fortunate to have plenty of water power available--used arastras to make a modest, but dependable return. While testing their lodes with hand-mortaring and arastras, energetic promoters of Idaho quartz mines got ready for a big year of stamp milling in 1865. Some early mills got started in 1864, and at Silver City particularly, several early stamp mills made considerable return in initial stages of production.

Silver City, fortunately, had ore that could be handled by the Washoe process developed after an expensive lot of trial and error on the Comstock. Rocky Bar also had ore that could be processed without too much technical difficulty. But most Rocky Bar mines failed to develop their lodes (to find out how much ore they had in advance) and to procure sufficient capital to operate through the early, expensive stages of getting started. Failures in stamp milling led to shutting down the poorer managed mines at first. Then by 1866 and 1867, even the better-run Rocky Bar mines had to quit. A legacy of embarrassing debts, litigation, worthless stock, and adverse publicity afflicted the mining communities with each failure. Stockholders refused to let the mines operate very long on capital advance, and high costs of mining in a remote, high-wage, isolated district delayed profits that would have made investors happy. With initial investment often inadequate to get lode mining underway, and with many operations started on claims that lacked ore (but often were acquired at excessive expense), failures came regularly. Even J. M. More and D. H. Fogus, whose properties at Silver City accounted for most of the early production (over a million dollars a year) failed on August 14, 1866. Coupled with a whole succession of Boise Basin and South Boise failures, and inability to get Atlanta started at all, this setback showed the serious hazard of early lode mining in Idaho's remote districts.

Some really spectacular early lode mines could operate for several years in spite of all these hazards. At Silver City, the Poorman (located August 5, 1865) had a bonanza that--as often was the case--led mostly to extremely expensive litigation resulting from a claim war. In a highly productive week of surface operation before a judge shut the mine down until ownership could be established, about half a million dollars was hauled out by claim jumpers. No Idaho placer operation produced on any scale like that. But when a legal compromise was reached, at an expense on the magnitude of the fabulous initial production of the lode, mining at depth (while still highly profitable) did not continue at any such rate. Astounding specimens of ruby quartz from the Poorman gave the Owyhee mines the greatest kind of advertising in the east and in the Paris exposition of 1867. Another kind of publicity--arising from another War Eagle Mountain claim war--brought notoriety to Silver City in April, 1868. An underground battle in the workings of the Golden Chariot and the

Ida Elmore, carried on with steam hoses as well as guns, led to a settlement imposed by a deputy United States marshal, Orlando Robbins. But after the shooting of Idaho's leading miner--J. Marion More--following cessation of hostilities underground, Governor D. W. Ballard feared a series of lynchings and had to call out troops from Fort Boise, April 2 to suppress a renewal of the Owyhee War. By the next year, the Owyhee lodes had produced around \$4,900,000. Most of the silver and gold recovery there was yet to come, and the future of the Owyhee mines seemed assured.

Aside from Silver City, mining in Idaho fell into a considerable decline after 1866. A gold rush to Leesburg that year, followed by a gold rush to Loon Creek in 1869, renewed the placer era. Other placer finds were still to come. But Boise Basin--by far the most substantial of Idaho's early gold producers--had gone into a slow era with many of the early claims about worked out. A large ditch system kept up production from a few major operators there, and eventually hydraulic elevators and dredges would increase the basin total in a big way. But in Idaho as a whole, the typical miner by 1870 was a Chinese. White miners also remained, but when the better placers were gone, districts with too little left to interest the whites became the property largely of Chinese miners who had the patience to work claims that no one else would touch. With completion of the Central Pacific in 1869, still more Chinese were available to keep Idaho gold production going. Unlike many of the placers, the future for Idaho's quartz mines still held promise. But many of them still had a long way to go before anything like their potential wealth could be realized.