

# IDAHO STATE HISTORICAL SOCIETY

## REFERENCE SERIES

### YELLOW JACKET MINING DISTRICT

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In less than a decade after 1860, a series of Idaho gold discoveries brought thousands of prospectors to a vast Salmon River mountain wilderness area. Loon Creek and Yellow Jacket finally gained regional attention in 1869. After Leesburg gold discoveries brought traffic from Idaho City over a mountain pack trail in 1866, Nathan Smith--an express man and prospector who had a number of gold discoveries to his credit--set off a major Loon Creek excitement along that route, July 19, 1869. More than a few miners who came to Loon Creek had to look elsewhere for promising claims, while others were busy building a permanent community there so that they could prepare for a productive spring season.

Later in 1869, almost everyone at Loon Creek lost interest in building up that promising new mining camp. Nathan Smith, back from another prospecting tour, had another startling new discovery to announce--this time, Yellow Jacket. His Yellow Jacket party thought that they had another Boise Basin, and a new stampede to the new bonanza depopulated Loon Creek, September 24.

Some 400 men took off with Nathan Smith, only to find Smith's new district vastly overrated. One of their number, John Ward, reported that "gold is very scarce in Yellowjacket, but the broken down horses and mules are plentiful along the road." They had found that a member of Smith's Yellow Jacket discovery party had heavily salted the prospector's pans, apparently with California gold, and then had thoughtfully disappeared before those who rushed to Yellow Jacket discovered his deceit. Smith was as disgusted as everyone else at being the victim of a practical joke; when his stampeders had all got back to Orogrande, there was "terrible swearing on Loon Creek." An incidental result of that hoax, though, was an early discovery of several important Yellow Jacket quartz leads that eventually proved to be productive.

In 1876, a prospector's three-stamp mill was completed to test the district, and six years later, arrangements were made to import a larger plant. In April, 1883 packers loaded a ten-stamp mill onto mules and dug through snow drifts up to twelve feet deep in order to get into operation by June 1. That way their water driven mill did not miss a season when power was available.

Ore was freighted with two wagons (each with four horses) down a mile and a half grade to the mill site at a cost of \$2.50 a ton.

Sleighs were used in winter. Like the stamp mill, which processed thirty tons of ore a day, both wagons and sleighs had to be packed into Yellow Jacket. About thirty miners were employed there until October, 1892. Then a \$100,000 Colorado purchase led to a major expansion of activity there.

After a two-week \$3,000 cleanup when they took over late in 1892, Yellow Jacket's new owners saw that they needed to invest in a more economical production system. To reduce costs of getting ore to their mill, they

decided to erect a Swem aerial tramway, the buckets to carry 125 lbs. of ore each. No packer would contract to deliver the 7/8-in. wire cable required in its construction. The company's pack train brought in the cable, 8,400 ft. in length, in three trips. Being too stiff to coil for individual coils on each mule, it was strung out upon the main street of Challis, six or seven runs on a side being tied together. The mules were placed in the center, with the cables lashed to each side, the loop at either end swinging clear of the leading and the end mules. Nearly all the inhabitants of the county were on hand to see the pack train start. They had plenty of excitement and fun. It took two men to manage each mule for the first few days. On uneven ground the individual loads would vary in weight. In a hollow the rope would lift the center mule off its feet. On a ridge or knoll one mule took the load of three. One wall-eyed cuss bucked and tore around on a ridge, throwing the whole pack train of twenty-two mules down the mountain 150 ft. into the timber in a tangled, twisted condition. It took two days to cut them out, no serious damage being done.

Owing to the stiffness of the several cables bound together the pack train could not make short turns, and a temporary straight trail, regardless of grades, was therefore made. Eventually the mules became accustomed to the novel loading, and the entire cable was delivered without serious mishap. The tramway reduced the transportation cost for delivery of the ore from mine to mill to seven cents per ton. [G. L. Sheldon, "Mining Experiences in Idaho in the Nineties," Engineering and Mining Journal (December 25,

1890), 110:1212.]

During the Panic of 1893, Yellow Jacket's superintendent, fearful that his miners would go unpaid, refused to ship out his June bullion production to Salt Lake. That action almost resulted in forfeiture of his mine. But G. L. Sheldon found out what had happened, sent the superintendent on a prospecting tour, and made payment barely in time to avoid delinquency. Sheldon took over and continued to manage Yellow Jacket's major property for two years. He still had to overcome problems arising from his difficult location. Replacement of a worn-out 625 pound camshaft proved difficult. But Boise's noted Basque packer, Jesus Urquides, could handle heavy loads:

He secured the largest mule in the locality.

He then made two tripods the height of the shaft when loaded. These were packed on another mule. The big mule was led with the load, one, two or three hours, depending upon the condition of the trail. [Urquides] . . . would then stop and set up the tripods just behind the loaded mule. Four men would next slide the shaft back onto the tripods. The mule was then allowed to rest and feed for a short time and the procedure repeated.

The mill was operated by a Leffel water wheel, which was connected to a penstock forty-two feet in length. A ditch, about 1,500 ft. long, conveyed the water from a six-foot dam on Yellow Jacket Creek. Anchor ice that formed on very cold nights in the creek would sometimes, when the temperature rose suddenly, break loose and in the form of a fine, slushy material, before we knew it, fill the penstock full of ice, stopping the water wheel. It took two days to dig it out. The ditch on the hillside would often break, causing many shutdowns. [*Ibid.*, 1212-1213.]

By making other improvements as well, Sheldon kept his Yellow Jacket mill in operation until mid-May of 1894, when he lost his entire plant in a fire.

While Sheldon was reconstructing his mill, C. L. Coleman--a major Wood River investor who had to shut down there after silver prices collapsed in 1888--turned his attention from Hailey, Vienna, and Sawtooth City to Yellow Jacket. Gold mining proved attractive during hard times in the summer of 1894, and two hundred men were at work there. Coleman spent \$50,000 putting a large flume for his placers, and two new stamp mills were under

construction. By salvaging and rehabilitating ten stamps from his burned out twenty-stamp mill, Sheldon was enabled to enlarge his plant to thirty stamps when a twenty-stamp replacement arrived that fall. Sheldon also got a sawmill to provide a half-million board feet of lumber that summer so that he could build a 75-by-150-foot structure to house his new installation. Plans for his plant reached Yellow Jacket, October 4, 1894, and he got his mill packed in there in a record 106 days that fall and winter.

Sheldon's new plant proved highly efficient. With a milling cost of only \$2.67 a ton, a monthly yield of \$50,000 was realized from free-milling ore. A six foot Pelton wheel under 150 feet of pressure generated electric power to operate Yellow Jacket's thoroughly modern cyanide mill which had a 200-ton daily capacity. Designed to serve a mill with 500,000 tons of ore (estimated at \$7,500,000 in total value), this plant was sold in May of 1895 after several months of successful operation. Under new ownership and management, it was enlarged from 30 to 60 stamps (contrary to G. L. Sheldon's advice) at a cost of \$72,000.

But only \$68,000 was recovered from that investment, because their \$7 to \$10 low-grade vein soon was lost in a fault.

Yellow Jacket continued to progress for most of a year before a general collapse discouraged most miners there. A \$4,500 wagon road from Challis helped reduce Yellow Jacket's isolation, September 1. But just then a smaller Cleveland company went broke, leaving its twenty employees unable to collect their back wages. With 175 miners remaining at work, Yellow Jacket entered 1896 with bright prospects regardless of that failure. At the beginning of May, a million dollar purchase in New York brought in new management and new troubles. A dispute over a nine- or ten-hour day, optional use of contracting rates instead of hourly pay, and employment of non-union miners led to a strike that shut down operations there later that month.

Reopened July 8, 1896, after settlement of these difficulties, Yellow Jacket ran through September before closing again because of failure of the milling system. Effective for free-mill ore it had been designed to process, it could not handle values available after that ore supply unexpectedly ran out.

Considerable exploratory tunneling failed to disclose any more ore, and Yellow Jacket's handsome 60-stamp mill remained idle from then on. Many of Yellow Jacket's miners--Populists almost without exception--interpreted this operational suspension as an effort to drive them out of camp prior to election day so that they could not vote. (Such tactics were employed in that exciting election in the East. But Idaho's silver forces had overwhelming strength sufficient to render any effort to discourage Populist voters by closing mines, or by any similar device, futile.) With only fifteen out of seventy-five to a hundred miners employed, Yellow Jacket sank into a considerable depression. Three saloons, two stores, and two restaurants

provided more facilities than a camp needed with most miners headed to Gibbonsville and other mines.

Reduced operations at Yellow Jacket coincided with encouraging activity nearby on Silver Creek. Discovered in the summer of 1896, an extension of the Yellow Jacket lode there held great promise. After extensive testing in Denver, several recovery processes were evaluated for efficiency in handling new Yellow Jacket ores from Silver Creek. Then a 300,000 pound Clareci-Pellitan cyanide plant with a roller crusher device was freighted in. Elegant cyanide plants, however, failed to justify their substantial installation expense and effort. Conversion costs to cyanide, along with burdensome initial investments and development charges, appear to have exhausted the financial resources of Yellow Jacket's primary company, which defaulted on a \$172,792.80 obligation to John T. McChesney of New York. So he acquired that property at a sheriff's sale in Salmon, August 16, 1897, for \$172,000. In effect, he acquired more than a million dollars value for his unpaid loan. Yet he managed to operate his new property for only a month before having to shut down again in order to obtain an effective recovery process. With fine modern conveniences, including two trams, two Pelton wheel electric generating systems (removed from Idaho Falls), and other technological advantages, Yellow Jacket still lacked an element essential for production. In 1901, John E. Searles, who added Yellow Jacket to his large financial empire, went bankrupt in May. In 1908, that unfortunate camp still had two large modern milling plants which still had been used only slightly.

With eleven hundred feet of development tunnels and a very large volume of potential ore averaging around eight dollars a ton, Yellow Jacket attracted enough attention in New York that a new group of investors decided in 1909 to find a technological solution to milling and recovery problems there. Reduced freight costs encouraged considerable activity in 1910, and Yellow Jacket's large modern cyanide plant was ready to operate as soon as rather complex ores there could be treated successfully. Development work continued through 1912, when consideration was given to reworking tailings of twelve dollar ore which had been milled in 1896 with considerable loss of mineral values. After efforts to discover an effective technology for Yellow Jacket ores failed in 1912, a small placer recovery came in 1914. A revival in 1922 produced a small ore shipment that encouraged a Salt Lake Company to build a five-story hotel there. Funds ran out January 15, 1924, prior to completion of that large frame structure, and fifty-two years later its roof caved in from winter snow.

With financial failure preventing lode mining, another disappointing effort to operate a hydraulic giant followed in 1924. Development work finally resumed in 1929, with still more low grade ore exposed. A few tons of selected high grade ore were shipped out then, and several old properties were expanded.

Reduced costs of mining during a nationally depressed economy allowed additional development of several important Yellow Jacket properties by 1932. About eight miners worked there from 1929-1932, driving several hundred feet of additional tunnel. One company attained more than two thousand feet, and others expanded their tunnels also. By 1936, a major development tunnel had been driven 2,700 feet, and others were deepened also. A few carloads of ore finally were shipped for smelting at Anaconda, Montana, and at Garfield west of Salt Lake. These tests failed to offer profitable returns: an investment of about \$40,000 produced a \$10,000 yield. (Concentrates shipped to those smelters recovered close to production costs, but ran far short of returning 430 feet of tunnel development costs.) So a sale was arranged to Salt Lake investors in 1938. By that time, several miners had been employed there for about a decade, and their main development tunnel reached 5,000 feet. But from more than a mile of underground workings, no ore was being produced with available recovery technology. Yellow Jacket shut down again for fourteen years.

Eventually a flotation mill was started in 1953 to serve a property almost a mile from Yellow Jacket, but that revival did not last very long. Three miners went to work again in 1969-1970, but Yellow Jacket ores still could not be treated economically. With a large body of low grade ore located at a great distance from a smelter, and with difficult recovery problems to compound Yellow Jacket's disadvantages, that camp retains a spectacular 60-stamp mill that never has had the opportunity to get worn out. An old, established Yellow Jacket mining family still is ready to resume operations there in 1982, once difficulties of production are overcome. Yellow Jacket's mineral production may have approached \$200,000 but most likely did not come too close to that amount. Largely from four and a half year's work, that total included scattered operations ranging over more than a century. Five mill runs, mainly in 1895 and 1896, contributed \$121,761.56 of that yield:

November 2-December 2, 1893 . . . .	4,060.03
February 3-June 26, 1894 . . . .	12,086.20
March 1-December 26, 1895 . . . .	60,991.11
January 6-December 15, 1896 . . . .	42,050.76
June 3-11, 1897 . . . . .	2,573.46

These results of operating one of Idaho's largest stamp mills for several years (with an estimated 92% recovery from low grade ore) indicate exceptional difficulty of mining there. With an average of only \$5.50 per ton, even Yellow Jacket's best production was marginal. After that, complex ores could not be processed satisfactorily. As a result of that unfortunate situation, Yellow Jacket's challenge to mining engineering still

has not been met.

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