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REFERENCE SERIES

BAY HORSE AND CLAYTON

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In 1864 a lone prospector traveling through the Salmon River Mountains with two bay horses noticed excellent mineral locations along a stream soon to be named for his horses. Descending to Salmon River, he met a party which had just come down from Stanley Basin. Encouraged by his discovery they examined Bay Horse Creek without success. Yet a search for some Bay Horse lodes went on. Finally W. A. Norton succeeded in finding a mine there in 1872. He located a lode with S. A. Boone on September 1, 1873. A. P. Challis later took over their property after, in company with a group of prospectors, turning up a series of promising veins at Bay Horse in the spring of 1877. They found enough silver values to set up a considerable rush to Bay Horse in 1878. Lead-silver mining in Nevada and Colorado had reached a state of development sufficient to generate interest in similar lodes in Idaho. Within a year or two, even more spectacular lead-silver discoveries brought on a major rush to Wood River, and Idaho mining entered a new era of development.

Of a number of interesting claims, Tom Cooper and Charley Blackburn's Ramshorn offered superlative prospects. Unable to develop such a remote property, they accepted a modest offer from a group who managed to have thirty tons or so sent out to Salt Lake in 1878. Fortunately they recovered \$800 a ton from their initial \$24,000 shipment. In 1879, they did still better, adding about \$70,000 (or maybe only \$32,000) to their total. Even with seventy-five tons running at \$900, they had to spend \$47 a ton on transportation. Using pack mules to get their ore down Bay Horse Creek they employed wagons for freighting to Blackfoot after rail service reached that new community in 1879.

A number of other Bay Horse lodes showed similar high assays. Robert Beardsley and J. B. Hood funded additional development work with a twenty-two ton shipment from their decidedly superior property in 1879. Eventually their lode almost matched the Ramshorn. These two properties accounted for the greater part of early lead-silver production at Bay Horse. Several other smaller shipments attested to additional lode values around Bay Horse in 1879, and a 7,228-pound lot from a lode above Clayton returned a profit of \$550 that same summer. Additional properties showed promise at Poverty Flat. Smelters at Bay Horse and Clayton (named for J. H. Clayton of Atlanta, who selected that millsite) clearly were justified by these test

lots. New owners of the Ramshorn (including E. W. Jones of Idaho City and A. J. McNab of Salmon) managed to arrange for additional investment to provide local reduction facilities, while Omaha capital was induced to support Clayton's smelter in 1880.

Both Bay Horse and Clayton gained stability and population with construction of thirty-ton smelters in each camp in 1880. Initial operating expenses ran high for these pioneer Idaho smelters. Coke had to be imported all the way from Pennsylvania to operate them. By 1882, however, local charcoal came into use there. Forty-eight men were employed that season providing 180,000 bushels of charcoal to maintain smelting operations there. When smelting resumed June 14, 1882, after a couple of short previous seasons, more than enough ore was available to maintain continuous production. Over \$300,000 in silver alone came from this operation in 1882. Lead production increased this output to two-and-a-half tons of bullion daily from twenty-three tons of ore. Bay Horse had gained a population of about three hundred, and boasted having a complex of substantial, permanent buildings--mostly saloons. A meat market, a general store, and several boarding houses added variety to that growing community.

John T. Gilmer and O. J. Salisbury (prominent stage line operators) acquired the Ramshorn in 1882, enlarged their Bay Horse smelter, and erected a thirty-stamp mill late in 1882 for their Bay Horse property. Then on September 1, 1883, they opened a major Ramshorn tramway to transport ore down to wagons which served their smelter. With plenty of ore on hand, their operation assured Bay Horse of a bright future.

Even though they had a successful smelter at Bay Horse, Gilmer and Salisbury soon faced an awkward difficulty. Much of their lead value came from a lode which gave out in four years. So in 1884 they had to start hauling Elkhorn lead-silver ore from Ketchum to Bay Horse (an interesting reversal of their usual direction for shipping) in order to provide sufficient lead to gain efficient operation. Although a variety of ores available nearby contributed to diversity necessary for effective smelting, Bay Horse (like many remote lead-silver mining districts) lacked enough lead to maintain a proper composition necessary for mineral recovery. This kind of problem, characteristic throughout the west, favored large smelters adjacent to transportation centers which could receive ores from many different mines and mix them in order to obtain essential chemical reactions. Others might need a component different from additional lead, but most suffered from one shortage or another.

While Bay Horse flourished, Clayton's thirty-ton smelter supported a more modest camp. Only a half-dozen families lived there in 1882, but two general stores and a saloon did business there. A modern thirty-ton smelter occupied a sixty-by-one-hundred-foot building which boasted an iron roof. Without a mine the size of the Ramshorn, Clayton's smelter ran for a shorter summer season. Each summer, Clayton's production resumed with

enough variety of mines to maintain a proper balance of ores.

After Gilmer and Salisbury solved their problems in smelting lower grade ore in 1887, Bay Horse continued to operate at a capacity restricted primarily by limitations imposed by transportation problems. In 1888 (Bay Horse's last full year), more than 150 miners supplied ore for milling, concentrating, and smelting. Ten men operated a mill, another ten ran a concentrator, and twenty-five handled a smelter that could have been doubled in size if their increased product could have been hauled out. Four tons of bullion, worth \$750, came from about thirty tons of Ramshorn ore processed each day. Silver values ranged from 80 to 1,800 ounces, while lead made up most of the four tons turned out daily. An adjacent property--the Skylark--provided about sixty tons of ore for smelting daily, with a total yield almost equal to Ramshorn production.

A series of misfortunes plagued Bay Horse in 1889. An unfortunate fire, May 14, set back operations there somewhat: Sing Lee's wash house (\$1,000), a stage company barn (\$1,400), Charles Small's teamster's dining hall (\$800), and two \$1,500 dwellings went up in smoke. Then a water shortage slowed down production in August. Finally a change in tariff policy, allowing importation of Mexican lead, precipitated an abrupt shut down at Bay Horse in November. Declining silver prices complicated the situation. In places such as Bay Horse, silver values in lead-silver lodes enabled miners to produce lead at substantially less cost than ordinary lead mines could manage. So lead prices declined, giving places like Bay Horse and Wood River a competitive advantage. But when Mexican imports from similar lead-silver districts threatened to reduce lead prices still further at a time when silver profits were declining, Bay Horse had to close until transportation costs could be reduced or until prices might increase. O. J. Salisbury started up his Ramshorn smelter for a month in 1893 and tried again in 1894. But after that he got his smelting done in Clayton. His Ramshorn mine had accounted for some \$2,500,000--around a quarter of Bay Horse's \$10,250,000 early production. This total included about \$6,900,000 in silver, \$2,700,000 in lead, and \$650,000 in copper. He soon had about that much more ore developed. All he needed was a more favorable cost ratio to justify resumption of large-scale Bay Horse production.

Clayton fared a little better after 1889. About sixty men worked there early in 1889 before prices got too discouraging. Mines around Clayton supplied a proper variety of ore so that only coke had to be imported for smelting. Late in 1888, Clayton's smelter was enlarged to a capacity of sixty tons. Within two years, smelting at Clayton increased enough to employ a larger staff and to encourage R. A. Pierce to move his Challis newspaper--The Silver Messenger--to Clayton for a time. From 1892 to 1902, Clayton's smelter managed a productive summer run for a little more than a hundred days each summer. A small part

of their ore came from O. J. Salisbury's Ramshorn development work, which he financed by sending out just enough ore to maintain his mine and to pay for exploration. By 1900 he had six miles of underground development completed--primarily 35,000 feet of tunnel. Location of the Ramshorn in a deep canyon allowed him to gain a vertical depth of 3,000 feet in development with only a 3,000-foot crosscut tunnel, instead of a 3,000-foot shaft. Salisbury's enormous low-grade Ramshorn ore reserves did not contribute much to Clayton's smelter, but enough mines closer by on Poverty Flat (about \$1,500,000 worth) and other handier locations kept Clayton's smelter in operation. About thirty miners worked there each winter providing ore for another fifteen men to smelt each summer. Twenty-five more kept busy in their charcoal camps supplying fuel. Another ten men and fifty horses hauled ore and charcoal to Clayton to keep this entire operation going. Aside from 4,000 tons of coke that had to be imported from Ketchum each season during earlier years, this process did not have to rely upon resources from outside the district. Even from 1900 to 1922, Clayton's annual bullion production averaged over a million pounds each year (1,307,399 in 1900; 954,775 in 1901; and over a million in 1902 in lead) with substantial silver values (109,248 ounces in 1900) in addition. While this represented a decline from 1,426,551 pounds of bullion in 1898, Clayton's summer operations provided a significant contribution to Idaho mineral production for more than a decade after Bay Horse shut down.

Suspension of activity in Clayton after 1902 resulted from lack of available ore. Although some Bay Horse leasers shipped out 480,000 pounds of lead and 20,000 ounces of silver in 1903, serious revival of activity there was delayed until 1902 when five Bay Horse mines accounted for \$67,000 in lead, silver, and copper. A new company assumed control of most properties there in 1912, but minor efforts of leasers comprised what little activity occurred there from 1902 to 1918. Then some limited Ramshorn ore shipments resumed in 1918, and a modern floatation plant was completed December 1, 1919. A monumental retimbering and reopening job preceded low grade production of Ramshorn ore that Salisbury had developed more than two decades before. Several years of capacity production allowed Bay Horse to realize a long anticipated \$2,500,000 return until low water retarded operations in 1924. Finally leasers took over again when Ford Motor Company efforts to revive the Red Bird in 1924 came to a halt in October, 1925.

After another decade of inactivity, Clayton's smelter started another long period of production in 1935. Rising silver prices stimulated mining there to a level of \$2,340,000 a year in 1968. As southern Idaho's only important silver mine part of the time, Clayton gradually built up a total Bay Horse region production to more than \$30,000,000.

While Clayton was active, extensive geological exploration

and testing for several years after 1954 indicated that Bay Horse could be reopened profitably. Consolidation of claims there into one combine placed under a Bunker Hill and Sullivan option resulted from that investigation. That proposal finally was rejected, but Bay Horse still had promise for renewed development.

After more than four decades of steady production, Clayton benefitted from major new discoveries in existing workings (at their 1,100-foot level) in 1978 that provided an increase in ore reserves from 100,000 to 410,000 tons in 1980. Aside from good long range future prospects at Clayton, resumption of drilling in important Bay Horse properties in 1979 offered hope for inactive mines there.

A far more extensive operation commenced on Thompson Creek northwest of Clayton, where development of a major molybdenum discovery began in 1980. Designed to increase world production by 19%, ore sufficient to last twenty years at that rate was blocked out. With 200,000,000 tons of reserve for an open pit that would become Idaho's largest, a daily production of 20,000 to 25,000 tons was anticipated. Site preparation and construction of accommodations for 550 employees with an \$8,000,000 payroll was completed for initial production in 1982.

A \$350,000,000 investment to initiate this enterprise had a substantial impact upon Challis as well as other local communities.