

**Chapter 5**  
**Statistical Profile of Mining Industry:**  
**Second Stage 1870-1875**

Toward the end of 1870 after months of dismal statistics and pessimistic forecasts a mine increasingly held in low regard by many investors and speculators made a discovery that would breathe new life (once again) into the Comstock. Crown Point's stopes on its northern border (with Kentuck and Yellow Jacket) not only had been thoroughly worked but had also been severely damaged in the 1869 fire. The scuttlebutt was that since it was being financed by assessments, it would soon be closed down permanently. At approximately 1,100 feet deep (ca. 1,460-foot level measured from the peak in Virginia City) a promising discovery was made on its southern border with Belcher. Both mines were under the control of William Sharon and William C Ralston, although they did not own a majority of the stock in either company. The discovery turned out to be huge and rich. It extended from about 950 feet from the surface (1,400-foot level) to about 1,500 feet (1,900-foot level). The seam extended 400 feet into Belcher and 375 feet into Crown Point from the Crown Point-Belcher boundary. Its width (east to west) was from 100 to 125 feet. In a tug-of-war between Sharon and Ralston and their financial allies, Belcher ended up in the possession of Sharon and Ralston and Crown Point in the possession of J P Jones, the superintendent of Crown Point under Sharon and Ralston, and Alvinza Haywood, a San Francisco speculator who owned shares in both Belcher and Crown Point. The Comstock now had the bonanza that had been sought since the mid-1860s. Because the ore contained a high percentage of gold the yields were as great as \$45 to \$65 per ton.<sup>1</sup> The impact of the discovery was clearly discernible from tonnage and bullion figures. Tons of "worked" ores rose from 239,000 in 1870 to 445,000 in 1871, an increase of 86 percent; bullion values grew from \$6.9 million to \$10.7 million or 55 percent.<sup>2</sup>

**FIGURE 1**  
**BULLION OWNERSHIP 1871**

| <b>Bullion Owner</b>       | <b>Tonnage</b> | <b>Value (\$)</b> | <b>Share (%)</b> | <b>Yield/Ton (\$)</b> |
|----------------------------|----------------|-------------------|------------------|-----------------------|
| <b>Belcher</b>             | 18,474         | \$1,198,921       | 11.3             | \$64.90               |
| <b>Yellow Jacket</b>       | 47,585         | 1,576,613         | 14.8             | 33.13                 |
| <b>Crown Point</b>         | 60,000         | 1,970,885         | 18.5             | 32.85                 |
| <b>Chollar-Potosi</b>      | 68,635         | 2,233,390         | 20.0             | 32.54                 |
| <b>Gould &amp; Curry</b>   | 2,058          | 47,020            | 0.5              | 22.85                 |
| <b>Savage</b>              | 49,746         | 1,045,487         | 9.8              | 21.02                 |
| <b>Segmented Belcher</b>   | 3,699          | 71,167            | 0.7              | 19.24                 |
| <b>Hale &amp; Norcross</b> | 54,123         | 947,701           | 8.9              | 17.51                 |
| <b>Kentuck</b>             | 9,183          | 140,070           | 1.3              | 15.25                 |
| <b>American</b>            | 2,233          | 32,117            | 0.3              | 14.38                 |

<sup>1</sup> "Biennial Report of the State Mineralogist of the State Of Nevada, for the Years 1871 and 1872," in *Appendix to Senate Journal*, 6<sup>th</sup> Legislative Session, 1873, 131-132.

<sup>2</sup> "Biennial Report of the Controller of the State of Nevada for the Fifth and Sixth Fiscal Years 1869 and 1870," in *Senate Journal and Appendix*, 5<sup>th</sup> Legislative Session, 1871, 56-57 (1870); "Report of the Controller...1872 and 1871," in *Appendix to Senate Journal*, 6<sup>th</sup> Legislative Session, 1873, 204 (1870); and "Report of the Controller...1872 and 1871," in *Appendix to Senate Journal*, 6<sup>th</sup> Legislative Session, 1873, 206-220 (1871).

|                                |                |                     |               |                |
|--------------------------------|----------------|---------------------|---------------|----------------|
| <b>Empire</b>                  | 8,701          | 123,505             | 1.2           | 14.19          |
| <b>Union Mill &amp; Mining</b> | 2,500          | 34,828              | 0.3           | 13.93          |
| <b>Lady Bryan</b>              | 800            | 10,804              | 0.1           | 13.51          |
| <b>Caledonia</b>               | 16,614         | 212,773             | 2.0           | 12.81          |
| <b>Gold Hill Quartz</b>        | 74             | 887                 | 0.0           | 11.99          |
| <b>Overman</b>                 | 9,591          | 108,241             | 1.0           | 11.29          |
| <b>Parke &amp; Bowie</b>       | 45,609         | 509,934             | 4.8           | 11.18          |
| <b>Succor</b>                  | 12,700         | 140,94              | 1.3           | 11.10          |
| <b>J. L. Webster</b>           | 183            | 1,893               | 0.0           | 10.34          |
| <b>J. L. Rogers</b>            | 262            | 2,593               | 0.0           | 9.90           |
| <b>Midas</b>                   | 680            | 6,120               | 0.1           | 9.00           |
| <b>Imperial</b>                | 2,651          | 23,838              | 0.2           | 8.99           |
| <b>Sierra Nevada</b>           | 18,294         | 147,117             | 1.4           | 8.04           |
| <b>S. N. Jennings</b>          | 116            | 906                 | 0.0           | 7.81           |
| <b>Hartford</b>                | 2,492          | 19,147              | 0.2           | 7.68           |
| <b>Luzerne</b>                 | 7,238          | 37,807              | 0.4           | 5.22           |
| <b>Calculated Totals</b>       | <b>444,241</b> | <b>\$10,644,705</b> | <b>Mean</b>   | <b>\$23.96</b> |
| <b>Recorded Totals</b>         | <b>444,553</b> | <b>\$10,644,704</b> | <b>Median</b> | <b>\$13.16</b> |

Sources: See footnote 1. The Mineralogist’s Report contained ton, pounds and value for each mine each quarter, 1871. Ranking by yield per ton. Percentage rounding to one-tenth reduces some figures to zero.

In compiling his list of producing mines in 1871 the State Mineralogist consulted

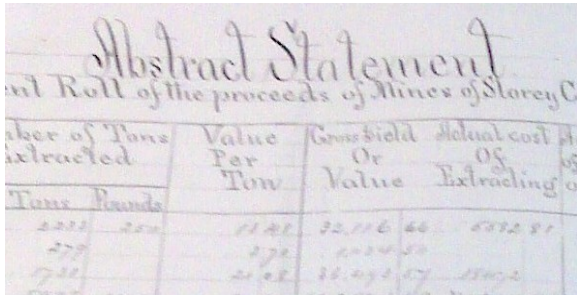


Illustration 1: Section, Abstract Statement

the county records, as had other commentators in the past. (Since his Report was prepared before the 1875 fire, he could have had access to the Story County tax rolls.) In accord with the new net-proceeds bullion tax (approved 28 February 1871) all mine proceeds were taxed. In the past yields below \$20 per ton could be exempted from taxes. The new more broadly-based tax, as reported by the

Mineralogists contained 26 names of mines producing bullion or owners of billion. Many of names of the mines are familiar. The average yield per ton was just shy of \$24, but only four mines had output that exceeded the average. Eighty-five percent of the mines

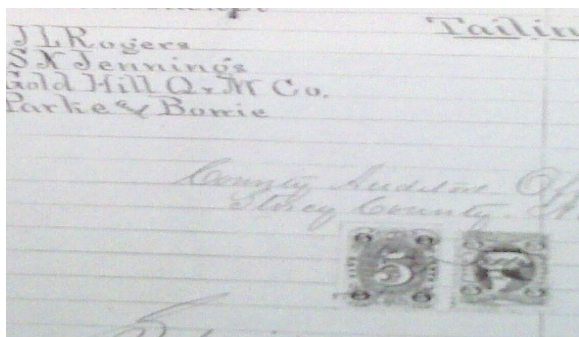


Illustration 2: Section, Abstract Statement

failed to reach the average. Since the four companies that exceeded the average accounted for 76 percent of the bullion, their per-ton yields had an inordinate effect on the overall average. If the median were used as a measure of the yield, the figure would only be \$13 per ton, slightly more than half the value of the mean. Some prominent companies from the 1860s fell below the calculated mean: Gould & Curry, Savage, Hale &

Norcross, Kentuck, Gold Hill Quartz, Overman and Imperial. The most interesting

statistics from this much more inclusive list concern per-ton yields. The five largest producers from 1866 through 1869 were Savage, Yellow Jacket, Chollar Potosi, Kentuck and Hale & Norcross, and they accounted for about two-thirds of the bullion output. In 1871 the five top producers by total value (Column 3, Figure 1) were Chollar Potosi, Crown Point, Yellow Jacket, Belcher and Savage with 76 percent of the total. Chollar Potosi had been the ranking producer in 1870 on the basis of incomplete data, and it remained in that position in 1871, although its share had fallen from a third to a fifth. Its share would continue to fall throughout the first half of the 1870s. Similarly Yellow Jacket and Savage would begin their decline as well in the early 1870s. Belcher, which had no more than a fraction of a percent of the bullion reported in the second half of the 1860s, would jump into fourth place with 11 percent (\$1.2 million) and Crown Point, which had about 8 percent of the total bullion from 1866 through 1869 and ranked sixth, reported 19 percent (\$2 million) of the total bullion and ranked second in 1871.<sup>3</sup>

The mine-by-mine accounting is incomplete for 1871 because the October 1875 fire destroyed the basic documentation and only one Abstract Statement (submitted to the state by the Story County Assessor) has been found. The Mineralogists Report added bullion production mine-by-mine for all four quarters but only in tonnage and value. Other data contained in the net-proceeds tax documentation is missing except for the first quarter. Since more and more of the analysis of the Comstock from 1871 onward will be based on a reading of the net-proceeds tax rolls kept by the Story County Assessor's Office and submitted to the state in the form of the Abstract Statements, it will be useful now to look more closely at the categories of data collected and what these data actually reveal about the mines and mills on the Comstock.<sup>4</sup> The first extant Abstract for Story County covered January-March, 1871, the initial quarter after the implementation of the new tax law.<sup>5</sup> From January to March, 1871, 19 "Owners" registered their bullion with the county assessor. Four of these were designated as "tailings" operations, although they paid the same tax as the mining operations. The total ore for the quarter was 116,000 tons (Mineralogist reported slightly less) with a bullion value of \$2.6 million. This represented about a quarter of the tonnage for the year but more than a third of the bullion. The per-ton yield was \$22 with the lowest from Belcher - \$3.70 per ton on only 279 tons - and the highest from Chollar Potosi - \$36.46 per on more than 24,000 tons.<sup>6</sup> Tailings accounted for 8 percent of the total ore with per-ton averages between \$8 and \$12, far below the quarterly average. One mill, Parke & Bowie, accounted for 85 percent of the total tailings. Total costs for extraction and reduction (tailings mills were exempted from these

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<sup>3</sup> Smith reported two sets of production figures: From James Wheeler's report (526-536) by company supplemented by data from county assessment rolls he reported \$8.1 million in bullion. In another place he reported a total of \$9.6 million in bullion when broken down by gold and silver. See Smith, Binder 1, NC 229, Special Collections, Library, University of Nevada, Reno, a part of the Tabular Statement previously noted.

<sup>4</sup> The 1871 law spelled out the information that all county assessors had to collect and submit, and in Story County the ledgers in which the information was entered followed the guidelines almost exactly. See "An Act providing for the taxation of the net proceeds of mines," approved February 28, 1871, in *Laws of Nevada...*, 2:225-228, especially 226.

<sup>5</sup> The foregoing discussion will be drawn from document entitled "Abstract Statement From the Quarterly Assessment Roll of the proceeds of mines of Story County for the Quarter Ending March 31<sup>st</sup> 1871," Nevada State Archives.

<sup>6</sup> Chollar Potosi had two entries: one of 20,897 tons at \$39.25 per ton and another of 3,150 tons at \$17.89.

provisions), which mine owners were required to declare, reached \$1.9 million, or about three-quarters of the return in bullion. In first official quarter under the new 1871 law 13 operations reported costs that exceeded yields on a per-ton basis. The most severe disparity involved one of the oldest Comstock companies, Gould & Curry. Its cost per ton had reached \$52 while its yield per ton was \$20. It was not the major player that it once was, however, because its 1,713 tons represented 1.5 percent of the total tonnage. The other mines with operations in the red had losses (costs exceeding receipts) that ranged from a few cents to \$9 per ton. Mines not in the red had operating profits (receipts exceeding costs) in the range of 50 cents to \$22 per ton. Chollar Potosi, the leading producer, scored the greatest return. Its reported total costs were \$398,000: \$106,000 or \$4 per ton in extraction costs and \$291,000 or \$12 per ton in reduction costs. That meant the company having spent under \$17 per ton for a return of over \$36 per ton enjoyed an operating profit of \$19 per ton. No other operation matched the performance of Chollar Potosi.<sup>7</sup> A gross operating profit for all the operations of \$700,000 or about \$6 per ton worked was not significant and would have to improve if the Comstock was to recover fully. In the first quarter there was no sign that Belcher and Crown Point, which would ultimately lead that recovery, were poised to do so.

**FIGURE 2**  
**BULLION OWNERSHIP 1872**

| <b>BULLION OWNER</b>            | <b>Tonnage</b> | <b>Value (\$)</b> | <b>Share (%)</b> | <b>Yield/Ton(\$)</b> |
|---------------------------------|----------------|-------------------|------------------|----------------------|
| <b>Belcher</b>                  | 83,195         | \$4,794,659       | 38.0             | \$57.63              |
| <b>Crown Point</b>              | 110,762        | 4,598,850         | 36.4             | 41.52                |
| <b>Yellow Jacket</b>            | 6,025          | 148,551           | 1.2              | 24.66                |
| <b>Woodville</b>                | 1,152          | 24,675            | 0.2              | 21.42                |
| <b>Chollar Potosi</b>           | 44,350         | 752,011           | 6.0              | 16.96                |
| <b>McKenzie, James</b>          | 140            | 2,338             | 0.0              | 16.70                |
| <b>Hale &amp; Norcross</b>      | 38,065         | 617,325           | 4.9              | 16.22                |
| <b>Empire</b>                   | 11,248         | 177,379           | 1.4              | 15.77                |
| <b>Savage</b>                   | 53,083         | 811,867           | 6.4              | 15.29                |
| <b>Kentuck</b>                  | 11,138         | 140,848           | 1.1              | 12.65                |
| <b>Elholm</b>                   | 540            | 6,325             | 0.1              | 11.71                |
| <b>Midas (Cook &amp; Geyer)</b> | 583            | 6,482             | 0.1              | 11.12                |
| <b>Parke &amp; Bowie</b>        | 34,460         | 335,395           | 2.7              | 9.73                 |
| <b>Succor</b>                   | 2,000          | 17,000            | 0.1              | 8.50                 |
| <b>Rogers, J. L.</b>            | 775            | 6,283             | 0.0              | 8.11                 |
| <b>Gold Hill Q</b>              | 750            | 6,061             | 0.0              | 8.08                 |
| <b>Sierra Nevada</b>            | 18,380         | 122,576           | 1.0              | 6.67                 |
| <b>Luzerne</b>                  | 600            | 3,000             | 0.0              | 5.00                 |
| <b>Silver Hill</b>              | 3,458          | 17,046            | 0.1              | 4.93                 |
| <b>Stevenson</b>                | 1,884          | 8,478             | 0.1              | 4.50                 |
| <b>Challenge</b>                | 380            | 1,125             | 0.0              | 2.96                 |
| <b>Union Mill &amp; Mining</b>  | 0              | 32,000            |                  |                      |

<sup>7</sup> Tailings operations did not report any extraction costs since they bought ores that they then processed.

|                          |                |                     |             |                |
|--------------------------|----------------|---------------------|-------------|----------------|
| <b>Calculated Totals</b> | <b>422,968</b> | <b>\$12,630,274</b> | <b>99.7</b> | <b>\$29.86</b> |
|--------------------------|----------------|---------------------|-------------|----------------|

Sources: From Abstract Statements submitted to State Controller 1<sup>st</sup>, 3<sup>rd</sup> & 4<sup>th</sup> quarters by Storey County, Nevada State Archives and from the Mineralogist's Report for 2<sup>nd</sup> Quarter, see footnote 1. The quarters where date from the Abstracts and from the Mineralogist's Report overlap, the entries and totals do not always agree. With the original ledgers, lost in the 1875 fire, there is no way to make corrections. In some cases the problems arise because the arithmetic is wrong. Ranking by yield per ton. Percentage rounding to one-tenth reduces some figures to zero.

The rising output that began in 1871 continued into 1872. It added another 19 percent reaching \$12.6 million in bullion. Tonnage also rose by almost the same percentage to 423,000. Per-ton yields remained constant at about \$30.<sup>8</sup> About two-dozen operations (mines or tailings mills) can be identified in the second year since the net-proceeds tax took effect. Belcher and Crown Point ranked first and second in total value and value per ton. Belcher produced 83,000 tons that yielded \$4.8 million in bullion or \$58 per ton while Crown Point produced 111,000 tons worth \$4.6 million or \$42 per ton. In combination they accounted for 75 percent of the total. The other major producers by total value – Savage (\$812,000), Chollar Potosi (\$752,012) and Hale & Norcross (\$617,325) - were far behind with yields per ton that were in the mid-teens, well below the mean for all producers in 1872 and even below the standard break-even of \$20 per ton. They combined for about 17 percent of the total. The top five firms had more than 90 percent of the ore, further evidence of the growing concentration of the mining business as the depths increased.

The discoveries at Belcher and Crown Point had, as one might expect, a direct and positive effect on the stock market. Smith wrote that the “Boom of 1872” was manifest in the fact that 150 mining stocks listed on the San Francisco Exchange moved up in the first half of the year from a value of under \$20 million to more than \$80 million, and some of these stocks were not even located on the Comstock. Stock in Belcher and Crown Point in particular rose from several hundred dollars per share to \$1,500 to \$2,000 per share. While the bonanzas at Belcher and Crown Point were real, the reactions of investors and speculators went beyond the pale. Other Comstock mines began to intimate and in one or two cases to promote discoveries of ores between the 1,200- and 1,500-foot levels where the holdings of Belcher and Crown Point lay. Another bonanza – even greater than Belcher and Crown Point - will be launched at these levels in Consolidated Virginia and California on the northern end of the Lode within a year or two, but in between the two groups of mines, on the north and the south, except for a small patch in Hale and Norcross, no other exploitable discoveries would ever be made. Like every other “vortex of speculation” a correction in the market took hold. High-flying stocks plummeted during the second half of 1872. The prices of Belcher and Crown Point also tumbled, but this was more in response to a ten-fold increase in Belcher shares and an eight-fold increase in Crown Point shares, issued by the companies' Boards, than to

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<sup>8</sup> “Report of the Controller...1871 and 1872” in *Appendix to Senate Journal*, 6<sup>th</sup> Legislative Session, 1873, 92-103 (1872) and “Annual Report of the Controller...[1873 and 1874]” *Appendix to Senate And Assembly Journal*, 7<sup>th</sup> Legislative Session, 1875, 82 (1872). Smith's notes in Binder 1, NC 229, Special Collections, Library, University of Nevada, Reno, contained an 1872 figure of \$12.1 million, and Lord in *Comstock Mining and Miners* (416) had figures that ranged from \$12.2 million to \$13.6.

market conditions. Both mines continued to produce and to pay dividends as the rest of the Comstock struggled.<sup>9</sup>

**FIGURE 3**  
**BELCHER MINE**



A year after the rejuvenation of the Comstock had begun in 1871 the figures underscored why a new spirit prevailed. In the first quarter of 1872 the new leading producers were Belcher and Crown Point. Belcher hoisted nearly 21,000 tons worth \$1.1 million and Crown Point 19,000 tons worth slightly less than \$1 million. The per-ton yields were \$52 and \$54 respectively. Chollar Potosi, the leading producer the year before, hoisted only 7,800 tons worth about \$165,000 or \$19 per ton. Total tonnage actually fell by 7 percent to 98,000 but bullion value rose by 11 percent to \$2.9 million. The average per ton had risen from \$23 to \$30. It was the richness of the ores that dispelled the gloom of the past few years, even though there was little evidence that yet that high-yielding ores resided at these levels across the Lode. At this stage the emerging bonanza was narrowly confined to the southern end of the Comstock Lode. On the northern end not only had Chollar Potosi slipped significantly (nearly a 45 percent loss in yield) but Savage also saw its yields dip further to about \$18 per ton. The higher quarterly average in per-ton yields stemmed directly from the rich ores being hoisted at Belcher and Crown Point. Without them the average receipts for the remaining operations fell to \$17. Total expenditures were reported to be \$2.2 million or \$22 per ton, about the same value as the first quarter of 1871. Costs per ton at Belcher reached \$36 per ton and were much higher than the average, while those at Crown Point were about the same as

<sup>9</sup> See Smith's notes in Binder 1, NC 229, Special Collections, Library, University of Nevada, Reno for company-by-company records and *The Comstock Lode*, 131-133, for a discussion of the "Boom of 1872". For additional comments see Lord, *Comstock Mining and Miners*, chapter 15.

the average. Despite their high costs on a per-ton basis these companies still had very large operating surpluses: Belcher's costs amounted to 69 percent of the receipts while Crown Point's were only 46 percent. As a result of these differences, Crown Point's profits were nearly twice those at Belcher. The remaining companies as a group had no operating surpluses and actually spent 8 percent more money than they received. The losses were both small and large from 26 cents to \$20 per ton. Yellow Jacket, another former prominent mine in the vicinity of Belcher and Crown Point, had the highest cost per ton at nearly twice its revenue per ton. The production leader of the previous year, Chollar Potosi, managed to squeeze out a gross profit of about 9 percent: bullion receipts amounted to \$21 per ton and operational costs to more than \$19 per ton or between \$1 and \$2 per ton. Two other large producers from the late 1860s, Hale & Norcross and Savage, had expenses that exceeded receipts by 22 and 24 percent respectively. Of the 10 profitable operations 7 reported profits of a 33 cents to \$1.60 per ton. In terms of revenues and costs based on declarations by owners before the county assessor, the overall health of the Comstock was suspect.<sup>10</sup>

By the third and fourth quarters of 1872 the pattern observed in the first quarter had undergone some changes. Belcher and Crown Point continued to be the leaders. In the final six months Belcher hoisted 41,000 tons or 20,000 per quarter worth \$2.5 million at an even higher per-ton yield of \$63 compared to the first quarter. By contrast Crown Point raised 57,000 tons or 18,000 per quarter worth \$1.8 million at a considerably lower yield of \$32 a ton. Total output for the first two quarter was 206,000 tons and was worth \$5.8 million with a per-ton yield of \$28. Since the per-ton yield for the first quarter alone was \$30 the lower per-ton yields of the second quarter had pulled down the average for the first half of the year. Per-ton ratios for the rest of the companies during the second quarter were comparable to the first quarter at about \$13 and \$14 per ton. Even with higher yields at Belcher, the smaller of the two bonanza sites, the decline at Crown Point was significant with respect to overall yields. Moreover, the bonanzas at Belcher and Crown Point diverted attention from the fact that the rest of the Comstock was producing little profitable ore, and that would remain the case until the greatest of all bonanzas began a year or so later at Consolidated Virginia. In the third and fourth quarters Crown Point extracted 30 percent more ore than Belcher, but the latter had yields that were almost twice as great as the former had. The ore deposits at Crown Point were not rising or holding steady. Other formerly prominent mines - Chollar Potosi, Hale & Norcross and Savage - saw their luster tarnish further. Their yields were sub-par (between \$14 and \$18 per ton) when compared against all the mines and slightly better than average when the list excluded Belcher and Crown Point. A substantial contribution in tailings appeared in the fourth quarter under the Parke & Bowie Company with 14,000 tons worth \$9.50 per ton or \$132,000. In the third quarter overall costs rose to 90 percent of the receipts and then in the fourth quarter fell back to 77 percent. Both figures were higher than the first quarter. Costs as a percentage of bullion values at the two leading producers in the third and fourth quarters compared to the first quarter moved in opposite directions. At Belcher they dropped from 71 percent to 48 percent but at Crown Point they ballooned

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<sup>10</sup> The data for the first, third and fourth quarters of 1872 appear in Abstracts Statements, Nevada State Archives. In the first quarter two different entries appear for Chollar Potosi and Gold Hill Quartz Mining. The two sets of figures have been combined into a single set for each operation even though the separate entries may have represented what individual owners of the mining properties had declared.

from 44 percent to 78 percent. There is no obvious explanation for this switch. More than likely it was an indication that the grade of ore had changed. At the other major producers – Chollar Potosi, Hale & Norcross and Savage - in those final two quarters costs continued to outpace receipts. At Savage the costs were 72 percent higher than revenues and at Chollar Potosi and Hale & Norcross they were 30 percent higher. Of the 16 companies with taxable bullion in the last half of 1872 eight had expenditures that exceeded receipts with the worst performance by Yellow Jacket, which spent \$111,000 to retrieve and process \$45,000 worth of ore.<sup>11</sup>

As the Comstock's second decade opened, the prospects were mixed. The shared bonanza at Belcher and Crown Point raised the productivity bar significantly. No other companies had ever enjoyed such high annual receipts (in dollars). For the moment, however, no other companies made similar discoveries. The Comstock was in fact slipping into a sea of red ink. In spite of that the up-tick in production from 1870 to 1871 and then from 1871 to 1872 emboldened the promoters and speculators in San Francisco. Certainly after a decade of probing hundreds of feet below the surface Comstock miners had a clearer understanding of how the Lode was formed. In the early years the expectation that increasingly richer ores would be found at increasingly greater depths was openly dismissed. By the second decade, however, the psychology had changed completely. Rich ores had been located between the 500- and the 1,000-foot levels and now between the 1,000- and the 1,500-foot levels. What miners failed to come to terms with readily, not only on the Comstock but also in other rich mining regions, was that discoveries at given depths could be scattered and limited. As Eliot Lord observed: "It is a curious fact in the history of mining that the opening up of a bonanza in any part of a district generally causes a rise in the market value of all mines in that district." Thus, the Belcher-Crown Point discovery below the 1,000-foot level launched a flurry of promotions and explorations among the other companies at these depths. "In the case of a lode like the Comstock there was no reason why the development of an ore-body in the section owned by the Crown Point company should cause the section of the Ophir Company [on the other end of the lode] to become more valuable...." Of course, as hindsight showed and Lord recalled: "There was no likelihood that the Crown Point ore-body would extend more than a few hundred feet north of the boundary line of the mine, and yet it was such an encouraging indication of the probable richness of the unexplored fissure that the quoted value of nearly all the mines on the lode bounded upward as soon as the importance of the new development was generally realized."<sup>12</sup> Under these circumstances the upward shift in values of mining properties was fraudulent, more the result of manipulation by speculators and owners than of concrete discoveries. One of San Francisco's most notorious and successful "stock-jobbers", Alvinza Haywood, the new proprietor along with J. P. Jones of Crown Point, took advantage of the emerging euphoria to fabricate a discovery at Savage early in 1872 to boost the price of the stock as well as the senatorial candidacy of Jones. Savage like Crown Point had belonged to the stable of mining properties owned by William Sharon. Jones had in fact been Sharon's superintendent at Crown Point. Crown Point's bonanza was real. Savage was a fraud

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<sup>11</sup> See the preceding footnote. Grant Smith's contain full-year data for some of the firms discussed in the text in Binder 1, NC 229, Special Collections, Library, University of Nevada, Reno.

<sup>12</sup> Lord, *Comstock Mining and Miners*, 284-285.

orchestrated by Haywood, who gave an order to buy (“unlimited”) shares of Savage stock, then at \$62 per share. Did this mean that Savage was in bonanza? In fact it had, according to Lord, cut into a small body of rich ore but nothing more. Still Haywood ordered the miners be confined, an old and often discredited practice to conceal the truth, and denied the public, in particular the press, admittance to the mine. Several mining properties to the north including Ophir possessed little value but pursued similar strategies. Eventually the ruse was revealed through the efforts of disgruntled stockholders, jealous owners and nosy journalists, and while the bonanzas at Belcher and Crown Point stood the test of time and repaid their investors handsomely Savage and Ophir fell into further disrepair. Savage’s performance for the first quarter of 1872 was hardly noteworthy. Its ore earned less than \$18 per ton, and its costs were at least \$50,000 greater than its receipts. The San Francisco *Bulletin* reported in its 7 May edition that despite a revival of interest in Comstock mining only two mines, Belcher and Crown Point, were paying dividends at the time. (Equally telling was the fact that these two mines were among four – the two others were in Pinochet, Nevada - out of 150 mining claims across the West that could pay dividends). Their stocks were also greatly overvalued and fell with the rest. On 19 May the San Francisco Chronicle declared that the parties connected with Savage were to blame for launching a spiral of speculation that left San Francisco in financial shambles. This was not the first time nor would it be the last time the Exchange and the Comstock were out of step with each other. Stock prices seldom reflected the worth of the mines or the health of the industry, and only a few mines paid dividends in any given year.<sup>13</sup> In fact, though, the bonanza at Belcher and Crown Point, irrespective of the stock speculators, acted as a spur to others who launched new explorations at levels similar to where the bonanza had occurred.

**FIGURE 3**  
**BULLION OWNERSHIP 1873**

| <b>Bullion Owners</b>      | <b>Tons</b> | <b>Value (\$)</b> | <b>Share (%)</b> | <b>Yield per Ton (\$)</b> |
|----------------------------|-------------|-------------------|------------------|---------------------------|
| <b>Belcher</b>             | 154,664     | \$10,779,171      | 49.1             | 69.69                     |
| <b>Crown Point</b>         | 142,267     | 8,317,285         | 37.9             | 58.46                     |
| <b>Con sol. Virginia</b>   | 11,297      | 644,582           | 2.9              | 57.06                     |
| <b>Challenge</b>           | 113         | 3,425             | 0.0              | 30.31                     |
| <b>Imperial</b>            | 424         | 8,343             | 0.1              | 19.68                     |
| <b>Hale &amp; Norcross</b> | 31,734      | 593,600           | 2.7              | 18.71                     |
| <b>Woodville</b>           | 2,878       | 51,442            | 0.2              | 17.87                     |
| <b>Chollar Potosi</b>      | 33,234      | 566,968           | 2.6              | 17.06                     |
| <b>Savage</b>              | 7,649       | 94,576            | 0.4              | 12.36                     |
| <b>Empire</b>              | 11,680      | 142,399           | 0.6              | 12.19                     |
| <b>Caledonia</b>           | 10,344      | 124,255           | 0.6              | 12.01                     |
| <b>Gould &amp; Curry</b>   | 2,956       | 35,217            | 0.2              | 11.91                     |
| <b>Jennings, George</b>    | 300         | 3,325             | 0.0              | 11.08                     |

<sup>13</sup> Both Smith (*The Comstock Lode*) and Lord (*Comstock Mining and Miners*) wrote about the rise and fall of Comstock mining in 1872, and while their basic recording of the events and personalities was similar, they differed in some details and emphases. Smith was relatively brief, 132-133, with a focus on the contest between Haywood-Jones and Sharon. Lord devoted Chapter 15, “A Fortunate Deliverance,” to the upswing of the early 1870s with more details about mining operations and stock transactions during 1872.

|                                |                |                     |              |              |
|--------------------------------|----------------|---------------------|--------------|--------------|
| <b>Cousins, Charles</b>        | 129            | 1,403               | 0.0          | 10.88        |
| <b>Silver Hill</b>             | 10,284         | 107,854             | 0.5          | 10.49        |
| <b>Park &amp; Bowie</b>        | 28,710         | 253,344             | 1.2          | 8.82         |
| <b>Justice</b>                 | 6,328          | 53,293              | 0.2          | 8.42         |
| <b>Trophy</b>                  | 240            | 1,948               | 0.0          | 8.12         |
| <b>Occidental</b>              | 1,478          | 10,752              | 0.1          | 7.27         |
| <b>Sierra Nevada</b>           | 20,731         | 132,365             | 0.6          | 6.38         |
| <b>Stevenson, C. C.</b>        | 350            | 2,100               | 0.0          | 6.00         |
| <b>Succor</b>                  | 1,500          | 4,500               | 0.0          | 3.00         |
| <b>Union Mill &amp; Mining</b> | 8,300          | 7,975               | 0.1          | 0.96         |
| <b>Calculated Totals</b>       | <b>486,090</b> | <b>\$21,940,122</b> | <b>100.0</b> |              |
| <b>Recorded Totals</b>         | <b>486,598</b> | <b>\$21,940,124</b> |              |              |
| <b>Mean</b>                    |                |                     |              | <b>45.14</b> |
| <b>Median</b>                  |                |                     |              | <b>11.96</b> |

Sources: See footnote 14. Percentage rounding to one-tenth reduces some figures to zero.

The full potential of the discoveries at Belcher and Crown Point was revealed in 1873. The biennial reports of the State Mineralogist and of the State Controller submitted to the 1875 Nevada Legislature are the main sources for production data. Story County raised 487,000 tons of ore for what constituted a decline of 7 percent from 1872. The yield, however, was the highest yet on record at \$45 per ton for a total bullion value of \$22 million, up 79 percent from the previous year. The richness of Belcher (\$70 per ton) and Crown Point (\$58 per ton) was now fully manifest. Nearly half of the bullion came from the ores of Belcher, and another 38 percent from the ores of Crown Point. That left less than 13 percent from the remaining 20 mine and mill owners who declared taxable ore. The top five producers – Belcher, Crown Point, Consolidated Virginia, Hale & Norcross and Chollar Potosi – combined for 95 percent of the total bullion in dollars, the highest such concentration recorded to date for the Comstock. Three of the top five, however, only accounted for 8 percent against 87 percent of the total for the two leading producers. Seventeen of the 23 owners reported less than 1 percent each of the total bullion. The aforementioned 17 mine-and-mill owners presented a dismal performance of \$6 per ton. There is little doubt that the year of 1873 belonged to Belcher and Crown Point without which the Comstock would have been on the verge of collapse and abandonment. Even old standbys like Hale & Norcross, Chollar Potosi, Savage and Gould & Curry had yields in the teens. With hindsight we know what is ahead, the first indication of which showed up in the fourth quarter. Consolidated Virginia, the new venture of John Mackinaw, James Fair *et al.* showed up in the assessment rolls with only 11,000 tons (2 percent of the total), but it earned about \$57 per ton, just slightly below Crown Point's yield. Mackinaw and Fair were in the edge of the biggest and richest ore vein in the history of the Comstock at approximately the same level (1,200 to 1,600 feet) as the Belcher and Crown Point bonanzas.<sup>14</sup>

<sup>14</sup> The 1873 data from "Biennial Report of the State Mineralogist...1873 and 1874" in *Appendix to the Journals of Senate and Assembly*, 7<sup>th</sup> Legislative Session, 1875, 156-157. Grant Smith also collected data for 1873, presumably as noted above from Wheeler's treatise. It is far less complete than the Mineralogist's

The 1873 Mineralogist's Report was one of the most detailed that Henry Whitehall, who served longest tenure from 1871 through 1878, had ever prepared. All the Nevada counties received attention in his report, but Story County received the most. His survey was compiled from visits and interviews plus printed materials such as annual reports to company stockholders. Tables and charts, drawn mainly from the annual reports, gave precise details on receipts and expenses for some of the largest operations. Because the Mineralogist's Report covered the two-year period 1873-1874 it did not always draw a distinction between events and activities in 1873 as opposed to 1874. Moreover, since some of his information came from annual reports and since some of the annual reports followed fiscal years that differed from calendar years, underground operations such as uncovering new ore bodies or extending drifts, cross-cuts and winzes were not precisely tagged in terms of the calendar. One unambiguous message to emerge from the survey, however, was that companies were undertaking more and more work at the levels and in the directions relating to the bonanzas at Belcher and Crown Point. Comstock miners had come to believe that even greater riches lay deeper in the Lode, and the success at Belcher and Crown Point plus what was known about work at Consolidated Virginia confirmed their expectations and justified their efforts.<sup>15</sup> The optimists and the charlatans were not deterred by the fact that no discoveries that could be portrayed as bonanzas along the Lode below the 1,000-foot level in 1873 or 1874 except for the three mines noted above. And yet companies were investing in extensive explorations between the 1,000- and 1,500-foot levels between the footwall and the hanging wall as well as pushing below the 1,500-foot level to the 2,000-foot level. Considerable work was underway in Ophir, a much troubled mine since the mid-1860s, and several promising ore bodies were alluded to between the 1,300- and the 1,500-foot levels in its 1873-1874 annual report. Very little came of these discoveries, and while Ophir will remain an active operation, it will be so because it will mainly serve as a conduit to the California mine on its southern border. California, not Ophir, will share the body of ore that was stimulating so much interest in Consolidated Virginia.<sup>16</sup> Summaries of activities in other mines should have moderated the enthusiasm. The President of Gould & Curry declared that although its operations "have been prosecuted without interruption, no pay body of ore has been developed, so that to provide for current expenses, and to meet outlays for such improvements..., recourse has necessarily been had to assessments [to raise capital]." Still he was optimistic, as perhaps company presidents had to be. The mine had at least 11 stations, the deepest being at the 1,600-foot level, and all it had found was vein matter that might yield between \$1 and \$9 per ton or virtual barrenness.<sup>17</sup> Gould & Curry's southern neighbor, Savage, had sunk one of the deepest shaft on the Comstock, to 2,081 feet, and had purchased new equipment to rise the shaft and ventilate the mine,

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report.

<sup>15</sup> The reader is reminded here to distinguish between the actual depth of a mine and the level that it had reached. The level was measured from the high point in Virginia City (ca. Ophir), and since the Lode sloped north to south by 400 to 500 feet between the northern end (Virginia City) and the southern end (Gold Hill) the 2,000-foot level at Ophir may actually approximate 2,000 feet, but the 2,000-foot level at Belcher may only be 1,500 to 1,600 feet underground.

<sup>16</sup> "Biennial Report of the State Mineralogist...1873 and 1874" in *Appendix to Journals of Senate and Assembly*, 7<sup>th</sup> Legislative Session, 1875, 101-102.

<sup>17</sup> "Biennial Report of the State Mineralogist...1873 and 1874" in *Appendix to Journals of Senate and Assembly*, 7<sup>th</sup> Legislative Session, 1875, 125-126.

but tellingly the sections that should have yielded ores, as quoted by the Mineralogist from a report by the company's superintendent, produced only meager results.<sup>18</sup> The assessments revealed that tonnage was approximately 7,000 with a yield of about \$14 per ton<sup>19</sup>. On its southern border Savage's neighbor, Hale & Norcross, had dropped a shaft to the 2,100-foot level, was continuing to construct (in cooperation with Savage) various connecting tunnels and could not announce any "encouraging results".<sup>20</sup> Further to the south at Chollar Potosi the President wrote that "the present fiscal year has been barren of congratulatory results", and what ore has been extracted came from the old stopes in the upper levels even though the company was spending money to renovate and extend the shaft below 1,200-foot level. Between Chollar Potosi and Crown Point and Belcher in Gold Hill the prospects were not better. According to Imperials President, the "company's ground has been prosecuted vigorously" without finding a "paying body of ore". He maintained the prospects were bright because the vein matter at the 1,850-foot level looked so "strong and well-defined" that it would become paying ore at the 2,000-foot level. It did not, of course.<sup>21</sup> Between Imperial and Crown Point was the ground that once drove the mighty Yellow Jacket. After 18 assessments to raise \$1.9 million (along with dividend payments totaling of \$2.2 million) the mine had nearly reached the 1,800-foot level (actual distance, between 1,300 and 1,400 feet) only to find water instead of ore.<sup>22</sup> One section of his survey Whitehall entitled "Going for the Bottomless Pit". He noted that it was startling to think about how deep the mines had reached and yet how little thought was given to it.<sup>23</sup> In 1873 (and 1874) the barrenness that was being uniformly encountered below the 1,600-foot level was a reality that few entertained seriously. In retrospect it is fairly easy to grasp the futility of these efforts, and yet that approach may actually be a misreading of history. Company presidents and superintendents knew what they had found and they may well have known how vulnerable their forecasts were, but in the long history of mining discoveries, especially bonanzas often led owners of ground adjacent or nearby to make bold predictions. The fact was that miners, even the most skilled, did not know what they would find. Hope (more than fraud or deception perhaps) motivated the mining community until the silver lining was completely destroyed.

Despite the troubling details in the Mineralogist's report on Comstock mining in 1873 the bonanza mines of Belcher and Crown Point and the new bonanza candidate, Consolidated Virginia, helped to forge a countervailing positive attitude. Most of the report was taken up not in discussion of poorly performing mines but of the bonanzas themselves. Belcher and Crown Point together covered 16 pages of Whitehill's survey and included detailed operational and financial data far exceeding anything relating to the

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<sup>18</sup> "Biennial Report of the State Mineralogist...1873 and 1874" in *Appendix to Journals of Senate and Assembly*, 7<sup>th</sup> Legislative Session, 1875, 122-123.

<sup>19</sup> Two sets of numbers exist for Savage, a recorded set and a calculated set.

<sup>20</sup> "Biennial Report of the State Mineralogist...1873 and 1874" in *Appendix to Journals of Senate and Assembly*, 7<sup>th</sup> Legislative Session, 1875, 120-121.

<sup>21</sup> "Biennial Report of the State Mineralogist...1873 and 1874" in *Appendix to Journals of Senate and Assembly*, Legislative Session, 1875, 119-120.

<sup>22</sup> "Biennial Report of the State Mineralogist...1873 and 1874" in *Appendix to Journals of Senate and Assembly*, 7<sup>th</sup> Legislative Session, 1875, 124-125.

<sup>23</sup> "Biennial Report of the State Mineralogist...1873 and 1874" in *Appendix to Journals of Senate and Assembly*, 7<sup>th</sup> Legislative Session, 1875, 123.

other companies. Consolidated Virginia (and California as well since the report covered 1874 when work had begun on that property) also received extensive coverage. From reading these sections plus a section summarizing Baron von Richthofen's geological investigations of nearly a decade earlier would certainly be sufficient to assuage whatever negative outlook might be drawn from the actual state of most Comstock operations. The view of many Comstockians was that the Lode was on the verge of its greatest venture. In a sense that was true, for the bonanzas then underway would be unprecedented. But they were also limited. That was what the activists and pundits were ignoring in the Mineralogist's survey. Indeed rehabilitative efforts at the three (or four) bonanza mines had been so extensive and successful that they obscured negative indicators. At Crown Point, for example, during the fiscal year from May 1873 to May 1874 1,200 feet of drifts, 500 feet of crosscuts, 200 feet of raises and 1,500 feet of winzes were constructed along with retimbering 2,500 feet of drifts. A new hoisting reel 21 feet and 6 inches in diameter was said to be the largest on the West Coast. Its face had a "spiral groove of sufficient capacity to wind a two-inch steel rope to work the mine to a depth of three thousand feet." It was driven by a "pair of twenty by forty-two link-motion engines" and was so strong that it could hoist 12 tons of ore per load. Given the expense of such installations how could one doubt that the ground was rich in ore that simply awaited bigger and better machines? From the financial accounts (to be examined in the next chapter) made available to the Mineralogist, all mining and milling costs came to approximately \$20 or \$21 per ton whereas return in bullion was between \$50 and \$60 per ton. Gross profits were obviously extraordinary for a mine that some had written off as folly. Its neighbor, Belcher, had an equally impressive year. The operational activities were reported with fewer details at Belcher than at Crown Point, although Belcher's finances were described as fully as Crown Point's. The most serious problem was the replacement of the air shaft, which a fire had destroyed the year before. In 1873 the new shaft had reached the 600-foot level (ca 150-200 feet from the surface) and was to connect with an upraise at the 850-foot level. The matter of proper ventilation in Comstock mines continued to baffle miners and engineers, and at Belcher, since the ores were being extracted from levels between 1,400 and 1,900 feet considerably more work had to be done on the air shaft in the coming years. Since air was also needed to run the new Burleigh compressors and drills (considered to be the most efficient on the West Coast), a six-inch pipe had been installed for a distance of 1,400 feet so that it could allow work at the 1,800- and 1,900-foot levels. Belcher like Crown Point reported mining and milling the ores cost between \$20 and \$21 per ton, but its yield in bullion was nearly \$70 per ton. Belcher was proving to be the richer of the two mines in large part because it produced more gold than silver.<sup>24</sup>

As important as Belcher and Crown Point were to the Comstock's emergent recovery, the rehabilitation on the Lode's northern end at Consolidated Virginia and later at California was becoming the headline. It was not lost on the local mining community that the new bonanza was launched at approximately the same level, the 1,200-foot level, as the Lode's southern bonanzas. Belcher-Crown Point and Consolidated Virginia-California became the bookends for what many had hoped and assumed would be a

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<sup>24</sup> Crown Point was discussed in "Biennial Report of the State Mineralogist...1873 and 1874," in *Appendix to Journals of Senate and Assembly*, 7<sup>th</sup> Legislative Session, 1875, 103-112, and Belcher 112-118.

general bonanza from Gold Hill to Virginia City even though the ever widening and deepening explorations along the Lode had yielded few positive results. In his report the Mineralogist excerpted portions of articles found in three regional newspapers – *Territorial Enterprise*, *Gold Hill News*, and *Independent*. In addition he quoted a large part of the annual report by the superintendent, who in this case was one of the owners and a long-time well-known local, James Fair. Some figures on receipts and disbursements were also cited. The enterprise, which Fair, Mackay, James Flood and William O’Brien were building, would become a Comstock behemoth. By the end of 1873 Consolidated Virginia’s main shaft (between E and F Streets) had reached 1,550 feet of which more than 1,000 feet had been sunk in 1872 and 1873. What permitted the rapid expansion of the main shaft was the absence of water. Two nearby mines, Gould & Curry and Ophir, which connected to Consolidated Virginia and its adjoining mine California at the 1,200- through the 1,500-foot levels, had pumps of sufficient size to drain that section of the Comstock. According to Dan DeQuille he first saw the ore body in October 1873 by way of a drift from Gould & Curry’s mine (through Best & Belcher to the south) that traversed the ore body at the 1,200-foot level, although this figure may refer not to the distance from the standard surveyor’s point on the Gould & Curry property but to the distance from the surface of the Consolidated Virginia property probably at the site of the main shaft.<sup>25</sup> In any event within a matter of months drifts were constructed northward from the Gould & Curry side as well as southward from Consolidated Virginia’s main shaft. It was soon apparent that the ore body extended northward into California but not as far as Ophir and it did not extend southward, even though many held out hope that as the explorations continued in an easterly direction toward the hanging wall the ore body would reconstitute itself southward through Gould & Curry and northward to Union Consolidated where the Lode then split. Within Consolidated Virginia’s claim the heart of the ore body was at 1,500 feet below the surface (at 1,636-foot level), and the massive wall of ore rose up to 1,200 feet on an angle and extended northward into California at 1,500 feet but not beyond. It would reach a depth of about 1,650 feet. From the earliest days, even before the discoverers knew its actual dimensions, this was seen as an unprecedented discovery. It not only spread over hundreds of feet in nearly every direction, but it was also of unparalleled purity and richness. It was almost as if the underground in this section of the Lode was an unbounded solid ore mass. Not surprisingly, then, the massiveness of the ore body was matched by the massiveness of the technology and construction required to mine and to mill the ore. Both print journalists and company officials spared no effort to describe the dimensions of the machines and the buildings: a boiler was called “monstrous”, the main shaft with three cages could hoist 1,400 tons daily, the foundation for the shaft engine, which itself weighed 50 tons, was said to contain 450 cubic yards of masonry and to weigh in at 600 tons and the shaft that drove the dozens of stamps or hammers that broke

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<sup>25</sup> The surveyor’s point known as “datum point A” on the surveys by George Becker in the early 1880s was actually higher by about 150 feet (the difference varied depending on where the measurement was made from the surface of Consolidated Virginia’s property). The 1,200-foot-level in the above citation would be about 1,050 feet from the surface. This was probably not where the ore body existed. More than likely the 1,200-foot level referred to distance from the surface and the corresponding surveyor’s distance would be about 1,350 (more precisely 1,336 from Becker’s survey. For how the distances were reported see Lord, *Comstock Mining and Miners*, (311), Smith, *The Comstock Lode*, 158-159 and G. F. Becker and published as *Atlas*, Atlas Sheet 15.

up the ores was 24 inches wide and 160 long. There was nothing modest about the plans drawn up and executed by W. H. Patton, the chief designer and engineer, nor about the expenditure of the hundreds of thousands of dollars needed to build this colossus, and for good reason. The Superintendent's Report referred to the quality and quantity of ore during 1873 as exceeding "in value...any other mine which has ever come under my knowledge or observation." The in-mine assays, which yielded results always several times greater than the actual value of bullion in dollars, from the 1,550-foot level ranged from \$200 to \$800 per ton. In the end at Consolidated Virginia in the last quarter of 1873, when it paid mining-proceeds taxes for the first time, the yield in bullion came in at \$57 per ton, which was less than \$10 below Belcher and more than \$20 above Crown Point for the same quarter. Of course the full scope of the unfolding bonanza remained to be charted, but it was already regarded as equal to and perhaps as superior to anything that had preceded it.<sup>26</sup>

The following year, 1874, will actually serve as a pause in the Comstock's new cycle of bonanzas. Since 1872 Belcher and Crown Point had led the way, and in 1873 Consolidated Virginia joined the bonanza parade, although as Dan DeQuille cautioned in a now famous 29 October 1873 article in the *Territorial Enterprise*: "...a first-class mine is fast being developed in the Consolidated Virginia, but of course we can see into the ore deposit no further than the openings that have been made."<sup>27</sup> The database itself is less ample. The Mineralogist's Report lacked mine-by-mine statistics for the fourth quarter since the taxes were not paid until the first quarter of 1875 when the Legislature was already in session. The next report (1875-1876) did not contain mine-by-mine data as was included in the 1873-1874 Report. The October 1875 fire destroyed the courthouse files, and the only Abstract Statement for 1874 covered the first quarter, some of which appeared in the Mineralogist's Report. The more abbreviated dataset assembled by the State Controller provides the basic information of ore production. The totals for 1874 compared to 1873 revealed that ore tonnage rose about 10 percent to 534,000 tons while bullion value fell slightly by a half of a percent to \$22.5 million. The average yield per ton was \$42 in 1874 compared to \$47 in 1873. Even with incomplete data, however, some patterns can be discerned. Belcher and Crown Point remained the leaders in spite of the excitement at Consolidated Virginia. In the first three quarters Belcher reported more than 127,000 tons worth \$7.7 million or \$60 per ton, well above the average yield. Crown Point had less impressive figures at 122,000 worth \$5.1 million or \$42 per ton, and its yield fell below the average. What helped to boost the average yield per ton was not only the high figure for Belcher (with 33 percent of the tonnage and 46 percent of the value) but also the high figure for Consolidated Virginia (with 17 percent of the tonnage and 19 percent of the value) Against standards used by the mining companies as to how big a

<sup>26</sup> "Biennial Report of the State Mineralogist...1873 and 1874" in *Appendix to the Journals of the Senate and the Assembly*, 7<sup>th</sup> Legislative Session, 1875, 130-138, 156-157. Tonnage and bullion figures from the county assessment rolls that appear in the Mineralogist's Report (156-157) were slightly lower than the tonnage and bullion figures that appeared in the company ledgers. The per-ton yield in dollars may have been as high as \$59. Bullion Records, Consolidated Virginia Mining Company, Oct 1873-Nov 1875, NC99/1/3/2, Special Collections, Library, University of Nevada, Reno..

<sup>27</sup> According to Grant Smith (*The Comstock Lode*, 154) the article with this quotation appeared in the 27 October issue of the *Daily Territorial Enterprise* under the Headline "Consolidated Virginia—A Look Through the Long Forbidden Lower Levels—The Ore Bodies and Breasts, Winzes and Drifts—Rich Developments."

yield was necessary on average to guarantee a profit (between \$20 and \$30 per ton) Crown Point's figure was still significantly above the mark.<sup>28</sup>

When the first three quarters are disaggregated from the aforementioned totals, a pattern emerges that will further alter the structure of Comstock mining. The first observation is that only 13 bullion owners appeared on the list – 11 mines and 2 tailings mills. This was the smallest number in a decade. Seven of the mines had bullion registrations in all three quarters while the remaining four missed at least one quarter. The number of operating mines with taxable bullion was shrinking and would remain on the low side of a range of one to two dozen for many years ahead. The second observation is that the quarterly yields per ton of the two leaders indicated the possibility that they had peaked and would begin to decline. With historical hindsight one can see that was what happened over the next few years. The 1874 quarterly figures (not including, of course, the fourth quarter) already pointed to the waning of the bonanza on the southern end. The performance at Belcher and Crown Point was uneven: Belcher's per-ton yield dropped from \$65 in the first quarter to \$57 in the second and then rose to \$60 in the third, and Crown Point's dropped from \$47 to \$14 and rose to \$37. The third observation is that Consolidated Virginia's per-ton yields were rising from quarter to quarter from \$41 to \$50 to \$61. Indeed because we have access to Consolidated Virginia's own company accounts we know that in the fourth quarter it continued to rise to \$63 per ton. The final observation is that if the top three bullion owners were removed from the totals, the remaining operations would account for 20 percent of the tonnage and 6 percent of the bullion for a yield of \$14 per ton. Despite the evidence for a continuing bonanza on its southern end and an emerging bonanza on its northern end the Comstock had little to had little to celebrate in between. The Lode continued to play out its drama of a few hugely profitable operations surrounded by an array of impoverished operators.<sup>29</sup>

The year 1874 represented a turning point, in a real sense the final turning point, for Comstock mining. It witnessed the launching of the biggest bonanza yet and ever. It must have made even the saltiest of the old-timers starry-eyed. Eliot Lord, who could scold Comstock owners and investors as severely as anyone, wrote in rapture of new bonanza on properties that for years had yielded virtually nothing: even some like Dan DeQuille had written as if they knew all along the body was there.

The miner's pick and drill are more potent than the magician's wand [having previously referred to the Persian tale of young Aladdin]. Under their resistless touch bars of the treasure-house were broken through and its hoard revealed to the dazzled eyes of the invaders. The wonder grew as its depths were searched out foot by foot. The bonanza was cut at a point

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<sup>28</sup> The fourth highest of \$32 per ton was from Ophir ore on only 4,700 tons, about 1 percent of the total. A small part of the ore body being worked in Consolidated Virginia and California extended northern into Ophir property. Ophir's main contribution was that its main shaft and several southern drifts were used in the renovation and for the ventilation of Consolidated Virginia and California.

<sup>29</sup> "Biennial Report of the State Mineralogist...1873 and 1874" in *Appendix to Journals of Senate and Assembly*, 7<sup>th</sup> Legislative Session, 1875, 176-177 and Bullion Records, Consolidated Virginia Mining Company, Oct 1873-Nov 1875, NC99/1/3/2 and Dec 1875-Nov 1878, NC99/1/3/4, Special Collections, Library, University of Nevada, Reno.

1,167 feet below the surface, and as the shaft went down it was pierced again at the 1,200-foot level; still the same body of ore was found, but wider and longer than above. One hundred feet deeper, and prying pick and drill told the same story; yet another hundred feet, and the mass appeared to be still swelling. When, finally, the 1,500-foot level was reached and ore richer than any before met with was disclosed, the fancy of the coolest brains ran wide.<sup>30</sup>

The obvious question was how long would this marvel continue. Lord's response was somewhat uncharacteristic for a man who already knew the outcome and continually distrusted the Comstock community's inability to forecast: "its expansion seemed to keep pace with the most sanguine imaginings." He then offered a quasi-statistical accounting of the progress: drifts were cut lengthwise and even after passing the northern boundary [into California property] there was no evidence of "barren rock"; crosscuts indicated a width of 150 to 320 feet; winze after winze "perforated level after level" to improve the air and to load the tram. Hundreds of workers scurried about inside the mine and on the surface, and dozens of buildings were being constructed, renovated and enlarged to handle the flood of ore being extracted.<sup>31</sup> There was uniform agreement among writers, contemporaneous and later, that the opening of Consolidated Virginia's stopes to the public (at least the journalistic public) was an event of extraordinary revelation.

Once Lord turned his attention to financial matters again, in particular stock prices, his mood changed. In 1870, he reported Consolidated Virginia stock sold for \$15 per share, and after the discovery was announced in 1873 it rose to \$115 per share in November 1874 and then quadrupled to \$610 per share by the end of 1874. It rose nearly another \$100 in early 1875. Given the outstanding shares the value of Consolidated Virginia was put at \$75 to \$76 million, more than the value of all the ores ever extracted from the mine. Its companion mine, California, saw its stock rise to \$780 per share to make it worth \$84 million, also more than it ever produced in ores. The total value of mining stock traded in San Francisco in 1874 may have reached several hundred million dollars. Even with the greatest of bonanzas underway, stock prices had once again entered a fantasy world. Lord concluded that "many mines were not worth a dollar intrinsically, and all were overvalued" In his view that included Consolidated Virginia and California. Money being spent to speculate in stocks and drive up prices was money not available for capital improvement, which was the Comstock's urgent need. Lord further observed that "blind confidence was changed first to doubt and then to alarm within the same week. Stock prices tumbled. Consolidated Virginia and California, as powerful a cash machine as they were, witnessed a decline from \$700 to \$497 for the former and \$780 to \$280. It is worth noting that California had not yet officially started production. But other mining-company stocks dropped through the floor as well, some by

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<sup>30</sup> Lord, *Comstock Mining and Miners*, 311, citing Don DeQuille, *The Big Bonanza*, and the Superintendent's Report, Consolidated Virginia Mining Company, 31 December 1874, as some of his sources. The figures probably refer to measurements from the surface of the property. DeQuille and others stated that they had been encouraging development of these properties for years, but such remarks are somewhat gratuitous in that locating these veins in an underground that was scores of square miles in size required the patience and skill of long-time miners like Fair and Mackay.

<sup>31</sup> Lord, *Comstock Mining and Miners*, 311-314.

as much as 200 percent. As Lord had repeatedly warned his reader, estimating or forecasting production ahead of actual mining and milling the ore was hazardous and foolish.<sup>32</sup> Investments should be based on proven reverses rather than hyperbolic predictions. He rightly pointed that it did not matter how volatile stock prices were in the case of Consolidated Virginia and California, for even though speculators and investors may have lost money gambling in the companies' stocks the mine themselves were producing the richest ores and the highest profits ever.<sup>33</sup> The principals and other investors were paid huge dividends. Unfortunately for the rest of the Comstock the end was already at hand. One can applaud Lord's (and at times Smith's and DeQuille's) verbal spanking of irresponsible speculators and uninformed investors, but even if the mining community had undergone a sudden conversion toward prudence and scrutiny where would they have put their money? Stock trading then as now was not necessarily related to the business at hand. It is not clear that had the stock-market crowd followed a different path they would have made a difference in the eventual outcome of Comstock mining. Perhaps a more rational approach could have improved profitability, reduced waste and corruption, broadened the pool of those who shared in the huge payouts and even extended the life of the Comstock (one of Lord's assertions), but how such an approach could have been pursued especially in an age of laissez-faire economics was never laid out even by the critics themselves. It was assumed perhaps naïvely that people inherently desired to behave in less wasteful pursuits to optimize their own self-interest. In the real world that was not the case.

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<sup>32</sup> Lord, *Comstock Mining and Miners*, 315-319.

<sup>33</sup> Lord, *Comstock Mining and Miners*, 319.