

Governor Robert W. Waterman, Waldo Waterman, and the Stonewall Mine, 1886-1891

Winner of the 2003 Joseph L. Howard Award

Leland Fetzer

On September 29, 1886, the *San Diego Union* carried a brief announcement: "R. W. Waterman purchased the Stonewall Mine on Rancho Cuyamaca Tuesday, the consideration being \$150,000, gold coin." The new owner, Robert W. Waterman (1826-1891), was a well-known rancher, a wealthy developer of silver mines, and, at the time, Republican candidate for lieutenant governor of California. In the years from 1886 until his death in April 1891, Waterman, with the help of his mining-engineer son, Waldo, extracted a small fortune from the Stonewall Mine, making it the richest gold mine ever worked in today's San Diego County.

While residing at the mine and acting as mine superintendent, Waldo Waterman wrote nearly four hundred letters to his father. The letters, now at the Bancroft Library at the University of California, Berkeley, date from 1886 to 1891.¹ They describe not only the methods used to locate and extract the Stonewall gold, but also the financial state of the mine and the reasons for its rise and fall. Waldo, with a new degree in mining engineering, introduced the latest technological improvements to raise the mine's productivity: pneumatic drills, Frue concentrators, diamond drills, new pumps, an improved water system, new hoist works, a new and larger mill, accessory buildings, and a telephone line to San Diego. To house miners needed at the mine and provide services at the company town of Cuyamaca, he built bunkhouses and other buildings, and arranged for a physician in Julian to provide medical services. He also served as the community's unelected mayor. The letters trace his experiences and emotions from the bonanza of 1890 to the collapse of 1891. They also serve as an outstanding source of information about early mining history.

According to an article in the *San Diego Union*, Charles Hensley discovered the mine on March 22, 1870. He noted a golden sheen in a quartzite outcrop on a knoll overlooking the Laguna que es Seca, Dry Lake, a line of ephemeral ponds that was to become Cuyamaca Reservoir. Someone, but probably not Hensley, named the mine the Stonewall Jackson to honor the Confederate general, but anti-Southern feelings encouraged the abbreviation of the name to the Stonewall Mine.² The newspaper stated that eleven other men shared the claim with Hensley. Within a brief period, however, two individuals, Almon Frary, Sr. and his partner Joseph Farley, became owners of the mine. Initially finding rich ore in soft country rock,

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The Stonewall Mine, Rancho Cuyamaca, became the richest gold mine in today's San Diego County. ©SDHS OP #14472-38.

the owners built a 10-stamp mill and hoist works. The mine closed down in 1874. Because Frary and Farley had incurred unpaid debts, the Sheriff, in January 1876, auctioned off the mine to a San Diego lawyer, Wallace Leach, who sold it in 1884 to other parties. From about 1874 to 1884, the mine lay idle.

At the end of 1884, new owners, Alfred James and Dr. J. E. Fulton, revived the mine. By May 1885 the *San Diego Union* reported that the Stonewall was running "full blast," and by the end of the year it was announcing the regular arrival of \$3,000 gold bars from the mine, a stream of wealth that continued well into 1886. Perhaps these favorable articles in the *Union* caught the attention of Robert W. Waterman, leading to his purchase of the mine.

Born in 1826 in Fairfield, New York, Robert Whitney Waterman moved as a child with his family to Newbury, Illinois. He worked as a store clerk and postmaster in Geneva until 1850 when he decided to trek overland to California. He mined for gold before opening a store near the Feather and Yuba Rivers. The following year, he returned to Illinois, becoming a prosperous storekeeper and newspaper owner whose enthusiasm for politics led him to join the young Republican Party of Illinois. He and his family returned to California in 1873, established a ranch near San Bernardino, and undertook various business enterprises. The most successful by far was the acquisition and development of seventeen silver mining claims near today's Barstow, formerly known as Waterman Junction. Ownership of the mines rewarded



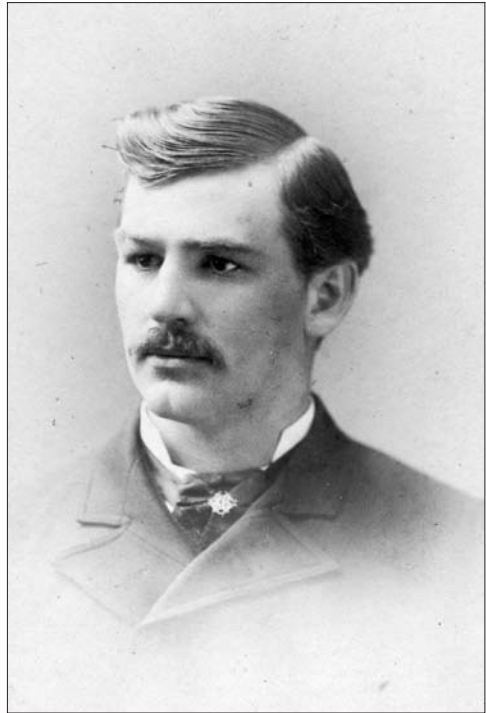
Robert W. Waterman, ca. 1886. Waterman became the seventeenth Governor of California and owner of the Stonewall Mine. ©SDHS OP #14472-62.

him with a profit of around one million dollars. This money played an essential part in the exploitation of the Stonewall Jackson Mine. Not a miner himself, he had notable business acumen, possessed considerable capital, and knew how to find expert advice about mines and mining.³

In California, Waterman remained active in the Republican Party. His involvement led to his nomination as lieutenant governor only a few months before he purchased the Stonewall Mine. Elected, he succeeded to the governor's office in September 1887 when Governor Washington Bartlett died. After his inauguration, he stated, "I intend to run the office of Governor as I would my private business. There are two things I will never tolerate, dishonesty and drunkenness."⁴ He retired from politics before his death in April 1891.

Waterman had seven children with his wife Jane Gardner whom he married in 1847. Among them was Waldo Sprague Waterman (1860-1903), an 1886 graduate in mining engineering at the University of California, Berkeley. Waldo married Myra Benfry the year of his graduation, but she lived only a few months after the wedding. In 1889, he married a second time to Hazel Wood with whom he had three children. She adjusted to life in the remote mining camp, drawing sketches and painting pictures of the Cuyamaca-Julian area. But she confided to her mother-in-law that the winters were very hard, writing of "wind, snow and bitter cold."⁵ She struggled to keep her daughter healthy despite the adverse conditions. Waldo Waterman died in 1903, at the age of forty-three, while Hazel Wood Waterman, who attained considerable fame as a San Diego architect, lived until 1948.

Very shortly after acquiring the Stonewall Mine, Waterman appointed his son Waldo as superintendent of the mine, a post the latter held until 1893. As a result of his responsibilities as lieutenant governor, then governor of California, and as a San Bernardino rancher, Waterman spent most of his time in Sacramento and elsewhere. He visited the Stonewall infrequently during the years he owned it, instead relying on correspondence with his son Waldo to provide instructions on operating the mine and to obtain information about the mine's operation. An unusual set of circumstances—the governor's forced absence from the mine for long periods of time and the son's training as a mining engineer—created the extensive and unique set of letters that record the mine's day to day operation during the Waterman years.



Waldo Waterman, aged 24 in 1884. Two years later, he would graduate from the University of California, Berkeley, with a degree in mining engineering.
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Developing the Stonewall Mine, 1886-1887

When Waldo arrived at the mine late in 1886, he drew on knowledge about the ore body that miners had acquired in the sixteen years of the mine's operation. The Stonewall ore body was tabular in shape, somewhat resembling an 800-foot table balanced precariously on one corner, its uppermost edge breaking the surface of the earth where Charles Hensley found it in 1870. Like all Cuyamaca lodes, the ore body was aligned northwest-southeast. It plunged steeply to the southeast. The veins formed a dense network varying in width from a few inches to as much as 20 feet. The gold was very fine, free-milling, and usually invisible.⁶ In 1870, the original discoverers had sunk a shaft approximately 350 feet deep near the ore body, not far from where Hensley made his discovery. Today only a sink hole marks the site. This shaft provided access to the shallow northwestern upper half of the ore body, but it was poorly located to exploit its deeper half, the southeast-extending veins that dipped almost vertically into the earth.

To provide access to this gold, the Watermans made the decision to sink a second shaft south of the old shaft from which miners could excavate the remainder of the ore body. The endeavor was expensive, and doubtless, Robert W. Waterman had to utilize some of the profits from his silver mines to pay for the sinking of the shaft. The decision also was risky since no one knew if the ore body, in fact, extended further and deeper to the southeast. The new seventeen-by-six-foot shaft was divided into three compartments, two for hoisting and one for a man way. By sinking it to an ultimate depth of 600 feet, the Watermans opened a treasure chest.⁷

Waldo first mentioned the new shaft, intended to be 250 feet deep, in a letter to his father dated July 1, 1887. "The shaft is 70 feet this morning," he wrote.



Stereoview of the Stonewall Mine, ca. 1872, before Robert W. Waterman bought it. ©SDHS #21446.

Through July and August he continued to report its progress, noting that the rock varied in hardness so that sometimes the miners made as little as 10 feet a week and sometimes as much as 15 feet. By December 7, he could say, "The shaft is finished."⁸

To sink the shaft Waldo let contracts to teams of miners who received pay for each foot of shaft they excavated. According to one source, the Watermans paid \$30 to the team of miners for every foot of shaft they sank (tunnels cost only \$12 per foot), while in 1890 Waldo wrote that they paid \$40 per foot.⁹ The Watermans probably paid both amounts at different times as the shaft became deeper. This meant that the Watermans spent between \$18,000 and \$24,000 to sink the new 600-foot Stonewall shaft.

During this early period in the Waterman ownership of the mine, Waldo was prepared to invest money for new equipment to increase the mine's productivity. On August 31, 1887 he wrote that they had just received two Burleigh drills at the mine (made by the Ingersoll Company). These large steel-mounted drills were far more efficient than hand drills, but more cumbersome to use. They proved impossible in cramped quarters. A few days after their arrival, Waldo wrote to his father, "The drills have come and are at work. As yet they have not increased the sinking, for the boys have not gotten the hang of them."¹⁰ At first, steam powered the drills. Not until April 1888 did workmen install the first air compressor at the mine.¹¹

The Watermans also knew that if their scheme for expanding the Stonewall were successful, they would have to hire more workers and provide housing for them at the isolated Stonewall Mine. Such were the origins of the company town of Cuyamaca that eventually included two bunkhouses, a boarding house, about 20 miners' cottages, a school, barns, and a home for Waldo and his family. Waldo first mentioned the possibility of the project in December 1887: "Hosking [W. R. Hosking, the mine foreman] & I were up on the hill back of Stonewall looking at the surrounding country today. It is hard to pick out a townsite [sic]. I think the present sight [just north of the mine] with some of the adjacent land is really the best."¹²



This photo from ca. 1903 shows the Cuyamaca Hotel, formerly a boarding house built at the mine site. Theron Griffith, a Marston Company employee, camped with his family in Cuyamaca and took several photographs of the town and mine. Courtesy of Marjorie Reeves.

At the same time that Waldo was overseeing the sinking of the shaft, acquiring modern equipment, and choosing a site for the town, he had to help pay expenses by extracting gold from the old mine and running it through the Stonewall's 10-stamp mill. His letters suggest that gold in the old Stonewall Mine was virtually exhausted. On May 23, 1887, he wrote to his father, "I rode up to Stonewall last night from Comb's [Descanso] and found everything running smoothly. Hosking & I went through the mine in the evening. He thinks things look pretty blue [bad] and so they do." On July 4 he wrote, "Things run on here as when I last wrote. Yes, we are hunting for ore all the time but without success. We have run nearly 100 feet of crosscuts [tunnels through barren rock in search of ore] in the last 2 months & I am beginning to get discouraged in that line." On August 24 he wrote, "The rock is very poor & I don't expect to be able to get out enough bullion to square up the payroll." Finally, Waldo optimistically gave instructions to close down the old mine and temporarily shut down the mill in expectation of shifting production entirely to the new shaft: "We have swept everything clean in the mine & will finish crushing it in about 3 or 4 days. I will give everything in the mill a thorough renovating & have everything in tip top order for making a \$20,000 run in December [from the new shaft]."¹³ In 1886 and 1887 the mine produced only \$125,000 in gold, or an average of \$8,300 a month. Utilizing the new shaft, in the bonanza years that followed, miners would double, then triple, monthly revenue from the mine.¹⁴

Bonanza, 1888-1890

After the shaft was completed on December 7, 1887, workers began to search for the ore body. Waldo wrote, "the work of cross cutting starts slow. We have 12 men working on it but a fair start has not yet been made." Three days later he wrote, "the beginning of the cross cut work goes slow, and I see no way of hurrying it. The ground is terribly hard and dulls an immense number of drills and we are just at starting, too cramped to use the Burleigh.... You need not look for any developments before about Christmas."¹⁵ By December 21 he wrote that the men had progressed seventeen feet from the shaft and he hoped that they would cut another twenty feet the next week.

Waldo was so eager to advance the crosscut that he refused to allow Christmas off for the workers involved. In the same letter he writes, "I have refused the request of some of the miners to allow Christmas for a holliday [sic]," but his conscience hurt him. "I don't know that I have done right," he wrote.

On December 26, 1887 miners struck gold. They discovered that the Stonewall ore body extended deeper and to the southeast, justifying the Watermans' plans for the mine. Waldo wrote, "Well we struck the ledge today. I think at any rate we struck 8 feet of quartz that prospects well and now have about 10 tons in the ore bunker." To celebrate the event he sent his father a memento of the occasion: "It is not overly rich but I send you by mail today the first piece containing free gold that was found....I have placed a bit of rock with the gold up and with a lead pencil mark around it. Wet the quartz and the gold will show better. I send this piece because it is the first." He also reported that he had rescinded his order denying the crew Christmas off: "We laid off Christmas & everyone was able to go to work [the day after Christmas]."¹⁶ Because he could assume that henceforth mining



By 1908, the Cuyamaca Hotel had been enlarged to accommodate visiting San Diegans. ©SDHS #10128.

would proceed mostly in the new shaft he wrote to his father, "I had Hosking send tonight for 4 new miners. The extra ones we will keep at work prospecting in the old mine till they are needed in the new."¹⁷

In the next three years, the bonanza years, Stonewall miners removed all the gold ore they could find down to the 600-foot level. The method they used, drift mining, the standard technique for exploiting a nineteenth-century mine, is hinted at in the events of December 1887.¹⁸ From the shaft, miners made horizontal cross cut tunnels until they reached the tabular ore body. This was not far from the Stonewall shaft, which at times actually yielded gold ore itself.¹⁹ When the crosscut reached the ore body, miners began drifting along it, using overhand stoping [working above shoulder level] to remove the ore. While it may seem inefficient, overhand stoping took advantage of the power of gravity. Working high brought ore and waste down to the floor of the drift where trammers could load it in cars to roll to the shaft. Overhand stoping necessitated building working platforms as well as ore chutes and timbering to support the roof of the opening as the stope grew higher and larger until miners broke through into the level above. Miners nearly always worked upward as the mine sank ever deeper under their feet.

Work would continue until Hosking and Waldo decided that the level was exhausted and the time had come to deepen the shaft to create a newer, lower level. In time, miners established six levels, with a total length of about 3,600 feet, making the Stonewall by far the most extensive Cuyamaca mine. In the years ahead, the Watermans would extend the shaft four times. It had reached the 300-foot level when Waldo wrote on September 21, 1888; the 400-foot level by about January 16, 1889; the 500-foot level by August 4, 1890; and the 600-foot level by November 3, 1890. During the bonanza, the owners sank the shaft 200 feet in less than three months.²⁰

Encouraged by the strike, Waldo wrote to his father, "Have no fear for the financial future. I will guarantee to make more than expenses this month, and I will show you how soon we can cancel a \$92,000 debt [this was debt incurred from

other commitments, not only the Stonewall]...I expect soon to be piling up the bullion in good shape. It will only take a few days more to get everything going again."²¹ But depression soon replaced Waldo's euphoria as the ore inevitably faltered. Only two weeks later, on January 30, 1888, he wrote that "The mill is running steadily but the rock is poor. I would not be surprised if we have less than \$2500 in our clean up [when they shut down the mill to recover the gold]. At that rate we will only just about pay running expenses. I have the blues a little and I am very much disgusted with this mine."²² He then described how the three veins they had discovered all seemed to "pinch out." The next week he wrote, "We have one stope of ore that is nearly 15 feet wide but is only about 20 feet long and the rock is very low grade though there must be a good streak some place in it." He was aware of the oscillations in his mood, concluding, "I am alternately expectant and blue, but seldom joyous."²³

He learned a good deal about the quality of the mine over the course of the first few months. "The last two days, the rock has been extra good," he wrote on February 10, "More quicksilver has been fed into the battery [the pan in which the stamps crushed the ore] than at any time since I have been here. We have had no occasion to open the battery to look into it for 5 or 6 days so I do not know how much amalgam is hanging in there but I expect a good deal."²⁴ He explained that he could not gauge the mine's production because the gold was so fine that no one could identify its presence without an assay. "I ought to have an assayer here now. No mill & mine should be run without one...If I had an assayer I could tell just what percentage of the gold we are saving and losing, as it is I know nothing about it." On February 13—only three days later—he wrote, "In this last strike the rock is not rich. I will put every effort forward to get the richest rock first. I am so far very much disappointed in the Stonewall Mine." However, at the end of March 1888, he wrote, "We are again in about 6 feet of fine quartz. Yesterday we took over \$500.00 off of the plates alone, more than that much is supposed to have staid in the battery. Possibly twice that much. At present the Stonewall is a daisy."²⁵

Stonewall went into bonanza in 1887-1890 as the ore increased in both volume and richness. Early on, the price per ounce was about \$16.00 but it soon rose to above \$17. The gold production for the month of February 1888 was \$19,753.67, compared to only \$8,300 before the strike at the new shaft.²⁶ This was good news to Waterman who was about \$230,000 in debt. His son calculated, "that since you bought the Stonewall that you have made about \$15,000 out of it [i.e., above the mine's purchase price, the cost of sinking the shaft, materials, labor costs, etc.]. Considering all you have risked that is not much to make but I hope that next year and a half will make the profits about ten times that much, that is \$150,000. However time will tell."²⁷

The success of the mine encouraged the Watermans to make improvements to the surrounding area. They paid for the construction of more residences for the growing number of miners needed at the mine. They made arrangements for a new telephone line to be laid from Poway to Stonewall which went into operation in July 1889.²⁸ Waldo also organized a local school; it opened in January 1889.²⁹ The Watermans did not hire a physician to live at the mine but, instead, arranged for Dr. M. E. Munger "to reside in Julian and look after the health of the residents of Stonewall. I think he is a very good man."³⁰

On January 14, 1889, Waldo closed the books on the preceding year. During



A party of visitors play croquet under the trees. In the rear of the photograph is the "Governor's House" where Waldo Waterman lived. ©SDHS #11263.

1888, he reported, the mine yielded \$196,000, or \$16,300 per month, double the production in 1886-1887. Of this sum, profit was \$108,000, while expenses were \$88,000. He had spent \$8,000 in improvements during the year, while the governor received a salary of \$6,000 a year. Never in his letters did Waldo name the salary he received, but it was probably much less than his father's. In February 1889, he wrote a heartfelt letter to his father, asking for an increase in salary since he was about to marry for the second time. He noted that he knew of a Grass Valley mine superintendent who received between \$400 and \$500 a month and "a very nice comfortable house." To induce his father to increase his pay, he summed up the mine's progress under his supervision, saying that "a little over a year ago the success of the Stonewall was doubtful." It had, however, produced \$196,000 in bullion in the preceding year, 1888, and "we now have in sight rock enough of the same quality as last year's rich enough to run the mill for 4 years and enough rock of a low grade to run for from 4 to 6 years. There is from one to two million dollars now in sight." If the governor did not believe him, mine foreman Hosking would tell him the same thing. Waldo concluded with the statement, "I know that you have your plans regarding my marriage. However, I wish to know what they are," adding, "I don't like uncertainties."³¹

On March 8, 1889, Waldo painted the most grandiose picture of the Stonewall in all his letters. Intoxicated by the ore exposed in the mine, spurred by the completion of 100 feet of new shaft that brought the mine down to the 400-foot level, he wrote that the mine would prosper for at least eight more years. In that event a 40-stamp mill would be needed, as well as a new hoist works and a Cornish pump, required to lift water from a deep mine. Miners would have to sink the shaft to between 1,000 and 1,500 feet, while all the improvements would cost \$75,000. None of Waldo's ambitious plans as he described them became a reality. He completed several of these projects, but on a smaller scale than he estimated.

In June 1889, no doubt having received permission from his father to expend the necessary funds, Waldo began planning a new hoisting works and mill, not one with forty stamps, but with twenty. The original 10-stamp mill must have been a bottleneck in the mine's production. Although ore was flowing at a greater rate from the mine, it had to pass through the small and old mill which dated from 1872.³² He accepted bids on a new gallows frame, a 20-stamp mill (whose batteries were manufactured by the Union Iron Works of San Francisco), a tramway connecting hoist and mill, and other buildings.³³ Ultimately, he settled on a contractor who was to receive \$400 a month for expenses.

Waldo remained concerned about the possibility of spying or theft at the Stonewall. He had strong views about the relative honesty of the ethnic groups who worked at the mill, where workers had a tempting opportunity to steal amalgam. In October 1890, Waldo, writing about the six mill workers at the mine, an Irish American, a Scotsman, and four Americans, said: "I may be mistaken of course but I think all the boys are honest." But he added, "I never saw a cornishman [an immigrant miner from Cornwall] yet that I would have around a mill & there are few Irish that can be trusted."³⁴ Whether Waldo, in the pursuit of security, applied his prejudices when hiring is unknown.

Early in 1888, Robert Waterman wrote that he believed there was a spy in the district employed by Juan Luco, one of the four men who purchased Cuyamaca Rancho in 1869, and with whom the Watermans were in litigation. Waldo disagreed, "No I don't think Luco has a spy here. Most of the boys are old and reliable hands." But he did note that the *San Diego Union* had recently published an article about new discoveries at the Stonewall. He had no idea how the newspaper had obtained its information.³⁵ In a later letter, however, he came around to his father's view about a possible Luco spy: "I don't like the idea of going over to Harpers [a family of settlers in Rattlesnake Valley]. If Luco has a spy in this section of the country it is in the Harper family. I know that they have written to Luco."³⁶ He thought that the spy might be an employee of the nearby San Diego Flume Company or a disgruntled former Stonewall miner.³⁷

Waldo was uneasy about sending bullion on the stage down to San Diego. In February 1888, he told his father, "I have not yet sent the bar of \$1500.00 to the bank. I don't like to send it by the present driver." A year later, little had changed. He wrote, "I think I will keep the bullion from the last clean up till after the first and then go down with a guard. There have been a couple of suspicious characters around lately but I am unable to locate them just now."³⁸ He preferred to send bullion to the city in the possession of a trusted employee rather than in the hands of a stage driver.

Waldo even considered the security of his communications with his father: "We must get two cipher books so that we can telegraph without everyone knowing what we are talking about." It seems unlikely that the two ever actually used ciphers when sending telegrams for the governor had only three months to live when Waldo wrote his letter.³⁹

Waldo and his father occasionally disagreed about technical innovations to increase production. On January 9, 1889, he wrote a long letter arguing against his father's proposal to shut down the amalgamation operation and introduce Frue concentrators, sometimes called vanners, to treat the gold ore mechanically.⁴⁰ Governor Waterman then wanted to ship the concentrate to Selby in Northern

California for processing. Waldo successfully argued that it would be costly to bag and ship the concentrate, while the existing amalgamation process was cheap and quite efficient. Only reluctantly did Waldo order a concentrator, but in time he came to accept its use to treat "sulphurets," compounds of gold with sulfur or other metals that would not amalgamate with mercury.⁴¹ Fortunately, nearly all Stonewall gold was free-milling, "sulphurets" making up only one-tenth of one percent of the gold recovered.⁴²

The Stonewall continued its high production through 1889. Notable were the August production of between \$20,000 and \$21,000 and the October production of about \$22,800.⁴³ In December, miners discovered a vein of ore on the 400-foot level that was 40 feet long and four feet wide. Waldo was sanguine about the future, writing, "I hope to do a large amount of development in the next year and if the quartz is there I will show you a very fair mine." Production for the year 1889 was \$214,000, for a record high of \$17,800 a month.⁴⁴

Miners remained in short supply, particularly during periods of peak production. While the Stonewall employed pneumatic drills, it also utilized hand drilling on a large scale. "We are having the greatest time we have ever had getting & keeping good men," Waldo wrote. "We are short handed in nearly every particular. I expected 8 miners in last night from Amador Co. but they failed to materialize."⁴⁵ On June 6, 1890, Waldo advertised in the *Julian Sentinel*, "Wanted. Miners at the Stonewall Mine. Ten first-class, A 1 Miners for double hand work [two-man drilling teams] in hard rock. None but experienced men need apply. W. S. Waterman, Supt." A month later, he repeated the advertisement but increased the number of miners wanted to twenty-five.

Several accidents occurred as miners rushed to get out as much ore as possible. In March 1890, Waldo wrote, "We are having considerable trouble in the mine in one way & another. We had a cave[-in] which nearly entombed two men. Though it hurt no one and did no permanent injury yet it took some time to repair. Now one of our stopes is caving and threatens to cause us a good deal of trouble."⁴⁶ On another occasion, there was "a slight accident a few days ago while timbering the station in the new shaft. Some loose ground fell on one or two of the men and [one] man had his head, arm, and foot bruised some. I am acting doctor and expect to have him all O.K. in a week."⁴⁷ Once, an empty man cage fell the length of the shaft. Waldo promptly fired the hoist engineer because he knew the miners could no longer trust the engineer's judgment.⁴⁸ A miner named William Allen was hurt when the cage came down on him. Eventually, Waldo settled "out of court" with Allen, agreeing to give him 40 acres of land, two horses, two cows, a house, and \$100 "to start on" if Allen would not sue.⁴⁹ No one was ever killed in the Stonewall Mine under the Watermans, although in 1889 a rolling log crushed a sawmill worker to death.⁵⁰

In 1890, a number of cave-ins frightened Waldo but did not injure anyone. On April 2, Waldo wrote, "The mine is looking as well as when I left, excepting that there has been quite an extensive cave on the 4th level. 12 x 12 timbers broke in two like straws. It is about all fixed up now and no permanent damage is done and no one hurt."⁵¹ At the end of the year, another and much more extensive cave-in occurred: "I had quite a scare today. Bill [Hosking] came up & told me that the mine was caving clear to the 4th level. We went down & examined everything just as far as safety would permit. We cannot tell how extensive the cave is at present

but I do not think it is dangerous. There is a good deal of loose rock falling around that makes a terrible racket." Happily, he reported, only the upper levels seemed to have been affected: "The caves are on the 2nd and 3rd levels but do not interfere with the 4th & lower levels at all. The shaft is not effected [sic] at all nor is it in any danger." After inspecting the mine, Waldo concluded that the work of extracting ore at the lower levels could proceed.⁵²

Waldo continued to make major improvements at the mine. In a letter dated March 16, 1890, he mentioned for the first time that he wanted to lease a diamond drill for exploratory work in the Stonewall. However, it was not until November that he was able to obtain one and set it to work. He wrote, "The diamond drill is making slow progress while getting started but I think it will prove a success.... I timed it tonight & it drilled 1 foot in 15 minutes. The rock is our hardest. We should be able to drill 20 to 25 feet a shift."⁵³ For the next six months, until his father's death, Waldo often referred to the diamond drill's work in the mine. It was much cheaper to employ it when searching for ore than to have miners dig exploratory tunnels.

In 1890, Waldo solved a perennial problem: how to obtain an ample supply of good water for the mine. Before this date, unsatisfactory mine water was in general use. "The mine water is terribly hard on boilers," he wrote, "and as it carries more or less grease it throws unnecessary difficulties in the way of amalgamation [gold would not amalgamate if grease was present]."⁵⁴ He made the decision to lay a pipeline from what he called Cold Spring, high on Cuyamaca Peak (today known as Azalea Spring), to provide mine water. As early as March 16, he said he was completing the reservoir on the hill that was part of the system, but it took a month before he could write, "I have been using cold spring [Cold Spring] water almost entirely in the new mill and entirely in the old mill and you have no idea what a difference it makes in the tailings. I can save from one to two dollars a ton more with the cold spring water than with the mine water."⁵⁵ Unlike water from the mine, Cold Spring water could be used for culinary purposes. He also invested in a new pump to keep the mine water under control. On October 19, he wrote, "The big pump is started and it is a great success. We can handle 10 times the amount of water now on hand with this pump."

The Watermans spent an estimated \$75,000 on improvements to the Stonewall Mine, including diamond drills, an improved water system, and a new pump. In fact, they had built everything except the old mill, which was valued at less than \$10,000.⁵⁶

They also made a great deal of money, particularly in 1890. This year gave the greatest gold yield in the Stonewall's history under the Watermans, particularly the months of August through November. Waldo estimated production at between \$25,000 and \$26,000 in August.⁵⁷ On October 19, Waldo wrote that they had had the best two-week run since the thirty stamps had been at work. October output was about \$36,000, the highest monthly production ever. November production Waldo estimated at about \$29,000. Carried away—for the last time—by the wealth flowing from the Stonewall, Waldo wrote to his father on August 6: "I have advertised for bids for running 1000 feet of tunnel but I hardly expect to have any that are satisfactory for the contract is too big for anyone in this country to take hold of."⁵⁸

In Borrasca, 1891

The financial collapse of the Stonewall late in 1890 was unexpected, swift, and for Waldo, painful. He had taken credit for making the mine a success so he felt responsible for its failure. On January 18, 1891, Waldo wrote to his father: "Unless we can strike something new there is no more running to be had from Stonewall. I want you to come up soon & see for yourself just how things are and decide [sic] what to do."

A possible reason for the mine's collapse appears in a remark Waldo made in a letter dated August 4, 1890. He wrote, "I hope before August is over to get into good rock on the 5th level..." But more than two months later he wrote, "We have not as yet struck any ore on the 500 foot level," this at a time when the mine was still producing handsomely, but from shallower levels.⁵⁹ Little ore was to come from the 500-foot level and even less from the 600-foot level which miners sank at the end of the year. Obviously, the Stonewall ore body extended only to the 400-

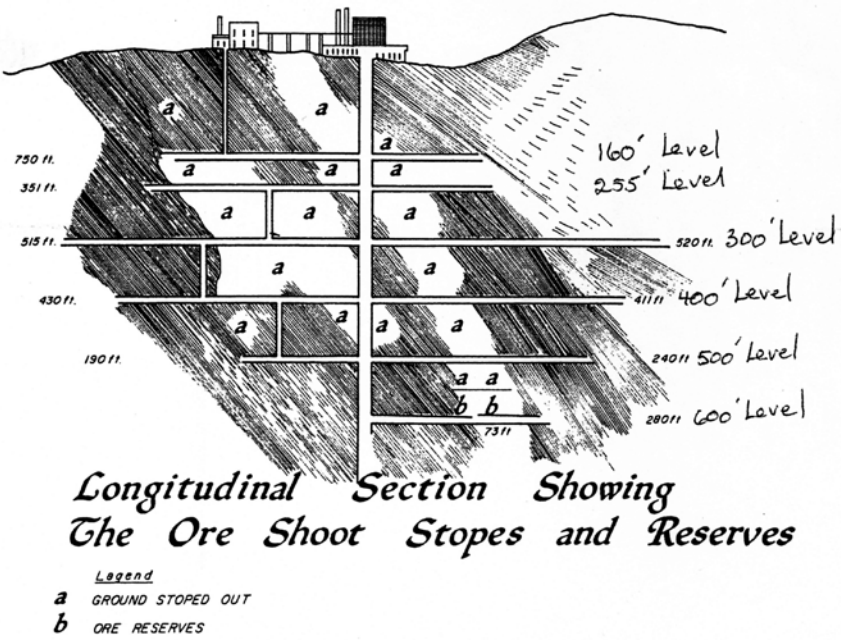


Figure 5: Longitudinal cross section showing ore shoot, stopes and reserves

Source: Wm. P. Miller, M.E. "Descriptive Report on the Stonewall Mine"

Longitudinal cross section of the Stonewall Mine showing the ore shoot, stopes and reserves. Source: William P. Miller, M. E. Descriptive Report on the Stonewall Mine, ca. 1891.

foot level. Beyond that, to use an expression Waldo favored, it pinched out.

The map of the mine that William P. Miller drew for his *Descriptive Report on the Stonewall Mine* confirms this theory.⁶⁰ It shows that on the 300-foot level miners cuts drifts extending along the ore body for 1,035 feet (the longest of all drifts), and they drifted 841 feet on the fourth level, but only 430 feet on the fifth and 280 feet on the sixth level. Miners found the Stonewall's most plentiful gold on the 300-foot and 400-foot level, but little below that.

As early as November 1890, Waldo suspected that something was amiss. "The bullion will be down tomorrow," he wrote. "There will be only \$12,500. I want to get back & get Bill [Hosking] to rustle in some better rock if there is any to rustle. I did not expect it to fall so low as that."⁶¹ In December he began cutting back on the work force: "Our force of men is about as small as we can get along with. The payroll for Nov. is \$2000 less than for Oct. and I expect that for Dec. it will be \$1000 less than for Nov. I can make no further reductions."⁶² At the end of the month, he wrote: "Things look about the same here as for some time past. There is no improvement. Our good rock is all gone & I fear much for the results of next month. I think we can pay our expenses but it is about all we can do after Jan. 1, 1891 until we strike more & better ore. I hate to talk blue but it is true."⁶³

Miners never found the "more & better ore" that Waldo hoped for. In fact, the quality of the ore declined in 1891, leaving Waldo despondent. On January 16, he wrote, "We cleaned up yesterday & today & will retort & melt tomorrow. We will have about \$6000 with possibly a few hundred but less than \$500. I hardly know what to do. At this rate we can do but little. We cannot pay expenses even, let alone [make] a profit." Two days later, Waldo wrote in the same spirit, indicating how deeply the failure of the Stonewall had affected him: "Our cleanup was a great disappointment to me. I didn't expect much but I did not expect so very little as we got, \$4700. I have not shipped it yet & will not unless you say for me to. I am too ashamed of it."⁶⁴



Stonewall Mine, abandoned, ca. 1903. Courtesy of Marjorie Reeves.

In late January 1891, Waldo decided to shut down the old mill with its ten stamps, and let more miners go. He also raised the question of closing down the Stonewall: "Our rock here is not turning out much of anything. I hope to get permission [from his father] to close down soon."⁶⁵ A few days later, on February 8, he wrote: "Our next shipment will be very small of course. The ore that is going through the mill [only one mill now] will not begin to pay our expenses. It will lack several thousand dollars of so doing. We are practically running for glory now." In mid-February, he wrote pessimistically about the 600-foot level, concluding, "I hardly know which way to turn.... I don't know what to do.... Am nearly crazy myself.... I think that the best thing to do financially is to shut down on or about the first of March."⁶⁶

During the next six weeks Waldo wrote more discouraging letters to his father but he received no reply to his last, dated April 7. On April 12, 1891, Robert W. Waterman died of pneumonia in San Diego. For some time the Watermans continued to operate the Stonewall, but at a low level. According to historian H. Robert McAleer, in 1891 the mine yielded only \$124,848 (\$10,404 per month) and in the first three months of 1892, it produced only \$21,582 (\$7,194 per month) in gold.⁶⁷ The mine closed early in 1893.

Conclusion

The Watermans had purchased the Stonewall Mine assuming that its ore body extended farther southeast and deeper than it did. For three years miners harvested a steadily increasing stream of gold from the mine. When it collapsed late in 1890, Waldo was forced to accept the fact that the mine would not yield any more wealth, despite his best efforts. His father, Robert W. Waterman, did not live long enough to calculate the returns on his investment. But Waldo must have taken some satisfaction in learning that the mine had produced over one million dollars worth of gold in just three years.⁶⁸

In 1893, Waldo and Hazel Wood Waterman moved from Cuyamaca to San Diego. Waldo dealt with a series of financial crises caused by his father's death and the closure of the mine. The economic crisis of the 1890s nearly forced the Waterman estate into bankruptcy. Gradually, however, Waldo regained sufficient capital to build a house on the northwest corner of Hawthorn and Albatross, hiring the young Irving Gill to serve as architect. Hazel Wood Waterman's experience working with Gill led her to seek employment in his studio



Hazel Wood Waterman, October 1921. ©SDHS #88:16649-5.

after her husband's unexpected death at the age of forty-three. She soon became an accomplished architect in her own right, designing the new building for the Wednesday Club (1910-11), restoring the Estudillo House (1909), and executing a number of other commissions.⁶⁹ It is tempting to suggest that the Watermans' misfortunes at the Stonewall Mine made a lasting impact on the architectural heritage of San Diego.⁷⁰

NOTES

1. The 385 letters from Waldo to his father are in Boxes 14 and 15 of the Waterman Family Papers at the Bancroft Library, University of California, Berkeley. In order to preserve the flavor of the originals I will quote the letters as Waldo wrote them, without corrections. Regrettably the correspondence is almost entirely one-sided because very few of Robert Waterman's letters to his son have survived.
2. *San Diego Union*, March 29, 1870. The best general source for the history of the mine is H. Robert McAleer, *Stonewall Mine and Cuyamaca City* (Sacramento: California Department of Parks and Recreation, 1986). For more information about the history of the Stonewall Mine see Chapter Six, "The Stonewall and Ranchita Mines," in Leland Fetzer, *A Good Cap: Mines of Julian and the Cuyamacas* (San Diego: Sunbelt Publications, Inc., 2002).
3. Alexandra Helen Luberski. *Robert W. Waterman, 1887-1891: California's Forgotten Progressive* (master's thesis, San Diego State University, 1984).
4. Quoted in Sally Bullard Thornton, *Daring to Dream: The Life of Hazel Wood Waterman* (San Diego: San Diego Historical Society, 1987), 22. Thornton's work, also based upon Bancroft Library records, gives an excellent overview of Hazel Wood Waterman's activities in San Diego.
5. Quoted in Thornton, *Daring to Dream: The Life of Hazel Wood Waterman*, 47.
6. F. Harold Weber, *Geology and Mineral Resources of San Diego County* (San Francisco: California Division of Mines, 1963), 133, 135.
7. California State Mining Bureau, *Report, X*, (1891), 541.
8. Waldo S. Waterman to Robert W. Waterman, July 1 and December 7, 1887, Waterman Family Papers, Boxes 14 and 15, Bancroft Library, University of California, Berkeley (hereafter Waterman Papers).
9. *Ibid.*, November 3, 1890. Officially, the price of gold was \$20.67 a troy ounce, but thanks to the fact that it contained impurities, the actual price that Cuyamaca miners received for their gold was between \$15.00 and \$18.00. Today the price of gold is about 30 times higher, but the cost of goods and wages has also greatly increased since the 19th century.
10. Waldo to R. W. Waterman, August 31 and September 2, 1887, Waterman Papers.
11. *Ibid.*, April 4, 1888.
12. *Ibid.*, December 23, 1887.
13. *Ibid.*, May 23, July 4, August 24 and September 3, 1887.
14. *Ibid.*, November 20, 1889; California State Mining Bureau, *Report, VIII* (1888), 516.
15. Waldo to R. W. Waterman, December 9 and 12, 1887, Waterman Papers.
16. *Ibid.*, December 26, 1887.
17. *Ibid.*, December 30, 1887.
18. Otis E. Young, Jr., *Western Mining*, (Norman: University of Oklahoma Press, 1970), 157-160.
19. Waldo to R. W. Waterman, August 12, 1888, and January 28, 1889, Waterman Papers.
20. There was a variant to this scheme. After the miners exhausted a level they sometimes cut a vertical shaft, called a winze, downward from the drift to follow the ore body. As they stoped upward from a lower level they met the winze sunk from the level above. So, for example, Waldo wrote on February 3, 1888, "I have been down in the winze twice since the water was drained out of it. We will

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connect with it soon." On February 13, he wrote that miners had made "the winze connection." Waldo to R. W. Waterman, February 3 and 13, 1888, Waterman Papers.

21. Ibid., January 13, 1888.

22. Ibid., January 30, 1888.

23. Ibid., February 6, 1888.

24. Ibid., February 10, 1888.

25. Ibid., March 28, 1888.

26. Ibid., March 12, 1888, January 21, 1889 and November 3, 1890. The price remained above \$17 per ounce with the exception of a single shipment in October 1890 when the mine received the highest price ever, \$18.30 per ounce. When reporting to his father about returns from the mine, Waldo used several different measures. One of these was his estimate for the amount of gold recovered from a single mill clean-up. Unfortunately, he ordered clean-ups at irregular intervals, apparently about every 10 days or two weeks. As a result the dollar figures for clean-ups vary significantly. Another dollar amount he cited for his father was returns from the San Francisco Mint. These included the total value of the gold as well as the return per ounce. Silver, much less valuable, combined with gold affected its value. For example, on March 12, 1888, Waldo wrote that the latest shipment had returned \$13,177.46 while the price was \$16.60 per ounce. But because Waldo sent shipments from the mine irregularly, the figures from the mint are also not very helpful in tracing the mine's production. The most useful figure Waldo cited in his letters was the total for monthly production. Under close inspection these provide a reliable indicator of fluctuations in the mine's production.

27. Waldo to R. W. Waterman, May 18, 1888, Waterman Papers.

28. In the summer of 1885, workers had laid a telephone line from Poway to the Stonewall. The *San Diego Union* reported that a "perfect connection" existed between the mine and San Diego. But the line remained undependable, so Waldo made arrangements for a new line at \$25.00 per mile, the telephone line going into operation about July 1, 1889. *San Diego Union*, September 17, 1885; Waldo to R. W. Waterman, September 17, 1888, June 19, 1889, Waterman Papers.

29. Ibid., January 16, 1889.

30. Ibid., October 3, 1888.

31. Ibid., February 25, 1889.

32. In 1872, the *San Diego Union* reported that the Stonewall's new 10-stamp mill would soon go into operation. *San Diego Union*, May 27, 1872, 3.

33. Waldo to R. W. Waterman, June 26, 1889. During the last three months of the year, Waldo's letters contain many references to the project, but for some reason completion of the work was delayed. On January 20, 1890, however, he reported that the new hoist had been started up; on January 30 he reported that "We get quartz into the mill today and start the crusher. Tomorrow we drop the stamps." After this date the Stonewall ran 30 stamps, but evidence suggests that the two mills ran at full capacity for less than one year.

34. Ibid., October 28, 1890.

35. Ibid., January 2, 1888.

36. Ibid., February 24, 1888.

37. Ibid., March 12, 1888.

38. Ibid., February 8, February 22, 1888.

39. Ibid., December 30, 1890.

40. For information about concentrators see Young, *Western Mining*, 136-140.

41. Waldo to R. W. Waterman, February 9 and March 13, 1889, Waterman Papers.

42. California State Mining Bureau, *Report*, X, (1891), 541.

43. Waldo to R. W. Waterman, September 1 and November 12, 1889, Waterman Papers.

44. Ibid., September 19 and December 6, 1889, January 27, 1890.

45. *Ibid.*, August 19, 1890. On July 9, 1890 Waldo wrote to his father: "The mine is looking quite well but we are sadly in need of men for mining."
 46. *Ibid.*, March 12, 1890.
 47. *Ibid.*, December 19, 1887.
 48. *Ibid.*, May 28, 1888.
 49. *Ibid.*, May 19, 1890, February 15, 1891.
 50. *Ibid.*, September 22, 1889.
 51. *Ibid.*, April 2, 1890.
 52. *Ibid.*, December 9, 1890.
 53. *Ibid.*, November 9, 1890.
 54. *Ibid.*, January 23, 1889.
 55. *Ibid.*, March 16, April 16 and October 19, 1890.
 56. *Ibid.*, March 16, 1890. This figure may not have included the monies spent on sinking a new shaft. In March, an insurance agent appraised its improvements at \$87,500, including the mill. Waldo agreed that this was appropriate.
 57. *Ibid.*, August 4, 1890. Regrettably, Waldo in his letters never indicated total gold production for the bonanza year of 1890. Writing on May 16, 1890, however, he said that "We have shipped \$97,000 since the new mill started [on February 1]," or \$27,700 per month. Extrapolated for the year, this would give a total of \$332,400. McAleer, without providing a source (the U. S. Mint?), writes that production for 1890 was \$344,231, or \$28,686 per month. Production had risen by more than 50% compared with 1889, which had been the most productive year so far. McAleer, *Stonewall Mine*, 46.
 58. Waldo to R. W. Waterman, November 3 and December 4, 1890, Waterman Papers.
 59. *Ibid.*, October 19, 1890.
 60. Reproduced in McAleer, *Stonewall Mine*, 41.
 61. Waldo to R. W. Waterman, November 17, 1890, Waterman Papers.
 62. *Ibid.*, December 7, 1890.
 63. *Ibid.*, December 21, 1890.
 64. *Ibid.*, January 16, 18, 1891.
 65. *Ibid.*, January 25, 1891, February 4, 1891.
 66. *Ibid.*, February 15, 1891.
 67. McAleer, *Stonewall Mine*, 46.
 68. According to McAleer, under their ownership, the mine produced \$906,063. McAleer, however, believed that no accounts were available for the years 1886-1887, unaware of Waldo's letter dated November 20, 1889 where he wrote that in these years the mine yielded \$125,000 in gold. Adding this to McAleer's total gives \$1,031,063 for total production under the Watermans. Waldo's letters provide slightly different figures. Waldo wrote that from 1886 to the end of 1889, the mine yielded \$535,000, but he supplies no figures for 1890-1892. If we borrow McAleer's numbers for these later years, then the total is \$1,025,661, which differs little from McAleer's total. McAleer, *Stonewall Mine*, 46.
 69. Thornton, *Daring to Dream: The Life of Hazel Wood Waterman*, 55, 63, 105.
 70. Waldo and Hazel Watermans' son Waldo, a pioneer aviator and inventor, made the first glider flight in San Diego at age 15 in 1909 at Albatross and Maple Streets.
- My special thanks go to Richard H. Lawson and James Newland, each of whom in his own way contributed to this essay. This essay is dedicated to the memory of Tom Crandall.