

MAKING THE MOST OF EXPERIENCE

THE CAREER OF WILLIAM J. LORING, NEVADA MINING ENGINEER¹

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TONOPAH RESIDENTS ARE seemingly oblivious to the fact that the remains of a world-famous mining engineer rest in the local cemetery. His name does not appear in records of the Tonopah Mining Museum, and the staff of the Mizpah Hotel, where he died in 1952, did not know he had lived there for several years. His grave is marked with a tiny tin sign that belies the wealth this leading figure in the mining world once produced.

If in death he is forgotten, in his lifetime Loring generated over \$300 million in paydirt, most of it gold at \$20 per ounce. His career was nearly over when Franklin Delano Roosevelt raised the gold price to \$35 per ounce. Loring died long before the Nixon administration allowed gold to float free on the open market. At today's gold prices, Loring's production total would amount to something over \$100 billion--probably still a record for an individual mine developer.

Loring's career personified the boom-and-bust history of the mining industry. A native Californian of middle class, Anglo-American parentage, he was the son of a lawyer who had entered California from Illinois during the Gold Rush, eventually settling in Amador County. There Loring grew up, attended the local grade school, and began his mining career at age 12 as a roustabout on the East Keystone for fifty cents a day. Alvinza Hayward, the Comstock tycoon, hired him at the Plymouth Mine when Loring was fourteen, and he learned every aspect of the miner's trade as he worked his way up from mucker to oiler to millman to assistant amalgamator. In 1888, after the Plymouth Mill burned, Hayward transferred him to the Utica Mill at Angels Camp. There he remained for the next 13 years, working under the Utica's colorful General Manager Charles D. Lane and his brother Thomas. Loring rose quickly in the organization, making a name for himself as a creative technician with a sound business mind. As super-

intendent of the Utica Mills in the bonanza 1890s he developed the "Loring mortar," a patented new design that reduced the space around the stamp heads, thus increasing the capacity of the Utica's 160 stamps by nearly one-third. Loring's published account of his Utica operations is an excellent technical description of gold milling procedures in that day.²

In 1901 William C. Ralston, son of the flamboyant San Francisco banker and Comstock promoter, hired Loring as superintendent of the Melones Mine on Carson Hill in Calaveras County, California. In a matter of months Loring had built an efficient 60-stamp mill as well as the water delivery system that powered it. Early in 1902 he caught the eye of T. J. Hoover, later a dean at Stanford and brother of Herbert Hoover who was a partner in the British-based Bewick, Moreing Company (BMC), a consulting, investing and management firm with world-wide operations. This was the organization that had launched Hoover on his successful mining career, and it would do the same for Loring.³ After some negotiation Loring accepted a \$9,000 per year offer to become superintendent of the Sons of Gwalia Mine in Western Australia, a BMC enterprise. For the next seven years he revamped BMC mines, increased production, and earned the respect of both miners and managers.

In 1908 Hoover left the BMC partnership and organized an independent management and consultant business with his brother Theodore. He sold his 1/3rd interest in the BMC firm to Loring, who by that time had charge of 16 different mines and had become the head of all field operations in Australia.

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Relations between Loring and Hoover, initially very cordial, deteriorated rapidly as the two headstrong engineers competed for business. In leaving the BMC partnership, Hoover had signed an agreement by which he was to refrain from practicing the profession of mining engineer within the British Empire for 10 years. Within two years after signing the agreement, however, Loring was complaining that Hoover and his brother were causing no end of trouble for the firm. Had he seen a letter Herbert Hoover wrote to one BMC employee, Loring might have been even more upset. It appears that Hoover, the Middle Border Puritan, had little respect for either Loring or Melbourne. In his opinion, Loring "has no moral courage, and his partners will lead him into trouble in time; moreover, as you say, loyalty is wholly foreign to his character. In fact he is steeped in Melbourne views of business honesty."⁴

In contrast to the Hoovers, competition, not morality was Loring's primary concern. He told his London partners that the Hoovers had entered the oil development business in Australia and New Zealand without BMC approval. A letter in 1910 to his London partners warned that "H.C.H. has cropped up again with his usual regularity in showing his upper disregard for us. If he thinks such actions will create confidence in him, he must think we are blooming fools."⁵

On Loring's recommendation, C. A. Moreing, the firm's head, went to court in 1910, seeking a restraining order and damages against Herbert Hoover for violating the terms of the 1908 agreement. The case hinged on the definition of the term "mining engineer." Hoover and his supporters filed a half-dozen depositions claiming "that the getting of mineral oils from the interior of the earth is in no way connected with mining or mining engineering."⁶ BMC solicitors, of course, brought in their own experts, filed numerous depositions and added allegations that Hoover had proselytized BMC employees and did other harm to company operations. The case dragged on for six years but was settled out of court in 1917 after Hoover agreed to pay £5,000 to the Moreing firm.⁷

Even though beholden to both Hoovers for his rapid rise, Loring blamed them for much of the backbiting he had encountered among BMC employees in Australia, and for years his resentment lingered. Publicly Loring was charitable, especially after Hoover reached the White House. In an interview for a Kansas City paper in 1933, Loring told reporters that he and Herbert Hoover had camped out together for a week when Loring first came to Australia. "I thought he was a great man then," he said; "I think he is a great man now." But a few years later, when Loring was destitute, he privately cast aspersions at Herbert. "That gentleman," he wrote D. C. Demarest, "is as cold as a stone. He could have done me a great good and how I would

have appreciated that little boost--but not a word of credit was given me."⁸

Loring's bitterness did not develop until late in life. The Hoover troubles before World War I evidently did no serious harm either to him or to the world-wide operations of Bewick, Moreing and Co. Between 1908 and 1913 Loring was full partner and general manager of all BMC mining operations around the world. He traveled widely during this period, covering every continent and nearly every major mining district, supervising silver and tin mines in Burma, opening gold mines in Northern Ontario, developing new tin mines in Cornwall. His work took him to New Zealand, Nicaragua, West Africa, the Far East--to every corner of this far-flung British mining empire.

While still with Bewick Moreing, in 1911 Loring returned to California and reopened the Plymouth Consolidated, Alvinza Hayward's old mine in Amador County that had shut down when the main ore body pinched out at 1,600 feet.⁹ Upon Loring's recommendation, BMC picked up the option on the Plymouth despite the prevailing London opinion that it was "not good policy" to invest in a mine that had only 110,000 tons of low-grade ore in sight after extensive investigation. Loring, however, had studied other Mother Lode mines and had seen a pattern in "mine after mine," he later wrote; mine developers had found "better ground by deeper sinking."¹⁰ By 1920 the Plymouth was at 3,100 feet and had generated over \$1 million profit despite wartime disruptions and rising costs.¹¹ Eventually ore production totalled \$8 million below Hayward's old workings.¹²

Early in 1914, Loring left London on a business trip and was in the Far East when World War I erupted. Rather than risk a European crossing he returned to the United States and remained in California to investigate other Mother Lode properties for his British firm. The historic gold mines of Carson Hill in Calaveras County, mostly shut down because of overextended operations and poor management, seemed a likely prospect, but the war cut off British funds. Apparently it also marked the end of Loring's formal ties to Bewick Moreing, although I have not confirmed the date when the partnership formally dissolved. At any rate, Loring now turned to American capital. With the aid of a Boston syndicate led by Edward A. Clark, President of the American Zinc and Smelting Company, Loring took an option on the Calaveras mine and hired as superintendent Archie Stevenot, grandson of Carson Hill's early millman and consolidator. Up and down the Mother Lode excitement mounted as miners anticipated big developments under Loring's leadership.

They were not disappointed. Loring brought a refreshing concept to Carson Hill: unite the mines of the entire district under one management. That proved

the solution to successful development after 60 years of fragmentary and desultory efforts that up to World War I had produced millions of dollars of high-grade gold ore but had paid no dividends. Within four years, he had consolidated all the major mines, including the long-idle Morgan and the recently active Melones, and had begun to modernize both mining and milling operations. Relying on local loans from a regional bank in Sonora when necessary to supplement revenue provided by his mills, Loring in 1919 was undisputed king of Carson Hill.

Luck played a role in Loring's success. On the Morgan claim, Stevenot explored the 300 foot level and the ore body on the hanging wall of a quartz vein which had never been worked although the adjacent Melones Company had tapped it earlier below the 300 foot level--thinking they were still in Melones boundaries, since the vein dipped 60 degrees to the east. Subsequently trenching the surface after the discovery, Loring and Stevenot located the top of the ore shoot. Before them was a massive lowgrade ore body, the upper portion of which could easily be worked by an inclined skipway that extended from the surface to the 1100 foot haulage level, which the new company had taken over by acquiring the Melones. An electric locomotive hauled six to eight cars of nine ton capacity each to the new 30 stamp mill which Loring erected at the town of Melones on the Stanislaus River. Production reached nearly 13,000 tons per month by 1921.¹³

During the productive years at Carson Hill Loring gained international recognition by serving two terms as President of the American Mining Congress. The AMC presidency was the apex of his career, but fame and fortune did not last long.

The first setback came at Carson Hill. Despite Loring's efforts, development work ate up most of the revenue. The mine paid no dividends in this period, and Boston backers in 1924 called Loring to account. He resigned as general manager rather than try to meet demands he felt were impossible. His friend Demarest later blamed a messy divorce and general price inflation after World War I for Loring's fall. Stevenot quit also, and they were replaced by new management. Two years later their successors shut down after exhausting the visible ore. Stockholders eventually lost their equity when bondholders sold the remaining company assets for \$500,000.¹⁴

Loring's career continued to slide in the late Twenties and Thirties. As both consultant and manager, he traveled extensively in California, Arizona and Nevada before World War II, but a combination of bad luck and bad timing hampered his twilight years. During the late Twenties a Nevada tungsten mill in which he had invested a third of a million dollars shut down when tungsten demand dropped. The collapse of copper

prices in 1929 ruined his opportunity for expanding production on a large orebody he had developed in Arizona.

The worst blow came during the Depression, just when the careers of other engineers were picking up due to the mining revival after the Roosevelt Administration raised the price of gold. In 1933 Loring joined an Arizona syndicate that leased a half-mile of the Comstock Lode along the Chollar, Potosi, Savage, and Hale & Norcross workings. Appointed general manager of the Arizona Comstock Co., Loring planned to recover the low-grade ores near the surface by a series of shafts and winzes at "picked localities." To process ore he erected a flotation mill near the Hale & Norcross portal. The initial results, however, "proved very disappointing financially," in the words of a state mining bureau report, and this, "along with certain stock manipulations caused an investigation by the Securities [and] Exchange Commission." I have been unable to locate the record of this S.E.C. investigation, which probably was never completed due both to the enormous volume of work dumped on this fledgling agency, and to the ultimate collapse of the Arizona Comstock venture. Before it folded Loring took what some regarded as an act of desperation. In 1934, to increase the volume of processed ore, Loring abandoned the underground workings and opened a surface excavation with a power shovel on the Hale & Norcross outcrop above "C" Street in Virginia City. This "huge gash" in the side of Mt. Davidson, still known as the Loring Cut, was 900 feet long, 300 feet wide and 200 feet deep. From it nearly a million tons of waste and ore were removed and hauled one and a half miles downhill to the flotation plant. As one report described it, this "deep cut, mined without benching, was a striking sight and [was] accomplished without fatal slides." The company reported a 70% recovery of ore values by flotation, but that figure was challenged by later experts: "judging by tailing assays from impounding dams below the mill in Six Mile Canyon and on the Carson River," said one, "the average was much below this figure." Cyanide treatment of neighboring ores yielded up to 90 percent, but the Arizona Comstock had too much money invested in flotation to make the conversion. In 1938 it shut down, owing the property owners "a large sum for royalty and milling water."¹⁵

Loring never recovered from this fiasco. His money exhausted, his reputation badly damaged, he put all his personal goods in storage and headed back to California with his third wife, trying for a new start. It was not easy at age 69. For years he lived on credit and a few cash reserves, trying all the while to rebuild his consulting and managing business. But his advanced age and the Arizona Comstock damage continued to dog him. As he explained to an uneasy creditor, mine

owners who might have used his experience "would rather employ some slick talker of the Hot Air type than one with a life time of experience."¹⁶ Perhaps his old-fashioned methods and lack of formal training also hurt him in the eyes of younger corporate investors.

As mining picked up again after World War II, Loring found a little work in Nevada as consultant, but at increased cost to his health. In 1950 he wrote a friend that he had just finished an exhausting inspection of the vein structure of a steep slope which required him to hang on to a rope to take samples after walking three miles uphill to reach the property.¹⁷

He was then age 81, with bills piling up faster than income. The goods he had stored in 1938 were still sitting unredeemed in a Nevada warehouse, with the management clamoring for payment. Destitute and desperate, Loring wrote long letters begging for more time. During the Korean War his last great hope rested on prospects for renewed tungsten production. He told the warehouse creditors that he had "taken over one of the best Tungsten properties I have ever seen," and was organizing a California syndicate to mine it. "I have had a Hell on earth from conditions over which I have had no control," he wrote, "but things look well this time on account of the tungsten which is a war necessity, and we have rich ore--indeed it is rich, and will be in production soon, but I am only getting started." Six months later, with still no production, he wrote another long and pathetic entreaty to the same creditor:

"This is an appeal from one who has had riches and seen better times when such a letter as this one is would not ever be considered necessary, and it is hard for me to bring myself to the point of asking favors....I am not trying to beat you out of a cent, just appealing for additional help to a fellow creature in temporary distress."¹⁸

Declining health added to his troubles as he described them to Archie Stevenot in 1952: "I have been very unwell for the past ten months, having overworked myself in climbing mountains here in Nevada, the result being that my heart gave out..."¹⁹ Most of the trouble, he said, was caused by "...too much hard up hill rushing trying to keep up with men ONE THIRD my age, and they did not care a Tinkers D... whether I kept up with them or not."²⁰ Considering he was then 83 years old, the problem was not surprising. He died that October of heart failure and was buried in Tonopah, where he had lived for several years on the indulgence of the management of the Mizpah Hotel. His wife, who had been working for years in San Francisco to help support him, had to borrow \$40 for the bus ride to his funeral.²¹

A self-taught practical engineer, Loring attributed his success partly to hard work and experience, and

partly to "his willingness to take a chance."²² He was no wildcat speculator, however. Like most successful men in the mining industry, Loring was willing to take reasonable risks but was never reckless.²³ The most dubious ventures he scorned. In 1923, for example, he rejected an offer to take an option on the Midas Mine in Tuolumne County because it was full of water and would require a \$30,000 investment just to inspect. "In any event," he wrote, "I am not interested in one of these blooming holes in the ground that requires to be bailed out before a sample can be taken." To Loring it was a matter of common sense: "There is some good reason for the accumulation of water referred to in this mine, otherwise, it would be operated..."²⁴

Loring went a long way with common sense and experience. In the glory days before World War I he was wealthy and much in demand. The first engineer to visit the famed Porcupine District in Northern Ontario, he turned down an offer to become general manager of four Canadian mines at an annual salary of \$80,000 plus 15% of the net profit. In those flush times he could afford to be selective, and even lavish in dress. D. C. Demarest reported that Loring once kept a fashionable apartment in San Francisco, with enough pants, shoes and ties to stock "a small haberdashery."²⁵

Practical education had its limits, however. In later years he was taken in by a geophysical engineer who professed to locate not only gas and oil, but ore bodies as well, using a technique called "Radio Atomic Affinity." As Loring enthusiastically wrote Stevenot:

"I have proven it and there can be no mistake, he will locate an ore body, give the exact location as to depth, width and length,...and can say if it is very rich or very lean. It is the most marvelous instrument I have ever seen...This story may sound like a Fairy Tale, but it works which takes it out of the Fairy Tale class, and you know that I know what I am doing regarding mining."²⁶

Educated engineers, understanding the limits of physics, at least as of 1951, might well resore this tale to the fairy category.

The 71-year career of William J. Loring illustrates the opportunities as well as the pitfalls of individuals with great ability and ambition in the formative years of America's western extractive industries. Undaunted by the lack of formal education, Loring rose to the height of prestige and power within his profession. His subsequent fall as a practicing professional was due largely to external circumstances beyond his control. Today over 40 years after Loring's demise, mining engineers could not function without formal training in geology, chemistry, metallurgy, waste management, environmental law and a host of other specialties. Many of these subjects were growing in importance during Loring's

time, and he recognized the need for specialized training. In an interview with T. A. Rickard he advised younger men interested in a mining career to "avoid a smattering of many subjects," but at the same time to combine university training with practical mining during vacations. The fact that Loring was able to reach the peak of his profession on experience alone marks him, in the slightly-modified words of T. A. Rickard, one of the "last of the old-time engineers."²⁷

ENDNOTES

¹An early version of this paper was published in Ronald H. Limbaugh and Willard P. Fuller, Jr., *Calaveras County Mining, Logging and Railroading, 1848-present* (San Andreas: Calaveras County Heritage Council, 1980).

²Loring, "Mill Practices at the Utica Mills...." *A.I.M.E.* (1898).

³Clark C. Spence, *Mining Engineers and the American West* (New York: Yale University Press, 1970), 298.

⁴Herbert C. Hoover to Agnew, June 1909, NARS microfilm MF70/454, in Hoover Presidential Library, West Branch, Iowa.

⁵W.J. Loring to T.W. Wellsted, Bewick Moreing Co., 19 March 1910, NARS microfilm MF70/454, in Hoover Presidential Library, West Branch, Iowa.

⁶Statement of Claim, 16 April 1910, in the case of Moreing, Wellsted & Loring v. H.C. Hoover, NARS microfilm MF70/454, in Hoover Presidential Library, West Branch, Iowa.

⁷Terms Agreed Upon Between the Plaintiffs & Defendant, BMC v. Hoover, 4 Jan 1917, NARS microfilm MR70/454, in Hoover Presidential Library, West Branch, Iowa.

⁸Quoted by D.C. Demarest in letter to A.S. Stevenot, 24 Oct 1952, Stevenot papers, Holt-Atherton Library, Univ. of the Pacific, hereafter UOPWA.

⁹Excerpt from speech of W.J. Loring, *Mining and Scientific Press*, 115 (Jan. 10, 1914), 109-10.

¹⁰W.J. Loring, "Re-Opening of the Plymouth Mine and the Results," *Mining and Scientific Press*, 121 (Nov. 27, 1920), 771-2.

¹¹Ibid.

¹²Demarest manuscript, chapter 36, pp. 12-13, in Demarest Papers, UOPWA.

¹³J. Young, "Gold Mining at Carson Hill," *Engineering and Mining Journal* (Nov. 5, 1921), 725-9.

¹⁴Clarence A. Logan, "Mother Lode Gold Belt of California," CA Division of Mines *Bulletin* 108 (Nov. 1934), 129-31. In the 1930s, new management open-pitted the two major ore bodies and set new production records until the mill was destroyed by fire early in 1942, a few months before the government ended gold mining for the duration of the war. Limbaugh and Fuller, *Calaveras County Mining*, 107.

¹⁵Carl Stoddard and Jay A. Carpenter, "Mineral Resources of Storey and Lyon Counties, Nevada," Nevada State Bureau of Mines *Bulletin*, 44 (March 1950), 33-4.

¹⁶W.J. Loring to Nevada Transfer & Warehouse, 3 July 1940, in Stevenot Papers, MS 197, Box 6, UOPWA.

¹⁷Loring to A.P. Stevenot, 26 August 1950, Stevenot Papers, UOPWA.

¹⁸Loring to H.E. Stewart, 8 December 1951, Stevenot Papers, UOPWA.

¹⁹Loring to A.D. Stevenot, 19 April 1952, Stevenot Papers, UOPWA.

²⁰Loring to A.D. Stevenot, 1 May 1952, Stevenot Papers, UOPWA.

²¹A.D. Stevenot, to Donald Emery, 17 October 1952, Stevenot Papers, UOPWA.

²²Young, "Gold Mining at Carson Hill," pp. 725-9.

²³Richard H. Peterson, *The Bonanza Kings* (Lincoln: University of Nebr. Press, 1977), 111-3.

²⁴Loring to R.C. Eisenhower, 9 May 1923, in Stevenot Papers, UOPWA.

²⁵D.C. Demarest to A.S. Stevenot, 31 August 1953, Stevenot Papers, UOPWA.

²⁶Loring to Stevenot, 5 April 1951, Stevenot Papers, UOPWA.

²⁷T.A. Rickard, *Interviews with Mining Engineers* (NY: Mining and Scientific Press, 1922), 288-91.