

Minnie Mine: Main Workings
Site 5ST1145

The Minnie Mine was a long-lived producer that consisted of upper workings near the north rim of French Gulch and a main complex on the gulch floor. Both were recorded as separate sites. The main workings (5ST1145) featured a lengthy tunnel driven to undercut the vein system developed by the upper tunnel (5ST1167).⁷ In addition, the main workings included a shaft and a mill. Currently, the site lies on the north side of French Gulch at 10,200 feet elevation in the McKay Mining District. The steep wall of French Gulch, vegetated with a second-growth lodgepole pine forest, rises steeply to the north, and the gently sloped valley floor sprawls outward to the south. The site possesses mixed archaeological integrity and is an important element of French Gulch's historic landscape.

Minnie Mine History

During the mid-1870s, prospectors discovered a series of mineralized veins on the north rim of French Gulch. Several years passed before the prospectors realized that the veins, which carried gold, silver, and industrial metals, were components of a system that extended northeast through Mineral Mountain. In 1877, Samuel F. Cary identified a promising outcrop and claimed it as the Minnie, and within a short time, he staked additional claims to ensure enough ground for profitable mining.

In 1878, Cary began developing the Minnie through two shallow shafts, which he sank to depths of 20 and 60 feet the following year. By 1881, Cary apparently had several miners at work in one of the shafts, and they encountered a rich vein of galena ore. With pay rock now confirmed, a party of local investors took an interest in the Minnie and purchased the property. The investors included Robert Foote, R.P. Spencer, John M. Mairs, Alonzo Rich, and J.R. Martin of Arkansas. Foote and Mairs, mentioned above with the Extenuate Mine, were Breckenridge locals who invested in a number of nascent operations.

With their limited capital, Foote and Mairs developed the Minnie in a simple way and brought the property into minor production. The improvements consisted of little more than a shaft house over a 130 foot deep shaft. With the simple facilities, miners extracted ore from 1882 until 1884, when archival sources make no further mention of the operation for a while.¹

The lack of coverage suggests that production ended, and local geology was probably to blame. Above 100 feet in depth, natural oxidation freed the metal constituents of most types of ore, which was easy to treat in basic mills. Below 100 feet, however, the ore remained complex and resisted treatment, which rendered the pay rock uneconomical until effective processes could be devised. It seems likely that these conditions forced the closure of the Minnie operation.

During the late 1880s, Foote and partners reopened the Minnie in response to a high demand for lead ore. Smelters in both Summit County and Leadville found that lead ore served as an excellent fluxing agent in the furnaces, and their demand lasted for a number of years. To profit from the demand, Foote and partners decided to drive a deep haulage tunnel and undercut the ore system at great depth. Miners could then work the ore bodies from the bottom up and maximize production. Foot et al. sited the tunnel on French Gulch's north wall and drove it 1,100 feet, where they encountered the vein system. Through both the shaft and tunnel, Foote's

¹ *Colorado Mining Directory*, 1883:829.

crew then generated high volumes of ore for several years, when the ore grew too complex to be profitable.²

In 1889 or 1890, Foote and partners sold the Minnie to investors from St. Louis and Boston who were confident that they could profit from the complex ore. In 1891, the investors organized the Blue Hill Mining Company to finance a number of improvements. The most important of these was a concentration mill built by Smith-McKay, which was a firm that specialized in such facilities. While the mill was under construction, manager Thomas McKenna hired a crew to extract ore and provide the company with immediate income.³

The mill, sited at the haulage tunnel, proved to be crucial to the success of the Minnie. When finished in 1892, it allowed the Blue Hill Company to produce low-grade ore and concentrate the material into a grade that was economical to ship to a smelter. The mill featured a common flow-path that included several crushers, several sets of crushing rolls, screens, and jigs. The company kept the Minnie in production until the beginning of 1894, when the Silver Crash devastated Colorado's mining industry.⁴

After the Blue Hill company provided a solution to the complex ore issue, Foote took an interest in the Minnie again. In 1896, he and E.W. White leased the entire operation and resumed production. The partners enjoyed success for eight years until 1904, when they came to the conclusion that they had exhausted the mine's richest ore. When the Blue Hill company realized this as well, the investors decided to sell the property while a little ore still remained in the ground for show.⁵

In 1904, a consortium of capitalists bought both the Minnie and the adjacent Lucky mines with the intent of consolidating the operations. Elgin Mawhinney and Joseph H. Chandler resided in Chicago, Andrew W. Gillett was a lawyer in Denver, and C.F. Hazelton was local to Breckenridge. Together, these investors organized the Beaver Creek Gold Mining Company, purchased the Minnie and Lucky, and prepared for production. At first, the company leased the Minnie out while it considered how to finance necessary underground exploration for more ore. In need of additional capital, the investors were forced to reorganize their outfit into the Swastika Mining Company in 1907. The company's miners then finally found ore, but the material was too complex and limited in volume to be profitable, so the company stopped work. Unable to allocate the necessary funds, the company collapsed, and the Minnie and Lucky went idle.⁶

When the prices of silver and industrial metals began to rise during World War I, the Wellington Mines Company realized that the Minnie possessed economical volumes of low-grade ore left by the past operators. In 1916, the company purchased the property, pumped the workings dry, and dispatched a crew to rehabilitate critical areas underground. Once the mine was in operating condition, Wellington Mines leased it to various parties through 1918. At that time, the values of industrial metals declined with war's end, and the ore was no longer economical.⁷

When the Breckenridge area's mining industry declined during the early 1920s, the Royal Tiger Mines Company launched an acquisition campaign and began purchasing formally

² Henderson, 1926:242.

³ Canfield, 1893:53; "General Mining News" *MIT* 1/29/91 p68; "General Mining News" *MIT* 6/11/91 p273; "General Mining News" *MIT* 12/8/92 p263.

⁴ "General Mining News" *MIT* 12/8/92 p263.

⁵ Colorado Mine Inspectors' Reports: Minnie; *Colorado Mining Directory*, 1901:120; "Mining News" *MIR* 2/13/96 p376; "Mining News" *EMJ* 10/17/03 p597; *Bureau of Mines Scrapbook: Vol.36:11*.

⁶ "Mining News" *EMJ* 5/26/06 p1022; "Mining News" *EMJ* 1/26/07 p209; "Mining News" *MSP* 2/18/04 p109; "Mining News" *MSP* 5/26/06 p353; "Mining News" *MSP* 1/26/07 p109.

⁷ Colorado Mine Inspectors' Reports: Minnie; "Mining News" *EMJ* 9/9/16 p486; "Mining News" *EMJ* 11/24/17 p941; "Mining News" *MSP* 11/3/17 p663; *Mineral Resources*, 1918:868.

productive properties. The Minnie and Lucky were included, and Royal Tiger consummated a deal for the mines in 1921.⁸

Within the year, Royal Tiger made plans to explore for a continuation of the vein system in an area that had been ignored up to that time. Specifically, the company targeted the ground below the main tunnel level and commissioned the Traylor Shaft to tap into the vein. The shaft featured three compartments served by an unusual four-drum hoist and air compressor. The company apparently encountered ore but abandoned the project after several years probably because the pay rock was too low in grade to be economical.⁹

The Minnie remained vacant until metals values spiked again during World War II. In 1944, the Horn Brothers reopened the haulage tunnel and gleaned low-grade ore, which was now economical, from the old workings. They operated the mine in a small way until 1948, when B & B Mines purchased the property from Royal Tiger. At that time, Dave Davenport, who ran the Wellington Mine, leased the Minnie and planned for substantial production. In 1949, Davenport constructed a 30 by 60 foot compressor house at the tunnel and a log ore bin over the Traylor Shaft. The compressor house enclosed a Gardner-Denver duplex compressor, its drive engine, a shop, and a changing area for the miners. Davenport then rehabilitated the mill and brought it into working order.¹⁰

With these facilities, Davenport and his crew of five enjoyed production through 1951, when his duties at the Wellington Mine distracted him. In 1955, Davenport resumed activity in the tunnel and brought the Traylor Shaft into its first meaningful production since the early 1920s. By 1958, Davenport suspended operations because the crew finally exhausted the last of the mine's ore.¹¹

During the following year, low-grade ore left on the waste rock dump attracted John E. Griffin, who was an engineer and inventor developing milling equipment. He targeted the Minnie as an excellent proving ground for several new apparatuses that he was developing and then took a year lease on the property. In 1959, the Griffin Machinery & Manufacturing Company built a new, experimental mill over the foundations of the original concentration facility with the intent of using the low-grade ore for tests. After treating waste rock from the Minnie and several other mines in the area, Griffin was satisfied, packed up the experimental mill, and permanently abandoned the site.¹²

⁸ "Mining News" *MSP* 4/23/21 p576; Weed, 1931:851.

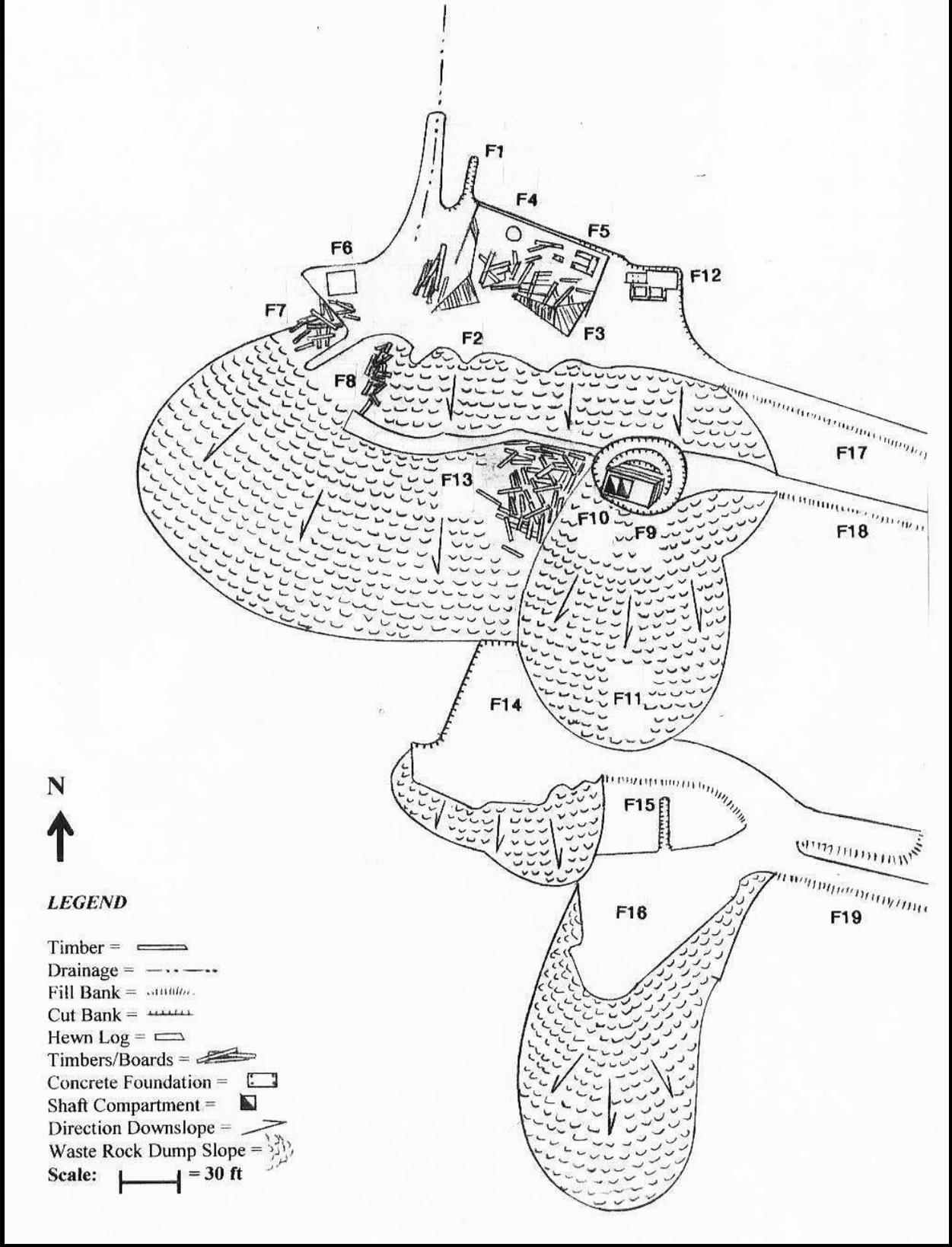
⁹ Weed, 1926:700.

¹⁰ Colorado Mine Inspectors' Reports: Minnie.

¹¹ Colorado Mine Inspectors' Reports: Minnie.

¹² Colorado Mine Inspectors' Reports: Minnie.

MINNIE MINE: MAIN WORKINGS
Site 5ST1145
MCKAY MINING DISTRICT, SUMMIT COUNTY, COLORADO



Minnie Mine: Main Workings Site Description

The Minnie Mine site currently features the remnants left from Davenport's 1950s operation. The tunnel (F1) is the only feature that clearly dates to the Minnie's early history. Like most tunnels in the region, the portal collapsed and is now a linear area of subsidence. The associated waste rock dump (F2) manifests as a broad terrace with scalloped edges that represent dead-end rail lines used to deposit the waste rock. Overall, the dump is 190 by 246 feet in area and 17 feet high.

The compressor house that Davenport erected in 1949 lies in ruins adjacent to the tunnel portal. The building (F3) was a side-gabled frame structure 36 by 48 feet in area, 12 feet high at the roof eaves, and 24 feet high overall. The actual size contrasts with the 30 by 60 foot measurements documented by the local mine inspector. Workers constructed a stout support system for the structure. A post-and-girt frame of 8x10 posts spaced every 12 feet stood around the perimeter, and workers notched the crowns for diagonal braces. Workers then nailed 2x8 studs spaced every 2 feet between the timbers to support plank siding, which they clad with corrugated sheet steel. The foundation consisted of additional 8x10 footers, which rotted and allowed the structure to collapse.

Evidence of the air compressor and the shop within the compressor house clearly remains today. A forge (F4) stood against the north wall, and it denotes the location of the shop. The forge is a circular steel unit 5 feet in diameter and 2½ feet high, and it features a concrete cap. Compressed air blew air into the fire up through a port in the concrete, and a hatch at the forge base allowed the blacksmith to extract clinker. A tool rack wraps around the forge's west rim.

Workers installed the compressor in the east corner of the compressor house, and the machine's Portland concrete foundation (F5) currently remains. The main foundation is U-shaped, 9½ by 12 feet in area, and 3 feet high. A pad for the drive engine extends northwest. The foundation's footprint confirms that the compressor was a belt-driven, multistage duplex unit.

The surface plant included a small, frame building used for storage on the west edge of the waste rock dump. The foundation (F6) currently remains, and it consists of a plank floor supported by cobbles.

The Traylor Shaft lies south and below the tunnel level, and it features the distinct log ore bin (F10) that Davenport built in 1955. When the shaft collar collapsed, it drew the entire structure as a unit down into the area of subsidence. The structure, 12 by 22 feet in area, consists of three compartments. The western and center compartments were for the shaft, and they feature guide rails for a skip hoisting vehicle. The structure's third compartment is the ore bin, which features a chute on the north side (front) to unload pay rock into trucks. Workers built the structure with V-notched log cribbing assembled around a 12x12 timber frame, which they reinforced with steel tie rods. The workers lined the bin with planks to prevent ore from leaking out. A deck on the structure's top served as a landing, and a headframe, now gone, stood over the shaft compartments.

The four-drum hoist that served the shaft stood on a cut-and-fill platform adjacent to and east of the compressor house. Currently, a concrete foundation (F12) remains. When Davenport reopened the shaft in 1955, his workers modified the foundation to accommodate a double-drum electric hoist. The front, south portion of the foundation features anchor bolts for the hoist and two wells for its cable drums. Behind stood reduction gearing and the hoist operator's platform, which were bolted to a raised concrete rim 6 by 7 feet in area. The motor, which was 2 by 3 feet in size, was bolted to a concrete pad 4½ by 4½ feet in area in the northwest corner.

The concentration mill erected in 1892 and used by Davenport during the 1950s stood below and southwest of the shaft. A platform (F14) currently remains, and it was completely bulldozed in 1959 for Griffin's experimental mill. The area also features a collapsed tunnel (F15) driven to intersect the Traylor Shaft. The mill platform, tunnel, and associated waste rock dump possess no integrity due to bulldozing.

Minnie Mine: Main Workings Site Interpretation

The Minnie Mine's main workings yielded ore for much of their life. The workings originally consisted of the haulage tunnel, the mill, and a boardinghouse. The existing remains, however, date to Davenport's 1950s operation, and little evidence of the previous improvements is left.

When Davenport leased the Minnie in 1949, he invested a significant amount of capital in a new surface plant. The compressor house was a substantial building based on a formal design, and it encapsulated most of the mine's critical facilities for economy. The air compressor was a costly unit, and the shop was spacious and well-equipped. Curiously, Davenport built the log ore bin directly over the shaft five years before he reopened this vertical entry. This suggests that, in 1949, Davenport intended to reopen the shaft at some point but probably waited until he had enough capital for the required rehabilitation. When he did reopen the shaft, Davenport again invested a weighty sum. He equipped the shaft with an electric double-drum hoist, which was an expensive apparatus reserved for substantial production. Overall, the surface plant that Davenport constructed was formally engineered and facilitated production in an efficient manner.

Minnie Mine: Main Workings Site Significance

As a site, the Minnie Mine's main workings consist of two portions. The first is a set of collapsed buildings and engineering features that represent Davenport's improvements. Davenport erected most of the facilities in 1949 to serve the haulage tunnel and the rest in 1955 for the shaft. The complex retains a high degree of archaeological integrity relative to these timeframes. The second component is a lower tunnel and platform on which a concentration mill stood. They completely lost their integrity to bulldozing in 1959 and recent reclamation. Given this, the complex at the tunnel is the site's only contributing element. The site retains a high degree of ambiance relative to mining during the 1950s, and the setting around the site is intact. The site is recommended eligible for the NRHP and the SRHP under Criteria A and C.

In terms of Criterion A, the Minnie Mine was important to Breckenridge during the 1950s. At this time, the area's mining industry was in decline and most operations had closed, but Breckenridge still relied on its handful of productive mines. The Minnie was among these, and it provided employment, contributed to Breckenridge's economy, and helped to sustain the area's culture of mining.

In terms of Criterion C, the Minnie is an excellent archaeological example of the type of hardrock mine common to Summit County during the 1950s. The collapsed buildings, machine foundations, and shaft structure clearly represent an advanced, formally engineered, and capitalized hardrock mine. Further, the exact type of hoist can be determined from the existing hoist foundation, and the shaft structure illustrates adaptive engineering.

The site is also an important contributing element of French Gulch's historic landscape. The Minnie is one of the most visually prominent sites on the gulch's north side and is a key part

of a larger group of other obvious mines. The waste rock dump and archaeological features represent a portion of the region's mining industry.

Minnie Mine: Main Workings Site Management Recommendations

Management recommendations suggest several actions. First, the Minnie Mine recreational trail crosses directly through the mine complex, and Summit County Trails and Open Space proposes developing the trail for heritage tourism. The mine complex provides an excellent opportunity to explain hardrock mining processes and engineering, and the industry as it was during the 1950s. This can be accomplished through signage or pamphlets.

Second, the site's two most-intact structures are worthy of stabilization if not reconstruction. Specifically, the compressor house can be rebuilt with its existing materials. The walls, or portions thereof, can be stood upright and the gabled roof restored, then stabilized with braces. The shaft structure can be lifted out of the existing area of subsidence with a crane and stabilized with concrete.