

Cashier Mine and Mill Site 5ST1158

The Cashier Mine was one of the most important producers in the northeast portion of the Golden Horseshoe. Two separate sites represent the operation; they include the main tunnel and base area (5ST1158) and the upper workings (5ST1159). The base area included the mine's principal haulage tunnel, a concentration mill, and workers' housing historically known as Brownville. Today, the site consists mostly of archaeological features, although several cabins stand amid Brownville.

The site occupies the floor of Brown Gulch, and the tunnel and mill were located on the gulch's east side and Brownville on the west side. A permanent stream flows down the gulch and supports a subalpine riparian habitat. The gulch's east side is forested with second- and old-growth lodgepole pines, and the west side is forested with an old-growth fir and spruce forest. The gulch walls are steep but the floor descends gently northward.

The site currently retains poor integrity due to invasive activities during the 1970s and 1980s. First, the property watchman bulldozed the area around the mill and most of the gulch floor in search of gold. Second, a new tunnel was driven to replace the original one when it collapsed. As a result, the area around the original tunnel was bulldozed. Third, the last residents to occupy Brownville modified the two standing cabins, built another structure, and removed artifacts.

Cashier Mine History

In terms of the area's mining history, the Cashier was a relatively late development. Miners worked Brown Gulch for placer gold as early as 1860, but few individuals attempted to find the hardrock source of the gold. After slightly more than twenty years, a party of prospectors closely examined the gulch and found specimens of gold ore around one-half mile up and south of the mouth. In the fall of 1884, they finally found the source on the gulch's east side and staked the Cashier, Mammoth, and Smuggler claims to retain title. To secure land for a mill, they also staked the Cashier Millsite on the gulch floor. Within a short time, the prospectors proved that the ore came from a system of several veins that offered great potential.¹

While archival records make little further mention of the Cashier for several years, it can be assumed that the prospectors either sold the claims or developed them. In either case, it is likely that the operators extracted the shallow, rich ore then suspended operations when the pay rock grew increasingly complex with depth.

Around 1887, F.E. Cristy and H.L. Vandemere owned the Cashier and contracted with a firm to build a mill based on the patented Wiswall process. How the process separated gold from waste is unknown, but it was supposed to work on the Cashier's complex ore. During the next several years, miners drove a tunnel and sank a shaft on the ore body and brought the ore to the mill. By 1889, it was apparent that the mill was a failure. In response, superintendent J.M. Conway hauled the ore several miles to the Ground Squirrel Mill in Galena Gulch for treatment. When the complex ore confounded this mill as well, the owners suspended operations.²

By the late 1890s, advances in milling technology provided a solution to the Cashier's problematic ore. In this context, Lewis Stanton of Boston and Thomas L. Wood, successful Boulder County mine owner, purchased the Cashier and organized the Cashier Gold Mining &

¹ "Mining News" *MSP* 11/15/84, p313.

² "Mining News" *Mining Industry* 11/1/89 p177; "General Mining News" *MIT* 8/20/91 p90.

Milling Company. The mine already featured two tunnels 350 and 400 feet in length, as well as a boardinghouse and several cabins. The partners added a new twenty-stamp amalgamation mill and several more residences and then began production.³

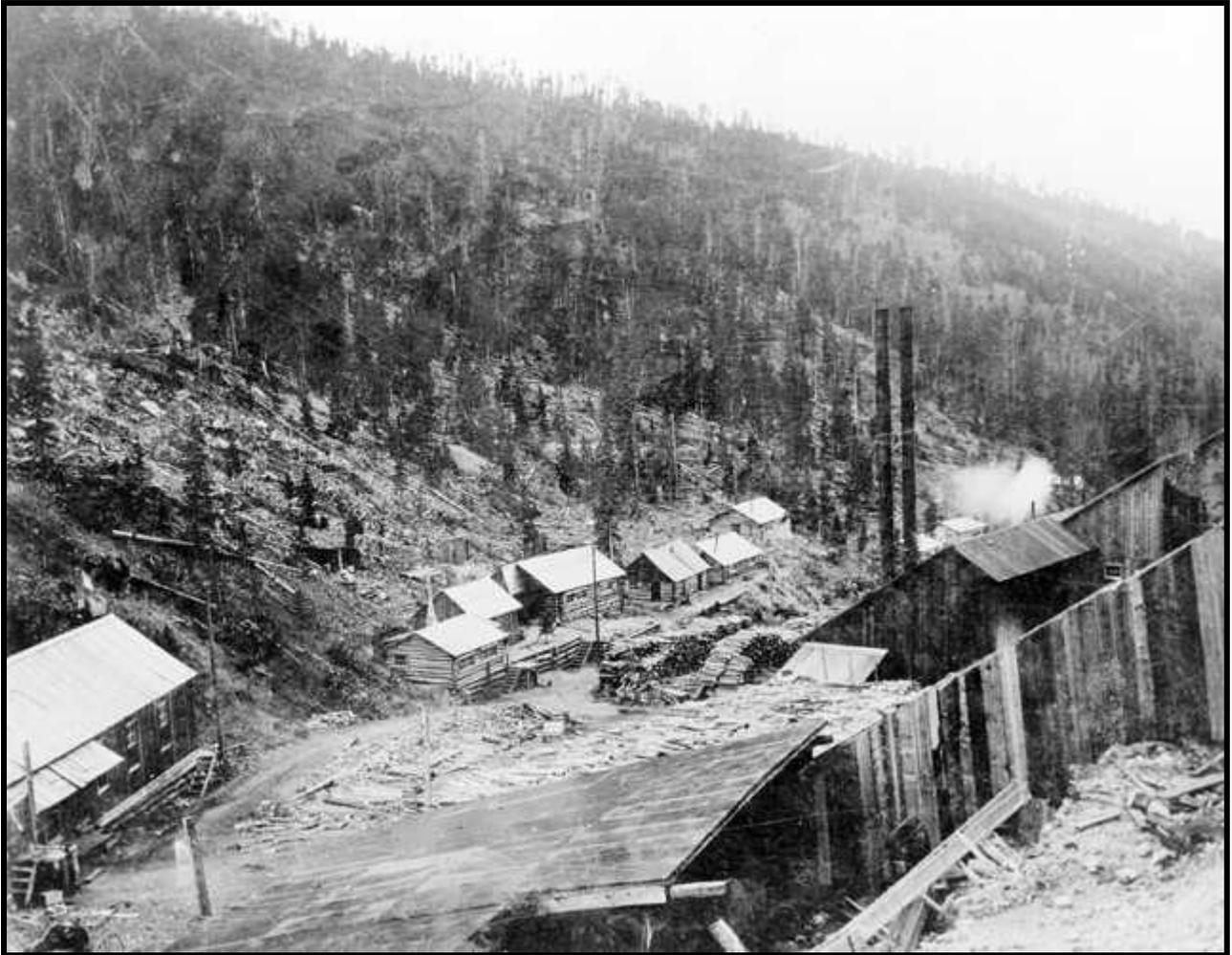


Figure 2.50: In this the northwest view taken around 1900, the Cashier Mill is at right and Brownville is at center. Today, platforms and two cabins represent Brownville, but little remains from the mill. Source: Denver Public Library, X-62421.

From the beginning, operations proved profitable, but the complex ore continued to present problems. Because a considerable amount of gold escaped the mill, Wood revised the process in 1902. He installed cyanide tanks to recover gold missed by the amalgamation tables, and he installed vibrating tables and Frue vanners to concentrate the material after cyanidation. The addition of twenty more stamps increased the volume of ore that the mill was able to treat.⁴

The improvements had the desired result and greatly increased the company's profitability. A crew of twenty-two workers produced ore and ran the mill at capacity through 1903 and 1904. The gold recovered by the amalgamation tables and cyanide tanks was shipped

³ Colorado Mine Inspectors' Reports: Cashier; *Colorado Mining Directory*, 1901:118; "Mining News" *Mining Reporter* 12/27/00, p406; "Mining News" *MSP* 9/9/99, p290; "Mining News" *MSP* 9/16/99, p320.

⁴ *Bureau of Mines Scrapbook* V.36:9, 20, 36; "Mining News" *EMJ* 2/9/02, p196.

to the Denver mint, and the leftover concentrates were sent to the Chamberlain & Dillingham Smelter in Breckenridge for final treatment.⁵

The efficiency of the operation hastened an end to the Cashier. By 1906 or 1907, miners exhausted the ore formation and, in response, the company suspended work. In 1908, the Cashier owners officially declared an end to operations when they dismantled the mill. The Wellington Mines Company purchased the machinery for a new mill that the outfit was building on its property in French Gulch. Up to this time, the Cashier yielded between \$200,000 and \$500,000 in gold and concentrates.⁶

John Traylor, manager of the Royal Tiger Mines Company, felt that the Cashier still possessed low-grade ore worth mining. In 1917, Royal Tiger purchased the property and included it in two plans. One was to drive a tunnel over from the IXL Mine and undercut the Cashier ore system at great depth in hopes that the pay rock continued downward. The other was to install a small mill on the foundations of the original facility and resume limited production from the existing workings. In 1919, Royal Tiger enacted the latter plan and found enough low-grade material to sustain minor operations through 1921. By this time, miners ran out of ore, and Royal Tiger found little of worth when it finished the deep tunnel from the IXL. By 1925, Royal Tiger abandoned work on the Cashier property.⁷

Cashier Mine and Mill Site Description

Today, the Cashier Mine and Mill site offers features and artifacts that date primarily to the Cashier Gold Mining & Milling Company's early 1900s operations. The site can be divided into three complexes, which are the haulage tunnel, the mill ruin, and Brownville.

The haulage tunnel lies on the gulch's east side, in the site's south portion. The tunnel (F1) collapsed and now manifests as a linear area of subsidence. A frame tunnel house stood at the portal, and it enclosed the tunnel portal, a shop, and other facilities. The building is gone but its platform (F4) remains, and it indicates that the tunnel house was approximately 18 by 60 feet in area.

Within the last fifty years, someone drove a new tunnel (F2) to bypass the collapsed original. They sited the new tunnel approximately 30 feet south and linked it with the old workings somewhere underground. The tunnel is open and features a heavily timbered portal.

When miners drove the mine's original haulage tunnel, they dumped waste rock at the portal, creating a pad around 100 by 150 feet in area. When the second tunnel was driven, miners extended the pad south around 90 feet. Over time, the entire waste rock dump (F3) attained the size of 100 by 240 feet in area and 15 feet thick. The mine's last operators used a bulldozer to scrape down the entire top-surface, which erased important features and buried artifacts.

A third tunnel provided miners with another point of access into the Cashier ore body, and they drove the tunnel (F6) east from a point above the mill. The portal collapsed and manifests as an area of subsidence.

⁵ *Bureau of Mines Scrapbook* V.36:31; "Mining News" *EMJ* 8/29/03, p328; "Mining News" *EMJ* 10/10/03 p560; "Mining News" *EMJ* 10/13/04 p607; "Mining News" *MSP* 8/27/04 p146; Ransome, 1911:148.

⁶ "Current News" *Mining Science* 2/20/08 p209.

⁷ Colorado Mine Inspectors' Reports: Cashier; "Mining News" *EMJ* 8/7/20 p281; Weed, 1920:570.

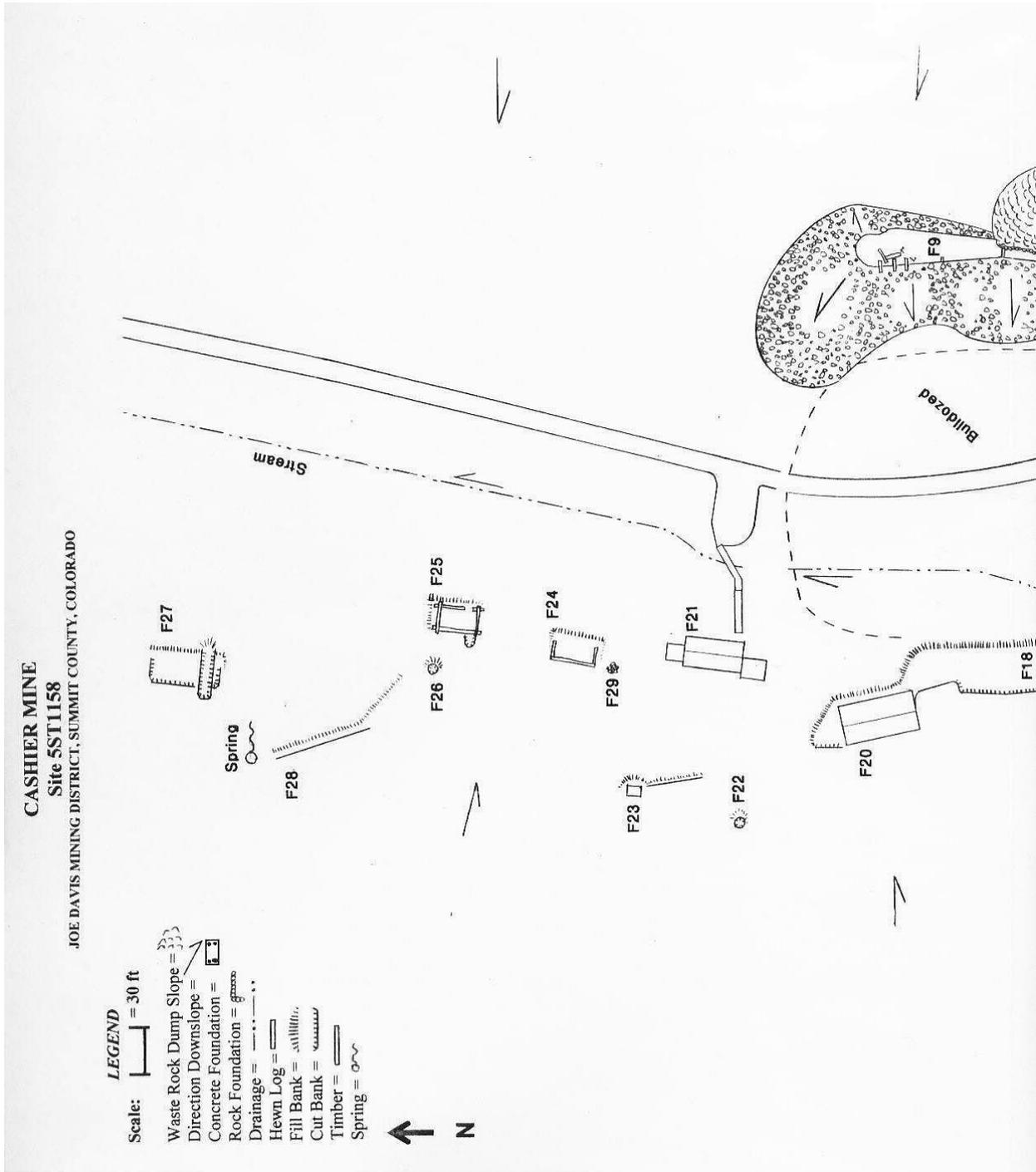


Figure 2.51: Plan view of the Cashier Mine and Mill site's north portion. The south portion is continued below. The residential features on the west side of the creek belonged to Brownville.

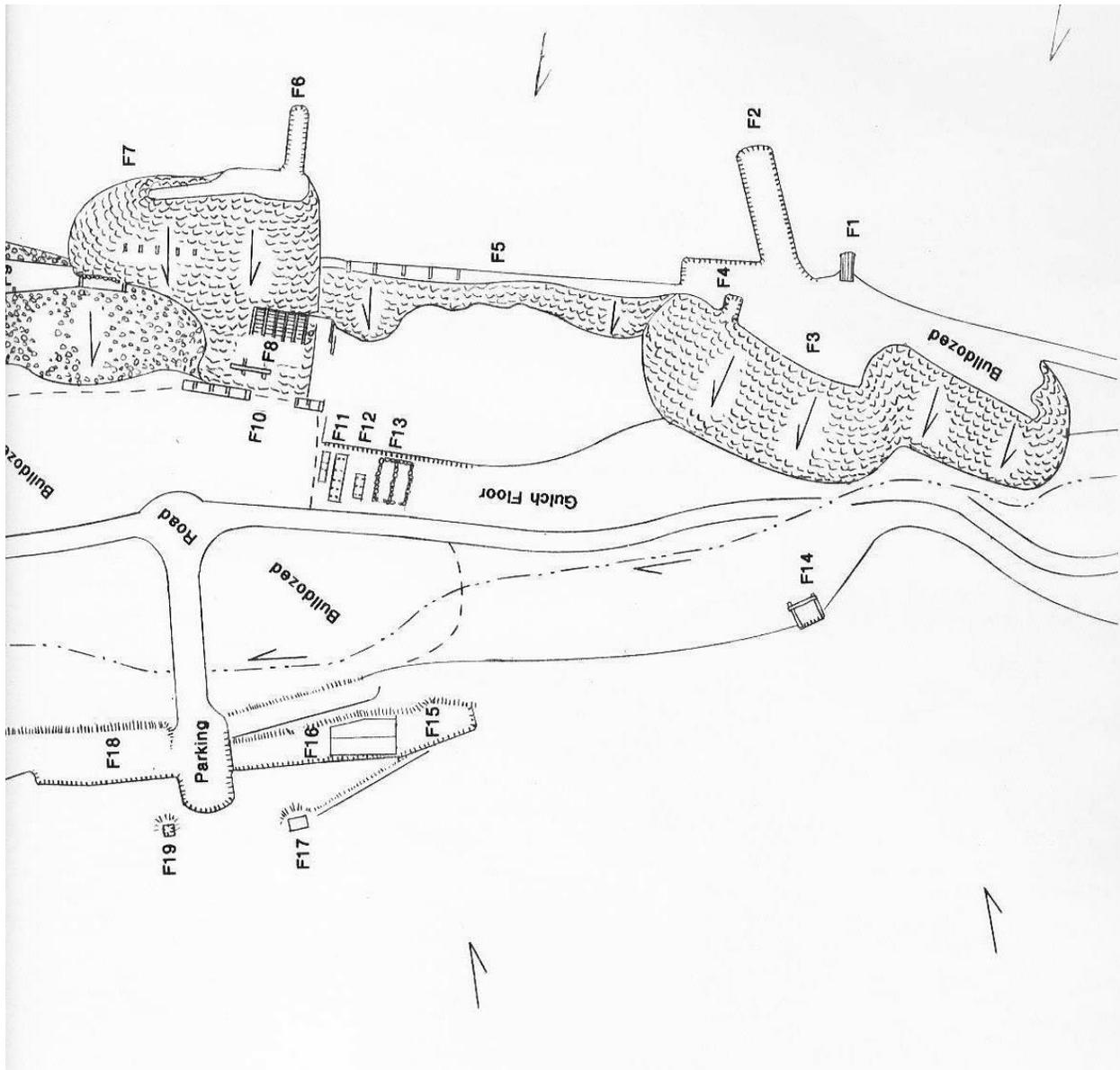


Figure 2.51: Plan view of the Cashier Mine and Mill site's south portion, continued from above.

Miners input ore into the mill from two sources. One was through the third tunnel mentioned above, and the second was via a rail line that traversed over from the main haulageway. The track crossed a bed (F5) of waste rock fill around 5 feet wide and 200 feet long.

The mill was a complex facility that included an ore sorting house and crusher at its head, batteries of forty stamps below, concentration machinery on its bottom level, and a powerplant in a southern extension. Earth removal and bulldozing destroyed most of the mill's aspects except for the powerplant area. Foundation elements and remnants of a bin (F8) represent the sorting house, and two partial pedestals (F10) are left from the stamp mill.

The power plant included a steam engine, an air compressor, and a boiler, which foundations currently represent. The engine foundation (F11) consists of two components. The

first is a pad for the engine body, and the second is a pylon for the engine's outboard flywheel bearing. The main pad is 6½ feet wide, 24 feet long, and is constructed with mortared rock masonry. The outboard flywheel pylon is free-standing, 3 feet wide, and 10 feet long and features a concrete pillow for the bearing. In total, the foundation is 12½ feet wide and 24 feet long.

The compressor stood adjacent to the steam engine, and it provided air that powered rock drills in the mine workings. The machine was bolted to a foundation (F12) consisting of 12x12 timbers over mortared rock masonry. The foundation's footprint indicates that the compressor was a steam-driven, straight-line model 2 by 11 feet in size.

A pair of return-tube boilers provided the mill's engine and other appliances with steam. The boilers, removed, stood over rock masonry settings (F13), which remain partially intact. Each setting is 9 by 20 feet in area and 6 feet high, and the interiors were 5½ by 18 feet in area.

Brownville was a linear arrangement of eight boardinghouses and bunkhouses on the west side of the gulch. The southernmost building in Brownville was a cabin 12 by 17 feet in area now represented by a log foundation (F14) and debris. A few artifacts lie scattered around, and buried deposits are unlikely because soil is thin and the adjacent creek is a poor preservation environment.

Workers graded a cut-and-fill platform (F15) for at least one residential building west of and across the gulch from the mill. Within recent decades, someone bulldozed the platform's top-surface and constructed a new cabin with salvaged materials. The cabin (F16), partially collapsed, was not historic. The residents relied on a privy upslope (F17), and the building is historic but the underlying pit is probably not.

Workers graded a second platform across the gulch from the mill for a third residence. The platform (F18) is 25 by 78 feet in area, although the residence, now gone, was smaller. A few artifacts lie on and extend downslope from the platform, and buried deposits are unlikely. The residents relied on a privy for their personal use, and the pit (F19) currently remains. The pit manifests as a depression 5 by 6 feet in area and 3 feet deep excavated amid overgrown scree. Lumber and several logs lie around the pit, and ground cover probably conceals small items that fell into the scree. The pit possesses a substantial pile of backdirt and may offer meaningful, buried deposits.

The fourth building in the row of residences is an intact cabin that currently stands north of the building platforms. The cabin (F20) is a side-gabled log building 19 by 37 feet in area, 6 feet high at the roof eaves, and 10½ feet high overall. The core is a log structure 19 by 28 feet in area, and it features an addition 9 feet long on the south side. Workers assembled the core's walls with square-notch joints on a foundation of logs, and the roof consists of planks clad with tarpaper nailed to five beams that span the core's length. The main entry was in the south wall, which the addition now obstructs. The addition, built within recent decades, matches the original core's width and roof line. The walls consist of panel siding nailed to 2x4s, and the foundation is little more than wall footers laid on log bolsters. The roof is like that of the original core, except that doubled 2x4 beams were used instead of logs. The recent residents affected a number of improvements to the cabin, including new Plexiglas windows, a stovepipe, and corrugated sheet iron cladding on the roof. They chinked gaps between logs with grout, installed fresh-water plumbing, and added skylights. The residents also cached building materials, vehicle parts, and hardware around the cabin. A few historic artifacts are present, and buried deposits are unlikely due to the steep mountainside.

The site's other intact cabin was the fifth building in the row of residences. The cabin (F21) is a complex, irregular structure that consists of a historic log core and two recent additions. The core was side-gabled, 15 by 21 feet in area, 6 feet high at the roof eaves, and 9

feet high overall. Workers assembled the walls with square-notch joints on a foundation of logs. The roof consists of planks clad with corrugated sheet iron supported by three log beams spanning the length of the building. The cabin's interior has been painted white and refitted with a plywood floor, a sink and counter, a stove pad, and a sleeping loft. None of the alterations match the original materials and workmanship.

The northern addition, which is recent, is a shed 6½ by 8 feet in area and 7 feet high. The addition served as a sauna, and the interior was divided into several small rooms. The southern addition, also recent, is L-shaped and was built for the storage of firewood and other materials. The main portion stands askew from the original cabin and is 10 by 11 feet in area and 11 feet high. The small portion is 5 by 8 feet in area and covers the cabin's south door. The addition has no formal frame and instead consists of various posts, cross-members, and rafters sided with corrugated sheet iron, and it stands on a poorly graded platform. Two plywood doors opened through the southeast crook of the L. The entire cabin currently stands in fair condition, having been maintained by past occupants. The roof has been patched, gaps between logs sealed with grout, and new stovepipe flashings nailed down. In addition, iron channel was laid along the upslope side to divert water away from the foundation.

Two privies served both cabins. One was historic, and its pit (F22) manifests as a raised mound of soil approximately 3 feet in diameter. The mound probably represents a pit that residents capped when full. Moss and ground cover conceals artifacts, and buried deposits are possible. The second privy (F23) is recent and still stands.

The site's sixth residence was a log cabin now reduced to foundation elements on a platform graded with cut-and-fill methods. The platform (F24) is 18 by 27 feet in area, and foundation logs indicate that the cabin was 15 by 22 feet in area. A few historic artifacts lie on and downslope from the platform, and buried deposits are unlikely due to the steep mountainside.

The seventh cabin is a partially intact ruin. The cabin (F25) was 15 by 19 feet in area and 6 feet high, and workers constructed it with notched logs. The workers chinked gaps with mud retained by log strips and clad the roof with corrugated sheet iron. The floor consisted of planks nailed to log joists laid on a cut-and-fill platform just large enough for the building. A root cellar approximately 3 feet wide and 6 feet long extended west into the mountainside, and it collapsed. A few artifacts extend downslope from the ruin, and buried deposits are unlikely due to the steep mountainside.

The northern cabin, now gone, stood on a cut-and-fill platform (F27) 20 by 42 feet in area. A trench used as a root cellar extended underneath the south portion, and workers installed plank lagging to retain its walls. The platform features impressions left from log floor joists and aspects of a log cribbing wall that retained fill material. The platform offers the richest artifact assemblage among Brownville's residential features, and items lie on and downslope from the platform. Shallow, buried deposits are likely immediately underneath duff downslope, although the steep mountainside prevented the accumulation of much material.

Overall, the site possesses an inconsistent and incomplete artifact assemblage. In the site's southern portion, development of the new tunnel erased, covered, or destroyed the old tunnel's artifact assemblage. Recent earthmoving and bulldozing had a like effect on the mill's artifact assemblage. Disturbance, bulldozing, collection, and general use reduced the assemblage associated with Brownville.

The artifact assemblage amid Brownville possesses enough dateable items to reflect general timeframes of activity, which can be extrapolated to the rest of the site. Miners lived in the southern cabin (F14) during the 1880s according to cut nails and hole-in-cap cans assembled

with lapped side seams. The cabin was inhabited again during the late 1890s and 1900s as reflected by wire nails and hole-in-cap cans assembled with inner-rolled and soldered side seams.

Brownville's third cabin (F18) was inhabited during the 1880s, and again in the late 1890s and 1900s. Cut nails, wire nails, and hand-finished bottle fragments represent the above timeframes.

The two standing cabins (F20, F21) were constructed by the Cashier Gold Mining & Milling Company during the late 1890s. The cabins' woodwork was assembled exclusively with wire nails, which postdate 1890.

The sixth and seventh cabins (F24, F25) were also constructed by the Cashier Gold company during the late 1890s. Cashier Gold company miners lived in the buildings during the 1900s and left hole-in-cap cans assembled with inner-rolled and soldered side seams. Royal Tiger workers inhabited the cabins during the late 1910s, which sanitary and vent-hole cans reflect.

The eighth and northern-most cabin (F27) shares the same timeframes as the southernmost one. The assemblage of dateable artifacts is similar, with a greater proportion of hand-finished bottles.

Cashier Mine and Mill Site Interpretation

Despite the loss of features and artifacts, a few conclusions can be drawn regarding the Cashier operation. Based on the moderately sized waste rock dumps, it appears that miners did not have to drive extensive underground workings to access and then develop the ore body. Because the ore body was a relatively short distance east from Brown Gulch, several short tunnels provided sufficient access.

The mine and mill were integrated into a single, efficient operation. The northern tunnel opened directly onto the mill, and a rail line linked the southern tunnel with the mill's head. The mill served as an important base area and featured the mine's air compressor and probably shop facilities. The compressor provided air that powered rock drills in the underground workings.

The mill was sited on the gulch floor, which offered several important benefits. First, plenty of water was available for the ore treatment processes. Second, the gulch floor offered enough open space to accommodate the large facility. Last, the gulch floor granted easy wagon access for the delivery of equipment and the removal of concentrates.

In general, the Cashier Mine and Mill represent a significant capital investment. The mill was large, well-designed, and included heavy equipment. The integration of the mine and mill required formal engineering and engendered great cost. The Cashier was highly productive and probably provided a sound return on the investment. According to a massive dump of waste rock (F9) generated in the ore-sorting house and deposits of mill tailings extending all the way down to the gulch mouth, the mill treated high volumes of ore.

The features and artifacts associated with Brownville allow us to draw a number of conclusions regarding the workforce. Most but not all the residents were men who belonged to a working-class socioeconomic status. This trend is reflected by the general absence of items representing fine and costly goods. A woman lived in the northern cabin, and she may have been employed as the hostler. A woman's boot sole directly confirms her presence.

The crew consumed a high-quality Victorian diet rich with fresh food. Numerous cans reflect an emphasis on preserved foods including soups, stews, vegetables, fruit, meat, fish, and preserves. Baking powder cans indicate that the crew also ate baked goods. The crew consumed a wide variety of fresh beef according to a high number of butchered bones, and cuts included ribs, stews, and steak.

The workers enjoyed alcoholic beverages, but the quantity per person was quite modest. The site's artifact assemblage includes twenty-three fragmented liquor bottles, seven beer vessels, and several liquor jugs. When averaged over the course of the mine's lifespan, the totals suggest limited consumption. A similar case can be made regarding the use of patent medicine. The six bottles suggest that some workers suffered temporary ailments, although the workers may have drunk some concoctions for their narcotic contents. One bottle contained a kidney cure for internal ailments, and a second bottle contained syrup of figs, which was a laxative.

Cashier Mine and Mill Site Significance and Management Recommendations

The Cashier Mine was among the most substantial producers in the northeast portion of the Golden Horseshoe. The site, however, is no longer significant as a historic resource because it lost integrity to extensive bulldozing and earthmoving. Because of the loss of important features and artifacts, the site does not soundly represent a mining and milling operation. Given this, the site is recommended ineligible. Management recommendations suggest no further cultural resource work.