

FAINT TRAILS IN THE WASATCH

61. Alta North Slope Roads

It is about time to address Faint Trails in Little Cottonwood Canyon, or those that cross the divide between Big and Little Cottonwood Canyons. Since most are accessed by way of roads on the north slope above the present town of Alta, it behooves us to describe those roads so they can be referenced in later discussions.

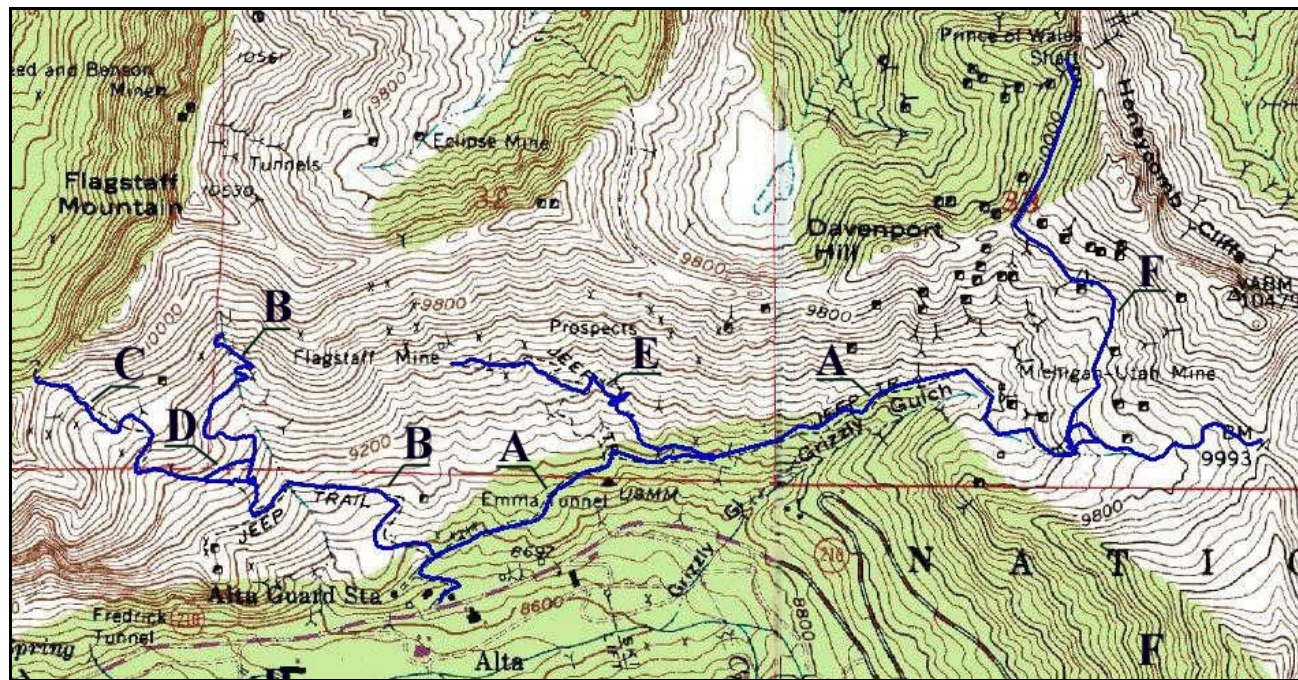


Fig. 1. Roads on the north slope above Alta include (A) Grizzly Gulch road running from Highway 210 near the Alta Lodge up Grizzly Gulch to Twin Lakes Pass; (B) Emily road, running up to the Emily mine; (C) Cardiff Pass trail/road; (D) cutoff road between Emily road and Cardiff Pass trail/road; (E) Flagstaff road; and (F) Prince of Wales road.

The map in Figure 1 is taken from the 1975 series of USGS 7-1/2 minute quadrangles. The roads superimposed on the map are GPS tracks taken in 2006 through 2008. The town of Alta is at the bottom of the map, with the precursor to the present Alta Lodge shown as a black symbol directly above the “A” in “Alta.”. The long switchbacks of the Albion Basin road are obvious in the lower right.

The primary road shown on the map joins State Highway 210, the Little Cottonwood Canyon highway, across from the Alta Lodge. It climbs steeply through two switchbacks before heading in an easterly direction. Although the town of Alta has never given this road a name it is sometimes called Michigan City Road, a misnomer because Michigan City never existed. For this series of articles it is called the Grizzly Gulch road. If it is followed in an easterly direction it goes the entire length of Grizzly Gulch until it ends at Twin Lakes Pass, overlooking Twin Lakes reservoir and the Brighton basin. This road is labeled as “A” on the map. At the mouth of Grizzly Gulch there is a gate across the road and another road that doubles back and goes down toward Alta to provide vehicular access to several cabins. This segment is not shown on the map. The road from the cabins back to the intersection with Highway 210 is the only part of the roads on the map that is regularly used.

Just before reaching the gate, another road branches off toward the northwest. It goes up to the Flagstaff mine, and therefore will be called the Flagstaff Road. It passes through the heart of the early Alta mining territory and offers much to be seen, subjects for future Faint Trails articles. It is labeled “E” on the map.

Above the two switchbacks on the Grizzly Gulch road, not far from its departure from Highway 210, a badly eroded road branches off toward the northwest. This is not to be confused with a road that heads west at the second switchback, which goes up to the old Alta Guard Station and appears as a faint double dashed line on the map. The road of interest here starts above the second switchback. It makes a sweeping S-turn, then crosses a prominent gully known in the past as Spring Gulch or Emily Gulch. There is a hiker’s foot trail that shortcuts the upper half of the S-turn; it is not shown on the map, but will be discussed in the next episode in this series. After crossing the gulch the road turns northward and climbs a considerable distance to its end at some substantial mining dumps. This is the site of the Emily mine, and for that reason this road is called the Emily road. It is labeled “B” on the map.

A short distance above the point where the Emily road turns in a northerly direction the very prominent and popular Cardiff Pass trail goes off toward the west. Actually this was once a road that went as far as the Toledo mine, not far below the pass. The width of the right of way, especially as it traverses steep slopes, testifies that it once was more than a simple foot trail. This route is labeled “C” on the map and will be called the Cardiff Pass trail, or, perhaps, the Cardiff Pass trail/road when the topic of discussion requires its use as a road.

There is a cutoff road between the Emily road and the Cardiff Pass trail/road that was used to avoid overly steep grades. Not having seen traffic for many decades, it is heavily overgrown, but will require several more decades of erosion to erase it completely. If one watches for it, especially when coming down the Cardiff Pass trail, it is fairly obvious. It is labeled “D” on the map.

The final road departs from the Grizzly Gulch road well up in the gulch, at least two-thirds of the way from the gate to Twin Lakes Pass, where it goes in a northerly and northwesterly direction until it reaches the pass between Grizzly Gulch and Silver Fork. Then it makes a long traverse above the east bowl of Silver Fork until it reaches the Prince of Wales mine, another popular hiking destination. This is where the boiler and hoisting machinery silently await the passing of the seasons, possibly ruminating over their long past years of glory. The road that leads to them is labeled “F” on the map and for obvious reasons it is known as the Prince of Wales road.

With but minor exceptions the roads described date from the mid-twentieth century. Most historical roads, and there are many of them, have become faint trails. The first exception is the Grizzly Gulch road from the gate up to the Prince of Wales road. That portion of the road dates back to the early 1870s when it served mines like the Grizzly, City Rock, Davenport and others. From the lower end of the gulch, but above the gate, the road descended directly into Alta, an alignment that can be seen in turn of the century photographs and in present day aerial photos. This would be a more direct and easier route into Grizzly Gulch, except the cabins mentioned above have been built over the road alignment. The second exception is the Prince of Wales road which was



Fig. 2. The route of the original Grizzly Gulch road is seen going toward the upper right corner of this 1920 USGS photograph. The upper portion, after the road changes direction, is on the same alignment that is seen today. The large dump at lower left is from the Tom Moore tunnel, which was across the street and a short distance west from today's Rustler Lodge. The next dump to the right is from the Bay City tunnel, located on the north side of the large parking area east of the Snow Pine Lodge. The road between the two dumps is on the same alignment as today's State Highway 210. The remaining roads mentioned in the narrative did not exist when this photograph was taken.

constructed around 1875 when a major improvement took place at the mine. It started at the City Rock mine and ran up to and across the pass into Silver Fork.

While these roads are not of particular historical interest, they will be referenced repeatedly in future articles since they provide access to old roads, trails and locations that may be under discussion.

FAINT TRAILS IN THE WASATCH

62. Goodspeed Trail Revisited

The very first episode of this series introduced the Goodspeed Trail, a route from Central City to the Reed and Benson and Ophir mines high on the east slopes of the South Fork of Big Cottonwood Canyon, now known as the Reed and Benson Ridge. That first article described the trail from the point where it crosses the Big Cottonwood - Little Cottonwood divide and goes to the mine. The rest of the trail, that which goes from Central City to the divide, is interesting and deserves some attention, especially since it will be referenced repeatedly in subsequent articles. It was first presented to the public in a map published by A. J. Bancroft & Co. around the end of 1871, where it was shown as a sinuous path going up the slopes above Central City. One can imagine the cartographer or his representative standing at Central City and looking up the slopes while someone, perhaps Henry C. Goodspeed himself, pointed out the route of the trail. It is unlikely he ever went up onto the slopes to check routes or locations himself as the entire map is rather distorted and out of scale. Yet his representation of the Goodspeed Trail is similar to the actual route that is shown in Figure 2.

It must be remembered that the Goodspeed Trail was built nearly 140 years ago and has suffered many alterations and modifications during that time. Also, Nature has done Her best to reclaim it, with remarkable success in some places. With that in mind, the base of the trail as it exists today can be found on the west side of the telephone relay building directly north of the Peruvian Lodge in Alta, the approximate location of Central City. It goes up the slope as shown in Figure 3. This part of the trail can be seen in photographs dating from the first decade of the twentieth century. One might ask why Goodspeed picked this location to run his trail up onto the slopes. Probably there were two reasons: first, this was the location of Central City, which was the center of mining activity at the time. And second, if one scans the low slopes above today's highway, which itself is well above the road into Central City in 1870, it will be obvious that the next reasonable place to go up would be above today's Alta Lodge, which was some distance from Central City and well east of where Goodspeed wanted to go.

About 400 feet up the trail, where it becomes less steep, it crosses a mine dump. This is the site of the Enterprise mine's discovery shaft, one that dates back to August of 1870 and was successfully worked for several years. In later years the lode was worked at depth through the Howland Tunnel and the shaft fell into disuse. As a matter of interest, it might be noted that the Howland Tunnel was on the north side of the aforementioned telephone relay building. Its portal was behind the culvert seen in Figure 3 and its snowshed to the waste dump ran through the culvert. The roadway that runs over the culvert was the route of the original horse tramway that ran to Alta from Wasatch at the mouth of Little Cottonwood Canyon, that rail right of way later being used for the highway to Alta built in the 1930 decade. In the late 1960s or early 1970s the highway was regraded, making it less steep as it approached Alta. It now runs below the culvert as seen in the figure.

From the Enterprise shaft the trail climbs to a road traversing the slope, a relatively recent road cut by miner Whitney Hansen around 1959. The trail turned east to cross a drainage, then leaves the road, crosses a small flat and turns onto a northwesterly

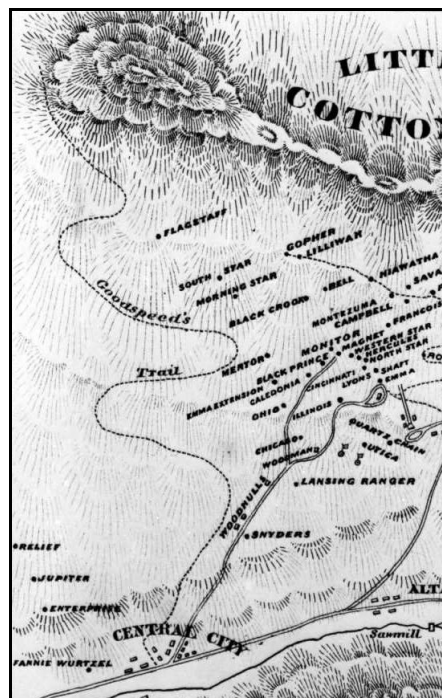


Fig. 1. A portion of the A. J. Bancroft & Co. map showing Goodspeed's Trail going up the north slopes above Alta and Central City.

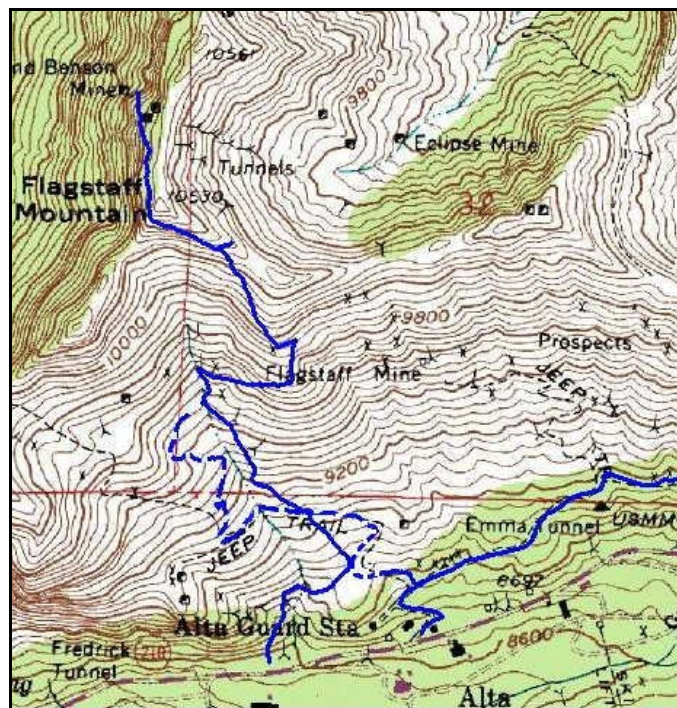


Fig. 2. The Goodspeed Trail runs from the Central City site to the Reed and Benson mine. The dashed line is the road to the Emily mine. The solid line to the lower right is the road to Grizzly Gulch.

course up the slope. This next section has been used by generations of hikers as a shortcut when following the Emily mine road coming up from Alta. The hiker's trail meanders a bit, but the groove of the original trail, following a fairly even course, can be seen on one side or the other. When it meets the road again it continues in the same direction, much less used now, but still obvious from being used to drag ore boats over the years. In fact this section of the trail was later known as the Toledo oreboat trail, used to bring ore down from the Toledo mine, which will be the subject of a future Faint Trails article. About a quarter mile farther up the slope the trail meets the Emily mine road again at that road's last switchback before reaching the mine. Here



Fig. 3. The Goodspeed Trail starts at the telephone relay building directly north of the Peruvian Lodge, and climbs the slope as shown by the dashed line. The present highway to Alta crosses the bottom of the photo.

the trail has been completely obliterated by road construction, but it can be picked up again about eighty feet up the road from the apex of the last switchback. It takes a little faith and imagination here, but the trail did go up the steep grassy slope in an easterly direction. Unused trails have a difficult time surviving on open grassy slopes; winter avalanches, shifting soils and erosion all combine to erase their very existence. But if one looks up the slope there is a small cluster of trees growing on a mound of rock; the trail went on the right hand (south) side of the mound where it was cut into the rock, a cut that is still obvious today. The trail then continued farther up to pass above a larger clump of trees. This elusive portion of the trail was found after a late spring snowstorm when the snow clearly marked its path, as seen in Figure 4.

Beyond the large cluster of trees the trail, more obvious now, can be seen going around the brow of the ridge where it heads north on the open slope on the other side. Here again it becomes faint, but in the early months of the hiking season, before the grasses grow too high, the faint line of the trail's traverse can be seen heading toward a large white rock about 350 feet away. At that point the trail turns in a westerly direction to go up to the ridge where it becomes quite obvious again. It crosses to the west side and heads up the slope in a northerly direction. Here it passes a rather prominent open prospect, surely the Steep Rock claim discovered in April 1871



Fig. 4. The path of the trail going up from the Emily mine road in the foreground is clearly visible in this view after a late spring snow. The point where it leaves the road is about eighty feet above the apex of the road's last switchback. It passes under a small clump of trees on a rocky outcrop, then goes above a larger stand of trees near the horizon. Beyond that point the trail is easily followed.

by John Burke, et al. From here the trail climbs through a stand of trees that almost obscures its existence, then continues on a climbing traverse. Just before reaching the divide, about two-tenths of a mile from the aforementioned prospect, the trail splits. The left branch makes a climbing traverse for about 750 feet to cross the divide west of Flagstaff Mountain. The traverse is over a lot of open slope with loose soil, so the trail may not be too clear, but when it approaches the divide it becomes very obvious again. From there it continues out along the slopes of the Reed and Benson ridge to go to the Reed and Benson and Ophir mines as described in the first Faint Trails article.

The right branch of the trail goes only a short distance, perhaps 150 feet, before crossing the divide east of Flagstaff Mountain and becoming the Days Fork Bowl Trail, which was described in an earlier Faint Trails article (FTW27).

The Goodspeed Trail was known by that name only briefly. One reference to the name was found in April 1871, before the appearance of the Bancroft map, but after that time the Reed and Benson mine had gained sufficient notoriety that the trail became known as the Reed and Benson trail. The latter name continued to be used into the twentieth century and appeared on a number of Mineral Survey maps.

FAINT TRAILS IN THE WASATCH

63. Emily Mine

It was inevitable that a new trail, such as the Goodspeed Trail described in the last article in this series, would be used by other miners and prospectors as well. And so it was with this one. The Emily claim was filed in June of 1871, with the discovery located only a short distance above the point where the Goodspeed trail turned easterly to climb up onto the ridge. Figure 1 shows the Goodspeed trail and the Emily claim boundaries superimposed upon an aerial photograph, with a dashed line indicating the extension of the trail to the discovery shaft. The claim measured 100 feet wide by 1000 feet long, extending up the slope to within one hundred feet of the divide, crossing the upper portion of the Goodspeed trail on the way.

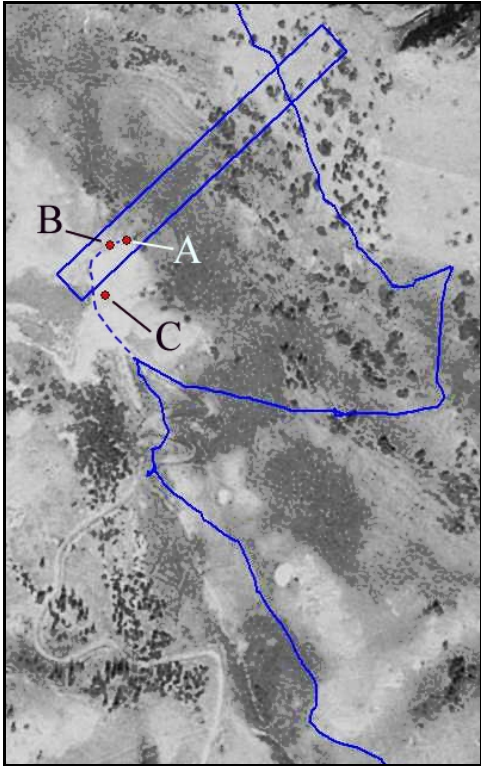


Fig. 1. The Goodspeed trail and the Emily claim are shown superimposed on this aerial photograph. The Emily discovery shaft is at point A, the Emily No.1 tunnel at point B, and the Henderson tunnel, mentioned in the text, is at point C. The dashed line shows the trail leading to the Emily workings. The Emily road, cut in the mid-twentieth century, can be seen winding up the slope on the left.

hundred feet into the hill. But the Henderson tunnel was in over two hundred and fifty feet, an indication that this lower tunnel was the preferred route into the lode. It certainly was easier of access. After this time the property was put out on lease.

The location of the Emily works, being low on a very steep mountainside, made it very vulnerable to snow avalanches. This may have been of little concern during the first years of the mine's operations, since little work was done during the winter and the mine had no facilities of consequence to be affected. But leasers were inclined to work throughout the winter, in which case they needed shelter. Accordingly a house and blacksmith shop were constructed near the portal of the tunnel, only to be destroyed in their first winter season. Early in the morning of Wednesday, 25 November 1874, four men were at work in the tunnel and the blacksmith was in his shop, when a massive avalanche came down the hill, smashing all the buildings and filling

The claim was filed by Daniel W. Rench and three partners. Rench was a small time prospector, this being his first of only four claims, all on the north slope above Alta. One of the partners in the claim was twenty-five year old Emily S. Foote. This is the only claim carrying her name, but her father was Erastus S. Foote and there was an E. S. Foote who was involved in three claims in Big Cottonwood Canyon in the mid-1860s, so Emily might have had some familial contact with mines in her younger days. At any rate, this claim was named after her and she went away holding one share, 200 feet, of the Emily lode. However, she had more interest in this transaction than a length of hillside in the Wasatch mountains, because within the next year she and Daniel W. Rench were married. She transferred her share of the mine to her husband and entered a career of wife and mother.

The Emily shaft was worked during the next year, with the shaft being 80 feet deep by the end of the summer of 1872. By that time Daniel Rench had gathered all the shares and sold them to Henry M. Henderson of Allegheny County, Pennsylvania. Henderson certainly recognized the possibilities for this claim; about the same time he gained control he filed a claim for the Henderson tunnel, located about 200 feet south of the Emily mine, but its location placed it some one hundred twenty-five feet lower than the collar of the shaft.

Under Henderson's management work continued on the three locations; within a year and a half the discovery shaft was down 108 feet, while the No.1 tunnel, located only fifty feet west of the shaft, had been

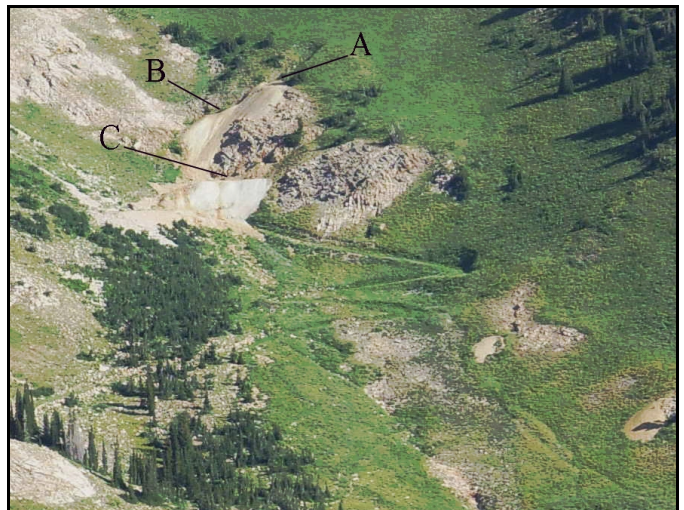


Fig. 2. The Emily mine rests at the upper end of Emily Gulch on Alta's northwest slopes. The discovery shaft is at point A, the Emily No.1 tunnel at B, and the Henderson tunnel at C. The road leading up to the mine is a mid-twentieth century road, while the former Goodspeed trail can be seen coming up from the lower right corner.



Fig. 3. Springtime view of the Emily mine as seen from the cliffs to the southwest. The depression created by the collapsed incline shaft at the top of the dump is filled with snow, as is the collapsed No. 1 tunnel at the upper left side of the dump. The Henderson tunnel is completely covered by the snowbank over the lower dump.

the portal of the tunnel with packed snow. The miners inside immediately began digging their way out, and once freed from their imprisonment had to dig out the blacksmith. After being buried for an hour and twenty minutes, he was found, miraculously unhurt.

The buildings were rebuilt and survived for nearly four years, although they were covered, but not damaged by several minor snowslides. Then in January of 1879 one of two miners started down the trail while the other remained in the house. A large avalanche came down, smashing the structure and killing the man inside. It continued down the gulch, but the miner on the trail escaped with nothing worse than being immersed in a cloud of snow dust. During the previous year Henderson had incorporated the Emily Silver Mining Company, involving seven business men in Pittsburgh, plus a few in Salt Lake City. It was well funded to support a major mining effort, but the tragic event in January seemed to end most of the work at the Emily mine. Sporadic bits of news came out over the following years, but nothing of significance was reported. And so the Emily drifted down through the years, a few

tons of ore shipped one year, a few tons more in another.

The road to the Emily mine was cut in the mid twentieth century to allow the mine to be worked again, but within a few decades all that had ended and it became nothing more than a favored hiker's destination, especially so during the years when the dump was agleam with iron pyrites reflecting the sun's rays. There still are many on the Henderson tunnel's dump, but the larger ones have been picked over the years. Eventually the tunnel was closed, either by man or nature. A large metal air tank, often mistaken to be a boiler, remains nearby. The dump from the discovery shaft looms overhead, the collar of the shaft being well over one hundred feet higher than the Henderson tunnel. A trail to the No.1 tunnel can still be seen going up around the west side of the dump. While that tunnel itself has collapsed, a stone wall that supported one wall of the cut to the portal remains in place, but is partially hidden by a dense growth of shrubs that have found a favorable environment there, suggesting that in spite of the tunnel being closed some moisture still seeps out.

In the summer of 2010 there was a brief flurry of activity at the mine and on the road leading to it. The Henderson tunnel was opened again and a collection of rails and pipes extracted and placed on the dump. Then the activity ended, and now the tunnel remains, like a giant toothless open mouth, drooling a steady, but small stream of water out across the dump.

The man who started this mine, Daniel W. Rench, left the scene in 1872 and never appeared in any mining venture in the Wasatch after that. He drifted through life in a number of occupations. In 1873 he was an Internal-Revenue store-keeper in Salt Lake City, was a deputy United States marshal for a number of years, dealt in real estate and in 1879 became Road Supervisor for the Hunter Precinct. He died on 3 December 1893. His widow, the former Emily Foote, moved to Bakersfield, California, where she lived with her children at least into the 1920s, not knowing and probably not caring about what may have happened with the mine at Alta that still bears her name.



Fig. 4. The Henderson tunnel was reopened in 2010 and now, surrounded by detritus from past operations and emitting a small flow of water from its interior, awaits its unknown fate.

FAINT TRAILS IN THE WASATCH

64. Toledo Mine - Part I

The Toledo mine is located on the northwest slopes above Alta, at the base of the cliffs a short distance east from Cardiff Pass. It was a successful mine in its time in spite of its precarious location and the difficulties it

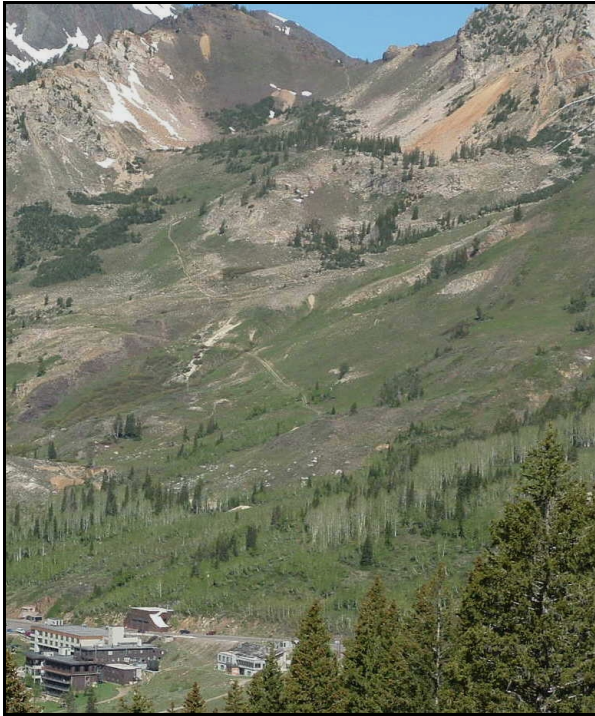


Fig. 1. The Toledo mine, to the right of Cardiff Pass at the top center of the picture, has a long tan-colored dump below it. A small dump below and to the left of Cardiff Pass is from the General Welles lode, mentioned in the text. The Rustler Lodge and Little Cottonwood highway are seen in the lower left.

faced in operation, but is not well known or even recognized today. The primary operating site for this mine was on the Fuller claim, which was recorded in June of 1871 and named after one of the claimants, T. F. Fuller, although another claimant, John M. Haskell, quickly bought out his companions to become sole owner. An adjacent Toledo claim was filed several months later by Haskell and William H. Welles. Welles came to Utah from Toledo, Ohio, thus explaining the choice of the name. During the winter of 1871-72 Haskell and Welles went back to Ohio to promote their claims, and the following April the Toledo-Utah Silver Mining and Smelting Company was incorporated there. Haskell and Welles returned to begin development work on both claims. However, the Toledo claim was located in the steep crags above the Fuller, and being difficult of access, the development work was soon concentrated on the Fuller claim, where a shaft was driven at the base of the cliffs. By the end of the 1872 year the shaft was reported to be down 150 feet, a significant achievement since all progress was made with manual labor through a hard quartzite formation. In fact, at that time the ridge above the mine was known as Quartzite Mountain. Late in the summer of the following year a strike was made in the shaft or in a drift running off the shaft and by the end of September 1873 the company was reported to be shipping twenty-five tons of ore to the smelters each week. This was another significant achievement because there was no road to the mine, nor a tramway, so the ore was sacked and taken down to Central City on pack animals or in ore boats. The number of animals being used was never

reported, but there must have been a constant stream going up and down the mountain, with those going up carrying supplies to support operations throughout the winter.

Initial access to the mine was by way of the Goodspeed trail and a branch trail running westerly across the slope below the shaft to a bunkhouse and shop, then doubling back for the final ascent to the shaft. This trail can be seen in Figures 2 and 3. Letter C indicates the location of the house and shop, while B is the location of the shaft. With the trail crossing the steep slope below the mine, it was in constant danger of waste rock sliding down the slope as the miners dumped it overboard at the shaft. In fact, it was not too long before the trail was covered and no longer useful. For this reason the route of the trail crossing the dump is shown with a dotted line in the figures. But before that happened another route was created to generally follow today's Cardiff Pass trail, only running a little lower and joined the Goodspeed trail down low to continue into Central City. It must be remembered that in the early 1870s, the horse tramway from Wasatch to Alta had not yet been constructed; all ores had to be taken down the canyon by teamsters with their wagons, and Central City was more than a half mile closer to Wasatch than was the budding village of Alta. After the horse tramway was installed and running, the Toledo ore trail was continued in an easterly direction across the north slopes to meet the tramway close to Alta city.

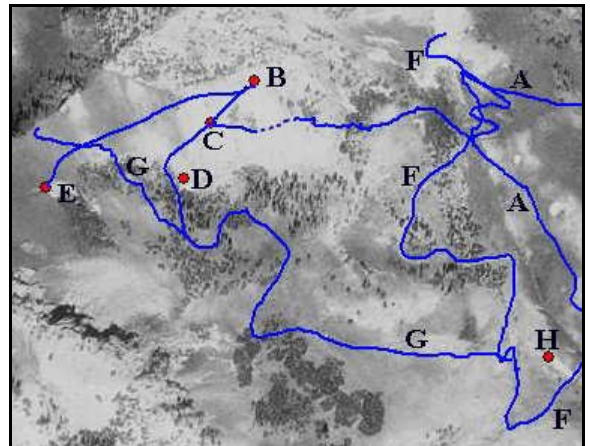


Fig. 2. Trails around the Toledo mine. A - the Goodspeed trail, B - Toledo shaft, C - cabin and tunnel site, D - the lower tunnel, E - General Welles mine, F - Emily mine road, G - the present trail to Cardiff Pass., and H - Toledo tunnel.

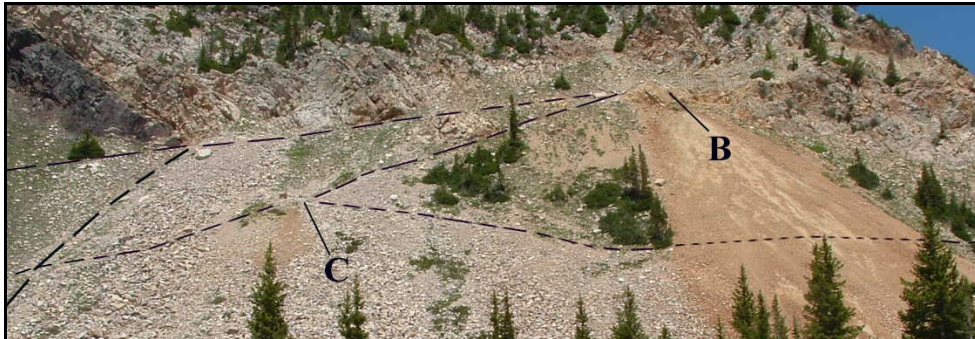


Fig. 3. This photo shows the trail system at the Toledo mine. The trail coming in from the right is the extension from the Goodspeed trail. As the mining progressed the trail got covered by the waste rock. Point C is the location of the bunkhouse, blacksmith shop and a tunnel. A trail from the Toledo shaft, at point B, ran down past the buildings and continued down to a lower tunnel and the present Cardiff Pass trail. The trail running nearly horizontal from the shaft to the left went to the General Welles mine, about 1,000 feet away. The diagonal line going down on the left was a drag trail, presumably the route used to take ore down from the shaft.

The constant shipment of ore ended late in November of 1873 when a fire broke out in the lodging house, destroying it, the winter's supplies and the adjacent blacksmith shop. New structures were built and mining continued throughout the winter, but while new structures were being built the miners were housed in cabins at the Haskell and General Welles mines. Those claims had been recorded in July of the previous year, the Haskell by John

M. Haskell, Welles and three other men. Its workings were adjacent to the Henderson tunnel at the Emily mine. The General Welles was recorded by William Welles alone, named after his brother, George E. Welles, who was a civil war officer and breveted Brigadier General. It was located about 1,000 feet southwest of the Toledo shaft. Neither claim was heavily worked in those early days, so they could not have had much in the way of accommodations. Perhaps that gave the miners incentive to get the burnt structures rebuilt quickly, before the winter snows got too deep. By springtime when shipping could be resumed, twenty-two thousand sacks of ore, about 800 tons, had accumulated on the dump.

Late in 1874, with the shaft about three hundred feet deep, a horse whim was installed. Until this time the shaft was worked with the use of a windless and manual labor to hoist ore and waste rock to the surface. This was another amazing aspect of the Toledo operations, that they could hoist and ship the quantity of ore that they did using a hand windless. Now a horse or mule walking in a circle around the whim provided the motive power to raise the bucket. But as the shaft went deeper, even that proved inadequate. And with the deeper workings came another problem, one of water, especially during the springtime when the shaft would become flooded and only the upper drifts could be worked. By the end of 1875 the flooding was so bad that operations were terminated and Haskell and Welles went back to Toledo to work out a solution to their problems with the investors. It was not until the spring of 1877, after the mine had been idle for two years, that the directors of the company approved the installation of a compressed air system to drive a hoist and water pumps. The equipment was ordered and installation began near the end of June. A turbine water wheel and compressor were installed along Little Cottonwood Creek below the Central City site. Over four thousand feet of three-inch pipe was placed on the mountainside between the compressor and the mine, and the massive hoisting engine was hauled up the mountain. At the mine a large cave-like excavation was cut into the cliff behind the shaft and when the hoist arrived, it was moved across the yawning void into its new home. When the new equipment went into operation the mine began to yield with a vengeance. Great quantities of ore were shipped throughout the winter, making the Toledo one of the most productive of all the Alta mines. By mid-May of 1878 it was reported the entire expense of the machinery and its installation had been paid by the sale of the ore it produced, taking the company out of debt and providing a \$10,000 surplus to be sent to Toledo for dividends.

There is more to the Toledo story remaining to be told. It will be continued in the next installment in the Faint Trails series.



Fig. 4. The huge hoisting engine, idle for more than a century, still rests in its cave-like shelter behind the Toledo shaft, almost buried by dirt and rock that has come down over the cliff. The shaft is covered with a metal grate, which also has collected its share of rocks. The tank on the left was an air tank, an accumulator to store compressed air from the compressor house in the canyon bottom. The air was used to drive the hoist and the water pumps down inside the mine.

FAINT TRAILS IN THE WASATCH

65. Toledo Mine - Part II

The compressed air driven machinery installed in 1877 gave the Toledo mine two good years of service, but its performance during the winter months when the stream flow was low or frozen was less than satisfactory.



Fig. 1. The Toledo mine, to the right of Cardiff Pass at the top center of the picture, has a long tan-colored dump below it. The small white streak above the Emily road to the left of the center of the picture, at the arrow, is the site of the Toledo tunnel on the Michigan claim.

To correct the problem the company ordered a boiler and steam engine to drive the compressor, replacing the turbine water wheel. By this time the mine shaft was down 400 feet and rapidly going deeper, following the rich ore body. But the depth also encountered new water sources. Larger pumps were installed, as well as new compressor castings to provide more air to drive them. Still the mine remained very wet.

About this time Henry Samson joined the company as mine foreman. This was the same Henry Samson who had been working the Samson mine high on the Reed and Benson ridge in Big Cottonwood. His approach to the water problem was to drive a drain tunnel lower than the bottom of the shaft. Accordingly he chose a location on the west side of Emily Gulch just above today's Emily road. This was not the first tunnel to be a part of the Toledo's operations. The first was at the site of the bunkhouse and blacksmith shop; it went in a short way to intersect a drift from the shaft. A second tunnel was lower, at point D in Figure 2. It was about 200 feet below the collar of the shaft, but not low enough to be of use in draining the lower reaches of the mine. In 1876 William Welles filed a claim for a Toledo tunnel in the bottom of the canyon west of the Central City site. It was low enough, but a long distance from the mine, and

nothing was done with it. Samson's tunnel site was about 1700 feet distant and 800 feet below the collar of the shaft. Work was started on this tunnel and was carried on for a length of at least 216 feet.

Meanwhile the mine continued to produce heavily throughout 1879, but that ended in the first week of January 1880 when an avalanche came down over the cliffs above the mine. It tore the chimney and smokestacks off the bunkhouse and shop, and completely covered the buildings without destroying them. The miners inside had to dig their way out. That seemed to be a turning point in the mine's operations. It operated sporadically throughout the rest that year. Then in January of 1881 a huge avalanche destroyed the company's compressor house in the canyon bottom, killing the two men inside. Without the air source the mine could not operate. The water rose in the shaft and the hoisting machinery was useless, never to run again. The owners in Ohio, after pondering the next move, chose to sell the mine at public auction. In 1882 it was purchased by a Toledo businessman who had precious little time to attend to a mine in the Utah mountains. He placed Henry Samson in charge as his proxy, but there was not much that could be done with the flooded and crippled mine. He did file a claim for the Michigan lode, which had his Toledo tunnel at its center, probably to protect the tunnel location. It became part of the Toledo group of claims.

A mine that was as successful as the Toledo during its short life does not disappear to hoard its buried riches forever. Other miners came along to try to tap the ore body. Some simply worked on the surface, as can be seen today at the lower end of the long Toledo dump where considerable digging had taken place and various detritus from those operations remain. Some worked through the lower tunnel, at point D in Figure 2. Although that tunnel has collapsed, its

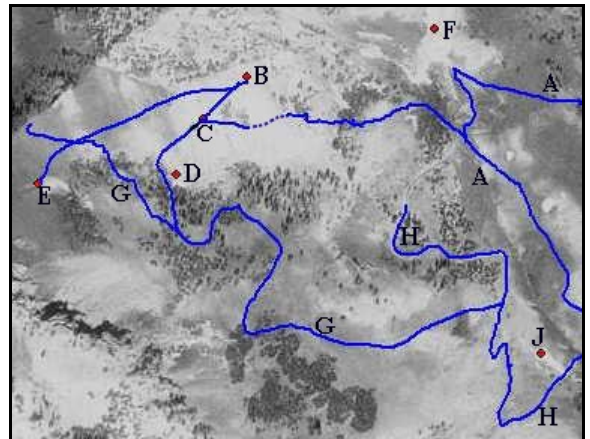


Fig. 2. Trails and sites around the Toledo mine are shown here. A - the Goodspeed trail, B - Toledo shaft, C - cabin and tunnel site, D - lower tunnel, E - General Welles mine, F - the Henderson tunnel at the Emily mine, G - the present trail to Cardiff Pass, H - a truncated section of the Emily road, and J - Samson's Toledo tunnel.

location is very apparent and a pair of rails still reach out from the hillside to cross the dump. Most later exploitation of the Toledo lode was done well below the surface, accessed through drifts from the much lower Columbus Rexall and Frederick tunnels.

While the surface workings of the Toledo mine have remained idle for nearly a century and a third, there is still much to be seen. The trail from the Goodspeed trail is quite obvious and can be followed up to the Toledo dump, where it has been overrun by waste rock. On the other side of the dump the continuation of this trail can be seen leading up to the cabin, shop and tunnel site where some stone walls remain. From there the trails going up to the shaft and down to the Cardiff Fork trail/road can be followed, although both become more faint each year. The trail from the shaft going over to the General Welles mine is still obvious, although it too is becoming faint where it traverses the steep slopes. It is interesting that where this trail intersects the Cardiff Fork trail, the

latter turns abruptly and for a short distance follows the General Welles route before continuing its ascent to the pass. This may well have been the route followed when the large and heavy hoist was taken up to the mine in 1877. While there is a considerable ascent to this point, the final traverse to the shaft is almost level, avoiding the very steep slopes below the shaft.

The General Welles mine is very obvious on the slopes to the west of the Cardiff Fork trail. It was worked to some extent in the late 1870s by the Haskell & Wells Utah Mining Company, and in years following by leasers, leaving the considerable dump that remains today. But there are no artifacts of consequence to be found.

At the time the avalanche destroyed the compressor plant and ended all work at the Toledo mine, the shaft had reached a depth of about 600 feet. With its several drifts it provided a considerable reservoir for accumulated water that could find its way through subterranean passages, seeking ways to escape its dark confines. This may have contributed to a number of

events during the many decades that followed. One of them happened late in 1910 when the level of Lake Solitude in Mill F South Fork began to drop until the body of water had almost entirely disappeared. This was important to the Utah Mines Coalition company because it was using the lake as the source of its culinary water. Tony Jacobson, at that time general manager of the Columbus Extension Mining Company at Alta, suggested that water draining from their tunnel could have come from the lake. While extending their tunnel during August they ran into a veritable deluge of water, a flow so intense that operations were all but suspended until it subsided. However, their tunnel and the lake were about two and one-half miles apart, so it was unlikely the two events were connected. But there was another possibility; at the time Columbus Extension was driving a drift intended to cut the Toledo fissure. Was their flood a result of their providing a release for the reservoir of water that had been waiting thirty years for this moment?

A similar, perhaps related, event occurred in the spring of 2010 when a portion of the west bank of Emily Gulch collapsed, releasing a tremendous flow of water, washing out the Emily road's crossing of the gulch and carrying debris down the mountainside all the way to the canyon highway. Henry Samson's old Toledo tunnel is only a short distance from the west side of the gulch. While the tunnel has long since collapsed, every year water flows from the former portal during the spring runoff. Over the years it washed all the soil away from the dump, leaving only white rocks that were part of the waste. Apparently more of the tunnel collapsed during the year 2009, restricted the outflow, which was much smaller than in previous years. The water, seeking another route to escape, found a way out at the bank of Emily Gulch, saturating it until it collapsed and released the deluge. Was this also from the Toledo reservoir? Possibly, especially since the tunnel once used by the Columbus Extension company had collapsed and was no longer releasing the water it once did. An interesting combination of events over the past century or more.



Fig. 3. From the Toledo shaft the two General Welles mine dumps are seen on the slope in the distance. The large tank in the foreground was used to store air from the air compressor located on Little Cottonwood creek far below.



Fig. 4. A massive collapse of the hillside on the west side of Emily Gulch occurred in the spring of 2010. The Toledo Tunnel on the Michigan claim is located at the left side of the photo, about the same elevation as the collapse.

FAINT TRAILS IN THE WASATCH

66. Relief Mine and Toledo trails

When the Toledo-Utah Silver Mining and Smelting Company ended its operations and put the company's assets up for sale, its property included only three claims: the Fuller, where the deep shaft and most operations



Fig. 1. Two slender rails protrude from the collapsed tunnel on the Relief claim. The Relief trail runs above the tunnel, seen where white rocks have accumulated at the upper right corner of the photo. Soil and debris washed down from a dump above is seen in the background. The view is to the west southwest. The rails have been digitally enhanced for this image.

were based; the Michigan, which included the Toledo tunnel started by Henry Samson several years earlier, and the Relief. The last named, while it was part of the Toledo-Utah company's holdings, did not play an important role in the company's operations. It was first recorded in October of 1870 by four men, including Charles Read, who was a partner in the Clasbey and Read store that began operations in Central City, then moved up to Alta City when that place became the major metropolis of upper Little Cottonwood Canyon. Charles Read's name appeared on numerous early mining claims, probably as a result of his providing sustenance and means to the prospectors out on the slopes in exchange for his name on their claims. Two months later none other than John M. Haskell, a name that has appeared several times in the previous articles leading up to this one, bought one-fourth of the claim and immediately filed a new claim notice. It is not clear why he did that other than to place him and his chosen associates on the claim notice. He went on to buy the rest of the shares from the original locators, then transferred the

claim to the Toledo-Utah Silver Mining & Smelting Company after it was formed. The company did some work on this claim because by September 1873 it had been developed by two shafts, the main incline shaft being 205 feet deep. The tunnel shown in Figure 1 was done later; possibly in the early twentieth century when the claim was worked by leasers.

Part of the trail serving this mine also served the Toledo mine, as will be seen. In the early days of its operation the trail went down to Central City, using the Goodspeed trail for its final descent. In Figure 2 the label F is the location of the collapsed tunnel shown in Figure 1. From the mine the trail (A) headed in an easterly direction for about a third of a mile before crossing Emily Gulch. It then turned down the slope to join the Goodspeed Trail (B) about a quarter mile above Central City. While this may appear to be a circuitous route, it must be remembered that the lower slopes below the trail are fraught with cliffs and the Goodspeed trail used one of the very few reasonable descents in that area. After the horse tramway was installed between Wasatch at the mouth of the canyon and Alta, the trail was extended to continue in an easterly direction (C) toward Alta City, although the extension may well have been made to serve the Toledo mine's needs.

Today the Relief trail has become one of the true Faint Trails in the Wasatch. Early in the summer, before the grasses grow too high, it can be seen crossing the Goodspeed trail where the latter also serves as a modern hiking trail to shortcut the big switchback in the Emily road. Heading in a westerly direction it goes above a mound of rock with a power pole on top. The junction with the branch that went down to Central City is on the west side of the mound. The trail has completely disappeared where it crossed Emily Gulch due to frequent flooding, but can be picked up again on the other side. Except for a short section where it has been

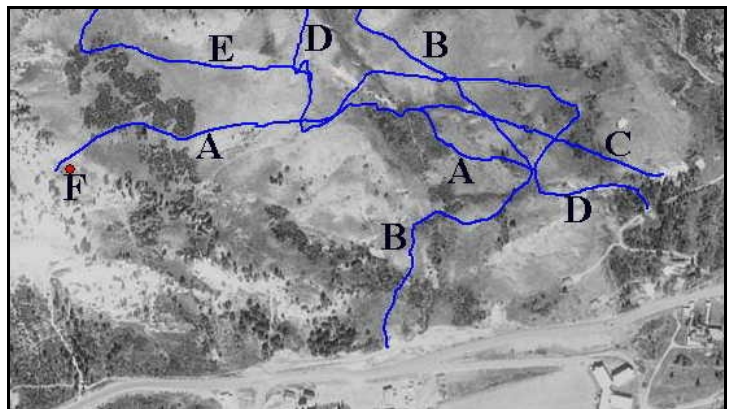


Fig. 2. The trail serving the Relief mine is shown here. A is the original trail heading east across the slopes before dropping down to join the Goodspeed trail, B. Later the trail was extended to go down toward Alta City, segment C. Point F is the location of the collapsed tunnel shown in the Figure 1. The Emily road, D, and Cardiff Pass trail, E, are shown for reference.

overrun by the Emily road, it can be followed the rest of the way to the mine without too much trouble.

Going in the easterly direction the trail, after crossing the Emily road, runs into a dense aspen thicket, but can be picked up again on the east side. It disappears when it reaches an area of previous workings, which are on the Braine claim. There were a number of old roads and trails in this area, any one of which might have been used for the rest of the way to Alta City.

Before leaving the Toledo-Utah company's mines and trails, there are a number of things that can be said about the trails coming down from the Toledo mine. Figure 3 shows the trails of interest, as well as a number of roads and other trails for reference.

While this map appears rather cluttered, the fact is that the north slopes above Alta are overrun with old roads and trails, making it difficult or impossible to plot many of them on a single map or aerial photograph with any amount of clarity.

From the Toledo shaft there is a trail going down a descending traverse from the shaft (b in the figure), past the cabin site (c) and down past the lower tunnel (d). It can be followed today, although it becomes less evident by the year, being on a steep slope with lots of rock and soil coming down. This trail may have been used by pack animals, but for heavy ore hauling with ore boats, the trail went in a westerly direction from the shaft for a short distance, then turned to go straight down the slope. The deep groove left by this traffic can still be seen. The trail went past the lower tunnel and across a relatively flat area. When it reached the next steep slope, where the Cardiff Fork trail/road makes a big loop to ease the grade, the ore boat trail again went directly down the slope. Actually, the trail split and there are two well pronounced tracks, one of which has been followed by hikers, creating a shortcut trail bypassing the longer, but less steep grade on the road. Below that slope the trail splits again, the lower, older branch going directly toward the bottom of the canyon. It can be followed for some distance, but then disappears in an area that has seen much mid-twentieth century development. It would have had to turn in a southeasterly direction to meet the Goodspeed trail only a short distance above its base. However, this portion of the trail has managed to remain hidden.

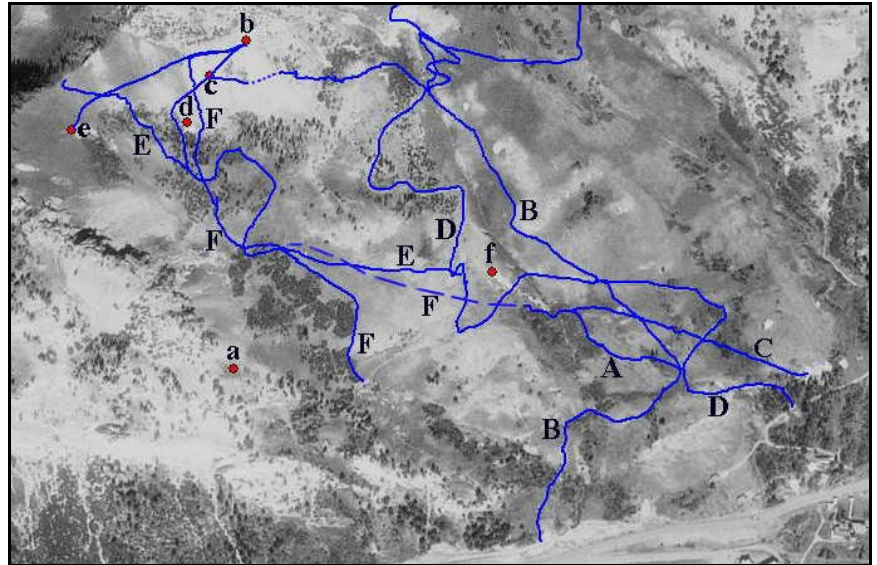


Fig. 3. Roads, trails and sites of interest relative to the Toledo mine, many of them described in previous articles, but shown here for reference. A and C are trails shown in Figure 2. B is the Goodspeed trail, D the Emily road, E the Cardiff Fork trail/road, and F the Toledo drag trails described in the text. Sites are: a - Relief mine tunnel, b - Toledo shaft, c - Toledo cabin and tunnel, d - Toledo lower tunnel, e - General Welles mine, f - Toledo tunnel.



Fig. 4. View toward northeast with the Toledo dump in the middle distance. The slope in the foreground shows the deep grooves left by two drag trails used by the Toledo-Utah company. The Cardiff Pass trail/road makes a climbing traverse on the right. Hikers have used the left drag trail as a short cut, avoiding the big loop on the road.

was described for the Relief mine before reaching Emily Gulch. This trail was certainly used for mines other than the Toledo, such as the General Welles, Manitoba, Frederic and Crown Prince to name a few..

FAINT TRAILS IN THE WASATCH

67. Frederick & Crown Prince

Travelers driving up Little Cottonwood Canyon surely have noticed the big mine dump rising above the north side of the highway at Hellgate, between Snowbird and Alta. Many recognize it as the Frederick mine, or the Frederick tunnel, but few know its history. Or that its story goes back to the gold rush days of 1849. Among the many who traveled west to seek their fortune in the California gold fields were two brothers from the Harkness family of Pelham, Massachusetts. The eldest of the two had already studied medicine and was a practicing physician, but chose to follow the golden lure. They traveled the long overland route and paused briefly in Salt Lake City before continuing their journey. Apparently they had some success in California, for the doctor took his winnings and settled in Sacramento where he became well known and successful in the medical field. The other brother, joined by his sibling who traveled west by way of the Panama isthmus, continued mining, working through California and Nevada for twenty years before returning to Salt Lake City in 1870. Their first efforts in the Wasatch mountains were in Big Cottonwood Canyon, where they and their associates filed a number of claims before



Fig. 1. The dump from the Frederick Tunnel looms over the north side of the Little Cottonwood highway between Snowbird and Alta.

moving across the divide into Little Cottonwood. The first three claims filed there, all on a single day in late October of 1870, were the Frederick, Crown Prince and a Tunnel Location. What is interesting about these claims is that the same people were involved in all of them, as well as those filed earlier in Big Cottonwood. Yet only two of them were residing in Utah; the rest were either from Laramie County in Wyoming Territory or Otoe County in eastern Nebraska, and all appear to have been associated, either directly or as contractors, with the railroad that had completed its transcontinental connection only the year before. The two who remained on site were the brothers, Martin K. and Henry Harkness. In fact, early news reports had the Frederick and Crown Prince located by the Harkness brothers without mention of any other parties.

The two claims, adjacent to one another with a common sideline, ran over the top of the ridge separating Superior Gulch from the northwest slopes above Alta. The discovery shaft was on the crest of the ridge that became known as Frederick Ridge for a number of years. The Tunnel Location that had been recorded was about 300 feet to the south, at the top of the cliffs, well above where the Frederick tunnel is found today. Access to the discovery shaft was by way of a trail the upper part of which still exists today. It probably tied into the early trails used by the Toledo, General Welles, Manitoba and other mines as were described in recent Faint Trails articles, but today it joins the Cardiff Pass trail where the latter doubles back to a climbing traverse up a steep slope. This is shown on the map in Figure 2. The Frederick and Crown Prince trail heads in a southwesterly direction, going up a gentle climbing traverse. After it crosses a ledge on a rocky outcrop the trail becomes more austere, crossing a steep slope with scattered stunted trees before arriving at the mine site. The trail ends at a small level clearing that once held a cabin, 10 x 16 feet in size. Beyond that point one can get an impressive view of Hellgate gulch and the limestone and marble formation that makes up the Hellgate Cliffs.

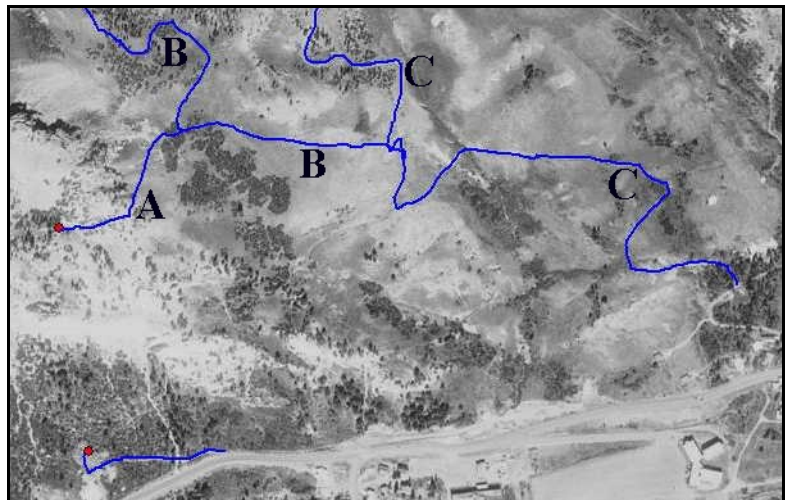


Fig. 2. The trail to the Frederick and Crown Prince mine on Frederick Ridge is shown in this aerial photograph, indicated as A. The location of the mine, with its three collapsed shafts, is at the dot at the end of the trail. The symbol B indicates the Cardiff Pass trail, while C is the Emily Road.

While it is obvious that a considerable amount of work had been done at one time, there is little in the way of mining artifacts remaining. When the claims were surveyed for patent in 1875 there were at least three shafts up there, two on the Frederick claim and one on the Crown Prince. At the beginning of 1874 the two Frederick shafts were reported to be 357 and 200 feet deep, with over 400 tons of ore removed. During these early years Martin K. Harkness, the older of the two brothers, was superintendent and manager. The younger brother, Henry, undoubtedly was involved as well, but he cannot be placed in the Wasatch after February of 1873. In January 1879 he was said to be residing in Arizona. At the end of the year 1873 work on the Frederick and Crown Prince mines came to a temporary halt, probably as a result of what had transpired with the two claims in the previous three years.



Fig. 3. The barely visible Frederick and Crown Prince trail as seen from its junction with today's Cardiff Fork trail. It crosses the slope on a gentle climbing traverse, then crosses the ridge at the notch in the skyline.



Fig. 4. After crossing the ridge seen in the previous photograph, the trail crosses a steeper, rocky slope with scattered, stunted trees.



Fig. 5. The Frederick and Crown Prince trail ends at the site of the mine's 10 x 16 foot cabin.

In September of 1871 four investors from Pittsburgh, Pennsylvania, bought the two mining claims and the tunnel location for \$25,000. Martin K. Harkness remained as supervisor and manager. Recognized that the tunnel was at a difficult location, another tunnel location directly below, almost 1200 feet lower, was recorded to allow them to exploit the lode at depth. It was named the Pittsburg Tunnel, certainly an appeasement for the new investors. The original tunnel location had been given the name of Bismark Tunnel, but its location was such that nothing was ever done with it. While the workings up on Frederick Ridge were yielding ore, the big potential was in the lower tunnel, but it would have to be driven over 1100 feet to reach the lodes, requiring considerable investment before providing any earnings. It is likely the absent investors balked at the expense, but they would eventually be convinced otherwise. The tunnel is another story which will be addressed in the next episode of this series.

An interesting thing about this man, Harkness, is how he named his claims. Crown Prince Frederick was the son of Kaiser William of Prussia and became Kaiser Frederick III after the death of his father in 1888. He held that post for only 99 days before he died. Of course, Harkness did not know that in 1870 when he filed the claims, but the Crown Prince had been well known in military and government affairs since the 1850s. During that time Otto von Bismark became imperial chancellor and has since been seen as a significant political figure of his time. Harkness had named two tunnels after Bismark, one in Big and one in Little Cottonwood. He also named a Waterloo tunnel, the name being from the 1815 battle that ended the Napoleonic wars in Europe. The Strasburg and Metz lodes were named after two cities in eastern France, close to the German border. The Sedan lode was named after a French city close to the Belgium border where on 1 September 1870 Napoleon III was defeated. Harkness also named the Eldorado tunnel, the name being a harbinger of his days in the California gold fields when El Dorado referred to any land of great wealth, often legendary. It is easily understandable why he might have used that name, but all the others carry a strong suggestion that Martin K. Harkness had a considerable knowledge of recent European history. How he gained that at a time when travel and communication was very slow is not known. But it is both interesting and impressive.

FAINT TRAILS IN THE WASATCH

68. Frederick Tunnel

When the Crown Prince and Frederick claims were recorded in October of 1870 a third claim called Tunnel Location was filed with them. Tunnel locations were not always recorded, but when they were they usually had a name. In this case a name was soon assigned, albeit not recorded. A mining deed dated in December of 1870, only two months after the claims and tunnel location were recorded, called the tunnel by the name Bismark Tunnel. In September of the following year it was again called the Bismark Tunnel when it and the claims were sold to investors from Pittsburgh, Pennsylvania, for \$25,000. One of the grantors, Martin K. Harkness, remained as supervisor and manager of the mines, which were being worked through several shafts on the top of the ridge about 1200 feet above the tunnel site. Less than two weeks after the new owners took possession, a new tunnel was recorded, named the Pittsburgh Tunnel located about 1200 feet below the mines on the ridge. But precious little work was done on it while ore was being produced from the shafts, in spite of their difficult location. In 1873 work on the mines came to a temporary halt, probably as a result of being unable to convince the new owners to invest in the heavy expense of



Fig. 1. The dump from the Frederick Tunnel looms over the north side of the Little Cottonwood highway between Snowbird and Alta. Over the years of its existence, the tunnel was known by many names, as noted in the text.

driving the tunnel to tap the lodes at a depth far below the shafts. After a period of inactivity of about a year and a half, they relented and in September 1875 the mines on the ridge were put out to leasers and serious work on the tunnel began. Again the tunnel was renamed, this time as the Allegheny Tunnel. As with the previous name, this reflected the locale of the owners, Pittsburgh being in Allegheny County, Pennsylvania.

Substantial buildings were constructed at the portal and for the next several years contracts were let to various parties to drive the tunnel an additional one or two hundred feet, most of them working two or even three shifts. From all reports the tunnel was an excellent piece of work, it being run perfectly straight. In the spring of 1880, when the tunnel was in about 1300 feet, a visitor from Alta said its car track was on the shortest line that could be drawn between two points. He also described how, at 800 feet from the portal, his candle was burning dimly, and after a few hundred feet more the flame went out entirely. But he heard the sound of steel on steel ahead, and continued to the face where he found the contractor drilling single-handed, with no other light than what was reflected from the mouth of the tunnel. In his report to the Salt Lake Tribune he commented, "This may be a common thing in the tunnels run by Martin Harkness, though [he was] quite certain it is wholly exceptional in Cottonwood."

When tunnel's length reached 1500 feet work was suspended for a period of time. Martin K. Harkness spent much of the winter of 1884-85 in the East, arranging an incorporation for the mining properties. This happened in March of 1885 when the Frederick and Crown Prince Mining and Tunnel Company was formed. The incorporators included five investors from Pittsburgh, although only two of them were original owners, and four men from Salt Lake City, one of them being Harkness himself. With this infusion of capital, work was resumed with new determination and vigor. New equipment was ordered and

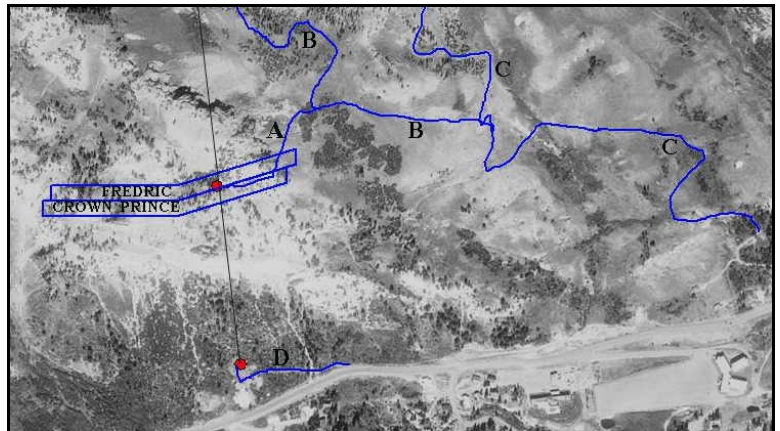


Fig. 2. The portal of the Frederick Tunnel is at the bottom of this aerial photograph, with the road D running up to it from the present Alta highway. The thin, near vertical line is the route of the tunnel, running under the shafts on the Frederick and Crown Prince claims. The trail to those mines, high on Frederick Ridge is indicated as A, their location being at the dot at the end of the trail. The symbol B indicates the Cardiff Pass trail, while C is the Emily Road.



Fig. 3. Salt Lake County Service Area #3 recognizes the Frederick Tunnel as the Hellgate Tunnel.

installed, including an air compressor for air drills, a blower for ventilation, two boilers and engines to drive the compressors, water tanks for the boilers and new buildings. For the latter a large amount of earth was moved and an impressive stone wall was constructed, 140 feet long, three feet thick and fourteen feet high. This became the back wall for the new buildings, including shops and boarding house, constructed such that avalanches coming down the slope would slide over the buildings without damaging them. A tramway track was built between the mine buildings and the horse tramway running from Wasatch to Alta, allowing freight to be conveniently taken to or from the tunnel. The installation drew much favorable comment and served the company well for a decade. But then the buildings and equipment became idle by while the mining doldrums of the last decade of the nineteenth century took over. By midyear 1896 there was only one man at the mine, and that was Fritz Rettich, an old time Alta miner who moved in to serve as watchman and do some maintenance work in the tunnel. He lived and worked there for two years, but when the company was unable to pay his wages he filed a suit to recover what was owed him. He won by default and the court ordered the

property of the defendant to be sold at public auction. This was done; Fritz Rettich was the highest bidder, buying the claims, tunnel and improvements for a few dollars less than what was owed him. He remained there over the next few years and as the mining business began to recover, he put some of the claims out on lease and worked the tunnel himself. During his years of residence at the Frederick Tunnel, his son, Hugo, a New York City dentist, began to come to Utah in the summer and spend several weeks with his father, doing some prospecting and learning about the mining business. It was Hugo who introduced the Hellgate name, a well-known tidal strait in New York's East River. In 1903, when Fritz Rettich was 73 years old, he transferred all his holdings accumulated over the years, including the Frederick Tunnel, to his son Hugo. Fritz remained at Alta, the only home he had known for forty years, until 1910, when ill health forced him to move to Sandy where he died.

Hugo Rettich controlled the mines until his death in 1934, but he was an absentee owner, spending only a few weeks in Utah each summer. During his years he formed the Hellgate Mining Company which did some exploration on claims surrounding the Frederick Tunnel, and repeatedly announced raising from the tunnel level to the shafts on Frederick Ridge, an endeavor that was never completed. While in his control the tunnel was variously called the Rettich Tunnel and the Hellgate Tunnel, the latter name appearing at the tunnel portal today. However, Hellgate Tunnel was on one of Hugo Rettich's claims, located down in the gorge south of the Frederick tunnel.

The West Toledo Mines Company used the Frederick Tunnel for exploration of its claims at depth as early as 1915. At the beginning of 1923 the large building Harkness had built burned to the ground. It was replaced by a smaller cement block building that same year. But the big news of the day was that leasers working the West Toledo properties struck extremely rich ore in a drift from the top of a long raise from the Frederick Tunnel. For a short period it appeared the strike would be worked and ore shipped through the Frederick Tunnel, but the inconvenience of working through a very long raise prompted the management of the properties to do the work through a drift from the newly formed Columbus-Rexall company's underground workings. As a result, the Frederick Tunnel retreated into its once promising past.

Today the access road to the tunnel and the top of its dump can be seen only a short distance below the town of Alta. The huge stone wall Harkness built to protect his structures from avalanches is still there, as impressive today as it was when it was constructed in 1885. The portal is closed by a substantial door because the tunnel is now used as a part of the extensive underground water system supplying the needs of the Snowbird complex.



Fig. 4. The massive stone wall built by Martin K. Harkness in 1885 still stands at the portal of the Frederick Tunnel, now closed by a substantial door.

FAINT TRAILS IN THE WASATCH

69. Columbus Power Plant

The subject of the Columbus Power Plant rightfully belongs with the coverage of the Columbus Consolidated Mining Company and would have been held until such time as that company is discussed. But a recent visit to the site of the power plant revealed the structure in such an advanced state of deterioration that it seemed advisable to address the subject now while there is still something left to see.



Fig. 1. The Columbus Power Plant is seen on the south side of Little Cottonwood Creek in this 1915 photograph. The bridge across the stream gave access to the plant from the canyon road. Utah State Historical Society photo.

earlier. The plant was designed by mining engineer Arthur E. Snow, who also served as director, secretary and treasurer of the mining company. The design was completed and calls were made for bids on the construction and equipment of the plant. Early in September 1903 the job was awarded to contractor James J. Burke of Salt Lake City, whose bid was for \$40,000. The schedule had the completion date set for the first of the new year. That was rather optimistic, because in the following January it was reported the plant would be ready by March. But that, too, was an optimistic projection, because it was May before the Westinghouse generator was being installed. Finally, the last week of June 1904 the town of Alta first experienced the joy of electric lights.

The power plant had a handsome building constructed of square hewn stone blocks. Situated on the south side of the stream, while the canyon road ran on the north side, its dimensions were 46 feet 6 inches long by 28 feet 3 inches deep. The front and rear walls each were to have four windows with gracefully curved stone lintels, although one of the windows on the front wall was replaced by a large door to allow machinery to be taken in or out. End walls were built with two windows and one door, and a small circular window in the gable ends. The roof peak was 8 feet 3 inches above the top of the 22 foot 6 inch high walls. Frame structures were built at both ends of the main building to house workers and equipment. A long stone wall was built along the stream's south bank to keep the power plant dry during the highest flows. A bridge across the stream gave access from the canyon road.

The building was designed to hold two Pelton water wheels each driving a 300-kilowatt Westinghouse generator, although only one was initially installed. It was driven by water carried from a diversion dam at the

When Tony Jacobson formed the Columbus Consolidated Mining Company in 1902 he immediately installed a compressor plant to provide air to power mining tools and ventilate the mine. While a boiler and steam engine were provided to drive the compressor, better plans were being made. Fuel for the boiler had to be hauled up the canyon because there was precious little to be had in the immediate vicinity of the mine. He also had plans to construct a concentration plant, which would require a considerable source of energy. His solution was to construct a hydroelectric power plant and drive the mine's equipment with electric motors. Accordingly he filed an application to appropriate water from Little Cottonwood Creek for the power plant. The location chosen was near the base of Hogum Fork, not far from where the Wooley sawmill was using the same hydropower a quarter century



Fig. 2. The Columbus Power Plant as seen in June 1996. The roof is completely gone and a large tree has fallen across the side walls, taking down many of the stones. The stone wall along the creek has been washed away, but the tail race conduit for the east generator still extends out into the stream.



Fig. 3. The sad remains of the Columbus Power Plant as seen in May of 2012. Except for a portion of the rear and west end wall, there is only a pile of stone where the once proud building stood. The tail race conduit for the east generator now sags into the stream.

number of organization changes. A second generator, this one a product of the General Electric Company, was installed in 1906, giving the plant an increase in capacity. In 1915 a 12-inch steel pipe was installed to provide more water, presumably from the Hogum Fork stream. Two years later, when the plant could no longer provide all the power required in the district, the Utah Power and Light company ran a line across from the Cardiff mine in the South Fork of Big Cottonwood.

In 1913 the Wasatch Mines Company was formed, taking over the Columbus Consolidated. The power plant was placed in a subsidiary company called Wasatch Power, but its operations continued as before. Another organizational change came over a decade later when the Mineral Veins Coalition company was incorporated. Sometime after that time the Utah Power and Light company took over the power plant. While its decommissioning date is not known, it was sometime between 1938 and 1943.

Access to the power plant was by way of the old road up Little Cottonwood Canyon, which ran close to the stream. When the present highway was built on the north slope in the second half of the 1930s decade, a short road, only a little over 400 feet long, was graded to connect new highway to the old road at the closest convenient point. That road can be found at a small parking area on the south side of the Little Cottonwood highway at milepost 6.5. Utah State route 610 begins at the mouth of Big Cottonwood Canyon,

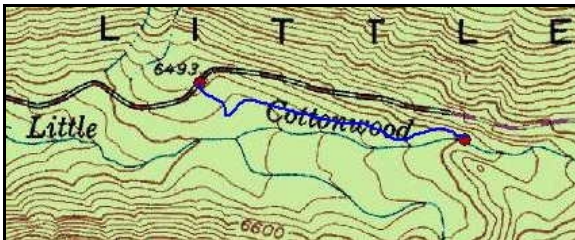


Fig. 5. The Columbus Power Plant is located at the dot at the right end of the road shown starting at the Little Cottonwood highway. Hogum Fork stream flows in from the bottom of the map.

lower end of Tanners Flat through a 22-inch steel pipe about 4,500 feet long. After passing through the water wheel, the water was returned to the stream through a tail race conduit.

Up at the mine a larger compressor building was built to house the new electrically driven equipment. The capacity of this installation was sufficient not only to supply the need of the Columbus Consolidated mine, but also that of many surrounding mines. Those that received immediate benefit were the Columbus Consolidated, South Columbus and Quincy mines. Within a few years the company was providing power, both electrical and compressed air, to most of the mines in the district.

The power plant ran almost continuously for many years, although occasionally it did suffer decreased performance during low stream flows and several times became completely inoperable when spring floods damaged the dam, or when snow avalanches filled the streambed, shutting off the flow of water, or took down the power line. Over the years it witnessed a few alterations to its equipment and a



Fig. 4. This diversion dam diverted water from Little Cottonwood Creek into a 22-inch diameter steel pipe where it was carried to the power plant about 4,500 feet away. The dam is located at the lower end of the Tanner Flat campground.

so the distance is measured from that point. The old canyon road disappears at the power plant, its continuation having been covered by the grading for the new highway. But that point is only a little over a half a mile from the parking area. The deck of the bridge across the stream is gone, but both abutments remain. Most of the stone wall along the stream has collapsed and been swept away. While most of the building's walls have fallen, enough remains to display the beautiful rock work that had gone into the construction. That makes it well worth while to take the short walk to see what remains.

FAINT TRAILS IN THE WASATCH

70. Braine and Yankee Blade Mines

This is a story, a somewhat convoluted story, of two obscure claims, one of them dating back to the first days of prospecting in the upper reaches of Little Cottonwood Canyon. While neither of them ever gained any amount of notoriety, they had some amount of importance in the early twentieth century mining operations. It began in the spring of 1865 when several prospectors visited the north slope above the present day Alta. They located three claims during their visit and recorded them in what was then the Mountain Lakes Mining District. There were a total of nine men named in the three claims, but there is no evidence that more than five of them were actually present, and possibly as few as two. Those were Silas Braine and David C. Nichols. Braine named the first of the three claims after himself, the Braine Lode. To describe its location he cited, "Located about 5 miles above the sawmill on Little Cottonwood creek on the north side of said creek" That sawmill would have been the Woolley mill at Hogum Fork. It is very likely that Braine and Nichols were not only prospectors, but also explorers, for very few, if any travelers had gone into this area before. At this time the road in Little Cottonwood Canyon only went as far as Woolley's mill and logging trails went another mile or two farther. The very first mining district in the Wasatch mountains, appropriately named the Wasatch Mountain Mining District, was formed in December 1863. That winter was barely over when, in July of 1864, it was reorganized as the Mountain Lakes Mining District. Records of the first district, if there were any, have not been found, but in the second district Braine and Nichols' three claims were numbered thirty-one to thirty-three in the recorder's book. Of the previous entries, most were in Big Cottonwood Canyon where a road existed nearly to the head of the canyon, providing easy access. Of the Little Cottonwood entries, none can be identified as being above the end of the logging trails. Hence, Braine and Nichols were opening new territory.



Fig. 1. The location of the Braine - Yankee Blade mine is shown in this aerial photograph at the large dot about sixty feet north of the Grizzly Gulch road. The Little Cottonwood highway crosses near the bottom of the photo, with the Alta Lodge below it.

The two men took samples of their discoveries into the city and showed them to Dr. O.H. Congar. Congar had arrived in Utah late in the summer of 1864 as a representative of the yet to be incorporated New York and Utah Prospecting Company. He wrote a lengthy and learned discourse on the technical details of prospecting which was printed in the Daily Union Vedette, a Camp Douglas publication, and opened an assay office in downtown Salt Lake City, giving him recognition as an authority on the subject. When he saw the Braine and Nichols samples he hired them to prospect for him or for the company he represented. They returned to Little Cottonwood Canyon in August and by the end of the 1865 year had filed seven more claims, each including Congar as one of the claimants.

In October of 1866 Silas Braine, no longer employed by Congar, returned to file six more claims in the company of various other individuals, his partner from the previous year, D.C. Nichols, sharing in several of them. Braine died in Salt Lake City late in 1868, but Nichols remained in the area at least until 1870 when that year's census listed him as living in Little Cottonwood Canyon with his wife and sixteen year old son, also a miner. The two men must have remained friends to the end because Nichols lent Braine almost five hundred dollars shortly before the latter's death, a loan that was repaid by the administrator of the estate.

On Silas Braine's last claim in 1866 he was accompanied by five local men who had never joined him in a claim before. They went on to relocate the Braine Lode, which he had abandoned, and recorded it with its original name. In 1871 two of those five men, Richard Gill and Francis Doughman, became incorporators of the Union Mining Company of Little Cottonwood, a company whose object was to develop mining in Little Cottonwood. The first president of the company was William Godbe, the leader of the Godbeite movement in which he was joined by a number of Mormon merchants and other men of influence objecting to economic demands and policies of Brigham Young. Among other things, they encouraged the promotion of mining activity.

This was in deference to Young's stand on the matter, resulting in many of those involved being excommunicated from the Church. Another of the incorporators was Henry W. Lawrence, at that time a Salt Lake City merchant who shared and supported Godbe's beliefs and activities. He later became prominently involved in the Woodlawn mining company in Honeycomb Fork. However, what is important here is the fact that, together with about two dozen other claims, the Braine Lode was transferred into the Union Mining company shortly after its formation.

In the years that followed Francis D. Clift became president of the company and Richard Gill became secretary. Clift was an early merchant in Salt Lake City and a minority stockholder in the Emma mine until it was sold to New York and English interests. He remained in the mining business as an investor for many years, putting his profits into real estate. He retired at age 32, thereafter listing his occupation as Capitalist. Richard Gill was a Salt Lake City barber who was an example of local citizens who succumbed to the lure of mining. He was a partner in Silas Braine's last claim in 1866 and was involved in mining at least until the Union Mining Company disbanded. But he continued his trade as a barber for the rest of his life. It is interesting that when Richard Gill was involved in the relocation of the Braine claim in 1866, two of the other locators were George and E. W. Clark. George Clark also was a barber in Salt Lake City, possibly induced to take this brief plunge into mining by his colleague Gill. E. W. Clark was his wife Elizabeth; neither indulged in mining again after this brief venture.

Several years later, in 1876, another group of men filed a claim called the Yankee Blade. It is believed this was a relocation of the Braine, since no mention of the latter mine appeared after it was incorporated into the Union Mining Company. Conversely, the Yankee Blade mine was mentioned in the newspapers a number of times in the next two years. The Union Mining Company lost little time in acquiring this property for itself, but



Fig. 2. The site of the Braine and Yankee Blade mines is above the Grizzly Gulch road about a quarter mile from its junction with the Little Cottonwood highway. The dump was worked by mid-twentieth century miners, leaving little in the way of mining artifacts.

held it for only a year before selling both it and the Braine to F. D. Clift, the president of the company. That was the last time the Yankee Blade name appeared in any transaction. When Clift had the claim surveyed for patent he used the Braine name, thereby perpetuating both it and the memory of the man who originally named it after himself. Once the patent was issued nothing more was done with the mine for over twenty years.

In 1902 the Columbus Consolidated Mining Company was formed, a joint effort of brothers Tony and A. O. Jacobson. Its property included a number of claims, one of which overlapped the Braine Lode. To avoid conflict, the new company bought the long idle Braine from Clift. The company's first base of operations was at a tunnel whose portal, now closed and out of sight, was located below today's Little Cottonwood highway, north of the Goldminers Daughter Lodge and west of the Alta Lodge. The tunnel was driven in a northeasterly direction, striking several fissures on the way. But at a little over

1,000 feet it struck a major fissure, at first called the Main Fissure, but soon thereafter became known as the Braine Fissure since it was encountered below the Braine claim. This was a strike of major importance, and brought much success and fortune to the Columbus Consolidated Mining Company through the years that followed. While it is unlikely the company did any work through the shaft on the Braine claim, it apparently did make use of it, possibly as an air shaft to provide ventilation for their subterranean passageways. Curiously, they chose to resurrect the Yankee Blade name for that shaft, as shown on later maps of the company's workings. This is yet another reason to believe that the Braine and Yankee Blade claims were one and the same. The Braine fissure continued to be worked by successor companies as long as active mining was taking place throughout the twentieth century, and became almost legendary among Alta miners. Although many knew of the name Silas Braine, few if any knew any more about the man than we do today. And as the old miners faded away, so do their legends.

Today there is not much to be seen at the site of the Braine and Yankee Blade mines. It can be found about sixty feet north of the Grizzly Gulch road, about a quarter mile from where the road leaves the Little Cottonwood highway near the Alta Lodge. The site was much disturbed by the latter day miners who worked old mining dumps in the mid-twentieth century, leaving a fairly large area devoid of vegetation, but not much in the way of mining artifacts.