

A SUMMARY OF THE HAWKEYE MINING DISTRICT AND THE ADJACENT PERIGO/GOLD DIRT GROUP OF MINES



The Hawkeye Mining District is located approximately 6 ½ miles northeast of the Black Hawk/Central City mining districts and is about 1 ½ miles south of the Perigo/Gold Dirt group of mines. Based on the review of all the historical documents listed in the footnotes, we have attempted to summarize the key information pertaining to the Hawkeye Mining District and the Gilpin County area. The following analysis is broken down by categories with excerpts from these reports.

1. FAULTS AND TRENDS

All of the mines indicated in our historical documents show that the main faults run on a compass delineation of between 45 degrees to 50 degrees Southeast to Northwest with the exception of the Fennelly which indicates their claim running, "nearly East to west, pitch North" and the Pine cone which runs "Northeast to Southwest." According to Frank Fossett, author of "Colorado Mines 1859-1879, Gilpin county section"; "There are two main systems of lodes in the gold belt, those having an east and west direction, which are much the most numerous, and those extending almost northeast to southwest. Of the former class are the Bobtail, Kansas, Gardner, California, and of the latter the Gregory, Bates, Leavitt or Buell, and Fisk." All of the mines mentioned by Mr. Fossett, were some of the richest mines in Gilpin County. Mr. Robert Watson, M.G. in his report on the Stewart Mine says; "Also, the northwest fractures such as the Stewart, Caledonia, Proconier, and Independent etc. are the more important ones and have yielded a larger production than fractures running in other directions."

We know that the Proconier and the Stewart veins are almost vertical, the Caledonia dips 65 to 70 degrees NE., the Pine cone tunnel dips about 80 degrees SE and the Free American cross veins dip sharply to the west with only one of the four cross veins considered important. In Mr. Fossett's book, he states; "Some veins are nearly or quite perpendicular, and others incline ten, twenty and even forty degrees. Some dip to the northward for several hundred feet and then change their course to the opposite direction".

2. GEOLOGY OF THE ROCK

The mines in the Hawkeye Mining District have some or all of the following rocks; granite, schist, porphyty, porphyrite, pyrite, chalcopyrite, quartz, monzonite, sulphides, galena, feldspar, hornblende, along with; gold, silver, copper, iron, zinc, and lead.

It appears that both Idaho Springs Schist and granite gneiss appear in the Hawkeye Mining District. According to Mr. Robert J. Watson, M. G. of the Stewart Mine report; "The Stewart Lode lies in a band of granite gneiss on both sides of which are bands of schist's of the Idaho Springs formation. The Stewart Lode is a vein filling a fracture in the granite gneiss. It is generally conceded that in the Central City and Black Hawk mining districts the fractures in granite gneiss are more persistent and usually better mineralized than fractures in the Idaho Springs schist. This applies equally well to the Hawkeye district."

The following mines indicate granite gneiss being present; Caledonia, Stewart, Free American, Perigo and the Gold Dirt. The Proconier indicates granite and schist, the Fennelly, Pine Cone and Smith don't give any information as to the country rock.

A SUMMARY OF THE HAWKEYE MINING DISTRICT AND THE ADJACENT PERIGO/GOLD DIRT GROUP OF MINES



Mr. Robert Watson, M. G. from the Stewart Mine report indicates; "heated magmatic waters originating in the monzonite and monzonite porphyry were responsible for the mineralization of the fractures." Mr. J. N. Mcleod, E. M indicated in his Free American report that he observed a "dike of eruptive rock running approximately parallel to the claim." Mr. Frank Fossett in his book writes; "The main rock formation of Gilpin County is a gneissic one, but granite occupies most of the territory where the mineral veins are found. Some veins lie between granite and gneiss. Hornblende occurs in dikes, and there are occasional patches of porphyry."

The miners of the Hawkeye Mining District found their gold by; panning, sluicing, near the surface in the form of oxidized materials, streaks, stringers, chutes, cross cut veins, and true fissure veins ranging from 8 inches to 12 feet in width. Mr. Lindemann writes in his report on the Proconier group on mines; "The precious metals are found in the surface quartz known as oxidized ores or quartz and penetrates to a depth of 90 feet or more." He goes on to say; "The Proconier Group of Mines have true fissure veins, which have been traversed by other veins and stringers." He also says; "The width of the vein at the Proconier is from 4 to 7 feet in its course from northeast to southwest." Mr. Fossett writes in his book; "The vein matter is usually decomposed near the surface and down to a depth of seventy or eighty feet."

3. ORE

Most of the ore mined in the Hawkeye Mining District area was disseminated gold. The main reason for this is that the depth of most claims was at the surface where the ores were oxidized and mixed with some sulphides. Gold was found attached to quartz, sulphides and various pyrites in this area.

A majority of the miners in the Hawkeye Mining District only mined for "High Graded" ore. They went for the easy pickings, not willing to expend much energy or cash investments to mine at the deeper levels. Those mines that achieved a greater depth were able to take their ore to stamp mills where they would be, concentrated, amalgamated and smelted. Mr. J. S. Wallace, M.E. noted in his report on the Proconier; "The ore being soft and in large bodies admits of easy and cheap extraction." Mr. Robert J. Watson, M.G. states in his report on the Stewart mine, "Without doubt only the richer portions of the mine were removed because of the high cost of treatment."

The gold in the Hawkeye Mining District was said to be of a more pure quality than the gold in the Central City/ Black Hawk area. Professor Lindemann in his report on the Proconier states; "I also beg to state the gold from said locality stands \$1.40 higher to the ounce than in any locality in Gilpin County." The eminent and reliable geologist, President Chace, of Brown University said of the Stewart mine; "I cannot doubt its intrinsic merit. The ore yielded \$100 per ton (4.76 ounces per ton); it is undoubtedly among the very richest and best in Colorado. The ore closely resembles that of the Gregory, than which no lode, with the exception, perhaps of the Bobtail, stand higher in the State."

John Q. A. Rollins, a large reducing mill owner states; "I am well acquainted with the Stewart Mine; have personally examined it at various depths, and have crushed in my mills a considerable quantity of its gold-bearing quartz. The Stewart lode, as far as developed, ranks with the best in the Gregory region. It is rich and productive, and I have no hesitation in saying that it will yield, in gold from \$800 to \$1,000 per cord." (11.9 to 14.88 ounces per ton)

**A SUMMARY OF THE HAWKEYE MINING DISTRICT
AND
THE ADJACENT PERIGO/GOLD DIRT GROUP OF MINES**



4. DEPTH OF MINING

A key factor in the gold yields of the Hawkeye Mining District is the depth that these mines obtained. The Caledonia reached a depth of 412 feet and had an average of 3.13 ounces per ton of gold. The Perigo and Gold Dirt mines, although they are 1 ½ miles north from the Hawkeye Mining District, achieved a depth of 600 to 680 feet. We know that they shipped 20 to 42 ½ tons daily and the Perigo produced over \$5 million dollars in gold. The ounces per ton at the Perigo averaged 4.46 at the Rollinsville mill and the Gold Dirt ran between 1.0 to 3.0 ounces of gold per ton. All of the other mines listed in the Hawkeye Mining District only achieved depths from 38 to 212 feet.

In Professor Lindemann's report on the Proconier Group of Mines he states: "My experience and experiments in said locality, nearly 42 years next April, has taught me that the **large values begin in depth from 250 feet, and increase considerable as depth is gained.**" President Chase of Brown University, geologist is quoted in the Stewart Lode Mining claim as saying; "The universal experience is that the **lodes increase in richness as they are followed down.**"

Mr. Frank Fossett in his book states; "Mining in Gilpin County began in the summer of 1860 with the completion of the Consolidated Ditch and the introduction of many stamp mills. Before that, work had been done by sluicing, rocking and panning and by means of arastras. In a year or two the more productive gulches had been worked over, the decomposed vein matter in the leading lodes had been exhausted and the mill men were at a loss to know how to get gold in applying quantities from the solid ore, or "iron" as it was termed. In 1862 to 1863 many rich "strikes were made on claims that had shown nothing but barren rock after the surface pockets were exhausted." The mining continued to be successful until the conditions changed in 1869 and the big mines begin to suspend operations. These employees began to lease other mining properties or move to the silver mines in Georgetown and other areas. He states that during the 1871 to 1875 years; "Those who remained in Central City and Nevadaville finally exhausted the pockets and ore bodies of many leased mines and left them to fill with water. These mines were left in bad condition for succeeding operations, as they were poorly timbered and many of them "in cap." During that time the state of Colorado did not require the old mining claims be reissued if they didn't pay their assessments, as in California and Nevada; this caused many claims to remain dormant.

The next boom happened in 1876 only because of a few men who spent their time and money to remove water, and to sink or drift into new ore bodies. Mr. Fossett states; "The only other sensible move would be to butt up adjoining claims, and so procure territory enough to pay for deep mining. It should be remembered that it takes just as much machinery and steam-power to work 100 or 200 feet of the vein to a depth of 1,000 feet as it would to work 1,000 feet of territory to the same depth. The only old companies that have operated since their formation in 1864 with hardly an interruption are the Consolidated Bobtail and New York & Colorado; and the reason is largely due to the fact that they had more than the usual quota of contiguous property on one vein, and have subsequently increased it by purchase." We know that since the writing of Mr. Fossett's book, those mines in the Black Hawk/Central City area produced tremendous amounts of gold by mining at greater depths and through the acquisition of adjacent properties.

In addition, it was the recommendations in all of the reports; the Proconier, Stewart, Free American, Perigo and Gold Dirt claims, to mine at greater depths and to extend the claims along the course of the veins.

**A SUMMARY OF THE HAWKEYE MINING DISTRICT
AND
THE ADJACENT PERIGO/GOLD DIRT GROUP OF MINES**



5. FACTORS IN THE DECLINE OF THE HAWKEYE MINING DISTRICT

All of the conditions just mentioned above in Mr. Fossett's book also occurred in the Hawkeye Mining District. Another factor in the demise of the mines in the Hawkeye Mining District was the cost of operations. If you review the mining reports they will all talk about how the processing and transportation costs have been reduced drastically from the last time these mines were in operation. They go on to apply these cost savings with estimated yields in order to show potential investors the highly profitable value these properties hold. They will also indicate that the new treatment methods used by mills can improve the retention of the gold processed.

Professor Lindemann writes of the Proconier; "Forty years, and even ten years ago, propositions as they are prevailing at the Proconier Group of Mines would not have been looked upon as a commercial value, because the sampling charges varied from \$12 to \$25 per ton. Transportation from a point where the Proconier Group is located to the smelter could cost from \$5 to \$8 per ton. Similar conditions prevailed with the mill system. Under these conditions, such properties equal to the group of mines of the Proconier, and many others could not be worked profitable enough to investors." He goes on to say; "The owner was unfit for mining and had bonded and leased the mine to an incompetent leaser, and this is the only reason why said Proconier mine has not been operated with more success, and further advanced by this time in her development."

Mr. Robert Watson, M. G. states in his report of the Stewart; "The last leasers J. Swindell and partner, attempted to mine small pillars left into the stopes. To do this they replaced timbers where it was necessary to work certain faces. Otherwise the condition of the mine has not been materially improved by their work. In a conference with them they admitted that the proper working of the Stewart mine was beyond their present financial condition." In his conclusion Mr. Watson states; "The future of the Stewart claim must be looked at in the light of its past history. In common with many old mines we note that only one ore shoot was found and mined. Treatment charges were high and only ore which would now be considered fairly high grade were mined. Generally the mine was discovered by locating the ore shoot. Having mined this rich ore, a prolonged search for another ore shoot was very discouraging and generally the property was allowed to remain idle except for an occasional lessee who thought he knew where certain parts of the high grade shoot were left."

Mr. J. N. Mcleod writes in his report on the Free American; "Considering the small amount of stoping done and the smelter charges in force at the time the ore was shipped this may be considered as a very good record, and proves the property to be a valuable one."

The few owners who developed their mines below the disseminated level (High Graded" area) found larger quantities and higher values of gold just as was the case in the Black Hawk/Central City area. Several factors such as; the low price of gold, high production costs, limited resources, inability to acquire adjacent claims, poor processing methods and its competitive proximately with the Black Hawk/Central City area, prevented the further development of this mining district. With the exception of a few claims, the Hawkeye Mining District has remained in its dormant condition since the late 1800's.

**A SUMMARY OF THE HAWKEYE MINING DISTRICT
AND
THE ADJACENT PERIGO/GOLD DIRT GROUP OF MINES**



Mine name and Patent #	Vein Orientation	#of Shafts and Depth	#of Drifts and Length	Ounces per Ton and Average	Tons Mined or Yield
Procurier #30414 and Lindmann #148155	50 NW	4 38' to 119'	5 24' to 341'	1.38 to 3.29	8704 1/5 tons 68 tons
Caledonia #3782	50 NW	6 40' to 412'	unknown	As high as 14.29 Ave. 3.13	Unknown
Smith 1869	47 NW	unknown	1 500'	14.3 Assay	Est. annual Yield 5714 ounces
Stewart (Stuart) #3307	30 NW	3 60' to 180'	1 200'	.286 to 17.86 Mill Claimed 11.9 to 14.88	1873 depth of 90' produced 11,355 ounces
Free American #14118	45 NW	4 20' to 212'	3 50' to 200'	Gold Ave. 2.96 Silver 2.0	138,340 tons yielded Ave. 2.04 per ton
Pine Cone #42832	20 NE	1 100'	1 130' to 270'	Small amounts	Claim only crossed veins
Fennelly #10671	46 NW	7 125'	2 60' to 100'	1.09	Total yield 476 ounces
Gold Dirt group (5 claims)	Lump Gulch	1 680'	7 1000'	1.0to 3.0 Smelted Comstock high as 8.0	Produced 20 tons daily
Perigo	Lump Gulch	Unknown 600'	2 1000'	2.23 to 8.93 Rollinsville Mill Gold Ave. 4.46	42 ½ ton shipped 1901 to 1909 \$5 million in gold produced