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Denver, Colo. October 3, 1899.

**BREIF REPORT ON
THE PROCUNIER GROUP OF MINES
BY PROF. E .C. LINDEMANN, OF
DENVER, COLORADO.**

F.D. CARPER,
Denver, Colorado.

Dear Sir:-

At your kind request, I very respectfully submit to you a short report on the Procunier Lode, Lindemann #1, #2 and Lindemann #3.

GEOGRAPHICAL

This group of Lode Mining Claims is located 6-1/4 miles north east of Black Hawk and in the same direction about 7 miles from Central City in the Hawkeye Mining district of Gilpin County, State of Colorado, and within 6-1/4 miles northeasterly of the Colorado Southern Railroad system.

CONSISTENCE

This group consists of the Procunier Lode, United States patent survey #12,190, the Lindemann Lode #1 recorded in book #144 page #97, the Lindemann Lode #2 recorded in book #144 page #97 and the Lindemann Lode #3 recorded in book #144 page #98 in the County of Gilpin in the State of Colo..

The blue print exhibit marked #1 shows geographically and the longitudinal section of this group extends from a southwesterly to a northeasterly direction covering a full length of 3,000 feet on the Procunier vein, and 3000 feet in his length course at the Lindemann.

GEOLOGY

The geology where this group of mining claims is located, as far as the development on this group and other lode mining claims in their vicinity have been proved and prospected consists of granite, schist, porphyry, porphyrite, and other eruptive rocks.

METALLURGY

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. These oxide ores are under laid by pyrites of iron associated with pyrites of copper and small portions of zinc and zinc chlorides. These ores extend to unknown depths. My experience in said locality during the past forty two years has been that the metallurgic conditions containing high values of precious metal begin with the surface under her grass roots, as the deepest shaft on said locality is at the Caledonia Group of Mines, which has gained a depth of 412 feet. The ore values on the surface there have been as high as \$300 to the ton, and in depth of 400 feet, even higher than this. The Caledonia group of Mines and the Smith are west of the Procunier Lode Group of mines. The endline of the Caledonia Group of Mines to the east connects with the west side line of the Procunier, and the north endline of the Caledonia connects the Stuart, (Also known as the "Stewart") which is now a very reliable producer. The ore shipped from the Stuart in the past two weeks yielded

gold values of 13-40/100 ozs. to the ton, and has a depth only of two hundred feet at present. The Proconier Lode is one of the early locations in Gilpin County, but rather to be said one of the earliest locations in the Hawkeye Mining district. This lode was located in the beginning of the '80's and has paid his way along to his owner until he sold said property.

DEVELOPMENT

Exhibit #2 on this blue print shows the development on the Proconier Lode surface and also underground workings, etc. I may insert here that I have not only examined this group of mines carefully, but have managed to work for eight months on the Proconier and on the Lindmann #1, 2, and 3 and so have cleaned out the underground workings from shaft #1 and shaft #2 and from shaft #3, have prospected and made connections shown on exhibit #2 and on plat #1. The total depth of the Proconier is 119 feet and 6 inches. The south level 341 feet in length has been drifted for the purposes to have an outlet in the workings in the shape or form of a tunnel so as to have hoisting expenditure, etc. Plat #1—Working shaft #3 of the Proconier is connected by a cross cut to the Lindemann vein, and also to the Proconier vein. Ore extracted by me on the Lindemann vein, drift 160 feet in length, has yielded an average of \$29.00 per ton in gold. While the ore in the Proconier, while cleaning out the same, gave returns as high as \$69 to the ton at a depth of 38 feet and 6 inches. I also found valuable ore in drift 75 feet, in drift 24 feet, and in drift 26 feet, but had no mill runs made of these ores with the exception of tests of from 50 to 200 pounds at a time.

The Proconier Lode is provided with an extensive shaft house, a steam hoister, and about 40 horse power boiler. There is but very little stoping done on the Proconier with the exceptions shown on exhibit #2, stops, so it leaves practically the entire area for prospecting and developing. The width of the vein at the Proconier is from 4 to 7 feet in its course from northeast to southwest. The vein matter consists of pyrites of iron and sulphates. The gangue is feldspathic substance mixed with schist and metamorphic, decomposed granite. The pay streak carried from 3 to 20 inches in width, while the balance of the gangue in the vein matters is mill dirt. The word pay streak means smelting ore of sufficient value to be shipped to the smelters without any expense for milling and concentrating, and this concentrate 5 to 1 and also 7 to 1 produces and concentrate worth from \$20 to \$41 per ton. In addition to these concentrates the character of the ore permits to save from \$1 to \$3 per ton of crude ore on the plates, and so increases the value of the milling ore. My said tests of mill ore at the Douglas mill have shown returns of \$4.60 to \$11 per ton. The cost for smelting of this ore is \$5.50 per ton. The cost of shipping ore per ton to the railroad from the Proconier Lode, and also the Lindemann #1, 2, and 3 is \$1.20 per ton. The hauling from the mine to the nearest mill is 30 cents per ton.

ORE IN SIGHT

A very conservative measurement taken by me of the ore exposed for removing and breaking ores at the mine is 5,200 gross tons, of which is 650 tons of smelting ore at the lowest estimation of \$20 per ton:

650 tons at \$20 per ton	\$13,000.00
4500 tons at \$6 per ton.....	\$27,300.00
Gross value in sight.....	\$40,360.00

The expenditure of \$5,000 for the development of the Proconier Lode will open sufficient ground to permit the extraction of, at least, the amount exposed now and more. The appraising of the ore

in my report is 30% lower than the shipment certificates have shown from their shipments of 8,704-1/5 tons. This tonnage consists of 11 shipments, while figuring the returns of the 8,704-1/5 tons, which were shipped from the Proconier Lode, the average per ton has yielded \$15.93-11/100. The leaser has milled ore which I speak of in my report as mill dirt, in his own mill, but I could not find a reliable statement to bring forward in this report. The certificates for gold report return from the mint assure me that my estimation of \$1 to \$3 per ton is reliable, and in comparing them with the tonnage of ore that has been shipped, I suppose they have been a portion of concentrates. For this reason I am not in a position to show the exact mill returns from the Proconier Lode. The average of the estimated ore bodies in sight, namely 5,200 tons averaged only \$7.78 per ton while the ore shipped by the leaser shows an average of \$15.93 and a fraction of a cent per ton. I repeat these figures, as I don't wish to have my report misunderstood. My estimation is in the crude condition of the ore in sight less 30% per ton, while the shipped ore probably carried a large percentage of concentrates. The Lindemann #1, 2, and #3 are not far enough developed to make a detailed report. The blue print shows the lay of the three claims and in my opinion and experience, each of these three claims are of an equal value to the Proconier. These three lode claims not only extend the Proconier of 1,500 feet beyond the Proconier endline but covering an additional vein to the southwest sideline of the Proconier in a length of 3,000 feet, and so it has in the entire length course, two veins in the best part of the Gold Dirt Hill. The Gold Dirt Lode, which is located on this hill, is responsible for this name. The Gold Dirt Lode continues with the southeast line on the north endline of the Lindemann #3. I may insert in here that the Gold Dirt Lode was not worked for nine years on account of litigation. This property resumed work in May, 1899 and is today one of the best mines in said locality. The small amount of development work done on the Lindemann #1 returned from Sept. 22, 1899 to November 9, 1899, while opening the vein, 18,500 pounds of smelting ore averaging \$29.00 per ton. Gross returns \$267.60. The owner had the ore sampled and so increased expenditure through sampling. Total expense for shipping, smelting and sampling, hauling to the sampling works, amounted to \$23.10; this leaves a net of \$244.50 mill ore taken out 68 tons. The 68 tons yielded \$692 United States Mint returns. In addition to this \$41.67 for the concentrates: this makes a total value of \$733.67, the average per ton being \$10.78-63/68. Part of this ore was taken out by cross-cutting from the Lindemann vein to the Proconier vein, 38 feet below the surface. I have taken the liberty to bring these figures to show my estimation in this report, for mill dirt that I speak of, from \$4.60 to \$11 per ton. It is evident that I took these figures very conservatively, and more than this, the prevailing conditions shown that from the main shaft of the Proconier the ore has increased in value in the direction to the north on higher points, and the distance between the main Proconier shaft house and the point from there, the ore on the Lindemann #1 has been taken out 1,264 feet. The assessment work on the Lindemann #3 which is 750 feet further up in the hill has shown the same vein and the same character of ore in depth of 14 feet from the surface. All work done on the Lindemann #1, 2, and 3 is considered the beginning of the prospect work only.

COST OF FUEL, LABOR, ETC.

The cost of labor in said locality in the Hawkeye Mining district: The best miners are paid \$2.50 for nine hours work per shift. Good men can be secured at any time. The engineers are paid \$3 for 12 hour shift. Fuel can be secured free from charges on the hills in distance from 1/4 to 1-1/2 miles at a cost for cutting and hauling only. Mining timbers can be secured in the same way. Board and plank lumber from the saw mills are delivered on the ground at the rate of \$20 per thousand feet. Water for mill site and domestic use is plentiful. The ground can be operated every day during the year and is accessible summer and winter.

The Proconier shaft house where the main workings and machinery are placed is on an excellent road, and from there to the railroad of the Colorado Southern is 6-1/4 miles down grade. The hauling to

the railroad depends a great deal on the amount; large amounts can be contracted as low as \$1.25 per ton, small amounts are paid from \$1.50 to \$1.75 per ton. The hauling to the next mill from any of these lode mining claims is from 25 cents to 30 cents per ton.

RECOMMENDATION

My advice would be to sink the present shaft for greater depth say, 100 feet from the present bottom. With the machinery on the ground this could be done at \$9 per foot. From there is an opportunity to make two lifts and drifting in both directions northeast and southwest. All this work can be done on the vein. The ore I have taken from the present bottom of the shaft in 400 pound lots, and tested personally, I find \$34.60, \$31, \$28.12 and \$9.76. 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. I do not wish to be misunderstood that the quality increases enormously. The Proconier Group of Mines have true fissure veins, which have been traversed by other veins and stringers. I expect to find valuable ore chutes by gaining depth and doing some cross cutting after depth had been gained. To this time there is only one cross-cut made on the entire group of 22 feet about 33 feet from the surface.

PAST AND PRESENT CONDITIONS FOR MINING

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 would 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. These conditions have changed to the benefit of the miner from all localities in Colorado. The very same ores which were charged from \$12 to \$25 per ton for smelting are charged by the smelters now from \$3.50 to \$5.50 per ton and the transportation to the railroad and smelter; especially from the Wideawake district does not exceed \$3 per ton.

The convenience of the mills, within $\frac{1}{4}$ of a mile and less from the Proconier group of Mines enables a good margin for \$4 ore. I have built an extensive plant within $\frac{1}{2}$ of a mile east of the Proconier group of mines in the Wideawake district and now treat successfully with a small margin \$3 ore. The Proconier Group of Mines warrant, extraction of ore sufficient to run a 20 stamp mill steady, and under such conditions, it is my belief, where with a small investment I have recommended in my report for further development, this property could be made a paying institution, which will return a good percentage on a capitalization of \$200,000 or more.

The Proconier Lode mining claim has attracted the attention of mining men in Gilpin County at the beginning of its location, and she has become a producer from the grass roots. 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. I am aware that the money appropriated in this report for developing and prospecting of the property, will bring the same to an equal of other producing mines, and will pay the investor a satisfactory margin on his investment. I beg to insert further that the group where said group of mines is located is a gold proposition, and in all my assays and tests, I did not find more than a trace of silver and one or two units of copper, small per cent of lead and from 1 to 2% of zinc, but never more than a trace of silver. I also beg to state the gold from said locality stands \$1.40 higher to the ounce than in any locality in Gilpin County. For instance the mint pays for gold south and west, and extracted from Chase Gulch \$16.40 while the gold from Stuart Gulch, Hawkeye Mining district, has been as high as \$18.60

per ounce, because the last mentioned gold carries less allow than the gold mentioned from the other districts.

SHORT HISTORY OF GILPIN COUNTY AND MINERAL PRODUCTION

I consider the Proconier Group of Mines as valuable as any lode mining claims in said vicinity or district. I believe less than \$3,000 cash investment for more prospecting and opening said Proconier Lode Group of Mines will make said group a reliable and paying institution.

CARD

I beg to insert here and at the same time show whether Colorado is safe for an investment or whether or not Gilpin County warrants returns for investments. The precious metal extractions in Colorado including other nets since 1850 to the first day of January 1899 are as follows:

\$165,555,486.00	In Gold
\$417,913,740.00	In Silver
\$150,000,000.00	In Lead
\$ 348,000.00	In Iron and Magnesia
\$ 650,000.00	In Copper
\$ 98,250.00	In Zinc

The Gold and silver production in the state of Colorado from 1859 to 1899 amounted to \$583,469,236. The lead, copper, zinc, magnesia production etc., has brought the output of metals over \$700,000,000. I beg to show also the increase in precious metal production, and so make two periods out of forty years. The gold extraction in Colorado from 1859 to 1879 for a period of twenty years amounted to \$50,887,775., from 1880 to 1898 the gold production in Colorado amounted to \$137,167,719.

Gilpin County, which has an area of 182-1/100 square miles, is not only the pioneer district of Colorado, but it is entitled to be credited with 62% of the above amount of gold extraction in Colorado. Such figures should give satisfaction as they are true for safe investments and returns in Colorado and Gilpin County.

Very respectfully submitted,
(signed) E. C. Lindemann,