A BRIEF REPORT ON THE GEM MINES PROPERTY.

To whom shall this report be addressed?

The L. & P. Gold Mining Company

O. W. B. Boud, President

St. Louis,

The lode mining group of claims known as the Gem Mines are located on and in the vicinity of Seatop Mountain about 1/4 miles in a northeasterly direction from the town of Idaho Springs. More definitely described this property is in sections 25 and 26, Township 3 South, Range 73 West of the 6th Principal Meridian, in Clear Creek County, Colorado.

Idaho Springs is connected with Denver, 40 miles distant, by the Colorado and Southern railroad, built primarily to serve the mining interests, also by an excellent automobile road through the Denver Mountain Parks. The town is 7541 feet above sea level.

Clear Creek, a tributary of the South Platte river, flows through the city, which is one of the cleanest, best kept towns in the Rocky Mountain region. It is liberally supplied with good hotel accommodations, stores, water works, electric lights and other accessories that go to make up a modern village of probably 2500 inhabitants. Climatic conditions are ideal and work can be carried on continuously through the entire year. Idaho Springs claims the distinction of being the first place in Colorado where gold was found in paying quantities, a monument marking the place of discovery, (see map submitted herewith,) which was made by George A. Jackson Jan 7, 1857.
Briefly the history of the Gem Mines is as follows:

The vein or contact upon which the Gem is located can apparently be traced on surface a distance approximating 5 miles. The Gem and present subsidiary holdings have a length of something over 6000 feet on this vein, extending from the Main Trunk lode on the northwest to the Silver Age lode on the southeast. See map accompanying this report.

This map of the Mining Districts of Clear Creek and Gilpin Counties, Colorado, while some 19 years old, shows in a general way the location of the mines of this region, with the reservation that numerous changes may have occurred relative to the holdings of the different companies.

Note the general northwesterly and southeasterly trend of the locations on the Gem vein, on which are some of the famous mines of the district. Note also lying to the northeast, the Sun and Moon system of mines, northwesterly and southeasterly, crossing the Gem properties and extending from the Sun and Moon in a southeasterly direction toward the Big 5, Stanley and other groups. The crossing of the above mentioned veins should greatly enrich the lodes in the vicinity of their intersection on the Gem property.
A technical description of the Seaton Mountain Mines is found in Professional Paper #94 (pages 281-303) entitled "Economic Geology of Gilpin County and adjacent parts of Clear Creek and Boulder Counties, Colorado," published by the United States Geological Survey in 1917; edited by E.S. Bastin and J.M. Hill. A copy of this publication can be obtained from the Superintendent of Documents, Washington D.C.

Professional Paper #94 describes the Gem, Freighters Friend, Franklin, Silver Age, Freeman and other mines of the Gem consolidation. It credits the Sun and Moon with a production of $2,000,000; 836 tons of ore shipped from this mine in 1908-9 showed average values of gold 1.31 ounces; silver 14.49 ounces. The Santa Fe vein, near the Gem is credited with a production of $100,000.

Regarding the Gem vein this report says in part, "The veins developed in the Gem and the Freighters Friend mines form part of a well defined system of mineralized fractures that outcrop on the summit of Seaton Mountain, extending slightly south of east from the Main Trunk claim to the Franklin and Freeman claims. The Gem workings consist of a shaft inclined to the north and connected with levels numbered from 1 to 18. An interval has been left for levels Nos. 10 and 15, but they have not yet been driven. On account of the age and caved conditions of the workings little could be seen above the 9th level. The Gem level was cut by the Argo tunnel in 1900 about 7860 feet from the portal and in 1903 a raise was completed connecting the Argo level with the shaft workings."
"The elevation of the collar of the Gem shaft is 9026 feet, and that of the Gem lateral on the Argo tunnel level is 7606 feet, a vertical difference of 1420 feet. A winze and short level below the Argo level increases the total vertical extent of the workings to 1504 feet; their extent measured along the strike of the lode is about 1900 feet."

"The workings of the Freighter's Friend mine were not accessible for study; they consist of the Freighter's Friend shaft and five levels driven from it."

"The lode taken as a whole is remarkable for its width and compound character. Though in some places composed apparently of a single well-mineralized vein, in most of the workings it consists of two nearly parallel veins 20 to 30 feet apart. This compound character is a feature also in the Franklin and Silver Age workings. From the surface to about the ninth level the shaft in general follows the footwall vein and below the ninth level the hanging-wall vein, which, as indicated by the amount of development on it, becomes increasingly important with depth. One of the best and most easterly exposures of the footwall vein is on the eleventh level, about 800 feet east of the shaft." Then follows a technical description of the character of the Gem ores, vein composition etc.

Regarding recent values of shipments from the Gem-Franklin vein, we submit a photostat entitled "A few recent shipments from the Gem, Freighter's Friend and Franklin Mines, Idaho Springs, Colorado."
This sheet was furnished me by Mr. Renshaw from records on file in Gem mill office.

Professional Paper #94 describes the Argo tunnel, pages 303-306.

"The Argo tunnel, formerly called the Newhouse, is the largest and most important mining work in the district. It was begun in January 1904. Its cross section is 12 x 12 feet for the first 13117 feet; beyond which it is 9.5 x 6 feet. Its total length is 21968 feet, or about 4.16 miles."

"The object in driving the tunnel was to intersect many of the largest veins of the district at depths considerably greater than the deepest shaft workings, thus decreasing the cost of deep mining, furnishing cheap and rapid transportation to the mills and railroad at Idaho Springs and affording natural drainage when the shaft workings were connected with the tunnel."

"The tunnel is double tracked in the 12 foot portion and single tracked with occasional sidings beyond. Haulage is in trains drawn by electric locomotives."

"The Gem system is cut between 7790 and 7900 feet from the portal (see pp. 290-292). The Gem shaft connects with the Argo workings 160 feet east of the tunnel, so that the lode has been certainly identified."
The use of a computer program would make it much easier to obtain ideas of any values that could not be done at present among your friends.

The main problem is to determine whether the method has not been selected for some time.
To illustrate surface conditions at present a number of 4 X 12 inch, panoramic photographs are submitted herewith. These photos are numbered and described as follows:

#1 Eastern end of Gem property, looking northeast, shows Franklin lode and workings;
Freighter's Friend surface equipment in Gilson Gulch; Sun and Moon dump on skyline.

#2. Gem plant, looking east, shows Gem main working shaft and buildings containing electric and air compressor plant etc.

#3. Portal of Idaho tunnel, looking easterly, shows dump and surface improvements.
This tunnel is located on the main auto road between Idaho Springs and Central City, giving easy transportation by truck to Gem mill, etc.


#5. Shows Freighter's Friend surface equipment, looking northwesterly.

#6. Idaho Springs, Gem mill, steam electric power plant, Argo tunnel, Hot Springs hotel.

#7. Idaho Springs, Gem mill on right, steam electric plant, location of real estate owned by Gem in Idaho Springs, on left Argo tunnel.

#8. Idaho Springs, Gem mill, steam electric plant, property owned by Gem etc.

Mr. Renshaw, informs me he has furnished you with a large number of photographs, maps, etc., illustrating details of the many features of this enterprise. For this reason I did not take time to secure many pictures. The property is too large to be understood from a brief examination, and a thorough study is impossible at present.
In addition to photos, maps etc., Mr. Renshaw informs me he has furnished detailed descriptions regarding the property,— the mines and their equipment,— land holdings,— power plant,— mills,— etc. To the extent of my hurried observation I find these matters as he represents them to be and I conclude he has more, rather than less, equipment as he has described it to you. There is owned by the Gem company an extensive tract of land on and near Clear Creek, that appears from surface indications to be suited for gold placer dredging.

Years of development have demonstrated the value of the Gem property and while records show several million dollars have been produced from this mine, but a small part of the available territory has been worked. The results of this development can be used to great advantage in the future. Owning and controlling, as the Gem does, a large acreage of partially worked ground, together with facilities for expansion, its future possibilities are large. The company controls electric power from two plants,— one steam, located in Idaho Springs,— one water situated on Clear Creek about two miles east from said town. These plants are connected, so that power from them is interchangeable.

Transmission lines run from these electric plants to the mines controlled by the company, the central distribution plant being at the main Gem shaft. It is capable of generating about 400 horse power. From this central plant, pipe lines on-surface transmit compressed air to operate drills in the various workings.
Air line extends from the Gem shaft to the Freighter's Friend workings, which in addition has an electrically operated hoist. From the Gem shaft compressed air can be transmitted to the Idaho tunnel as well as to the other proposed workings. All of the workings of this mine can be controlled by electricity and compressed air, thoroughly modern and up to date in every way.

All of these improvements being previously installed are now ready.

Money invested in this enterprise can be directly applied to production of ore, in place of being spent in getting ready to mine, an unusual condition and an opportunity for investment that is of rare occurrence, one that should bring quick returns.

The Argo tunnel, a drainage and development project, runs directly through the Gem properties, connecting with the main Gem shaft and furnishing ventilation, drainage and gravity transportation to its portal, which is at the eastern or lower end of the town of Idaho Springs. The Gem Mill is in the center of the town, about one mile from the Argo tunnel. Ore brought out through this tunnel is dumped into cars and transported to the mill by narrow gauge track. It is handled mechanically from the time it leaves the stopes in the mine until it reaches the mill, from which it comes out a finished product ready for shipment to smelters or other sources of market.

All of the above described conditions are ideal for economically and efficient work and for large production of ore at a minimum cost per ton. By such methods, ore of a very low grade can be mined at a profit. One of the outstanding examples of
of such mining is the Homestake of South Dakota, where ore running less than $4. per ton
has paid over $40,000,000 in dividends. The low grade ores of Cripple Creek are mined at
a profit and the Gem properties have equal or better conditions for cheap mining.

Suppose this mine producing 500 tons of ore per day, a profit of $1. per ton net, it would
would pay $15, annually on an investment of $1,000,000. That this mine has paid is evidenc-
ed from the records now on file in the office of the Gem mill, several books of 100
pages, 36 lines to a page, contain for each line a shipment record. Evidently these shipments
which extend from 1895 to 1922 would not have been kept up without profit.

Senator Renshaw has outlined to you his plans for extensive future
development of the Gem mines. They appear to be on broad conservative lines, are capable
of expansion, unit by unit, as work progresses and should make of the Gem project one of
the largest and best mines in Colorado.

Taken altogether, this proposition recommends itself as worthy of exten-
sive exploitation. It is ideally located for continuous operation, accessible at all
times of the year, transportation facilities of the best, the mines so situated that
ores can be mined with the least amount of labor and expense, almost entire gravity
operation from the mine stopes to the finished product. Power plants are ready to start
and the mill ready to run. Pending the time when the company shall need the capacity
of the mill for its own use, it will begin immediately on custom ores from the district
mines that are now more active than for years.
This entire undertaking is fully equipped and ready to go, making the Gem an attractive enterprise, one that commends itself on its merits.

Respectfully submitted,

[Signature]

[Handwritten notes]