Dec. 10th, 1902.

The day before I began my work Mr. Johnson & Mr. Ridpath resigned. These gentlemen were very well informed in regard to the property and their resignation has greatly handicapped my work. In fact, a large part of my time has been spent in gathering information which a well informed general mine superintendent could have furnished me as fast as I could write it down. As a result I have found the time at my disposal too short to report to you with the degree of detail that I would like. With this understanding I will briefly state the result of my investigations.

The properties of our company comprise a territory of 514,481 acres divided into three groups: the Bull Hill Group of 186,112 acres, the Proverty Gullet Group of 382,819 acres and the Callie Claim of 7 acres. There are, in addition, a number of properties scattered through the district the control of which is owned by the W'S. Stratton estate. A discussion of the various veins, dikes and ore bearing formations occurring in our territory will be found in Division A, together with a discussion of such of the Stratton estate property as adjoins our territory.

There are 126 shafts and 9 tunnels that I have noted and I presume there are 25 miles of workings.

We have 3 shafts in operation, namely: the Abe Lincoln, the Legal and the Eagles and one tunnel, the Chicago Tunnel. The Stratton Estate is also operating the Zenobia Shaft near the Eagles.

A very extensive system of development radiates from the Logan and from the Eagles shaft and these two shafts are connected on the levels. Another extensive system of develop-
ment radiates from the Chicago Tunnel and another from the Abe Lincoln Shaft.

All that territory which is penetrated by these workings except the best veins and prospects I would advise leasing on the "tribute" system. The reasons for this are more particularly discussed in Division B and my idea as to the best details for such a system is mentioned there also.

I have marked on the map accompanying this report the territory which I would advise leasing on the tribute system and the territory which I would hold for the present and work by days pay.

As to developing the ground which I advise holding for ourselves I do not know of anything that requires mention here except that I would recommend that the Mineral Rock and Grouse veins be developed to the South from the Eagles shaft on such levels as the management may deem most expedient. These two veins have produced over a million dollars from the territory lying immediately South of the Eagles and this shaft is the natural one through which to operate them. This matter is more fully discussed in Division A.

There was a good stop of ore on Eagles "one" on what is probably the Grouse vein. Apparently some ore is left standing between "one" & "two" but there is an old shaft which tapped this ore and I found that some work had been done between "one" & "two" from this old shaft. There is a good prospect here anyway and the cheapest way to get at it would be to tap the old workings through Eagles "two."

In the Division A, I have made numerous suggestions of secondary importance and I have also discussed these suggestions freely with the management and I will not repeat them here.

All that territory outside the limits marked on the map I would lay out in blocks and after finding out all that is possible about a certain block I would offer it for lease and then proceed with another and so on. With some blocks it will not only require a thorough knowledge of all the likely
prospects in the block but a fair degree of promoting ability as well, to induce anyone to go to work on them. Then again there are other blocks which may prove good enough to withhold from leasing when all available knowledge is secured. There are hundreds of stories about ore buried upon the Stratton Estate. Most of these are dreams but it may be possible to substantiate some of them by a more detailed examination of each block than I have as yet been able to make.

In all these leasing matters we should bear in mind that it is good business to save the lessee all expense possible. Wherever feasible we should help them to operate at small expense because it is certain that 3/4 of them will be unsuccessful at first and if they are operating under heavy expense they will give up sooner than if the expense is light. A lease that has been forfeited is a hard thing to re-let.

In brief, I advise entering upon a leasing system in a conservative way. Wherever we can use our extensive equipment under the "tribute" system, I should use it. Where we cannot make use of it I would lease in surface blocks, except in one or two places as discussed in Division A. In many places where a deep level, and a deep level only, penetrates a piece of ground it will be best to lease a surface block to a certain depth and "tribute" the ground below, contiguous to the deep level.

Terms and royalties will have to be adjusted to nearly every block separately and a very full knowledge of each block would be a great help in settling the terms and royalties.

The blank lease submitted to me seems very complete except that I do not see any stipulation that a lessee on our boundary shall assume the privileges and obligations of the apex law which are apt to affect a boundary lease.

LOGAN, EAGLES & ZENOBIA.

We have two shafts (the Logan & Eagles) and the Stratton Estate has a third (Zenobia) shaft all working at less than full capacity in a territory which it is entirely possible to
work through the central one (the Eagles). The Stratton Estate owns 866,826 out of 1,000,000 shares in the Zenobia.

The Logan has two good connections with the Eagles shaft on the Logan 5 - Eagles 8 and Logan 10 - Eagles 13, and a connection which is 5 ft. out of level on Logan tunnel - Eagles 8.

The attractive prospects in the Logan are, I on "ten", 4 on "five", I on "three" and several above "two" with some low grade ore in sight in this part.

The best prospect in the Logan is the Favorite Dike in the neighborhood of the Favorite Shaft. We find are raising from Logan 5 to connect with the Favorite Shaft at the present time. By expending $1,200.00 to $1,500.00 the Favorite Dike can be connected to the Eagle workings and that is the most convenient way to work it. By the expenditure of $6,700.00 Logan "two" can be connected with Eagles "five" and all the ore above two can be extracted through this connection. Mr. Rice and myself figure that we would save $15,000.00 a year if we shut down the Logan Shaft. In brief, by spending $7,000.00 we can do practically all the work we want to do in Logan ground and save $15,000.00 yearly. Obviously it is good business to shut down the Logan Shaft, but whether it is good business to expend $6,700.00 to connect Logan 2 and Eagles 5 or whether it is good business to spend $1,500.00 to connect the Favorite workings with Eagles, or not, can be determined a little later, after our present developments have progressed further. But the Eagles and the Zenobia depend upon the Logan for compressed air and there is not nearly so much saving to be made by shutting down the Logan shaft while the boilers and compressor still run as there would be if the whole thing together could be shut down. With this end in view our Mr. Rice started to install a compressor at the Eagles sometime ago and expected to get it done about Dec. 6th. While in Colorado Springs on Nov. 24th, I verbally advised that the Logan shaft be shut down as soon as this compressor was running. On Dec. 4th. I learned that through an absolutely unavoidable accident, which could not have been foreseen or prevented by anyone connected with the management, the date of starting the new compressor would
be postponed and unless we are very fortunate it will be some-
time before the compressor can be started. When the Logan
shaft is shut down we must either abandon all the ore above
"two" or spend about $5,700.00 to get at it; so any ore that
can be cleaned out while the Logan is running will be so much
gain. I believe there is considerable ore above "two" that
tributors would take out at a profit to the company and I be-
lieve there would be no trouble in putting 10 or 12 sets of
tributors to work at short notice.

As pointed out in my preliminary report on the Logan the
mine is "top heavy". While the management has greatly re-
duced expenses all around the proportion of productive to non-
productive expense is practically unchanged. As long as the
shaft is kept in operation it is good business to get all the
tributors possible to work under ground. It will cost the
company practically nothing and any royalties that they may
pay will be so much gain. It is entirely possible that the
tributors would find enough to make some of them willing to
drive the Logan "two"- Eagles "five"- connection at their own
expense or with a little aid from the company.

The Zenobia is (on Dec. 4th.) simply a prospect and
Eagles 8 and Eagles 8 are both within striking distance of the
ground being prospected by the Zenobia. The Zenobia Stations
are on a dead level with the Eagles. This is unfortunate
for to utilize Zenobia "five" for instance, the floor of Eagles
"five" will have to be taken up for several hundred ft. in
the "Zenobia drift" because the track is always laid with a
slight fall toward the shaft. If compressed air haulage is
introduced a slight "hill" the a drift will be no serious
matter. There is about 150 ft. to drive to connect Zeno-
bia 5 & Eagles 5 and it is a good prospect all the way. We
can save about $8,000.00 a year by doing the Zenobia work through
the Eagles shaft. I would advise making this connection and
shutting down the Zenobia as soon as practicable.
COMPRESSED AIR HAULAGE:

We have a lot of very long and expensive tramming to do and if we shut down the Logan and the Zenobia we will have a lot more of it. If we can save only $100.00 per month, that is $1200.00 per year or 10% on $12000.00. Obviously we can afford to spend a few hundred dollars in this line if we can get the right machine. About the only thing that would be much good would be a small, compact air locomotive that could be hoisted up and down the shaft. I am investigating the subject and hope to have figures for your consideration in my next report.

The milling question is discussed in Division 3 and modern production in Division D.

There was probably not more than 80 days ore in sight on Nov. 1st. at the present rate of extraction. On Dec. 1st. there was considerably more than this, probably 90 days ore in sight. These estimates are not my own but were made by the management.

MANAGEMENT:

The present management is, I believe, most excellent. Strickest economy and persistent industry characterize every operation. The esprit de corps of the entire force is excellent. Mr. Rice seems to have infused his own spirit of doing the "best possible" into all the men under him.