

REPORT

ON BLUEBIRD GROUP OF CLAIMS Grand Island Mining District. Boulder County, Colorado.

In accordance with a request that I furnish a brief report on what I know about the Bluebird group of mines in the Grand Island Mining District, Boulder County, Colorado, I have pleasure in reporting as follows.

I have known the group since 1890, and have kept in touch with it continuously since that date. I am familiar with all of the workings on the property., having been in charge with the work there for some time. Many of the workings were sunk or driven by myself personally, or under my direction as foreman, also much of the stoping was done under my supervision.

The group consists of the following claims:

Mexico,
Santa La Saria
Western Slope
Mexico Mill Site
Bravo
Horse Shoe Placer (about 160 acres)

The openings are all on a line approximately north and south.

ROBINS NEST TUNNEL.

The furthest north of the workings is a short tunnel known as the Robins Nest Tunnel, driven into the hillside a distance of approximately seventy-five feet. This work was done about the year 1892, cutting a vein known as the Robins Nest, lying in line with the Santa La Saria vein, the main vein of the ground. This Robins Nest Vein lies pretty flat, immediately beneath a porphyry dyke, which is always a favorable feature. The tunnel opened up a ten inch streak of ore assaying about fifty oz. in silver. The vein dips strongly towards the west, as does the Santa La Saria vein, and is undoubtedly the same vein. No drifting was done in either direction from the Robins Nest Tunnel.

SANTA LA SARIA INCLINE SHAFT.

About fifty feet north of this incline shaft is the mark of a hole which has become filled in in the course of time. It was driven into the hillside to a point just under cover, and then sunk to a depth of say thirty feet, with the idea that possibly a parallel vein underlay the Santa La Saria vein. Apparently none was found.

At the foot of the main dump on the Santa La Saria claim, between two trees which still stand there (the south one with quite a thick trunk) was a tunnel driven in say forty feet, and in which some stoping was started. This tunnel is now covered up with rock from the dump. In this tunnel silver glance float was found between the granite bed rock and the overhanging wash. My observation of this silver glance ore which was found over a considerable area under and adjoining the main dump convinces me that it has rolled down the hillside from a porphyry dyke which lies under an outcropping granite ledge say 250 feet further up the hillside west, parallel to the general north and south strike of the Santa La Saria vein. This should be further investigated, though the wash is deep at

that point. Porphyry still adheres to some of the pieces of silver glance. I feel sure that this rich ore extends over six hundred feet in length.

At a point on the main dump of the Santa La Saria mine, now covered with sticks and stones, about fifteen south of the portal of the Incline Shaft, silver glance float was found while digging for a setting for an anvil. It assayed 14638 oz. silver per ton, and though there was only a small quantity of it, sold for about \$1700.00. Some of the pieces were such solid metal (silver) that they could not be broken.

About half an acre under the dump was stoped out to the surface, but there is still some ore unstoped under the surface about seventy five feet south of the incline shaft.

Back of the portal in the Incline shaft the vein is much broken, but as in other places silver glance float is found immediately above the granite bed rock.

About fifty feet down the incline shaft a pocket of ore, about thirty five feet long and forty feet wide, largely bromide of silver, was found, assaying 11000 oz. silver per ton. This pocket of ore produced \$78,000.00. Ore was found in all the stopes throughout the mine, but containing more lead and not as rich in silver as in that pocket. The lead in the mine usually carries more or less grey copper, a valuable ore, and I have heard of the occurrence of ruby silver, a high grade ore, also, but I have not personally seen it.

After the operators had taken out the rich pocket at fifty feet depth from the portal they had continuous lead and grey copper ore averaging eight to ten inches thick. This ore continued down the incline till they reached a point about a hundred and fifty feet from the portal, at which point the ore pinched out. They stoped the incline at this point, and started a drift to the left (south) prospecting for ore. They drove this drift about ten feet and encountered a streak of ore which proved to be the beginning of an ore chute. This ore chute continued south to about a hundred feet from the Incline shaft, where the chute ceased. This chute measured about one hundred feet long by forty to sixty feet wide. After they had worked out this chute they continued the Incline shaft down to a total of about three hundred feet from the portal, where they found another ore chute above and to the north of the Incline shaft. This ore would average twenty to twenty four inches thick and was a very high grade silver lead, assaying fifty to fifty five per cent in lead and two hundred and fifty to three hundred oz. silver, this ore chute continued about forty feet below the bottom of the Incline. The Incline was then sunk from the three hundred foot point about seventy five feet deeper, where they found a break in the vein which cut the ore off. The vein at this point has a dip of about 45 degrees to the west. This break also appears in the Mexico Tunnel below, and is probably found along the whole length of the vein.

There is another ore chute to the north of the Incline shaft, opposite the chute which occurred at a hundred and fifty foot depth. This chute continued to about two hundred feet from the Incline, a drift being driven along it to that distance. This chute was two hundred feet long by fifty to seventy five feet wide. The ore was lead and brittle silver, similar to that at three hundred feet depth, but not quite so rich, say one hundred and fifty oz. silver and thirty five to forty percent lead.

As has been said before the Santa La Saria vein lies nearly north and south. Besides the Incline shaft there has been considerable drifting done, probably about 1200 feet in all, and the workings

are also reached by the Bravo and Mexico Tunnels south.

In the drifts several feeders and cross veins occur. A good deal of stoping has been done, but there is still much ore visible in the shaft, drifts and stopes. Some of the richest of the ore is in the form of bromide of silver, a brown ore, which on account of its powdery nature has to be very carefully mined to avoid waste of values.

BRAVO TUNNEL.

This tunnel, about one hundred fifty feet to the south of the Incline shaft, was driven in on a small streak of ore to a distance of about one hundred and fifty feet, where it connects with the workings of the Incline shaft. It was never a real working tunnel.

MEXICO TUNNEL

This tunnel, the first one above the Crosscut or main working tunnel of the property, has its portal about two hundred fifty feet south of the Incline shaft. In starting this tunnel they drove it about ten or fifteen feet before they found the vein, which proved to have a very rich streak, about six inches thick, of bromide ore, on the foot wall. This ore assayed from 4,000 to 6,000 oz. in silver. They continued following this streak with the tunnel, to a distance of forty feet from the portal, where another streak came in above it and about the same size. They followed these two streaks in with the tunnel to about fifty feet from the portal, at which point they had four different streaks, one above the other, the vein lying very flat. Trying to follow all four of these streaks made it necessary to carry the tunnel so high in the roof that they eventually broke through to the surface. When this happened they found a pocket of silver glance ore above the bed rock and under the wash, in which they took out \$14,000 worth of this rich ore. After they had taken this out they continued the tunnel to about a hundred feet from the portal. At this point all of streaks united and made one solid streak of ore. This streak would average twelve to fifteen inches in thickness. This was a very high grade ore. Its character was a bromide of silver, brittle silver, chloride of silver and silphurets. This ore averaged 700 to 800 oz. silver, as shown by actual smelter returns, not just assays of samples. This was the beginning of an ore chute which continued in to about four hundred feet from the portal. At this point they encountered a break in the vein which cut the ore off, as occurred also in the Santa La Saria workings above. The vein at this point was larger than it ever had been, the quartz vein matter being from twenty to thirty inches thick. This quartz was impregnated with ore all throughout not enough to pay to mine. These spots of ore in the quartz were brittle silver and lead. At this point the vein started to pitch downwards very flat about thirty five to forty degrees angle to the west. They stopped the tunnel at this point because the work did not pay. They followed the ore chute along this break to the northwards for about one hundred fifty feet to what appeared to be the end of the chute. For half of this distance they drove a regular drift. They had a little ore but not enough to pay. This ore chute continued along the break below the Mexico Tunnel for about forty feet, where it appeared to end. This chute was about three hundred feet in length and from fifty to seventy five feet in width. It extends up to the Bravo Tunnel, the next tunnel above, about a hundred and fifty feet.

BLUEBIRD OR CROSSCUT TUNNEL

This tunnel, which is about four hundred and fifty or five hundred feet in length, has its portal about six hundred feet to the south of the Incline shaft. According to underground survey the breast of this tunnel is directly under the breast of the Mexico Tunnel, and that if it were continued about seventy five to one hundred feet further it would cut the main vein in place, and it is my candid opinion that it will get the extension of this ore chute that is in the breast of the Mexico Tunnel. I further believe that the porphyry dyke which shows on the hillside above intersects with this vein, and that dyke and vein are together where this tunnel will cross it. I think the porphyry will be the hanging wall of the vein when cut, and granite the foot wall. On the hanging wall will, in my opinion, be found silver glance ore in place, just under the porphyry. The vein and dyke will probably be nearly or quite vertical from the tunnel downwards.

I recommend making an upraise from the present breast of this cross-cut tunnel to an ore body which I believe lies above it.

I also recommend that when the tunnel is continued to the porphyry dyke a good working shaft should be upraised from that point, and equipped with a good double skipway operated by gravity.

This crosscut tunnel has always been intended to be the main working tunnel of the whole property, being at a lower level than any of the other workings. If continued to the porphyry dyke I believe there would be a good chance of opening up a body of ore.

In conclusion, permit me to say that in my opinion the Bluebird Group is a most promising mining property. According to Mr. A. S. Beser who owned it then when I first knew it, its production up to that time had been about \$400,000.00. Since then it has been reported by later owners as high as \$1,000,000.00. There are few properties in this part of Colorado that show as much ore actually in sight. The location of the property is ideal, at an altitude of about 8,000 feet, with plenty of timber, and with the north fork of Boulder Creek running close by. The Horse Shoe Placer (160 acres) is well timbered land. The underground workings in the Bluebird Group are quite unusual in that they are almost entirely dry, with no water to contend with. A good outo road connects with Nederland, six miles distant, a telephone point and post office and with good stores, and Boulder, the County seat, twenty four miles away, with a population of about 13,000, and Denver, capital of the state, sixty miles away. There are two dwelling houses, sufficient to accommodate a small working force, also a mill site if a mill is found to be necessary, but that is less likely than in years gone by, for the increased use of trucks has made even distant mills quite accessable.

I have examined a report and surveys of the property made by Mr. E. E. Miller, M. E. of Denver, and also a report made by Mr. Fred A. Fair, M. E. of Boulder, and find that in the main they agree with what I have written in this report.

In my opinion and judgement the Bluebird property is a most promising investment, worthy of the expenditure of capital for extensive development.

Respectfully submitted

(Signed) Robert Deniston_____