The Grace Mine, a pyritic-gold property, is situated in the old mining camp of Gilpin, on the north slope of Lump Gulch, Gilpin County, Colorado. The district is known as the Rollinsville or North Gilpin Mining District. Rollinsville is the nearest postoffice and railroad point and is three miles north of Gilpin.

Claims and Area

There are three claims, the Grace, Charles and Sunset, each 600' x 1500'. The Charles and Grace claims follow the Grace vein and lie end to end. The Sunset overlaps the Charles claim and is slightly offset to the west, but continues to cover the possible extension of the Grace vein. The distance protected along the vein is almost 4500'. The claims are unpatented, being held by annual assessment work. However, sufficient work has been performed so that the claims may be patented at any time. No millsite is contained in the group.

Ownership and Title

The title has been passed by quitclaim from a Mrs. Mathews, widow of the original locator, to W. L. Howard, who in turn quitclaimed to Frank Stevenson. Mr. Stevenson subsequently quitclaimed to the Grace Mining Company. The Grace Mining Company is a Colorado corporation, incorporated for 50,000 shares of no par value and unassessable. No encumbrances such as mortgages, liens, bonds, conflicts or litigation are known to exist against the property.

History

A Mr. Mathews, as mentioned above, originally located the claims some thirty-five or forty years ago. Upon his death, his widow held the claims, granting several leases from which some high-grade ore was produced. Later, Mrs. Mathews quitclaimed to Mr. Howard. Mr. Howard passed the quitclaim to Mr. Stevenson, who was instrumental in organizing the Grace Mining Company.
Company. No accurate figure is available as to the past production but it is probable that it is not in excess of $10,000.

Nearby Properties

This district has developed a number of mines with notable production records, as well as a large number of smaller properties. A few of the larger and better known mines are: The Perigo, in Gamble Gulch, the largest in the area; also The Smuggler, the War Eagle, The Golden Flint and the Gold Dirt in Gamble and Moon Gulches. The Victoria and Gettysburgh are the two outstanding producers in the Lump Gulch Area, both being less than one-half mile from the Grace property. The Victoria vein strikes almost parallel to the Grace and is of the same mineralogical nature. The ore is pyrite and chalcopyrite carrying fair gold values said to average $54.00 per ton on smelting ore and $6.00 per ton on concentrating ore. This vein was explored to the 200' level and found to carry gold at this depth.

Transportation

A state and county road connect Gilpin to Rollinsville. This road is passable the entire year. Rollinsville is the shipping point for the mine, forty miles west of Denver on the Denver and Salt Lake Railroad. A better transportation situation can hardly be expected for a mine. Haulage to Rollinsville should not exceed seventy-five cents per ton. Freight from Rollinsville to Colorado Springs on concentrates or ore will vary from $2.75 to $5.00 per ton, depending upon the grade of material shipped.

Power

The mine develops sufficient power by means of a coal-fired steam boiler installation, which operates the hoist, compressor, pump and light plant. This should be adequate for some time to come. Coal is hauled from Boulder Valley, a distance of thirty miles.

Water

Domestic water is available from springs at all times. Water for milling purposes can be very easily developed from springs and by utilizing the water from the mine.
Timber

There is sufficient timber of all sizes on the property to serve for many years. The mine walls stand quite well in stoping, so props and chutes will be the main timber requirements.

Labor

The Rollinsville area has an ample supply of non-union mining labor. The scale of pay ranges from $3.50 to $5.00 a day for muckers, miners, timbermen, hoist men and general mine workers. It should be stressed here that the future shaft sinking should be in the hands of an efficient mining crew.

Climate

Mining and milling are possible throughout the year. The snowfall is not heavy enough to hinder operations except upon rare occasions.

Topography

The country is rather flat with rolling hills. It is too flat in this particular area to utilize tunnelling as a means of mining. All water must be pumped from the mine and the ore and waste must be hoisted from the workings. The topography offers no problem in transportation, location of mine buildings or danger from snowslides.

Geology

The district generally is of schist known as the Idaho Springs formation. This schist forms the country rock through which dike lenses and tongues of granite pegmatite and granite gneiss have been intruded. These intruded masses were the mineral carriers, depositing their precious metal content in local areas along the fracture zones contacting the schist. The general type of mineral deposit is pyrite with varying quantities of copper, lead, gold and silver, classified as pyritic gold ore. The intrusions strike in all directions, following no particular strike more than another. This makes for complex geology and numerous cross veins and intersections. At points of intersection the probability of encountering higher grade ore through concentrated mineralization is greater than along a vein with no intersections. In this district, particularly, the best grade and largest bodies of ore occur along these intersections.
The Grace vein, along a north-south granite-gneiss dike, is one of the veins so formed. This vein is traceable by open pits for over 3000' along the surface. At least four intersections with other veins can be traced in the 3000' covered by the Grace and Charles claims. The ore bodies, lying in the vein formed by the contact between the granite pegmatite and the schist, occur as lenticular masses of fairly high grade ore contained in the lower grade pyritic vein matter. The lower grade material, classified as concentrating ore, occurs as "shoots" in the vein. These "shoots" are not continuous along the vein, but recurring at or near the junction with other veins. The vein strikes slightly east of north and dips about 85 degrees to the west. From observation it is believed that the one ore shoot upon which the shaft has been sunk raives slightly to the south.

**Equipment**

The mine, as stated above, is sufficiently equipped with a steam plant for the operation of the hoist, pump and compressor. A blacksmith shop beside the power plant and hoist room is well equipped for ordinary work and hand-sharpening of steel. The hoisting is done by means of a bucket and is adequate for present needs. All work to date has been performed by one air drill which is in good condition. Additional drills will be necessary before any extensive work can be done.

No mill is owned at the present time, but understand a small mill and millsite are obtainable for $250.00, which would be sufficient to perform the milling of the ore produced during development. This mill is less than one-half mile from the shaft and is as well situated as could be desired. The mill consists of a coarse ore bin, six 800 pound stamps, copper amalgamation plates, one table of Wilfley type, gasoline power plant, pulleys, shafting and launders complete. This mill is in excellent working condition. Should tonnage be developed in the mine, several major changes would be necessary in order to increase capacity: The addition of a crusher, feeder to stamps and flotation cells between amalgamation plates and tables. For the present, however, the mill could be used on development ore, enabling the accurate evaluation of all ores and at the same time be the source of some revenue.

**Development**

The vein has been open-pitted and surface-trenched along a distance of 3000' all showing the vein in place. The samples taken from these open pits all showed low-grade
vein matter except close to the intersection on the north end of the property near a very obvious junction with a cross vein.

The principal development consists of a 65' shaft sunk at intervals during the past thirty-five years. The Grace Company has put the shaft in safe condition and has sunk the last 25'. The shaft evidently started on and continued down an ore shoot from which the high grade pockets have been taken. At about 50' drifts is in approximately 25' showing considerable adjacent to the tunnel. The south drift shows a small amount of ore but is apparently on the south edge of the shoot. It is stated that a 500 lb lense was produced here yielding over $1.00 per pound in gold value. The bottom of the shaft shows about 10' of ore averaging $23.00 per ton. The last fifty feet the shaft has been in sulfide. This would indicate that the sulfide carries gold values. Since the sulfides are primary, the chances for the continuation of values with depth are good.

Before any stopping or mining can be attempted it will be necessary to continue sinking the shaft an additional 25' or 35'. Drifts should then be started on the vein running north and south. As ore is developed in the drifts, a stope may be started for the mining of the ore. Conditions warranting, the north drift should be extended along the vein to encounter the intersection which is noticeable on the surface. All vein matter produced from the development should be accumulated and run through the mill at frequent intervals.

Oil Reserves

No positive or blocked ore can be calculated at the present state of development. However, with the expenditure of a nominal sum, the limits of the shoot already opened can be definitely determined. Mining can then be started and development of the vein be continued.

Costs

The cost of operating on the Grace property cannot be ascertained because of lack of development. However, it might be well to state that the proposed shaft sinking should not exceed $25.00 per foot and drifting should not exceed $10.00 per foot. Mining or stoping costs, because of the comparatively narrow vein, will be about $3.00 to $3.50 per ton. These costs are general and cover all expense of operation. Milling costs should not exceed $2.50 per ton.
Recommendation

While the high-grade lenses of ore should be the source of some profit, they cannot be relied upon for sole production. The lower grade mill ore, of which considerable quantities should be available after development, is the ore that will furnish the principal revenue. For that reason it is recommended that the development work be performed and continued in advance of mining so that an uninterrupted operation may be assured.

Conclusion

While the mine has been used primarily as a source of high grade ore and no methodical mining has been performed prior to the Grace Company's operation, I believe that the prospects are good for the development of a gold mine on this property. The vein is strong and persistent, gold values continuing into the sulfide zone. There are frequent intersections with other veins. These characteristics are necessary for a mine in this area.

From this standpoint I feel that the speculation involved in performing the development work is justifiable and holds a good possibility for success.

Respectfully submitted,

(Signed) Charles C. Parker, E. M.