A BRIEF REPORT

on the

GOLD LEAF - LOGAN GOLD MINING CLAIMS

in the

CHERRY CREEK MINING DISTRICT,

YAVAPAI COUNTY, ARIZONA.

By

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Mining Engineer.

Prescott, Arizona,

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FOREWORD: This Report is the result of a three-day examination of the Gold Leaf-Logan Group, and is not supposed to be an exhaustively detailed Report thereon. It is an attempt to present evidence of the well-mineralized state of the ground, and of the unusual conditions as I found them, and as they can be found to the satisfaction of anyone concerned.

DESCRIPTION OF DISTRICT:

The Cherry Creek Mining District is situated near the center of the Black Hills of Yavapai County, Arizona, a range of the Bradshaws, well known as the home of producing gold and copper mines, and one of the most active mining sections. This District is about ten miles south of Jerome.

DESCRIPTION OF CLAIMS:

I. Number:

The Gold Leaf-Logan Group comprises nineteen (19) full claims, each fifteen hundred feet long and six hundred feet wide. The claims extend almost due north and south. This group is in the Cherry Creek Mining District of Yavapai County, Arizona. The names of the claims are as follows:

(1) Oakland No. 2 (or Evening Star), (2) Oakland (Gold Leaf), (3) Tempest (Lucky Two), (4) Left Bower, (5) Right Bower (mill claim), (6) Singer No. 2, (7) Singer (Eliza Jane),
II. Roads:

The State Highway or Boulevard crosses the Singer No. 2 claim. A good wagon road leads from the Highway south-erly to the Logan Mill at the south end of the group. The Logan Group is reached also by another road leading from the Highway at a point several miles west of Cherry.

III. Railroad:

The P. & E. Railway station at Dewey, fifteen miles westerly, is the nearest railway. A new survey for a rail-road from Clarkdale to Mesa will bring the rails to a point within five miles easterly and will make a downhill haul from the property.

IV. Water and Waterpower:

There are four good springs on the claims and are capable of supplying all water needed, besides the consider-able water from the shafts which is sufficient for all mill-ing purposes.

Cherry Creek crosses the Clearwater, Malapai No. 3, and the Right Bower claims, furnishing about two hundred
miner's inches of water, with a fifty foot drop. This appears to be sufficient to operate a 20-stamp mill, but could be utilized to generate electric power. A flume 1660 feet long conveys water from a small dam on the Clearwater to the mill on the Right Bower claim.

V. Timber:

Timber may be had in almost any quantity from the National Forest which is about one and one-half miles westerly from the claims. Oak cordwood in two foot lengths can be supplied for about $4.00 per cord.

GEOLOGICAL:

The Group extends along the eastern side of a ridge capped with lava. The grade is gradual and all points easily accessible. Erosion has carried away one thousand feet or more of the granite and porphyry, leaving the veins exposed at one thousand feet below the lava capping. Lava float dots the upper claims. Quartz float is found in profusion over all the claims, carries gold, and is stained with hematite. Ochreous color is noticeable over most of the group, especially on the south end. The country rock is granite.
MINERALOGICAL:

I. The Vein System:

The vein system is remarkable on account of the number of large parallel veins that are from 150 to 500 feet apart and run almost due north and south and dip westerly into the hillside at angles varying from 45° to 60° from the horizontal. Seven such veins were noted varying respectively from eighteen inches to over fifty feet in thickness. These vary in gold content.

II. Formation of Ore-bearing Veins:

The veins are generally quartz, varying in color and texture according to the amount of hematite, limonite, quartz-porphyry, talc, quartz, lime or schist contained. Some veins are of a bright red color, some yellow, some brown, some half clear quartz stained with iron streaks, and the lower half dark-colored talcose-quartz-porphyritic material heavily charged with hematite. In fact the combinations are varied, but somewhat similar.

Only three veins are named, the "Logan Vein", the "Gold Leaf Vein", and the "Spring Vein". On these three most of the work has been done. On the Logan Claim two veins appear to cut each other at an angle of some 20°. This is noticeable in the workings in the main shaft.
III. Walls:
The walls are generally porphyry, except in the extreme northern and southern ends of the group where schist is the footwall in two instances.

IV. Dykes:
The porphyry dykes containing the veins are from twenty to one hundred feet or more in width.

V. Fissures:
The veins appear to be true fissures of notable size and on account of their position and the fact that they widen with depth, I believe that they will soon lead to an immense lode or ore body.

VI. Fragility:
A noticeable item is the fact that almost all the veins are easily broken down, eliminating drilling and blasting to a large extent. On account of this fragility, milling costs will be reduced considerably.

VII. Occurrence of Gold:
Free gold is found on the surface on several claims. The wagon road pans on the Logan and Oakland claims. All three veins named pan free gold from the surface.

VIII. Values of Ores:
We find various values in the different veins. Some 36-inch veins assay over $20.00 per ton at the surface.
and $35.00 at one hundred and fifty feet from the surface. Some five-foot veins assay about $8.00 at or near the surface. One solid vein over fifty feet thick assays $84 at the surface and about $3.00 at fifty feet from the surface, the bottom of the shaft. This should show excellent values at 200 feet, at the same ratio. This vein runs parallel to the Logan vein. (In Oatman this large vein would be considered a bonanza). The values found are sufficient to justify development.

IX Amount of Ore:

On the Logan Claim about five thousand tons of milling ore are blocked out. On the Oakland the same amount has been exposed, but some of the workings are caved. On the remainder of the claims it is estimated that more than 10,000 tons are in sight, calculating the amounts in the veins as shown between shafts. With a little more development, 100,000 tons of good milling ore should be exposed. The preliminary work has been done. Farther work will show up the ore more rapidly. I have no doubt but that many million tons can be exposed with development.

X. Varieties of Ore:

The predominating metallic value is gold. Iron in the form of hematite, limonite and pyrite occurs continuously in one form or another. Some traces of copper and silver
are noticeable. The amounts of these metals vary in the different veins, but are in every case only a fraction of the value of the gold.

IMPROVEMENTS:

I. Underground Development:

The total amount of underground work is estimated at 1400 feet. The Oakland claim has an incline shaft 4 x 6 x 100 feet deep. A tunnel 4 x 6 x 160 feet long connects with the shaft by a branch 50 feet long. A drift to the right for 75 feet shows ore. All these workings are said to be all in ore, and much of it valuable milling ore. On account of caving, I could not make a personal examination.

The Oakland No. 2 has an 84-foot shaft showing a 50-inch vein. The Lucky Two has a 75-foot shaft 4 x 6, with drifts going north. A winze 12 feet deep shows 50 inches of $8.00 ore. Drifts show values of from $10.00 to $27.00. The north drift has a 72-inch vein. It seems that this ore body is of large size. It is similar to that in the Oakland. The Oakland No. 2, the Gold Leaf, the Tempest, the Oakland, Left and Right Bower claims are on the strike of this ore body and together make a continuous piece of ground 7500 feet long and 600 feet wide, or 100 acres. The workings on these claims seem to demonstrate that a large ore body of good values underlies them and that this one vein alone will fur-
nish sufficient material to supply a 50-stamp mill for many years.

The Logan Claim has a 160-foot shaft with 210 feet of drifting at the first level, 150 feet at the second level, and 45 feet at the third level. The assays show that the ore improves in the drifts to the north. The north end of the first level shows a 22-inch vein of $37.00 ore. The second level shows a 36-inch vein of free gold ore that pans well. The shaft is filled with water up to the 50-foot level, and so I could not make a personal sampling below. A 50-foot 6 x 6 shaft is down on the 50-foot thick vein, and a tunnel is driven 50 feet on the Gold Leaf Vein, showing on the Logan claim.

A score of shafts from ten to twenty-five feet deep are sunk in various places on the different veins. All these show distinct ore bodies.

II. Machinery - new:

The Logan Claim has the following:
1. 40 hp. boiler
2. 6 x 8 hoist
3. 300 feet 3/4 steel cable
4. 3 ore cars and skip
5. 300 feet piping of various sizes
6. 600 feet track
7. 6-100 gal. oil tanks
8. 2-5 x 10 galv. water tanks
Mill and Machinery:

1. 20 hp. New Fairbanks Morse Oil Engine
2. 10-1000 pound stamps
3. 2 Wilfley concentrators
4. 2-10 x 4 ft. plates
5. 2 sets Pierce amalgamator riffles
6. 4 hp. kerosene engine
7. 150 ft. 18 in. belting
8. 100 ft. 5 in. belting
9. 1 Duplex pump 4 x 5

Buildings:

1 Mill house
1 boiler house
1 blacksmith shop
1 dining room 12 x 14
1 cook house 14 x 16
1 office 12 x 28
5 cabins, three are 12 x 14
one is 10 x 12
one is 12 x 12

A 2-inch gravity pipeline conveys water from a nearby spring to the plant.

The Gold Leaf property has the following:

Machinery:

1 Lloyd Mill, capacity equal to a 5-stamp mill, with automatic feed.
1 14-inch Nichols roller-jaw rock crusher, capacity 100 tons per day.
1 4 x 6 plate with riffles
1 6-foot Pelton undershot water-wheel with pulleys and belting for operation of Mill.
1 6 x 10 salv. tank, ore bins and short track.
The mill is in good order generally, except the tailrace and discharge which can be put in order in ten days. The mill can be operated by one man.
1 flume 1850 feet long, in good condition.

Buildings:

1 Mill house
1 dwelling house with four rooms. This must be shingled
Outhouse, cellar, etc.

III. Cost of Improvements:

The cost of the present improvements is estimated to be in excess of $50,000.00. All these improvements can be utilized to advantage.

PRODUCTION:

We have it on good authority that the property has already produced in excess of $100,000.00, and the ore is as yet hardly touched. It will take a small amount to remove the water from the main shaft, and put the mine on a producing basis. There are about ten acres of ideal garden land planted to a great variety of fruits. Vegetables and alfalfa are grown in abundance. Irrigating water is supplied by the water from the mill flume.

SUGGESTIONS:

It is necessary that investors should employ managers who are square, businesslike, intelligent miners who know their business. Such men should make a success of this large property because of the following reasons:

1. The large size of the veins
2. The values
3. The ease of mining the ores
4. The ease of milling
5. The facilities
6. The favorable climatic and general mining conditions
The evidence shows that an immense amount of ore is now in sight, and that a much greater amount may reasonably be expected to exist below. On account of the geographical position of the property, situated as it is near the center of the well-known Black Hills, the site of a score of producing mines, and on account of the favorable geological conditions present, and on account of the highly mineralized state of the series of well defined parallel gold bearing veins, and that of the surface generally, I come to the conclusion that this property has sufficient tangible evidence of gold production to justify me in giving it a thoroughly unbiased recommendation. It has all the earmarks of a large mine.

Very truly,

[F. Leighton Barlowe]

M. E.
ASSAYS ON GOLD LEAF

By Edward H. Holden, Los Angeles.

Samples taken several years ago.

Square Deal Shaft on "Lucky Two" claim.

(a) North Drift Five foot vein.

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<tr>
<th>Oz. Gold</th>
<th>Oz. Silver</th>
<th>Total</th>
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(b) Two foot vein

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<td>.35</td>
<td>.17</td>
<td>$7.32</td>
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Gold Leaf incline, 150 foot tunnel cross-cutting to vein. 22-inch vein.

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<th>Oz. Gold</th>
<th>Oz. Silver</th>
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<td>2.84</td>
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Gold Leaf Dump.

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Open cut, original discovery shaft.

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<td>1.27</td>
<td>.47</td>
<td>26.46</td>
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Vein near mill excavation. Concentrates ran

$ 124.77
ASSAYS BY R. E. HETHERINGTON.

Assays from samples I took the week of February 14th, 1917. These numbers were selected at random from twenty samples, and assayed.

Gold $20.00 per oz.
Silver 60¢ per oz.

<table>
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<tr>
<th>No.</th>
<th>Claim Name</th>
<th>Gold (oz)</th>
<th>Gold Value</th>
<th>Silver (oz)</th>
<th>Silver Value</th>
<th>Total Value</th>
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<tr>
<td>2</td>
<td>&quot;Logan Claim No. 3&quot;</td>
<td>0.2</td>
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<td>Selected Hematite from bottom of shaft.</td>
<td>1.8   10.68 49.08</td>
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<td>15</td>
<td>&quot;Lucky Two&quot;</td>
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<td>4.52</td>
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No. 16 "Lucky Two Claim", Lucky Two shaft, 6-foot vein, sample from lower 42 inches of vein.

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<th>Oz. Gold Val.</th>
<th>Oz. Silver Val.</th>
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R. H. HETHERINGTON, Assayer, Prescott, Arizona.

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