L49-117 SE.
Ore Hill Group.
Sheep Creek Gold Mines Ltd.
Pentland, A.G., Engineer.

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SHEEP CREEK GOLD MINES LIMITED

ORE HILL GROUP

NELSON M. D.

GEOLOGICAL REPORT

Introduction
Development work in the three main adits of the Ore Hill Group amounts to 3,530 feet. Five veins were exposed but they were productive only in short, erratic shoots in limestones of the Pend-d'Oreille series.

A crosscut on the No. 5 level of Sheep Creek Mine has been driven a distance of 1,300 feet under the north end of the Ore Hill Group, and a crosscut on the No. 7 level has been driven to the north boundary of the Ore Hill Group.

Geological mapping of the surface of the Ore Hill Group was started in the spring of 1947 in order to aid in the planning of future development. Snow on the high ridges made the work difficult during the early part of the season but mapping has now been completed on six claims. This report covers the work that has been done on these claims.

Location
The claims are situated about two miles south of the Sheep Creek Mine shaft and cover the peak and part of the sides of Mt. Waldie. They are between 5,500 and 7,300 feet in elevation.

Property
The survey was made on the following claims:

Queen Ann No. 1
Queen Ann No. 3
Queen Ann No. 5
Bee
Cee
Dee

These claims are part of the Ore Hill Group which is owned by Sheep Creek Gold Mines Limited.

History
Intermittent work was done on the Ore Hill Mine between the years 1910 and 1917. During that period a 7-ton mill, equipped with crusher, stamps, Wilflay table, and Johnstone Vanner, was built.

The property was optioned by Joe Gallo in 1934 and by the Kootenay Ore Hill Mines Ltd. in 1936. Considerable underground exploration was done and a small tonnage of ore
was mined. A 15-ton mill, powered by a Diesel engine, was installed.

The property was optioned by Sheep Creek Gold Mines in 1939. Work since that time has consisted mainly in driving long crosscuts from the Sheep Creek Mine in order to explore the property in the horizon that has been productive in that mine.

Geology

J. F. Walker (Canadian Geological Survey, Memoir 172) divides the rocks of this area as follows:

Pend-d’Oreille Series - Dark grey to black phyllites. In the lower part the phyllites grade into beds of dark grey, almost black, quartzites, and four well-defined horizons of limestone are present.

Reno Formation - Mainly grey argillite, quartzite and schist.

Quartzite Range Formation - Mainly white massive quartzite with argillites or slaty members (upper part only).

C. F. Park, Jr., and R. S. Cannon, Jr., (U.S.G.S. Professional Paper 202) divide the rocks of the Metalline Quadrangle, Wash., as follows:

Metalline Limestone

Wailen Phyllite - Most common rock type is grey greenish, fine-grained, and conspicuously banded. Quartzite beds, generally less than three feet thick, are present in appreciable amounts, particularly near the base. Base placed 200 feet below a gray-white limestone band that is 200 feet thick.

Gypsy Quartzite - This includes the Reno and Quartzite Range Formations of Walker.

For the purpose of underground mapping at Sheep Creek and Gold Belt Mines it has been found advisable to make smaller divisions of the rock. These divisions were used in mapping the surface geology in order that a correlation between the mine and the surface could be made.

The best section was found across the northern part of the Queen Ann No. 3 and Cee mineral claims. Here a nearly complete section was measured from the upper part of the Nugget quartzite through the Reno Formation and into the Pend-d’Oreille Series. The section is given below with a probable correlation with the sections given by the Canadian and United States Geological Surveys.
## Section on Mt. Waldie

<table>
<thead>
<tr>
<th>C.G.S.</th>
<th>Thickness</th>
<th>Description</th>
<th>U.S.G.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pend-d'Oreille</td>
<td>800 ft.</td>
<td>Limestone (on Summit M.C.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 ft.</td>
<td>Poorly exposed - mainly phyllite.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>400 ft.</td>
<td>Quartzite with network of quartz stringers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>90 ft.</td>
<td>Poorly exposed - mainly phyllite</td>
<td></td>
</tr>
<tr>
<td></td>
<td>240 ft.</td>
<td>Phyllite</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100 ft.</td>
<td>Limestone</td>
<td>Maitlen Phyllite</td>
</tr>
<tr>
<td></td>
<td>150 ft.</td>
<td>Interbedded limestone, limy phyllite, and phyllite</td>
<td></td>
</tr>
<tr>
<td>Reno Formation</td>
<td>260 ft.</td>
<td>Limestone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>150 ft.</td>
<td>Interbedded quartzite and argillite</td>
<td></td>
</tr>
<tr>
<td></td>
<td>50 ft.</td>
<td>&quot;Blue&quot; quartzite</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100 ft.</td>
<td>Argillite</td>
<td>Gypsy Quartzite</td>
</tr>
<tr>
<td></td>
<td>200 ft.</td>
<td>Upper quartzite</td>
<td></td>
</tr>
<tr>
<td></td>
<td>140 ft.</td>
<td>Argillite</td>
<td></td>
</tr>
<tr>
<td>Quartzite Range</td>
<td>330 ft.</td>
<td>Massive white quartzite - Nugget.</td>
<td></td>
</tr>
<tr>
<td>Formation</td>
<td>plus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The eastern part of the claims is underlain by a massive to thin bedded, brittle, white quartzite. Above this is 700 feet of interbedded argillite and quartzite. Two distinct beds of quartzite from this part of the section have been recognized in the Sheep Creek and Gold Belt Mines. Above this are four bands of limestone separated by phyllite, limy phyllite, and in places a minor amount of quartzite.

The general strike is N 10° E and the average dip about vertical. The actual dips range from 75° east, where the beds are overturned, to 75° west.

No major faults were recognized on the claims mapped, nor were any major quartz veins found. One narrow bed of quartzite, between the third and fourth limestone beds, was highly fractured and cut by a network of irregular quartz stringers. At a number of places short irregularly-shaped masses of quartz were observed, but these appeared to pinch out in a short distance. Samples from this quartz assayed nil or trace in gold.

Summary and Conclusions
The Ore Hill Group is underlain by the upper part of the Nugget Formation, the Reno Formation, and the lower part of the Pend-d'Oreille Series. The general strike is N 10° E and the dip about vertical.

Small irregular veins were discovered and mined in the limestone beds but production was small, probably not more than two or three thousand tons. Nothing has been seen that would indicate that larger and more important ore bodies will be discovered in this horizon.

The productive zone at the Reno Mine is in the Reno Formation, at the Gold Belt Mine in the Reno Formation and the upper part of the Nugget quartzite, and at Sheep Creek Mine the productive zone is confined to the Nugget quartzite. Thus it appears that the productive zone is in progressively lower stratigraphic horizons towards the southern end of Sheep Creek camp.

Therefore it is logical to expect that if important ore shoots are found on the Ore Hill Property they will be in the main part of the Nugget quartzite. This formation is confined to the eastern part of the Queen Ann Nos. 1, 3, and 5 mineral claims at the surface. Development should be carried out by means of crosscuts from the Sheep Creek Mine in order to explore these claims at greater depth.

It will be necessary to continue the mapping to the
north and west of the six claims covered by this report in order to get a complete picture of the structure and to tie in the data observed in the field with those known through underground mapping in the Sheep Creek Mine.

Sheep Creek, B.C.
July 11th, 1947.

Geologist