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ANNUAL REPORT OF THE MINISTER OF MINES

Part C -- Special Report

By  
Douglas Lay

NORTHERN REEF GOLD MINES LIMITED. This company was incorporated in 1934 with registered office at 1405 Douglas Street, Victoria. Although the company has to date confined its operations mainly to its placer leases, which are described under "Placer Deposits", Annual Report of the Minister of Mines, 1936, Part C, it holds 6 mineral claims closely adjacent to the placer leases.

The property is situated on the McDougall River below the junction of Reed Creek, and is reached by following the water-route from Summit Lake, distant 32 miles by motor-road from Prince George, to Fort McLeod, distant 66 miles from Summit Lake. From Fort McLeod, a tractor-road, 17 miles in length, follows the timbered rolling Nechako plateau to the company's camp, situated on a bench about 100 feet above the river.

Save on the banks of the river, at one point near the common boundary of the Jason and Midas claims, and on the Pearl mineral claim, in which the river occupies a steep-sided rock-walled valley in which rock-exposures occur frequently, the formations are almost entirely covered by glacial debris or resorted gravels. In this region the right bank of the river is flanked by hills of glacial debris which rise steeply from the river to the plateau level, though at some points they rise from low-lying benches. The left bank of the river from Reed Creek down-stream to the mouth of Tent Creek, is flanked by a large low-lying flat. At the back of this flat glacial banks rise sharply

to a height of 200 feet above the river. The area has been burned over, and is covered, save locally, with sparse second-growth timber.

The formation where exposed below Reed Creek consists of numerous outcrops of schistose argillites, between which occur at some points crystalline and schistose metamorphic rocks, and at others greenish-coloured carbonated rocks which are not always schistose. It is difficult to determine stratigraphic relationships as contacts are rarely exposed. An unconformable contact between andesite and schistose argillites is exposed on the Jason and Midas mineral claims. The greenish-coloured carbonated rocks mentioned may be carbonated volcanics. Some of the crystalline and schistose rocks may also be metamorphosed volcanics. The strike of these rocks varies from north-west to north-east and dip from southerly to northerly, due, presumably, to folding. Anticlinal folding of the argillites is suggested between Reed and Tent Creeks. Schistose argillites are exposed in both hydraulic pits, and also at one point in the long open-cut shown on the map. Immediately south of No. 2 hydraulic pit are two rock-knolls of elliptic shape, the larger of which rises sheer from the river to a height of 40 feet. These knolls are composed of a carbonated greenish-coloured rock, which shows little or no evidence of bedding, but which contains some small quartz gash-veins. One of the latter, 18 inches in width, sparsely mineralized, was, it is understood, investigated by diamond-

drilling. A similar rock, also carbonated, is cut by Tent Creek where it enters the large flat. Definite evidence of bedding is present at the latter outcrop, and the strike is north 72 degrees west and the dip is 85 degrees to the south-west. Analysis of specimens of the carbonated rocks mentioned disclosed in both cases 16.9 percent of calcium carbonate and from 1 percent to 3.3 percent of magnesium carbonate. About 1000 feet farther up Tent Creek, there is an outcrop of a schistose greenish-coloured spotted rock. The strike of the schistosity is north 37 degrees west and the dip is 48 degrees south-west. Greenish-coloured rocks, similar to those exposed in the knolls, rise sharply from the left bank of the river at the sudden bend, a short distance downstream from the large quartz exposure. They strike north 63 degrees east and dip 55 degrees south-easterly. Argillites and greenish-coloured rocks rise sharply from the right bank of the river opposite the large quartz exposure described later. The contact between the argillites and the other rocks mentioned is not exposed.

Investigation of the mineral showings was commenced by the company after incorporation and continued until operations were suspended in 1935. (Refer to Annual Reports of the Minister of Mines for 1934 and 1935).

Surface showings comprise a large outcrop of quartz in schistose argillites; some small gash-veins in the other rocks mentioned; and a heavy pyritization at the contact of schistose

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argillites with andesitic volcanics on the Jason and Midas mineral claims. The chief surface showing on this property is a large outcrop of quartz, 60 feet long by 22 feet wide, trending north 82 degrees west, sparsely mineralized with a little pyrite and galena, and somewhat oxidized, situated close to the left bank of the river in the immediate vicinity of the corner post common to the Pearl, Flossie, Myrtle, and Ruby mineral claims. The host-rocks are schistose argillites, which strike from a few degrees west of north to 32 degrees west, and dip north-easterly at from 20 to 30 degrees.

Surface workings at this point comprise some open-cuts in the quartz exposure mentioned. A 22-foot sample taken across the full width of the quartz exposure at the open-cut at the eastern extremity assayed: Gold, trace; silver, 0.2 ounces per ton. Another sample taken from the most promising-looking parts assayed: Gold, trace. An open-cut in the western knoll exposes a quartz gash-vein at the collar of a diamond-drill hole. A sample taken across 18 inches assayed: Gold, trace; silver, trace.

Another surface showing is situated on the right bank of the river immediately adjacent to the latter near the boundary between the Jason and Midas claims. At this point an open-cut 27 feet in length exposes the contact between schistose argillite and andesite immediately instream from the river. The former strike north 62 degrees west and dip 70 degrees north-easterly, and the latter strike north 58 degrees east and dip 15 degrees north-westerly. The contact is well-defined and strikes

north 72 degrees west and dips 60 degrees north-easterly. Both rocks in the vicinity of the contact are heavily pyritized, and the andesite shows a considerable amount of hydrothermal alteration, and also oxidation. Save immediately adjacent to the river and in the bed of the latter, the rocks are overlain by vegetation, surface soil, and glacial debris. Samples were taken from the more heavily pyritized parts of each formation. A sample of pyritized argillite assayed: Gold, trace; silver, 0.4 oz. per ton. A sample of pyritized andesite assayed: Gold, trace; silver, 0.2 oz. per ton.

Underground workings, save for the adit mentioned later, were filled with water and could not be examined. An adit is driven 5 feet above river-level on a bearing north 72 degrees west for a distance of 50 feet, in schistose argillites north of the quartz exposure at the point shown on the map. A small quartz vein 18 inches wide is exposed at 3 feet from the portal. A sample, across 18 inches, assayed: Gold, 0.02 oz. per ton; silver, 0.4 oz. per ton.

It is understood that a winze was sunk to a vertical depth of 50 feet at the end of the adit, and connected by a cross-cut to a shaft, sunk immediately south of the quartz exposure.

Two hundred feet west from the portal of the adit is a shaft sunk in gravel to a depth of 17 feet, and full of water at the time of examination.