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NOTES ON THE COPPER PROSPECTS NORTH OF FARRELL

As instructed, I made a preliminary examination of the area in the vicinity of Pearee's Copper Reward, on December 20th-21st of last year, for the purpose of determining to what extent detailed geological mapping, combined with a geophysical investigation would be applicable in assessing the potentialities of the copper prospects.

These prospects are situated approximately three miles north of the junction of the Sophia River with the MacKintosh River and about ten chains west of the MacKintosh. No tracks or facilities for crossing thr MacKintosh River exist beyond the main Tullah-Cradle Mountain track, which passes around the north end of Mount Farrell, some four or five miles from Tullah.

The occurrence of copper, in this area, was discovered in 1896 by Thomas Farrell who pegged four 80 acre leases, one of which in his own name and the other three in the name of James Pearse. Farrell subsequently transferred his lease to Pearse. Some prospecting was undertaken and the sections finally abandoned in 1902. In 1906, three of the original sections were acquired by J. McPhee on behalf of the Tullabardine Company. Prospecting operations were continued by means of adit cross-cuts and trenches for a short time, without determining the nature and extent of the ore veins and in 1910 the leases were abandoned once more. Since then, no active prospecting operations have been undertaken.

The greater portion of the area is covered by unconsolidated river wash, through which the main creeks have cut their way and exposed the underlying rocks.

The same general geological conditions exist here, as in the Farrell district, and indicated the persistence of certain structures with slight variations in strike due probably to faulting, that is a narrow belt of sheared porphyry intercalated in slates and sandstone. In this area, there is a suggestion of a splitting of the sheared porphyry by a lenticular band of slate. The designation of sheared porphyry to this rock type is tentative only pending the completion of the geological survey of the Farrell district being undertaken by the writer.

The sheared porphyry is light greenish in colour, with a very waxy appearance. The general strike of the country is north 10° east to which the veins closely conform with a few exceptions when they cross the laminae of the sheared porphyry.

The prospect consists of a number of quartz lenses and veins, which carry copper pyrites (chalcopyrites) and some secondary copper minerals, The copper pyrites does not appear to be associated with other sulphides.

The veins vary considerably in width, the maximum observed width being ten inches, but they make a pinch within very short distances. In a complex vein formation of this character, the paucity of exposures renders a precise interpretation extremely difficult.

The main workings, shewn on the accompanying sketch plan, are situated in the south-eastern corner of section 2058/M, on the banks of a large creek which traverses the section. A face, broken down on the southern bank, exposes two main veins approximately 25 feet apart. The most northern one is approximately ten inches in width while the one at the south end of the cut, where the winze was sunk was only eight inches where sampled. While it was realised that the sampling of such an erratic type of vein, both inore distribution and vein width was extremely hazardous,

it was though advisable to take indicator samples. These samples were channel samples, between 20-25 lb. in weight and gave the following results :-

No. 1 Sample - winze vein.

Copper	1.64 per cent.
Gold	nil.
Silver	0 oz. 4 dwt. 7 gr.

No. 2 Sample - Vein 25' north of winze vein.

Copper	0.38 per cent.
Gold	nil.
Silver	nil

No. 1 cross-cut adit has been driven in a south-easterly direction approximately 120 feet in slate, east of the sheared porphyry. A small vein of quartz was cut at 75 feet and near the face several small veins carrying some chalcopyrites are exposed. The veins met with in this adit were not sufficiently encouraging to warrant driving upon.

The No. 2 cross-cut adit was started approximately 160 feet south west of the No. 1 adit and was driven about 35 feet in a north-westerly direction in sheared porphyry. Some very small veins were cut near the portal of the adit.

Just north of the No. 1 cross-cut adit a long trench had been cut in an easterly direction from the cut. It was not possible to correlate any of the veins cut in the adit, owing to the weathered and collapsed condition of the trench.

Numerous other small cuts have been made along the sides of creeks but would require cleaning out to permit an examination.

Although a number of narrow veins are proved to exist in this area, only the width of the formation has been indicated. The No. 2 adit has not been driven far enough to test the southern extension of the two veins exposed in the face on the southern bank. The tracing of this series of veins along their strike is prevented to a large extent by the covering of terrace gravels which may amount to a thickness of probably a 100 feet. The thick mantle of horizontal scrub has retarded still further any attempts at systematic exploration.

The narrowness and complex character of this vein system, the lack of backs obtainable by driving of adits and the difficulty of access, do not warrant much expenditure at the present time. Valuable information could be obtained by driving the No. 2 cross-cut adit another 50 feet but before any recommendation could be made, it would be advisable to unwater the winze and possibly the 20 feet shaft for the purpose of determining the behaviour of the veins in depth.

This work would have to be undertaken before the end of the present month so that the intake of water would be at a minimum and the river level low enough to permit crossing it with some degree of safety.

However, I am of the opinion that the copper prospects, to the south of Tullah, in the vicinity of the Murchison River, where most promising occurrences have not been prospected with sufficient vigour, offer the most inducement for immediate investigation. I suggest, therefore, that the matter of a recommendation regarding copper prospects in the Farrell district be deferred until my return to the Farrell district in the near future, when a comprehensive survey of the copper prospects can be undertaken.

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