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79.

Notes on Future Exploration, Mt. Farrell Lodes, Tullah.

Due to the precarious position of the mining industry in the Tullah district a further attempt has been made to re-evaluate the Mt. Farrell lodes with the object of exploratory diamond drilling to locate possible ore body extensions and for repetitions.

The results of all previous reports and investigations have been utilised in this assessment in conjunction with additional field work undertaken by Mines Department geologists. A bibliography of the principal reports on the field is given at the end of this report.

This report deals only with the immediate problem of exploratory drilling targets. A comprehensive reportcovering all phases of the work is in course of preparation.

The Farrell Lodes

The majority of production from the Tullah district has been from two main mines:- The North Mt. Farrell; and the New North Mt. Farrell; the latter being the only mine operative and hence accessible. Other mines in the district are of very limited extent and are of significance mainly in their general concordance to the overall structural controls apparent throughout the district.

Basically the ore bodies occur in a series of fissure veins in shear zones acutely transgressing local bedding planes in the host rocks. The main lodes consist of semi tabular bodies distributed along two major lode channels with subsidiary branch lodes. Mineralisation along the shear zones is not continuous but is usually coincidental to the intersection of main and branching lodes with intensification of mineralisation at or near the intersection points. In general the branch lodes bifurcate easterly looking north and westerly looking south and are in general steeper in dip than the main fissures.

The average dip of the main ore bodies in the field is 60° - 65° to the west with a general individual plunge to the south west.

Previous Exploration

Some twenty seven surface diamond drill holes have been completed on the Tullah field without success. All but six of these were drilled southerly of the North Mt. Farrell mine. Drilling was carried out by the Mines Department (four holes to the north), The Farrell Mining Co., (fifteen holes) and the Electrolytic Zinc Co. (two holes only to the North).

In 1947 the Mines Department drilled D.D. H's 1N to 4N inclusive to test the estimated projection of the New North Mt. Farrell lode (see accompanying plan).

The two holes M.P. 86 and M.P. 87 were drilled by the Electrolytic Zinc Co. to test an indicated geophysical S.P. anomaly at mine grid co-ordinates 3,000'N - 4,000'N, 1400' - 1500'E, (Richardson, 1951).

During the early part of 1957 officers of Rio Australian Exploration Pty. Ltd. carried out an extensive underground mapping programme followed by several thousand feet of lateral underground drilling on the No. 6 level New North Mt. Farrell mine with minor success.

Also in 1957, officers of the Bureau of Mineral Resources carried out an electromagnetic (Turam) geophysical survey over the field. Three indications were obtained as a result of this survey of which indication "A" is the most significant (see attached plan).

More recent (1963) investigations by Aberfoyle Tin Development personnel have not resulted in active exploration to this date. Both the Aberfoyle and Rio Australian investigations were restricted to the immediate environs of the operating mine.

Drilling Prospects

A. Known Ore Bodies

(i) New North Mt. Farrell Lodes - comparatively short ore bodies (80 - 100 ft. length) stoped above the No. 9 (bottom) level continue underfoot and would undoubtedly prove economic under normal mine development programmes but the driving of deeper levels is not practical under the conditions prevailing. Testing to sufficient depth to warrant the expense of a new shaft to extend the existing mine would entail intersection depths of the order of 1600 - 1700 ft. Under these conditions deep drilling is not recommended on these ore bodies at this stage.

(ii) North Mt. Farrell lodes - these lodes are generally larger (100 ft. and 300 ft. lengths) than in the operating mine and again should continue below the present No. 10 (bottom) level although records indicate a comparative blank patch immediately below the larger ore body. Economic considerations involved in reopening this mine would probably be consistent with drilling intersections at a depth of about 1500 - 1600 ft. vertical.

B. Hidden Ore Bodies

(i) A possible repetetive pattern extending from the Mychison mine northerly to the New North Mt. Farrell mine is suggested by ore body distributions along the fissure zones. An apparent progressive depth of ore body burial can also be postlated from south to north i.e. from root systems only to buried ore bodies in the north, suggesting the possible occurrence of buried deposits northerly of the present mine.

Any such ore body would be anticipated at approximately the position of the S.P. anomaly indicated at mine grid co-ordinates 3000' - 4000'N, 1400' - 1500' E.

(ii) The electromagnetic (Turam) anomaly designated indication "A" (Late, 1958) is concordant with the normal "split lode" pattern observed in the mine workings suggesting that the main lode continues to the north and that the previously

drilled "estimated Farrell lode" is in reality a subsidiary branch lode of the normal pattern.

Recommendations

1. The Bureau of Mineral Resources Turam anomaly, indication "A", be tested by a minimum of two drill holes to a depth of approximately 500 ft. down dip. The initial proposed drill hole is shown on the accompanying plan and cross section.

2. The S.P. anomaly indicated at mine grid co-ordinates 3,000' - 4,000'N, 1400' - 1500' E be tested by two drill holes to a depth of approximately 500 ft. vertical. This drilling programme to succeed No. 1 above.

3. Consideration be given to testing the southern ore body on the No. 10 level North Mt. Farrell mine at a depth of approximately 1500 ft. vertical.

Service Availability Prop. D.D.H. 5

(i) Water

Ample water supplies can be readily obtained from Barite Creep at a distance of approximately 500 ft. northerly of the drill site. The creek can be easily confined to provide a substantial storage.

(ii) Access

The site is located on the flank of a small rise some 600 ft. west of a reasonably good all weather track. The area between the track and the site is flat and possibly swampy in wet weather but reasonable access can be obtained along the flank of the ridge.

(iii) Supplies

The majority of supplies can be obtained in the township of Tullah approximately ¼ mile southerly of the drill site.

(iv) Mechanical Maintenance

Small maintenance problems could be readily handled at the Farrell Mining Co. workshop. Large repair problems may have to be taken to Rosebery, 9 miles by sealed road southerly of Tullah.

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