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Maiden Meadows Pastoral

Company Limited

Report on two diamond drill holes

on EL 19/99, Miners' Ridge,

2001

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Summary

In June and July 2001, Maiden Meadows Pastoral Company Limited drilled two exploratory diamond drill holes in its Exploration Licence, EL 19/99, Miner's Ridge, designated MR1 and MR2.

MR1 was aimed at a kink in the flank of the curve trace of an aeromagnetic anomaly (on advice in the past by an eminent geophysicist, David Leamen pers comm circa 1989) near the confluence of King River and Newall Creek about 8.5 km south of Queenstown. The hole passed through a monotonous sequence of ignimbritic volcanoclastics, which towards the end of the hole became gradually more altered with sericite. It was inconclusive in the information it gave. The increasing intensity of sericite alteration suggested the hole was terminated too soon at 358m.

MR2 was designed to test along strike of mineralisation encountered in an HEC surge tunnel nearby. It passed through sandy clays beneath glacial deposits before encountering massive rhyolite porphyry at 57m. The clays were reminiscent of the mineralised clays at north Lyell mine, between the North Lyell chert and the Great Lyell Fault. On reflection they are equally likely to be glacial outwash clays deposited in a trough in the paleo-landscape beneath more typical cobble glacial deposits. Sampling the sandy clays indicated no significant mineralisation. From 57m to the end at 180m was all massive rhyolite porphyry.

In view of the disappointing nature of the holes, no further work is recommended before a review of other targets is undertaken.

Background

In 1999 it was pointed out to Maiden Meadows that there was a rare availability of Mt Read Volcanics not covered by Mineral Leases or Exploration Licences. An Exploration Licence of appropriate size to fill in the gap was taken out by Maiden Meadows, numbered EL 19/99.

Targets envisaged within the Licence were Cambrian volcanogenic base metals orebodies in the style of Rosebery polymetallic sulphide orebody, and gold deposits, like that at Lynchford.

The former target was more likely to be found in environments of ocean-floor sedimentary horizons within the Mt Read Volcanics. Typically, such deposits have strongly altered stratigraphic footwalls and relatively unaltered stratigraphic hangingwalls, since the mineralising fluids pass upwards through sequences underlying the deposits. This type of target was envisaged for MR1.

The latter gold deposit targets are either vein-like or confined to specific sedimentary horizons as strata-bound deposits. MR2 was intended to test what was perceived as a sedimentary deposit.

Results

MR1 was drilled more or less to the south in azimuth, starting at a dip of -75° . It passed through a monotonous sequence of massive ignimbritic volcanoclastics, which at about 211m started to show signs of minor sericite alteration. This was preceded by zones of siderite (iron carbonate) alteration starting at 157m, which appeared to be of a different phase from the sericite alteration further down the hole. The more interesting sericite alteration (because in the mind of the writer it is more likely to be associated with volcanogenic or vein mineralisation) grew gradually more intense towards the end of the hole, at 358m.

It was the feeling of the writer that MR1 was (a) stopped prematurely, in view of the increasing sericite alteration, and (b) should have been drilled closer to east-west in azimuth. Complete absence of mineralisation precluded any sampling of the hole.

MR2 was drilled primarily to test the clays. It passed through 57m of variously coloured clays before it continued in bedrock of rhyolite porphyry to the end of the hole at 180m. The clays were sampled for base-metals, silver and gold. Results were uninteresting. The highest values were: copper 0.007%, lead 0.063%, zinc 0.123%, iron 4.69%, silver <5ppm, gold <0.01ppm.

Discussion

These holes were disappointing.

The first, MR1, appears to have been drilled at an azimuth oblique to the anticipated strike of the volcanics, rather than across it. Therefore, it seems to have covered less ground than it might have in terms of useful information. It is tantalising that the more significant (in the writer's view) sericite alteration was increasing in intensity as the hole progressed. It would have been interesting to have seen what the alteration was indicating at its most intense level, whether it emanated from a sedimentary horizon; or from a structural feature, such as a big fault; or a fumarolic pipe passing through the volcanoclastics. The faults encountered did not appear to have significant effect in displacing the formation, or in being fluid pathways.

MR2, it appears, might not have tested the target of the HEC's intersection of sulphide mineralisation at all. The 57m of sandy clays were at first presumed by the writer to be similar to clays seen on the eastern side of the North Lyell pit, which occur between the North Lyell chert and the so-called Great Lyell Fault. Those so-called Mineralised Clays are believed to be derived from weathering of Ordovician Gordon Limestone. They have been mined for gold in the history of Mt Lyell. The resemblance of these clays in MR2 to those of North Lyell might be illusory. It is a more likely correct interpretation of their origin that these clays were deposited as Ordovician glacial outwash. This is supported by the presence of quartz grains in the clays, which are unlikely to be there if the clays were derived from dolomite.

Conclusion

Neither hole was conclusive in the information it gained.

Deliberation on further work on the Exploration Licence requires a meeting of the interested parties to reassess the original concepts upon which the decision for its procural was based.

Reference

Calver, C. R., et al, 1987: Lyell Sheet, Geological Atlas 1:50,000 Series, Tasmanian Department of Mines, Hobart.