

The Mt Read Volcanics: An explorer's perspective

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There has been much comment about the mineral recession in Tasmania during the last few years. The level of exploration is a good indicator of pending changes in fortune for the minerals industry. Expenditure during the last 3-4 years has slumped to the lowest level in real terms since 1978 and is currently less than \$10 million per annum. The area held under exploration licences has been reduced even more dramatically in this same period.

This paper is presented at a Symposium which is promoting the positive aspects of the minerals industry in Tasmania, in particular the potential for major new mineral developments. Despite the gloom felt by many in Tasmania, there are a number of positive aspects for those explorers in the industry with foresight and conviction. This paper focuses on some of those aspects, in relation to an explorer's perspective of the most productive belt of geology in Tasmania, the Cambrian Mt Read Volcanics.

Availability of coherent parcels of this belt, especially the "most prospective" ground between Hellyer and Mt Lyell, has been very restricted during the last 30 years. When fragments of the belt became available through mandatory relinquishment they were vigorously tendered for, with competition such that in some instances quite small blocks attracted unrealistically high bids. However, during the recent recession significant tracts of highly prospective ground, including parts of the "productive" Mt Read Volcanics became vacant on the mineral tenement maps. Other blocks were held by companies who were actively seeking to farm-out their interest as part of their strategic retreat from the State.

This opportunity has enabled much of the highly sought land to be pieced together to form geologically coherent blocks, without the artificial barriers to exploration imposed by tenement boundaries. Strong tenement holdings enable comprehensive regional exploration utilising all the latest developments in remote sensing, geochemistry and geological models. New exploration plays can be more readily developed and specific target areas discerned from these large, consistent data bases. The Government funded Mt Read Volcanics Project has provided explorers in Tasmania with an outstanding set of regional data, unsurpassed by data from any other comparable area in Australasia. The current geological and metallogenic maps, stratigraphic drilling information, air-borne and ground geophysical data and geochemical studies form a strong framework onto which explorers may build their own results. Whilst this valuable project has recently been terminated, just short of completing the original target of 1:25 000 map

sheet coverage, it should be noted that much of the project data is not static. For example, company aeromagnetic and gravity surveys are incorporated into the regional data sets which are available to all explorers, once they become an open file.

The establishment of the Key Centre for Ore Deposit and Exploration Studies (CODES) at the University of Tasmania in 1989 has provided the industry with another source of relevant and current geological information. The CODES staff have formed a strong team of dynamic researchers and lecturers who are to the forefront in many areas of economic geological studies, especially for volcanic-hosted massive sulphide deposits. Explorers are able and encouraged to tap into this expertise through: collaborative research assistance; support for Honours and post-graduate students, supervised by CODES staff, to work on Company projects; attendance at pertinent short courses and by direct consulting work on specific projects.

A recent trip to some of famous volcanic-hosted massive sulphide camps in North America has highlighted the comparative prospectivity of the Mt Read Volcanics. The minerals industry here appears quite buoyant in comparison to the depression overshadowing many of the well known base metal districts in Canada with many mines closed or facing imminent closure and a dramatic down-turn in exploration expenditure. Whilst the Canadian mines have been prolific producers of base metals, they are generally much smaller and lower grade and are often developed on clusters of separate bodies. Many of these deposits have been economically viable only because of high metal prices, lower mining costs and the existence of good infrastructure. This contrasts markedly with the average deposit in Western Tasmania, which is larger and much higher grade and can withstand the mineral price recession, especially when productivity gains are made in mining and processing at older mines, such as Rosebery.

Knowledge from the current wave of study and analysis of the geology of Tasmania is contributing significantly to the understanding of the critical relationships of that geology to mineralisation, as addressed by many papers at this Symposium. Recent encouraging results from exploration indicate that the potential to discover and develop economic deposits in the Mt Read Volcanics is still high. However, these new discoveries will only be made through the major and sustained efforts of serious explorers utilising the best available geological information in a multi-disciplinary program and with a strong commitment to drilling.