

SCIENTIFIC COMMUNICATIONS

REPETITION OF THE MOUNT MORGAN STRATIGRAPHY AND MINERALIZATION IN THE DEE RANGE, NORTHEASTERN AUSTRALIA: IMPLICATIONS FOR EXPLORATION

ALEX TAUBE,

47 Wentworth Terrace, Rockhampton, Queensland 4700, Australia

RUTH MAWSON, AND JOHN A. TALENT[†]

*Centre for Ecostratigraphy and Palaeobiology, Department of Earth and Planetary Sciences, Macquarie University,
New South Wales 2109, Australia*

Abstract

Conodont data from the “Banded Mine Sequence” of the Mount Morgan gold-copper deposit shows the sequence to be late Eifelian (early Middle Devonian), the same age as the “Banded Mineralised Sequence” of the upper part of the Mount Warner Volcanics of the Dee Range, 14 km to the southeast. Data underpinning this correlation are presented. The very similar lithostratigraphy and now demonstrated chronologic identity of the mineralized sequences in the two areas implies that the Mount Warner Volcanics is a repetition of the Banded Mine Sequence of the Mount Morgan area; a single system of stratigraphic nomenclature may thus be utilized for both areas. Most importantly, this conclusion enhances the prospectivity of the comparatively underexplored Mount Warner Volcanics. Repetitions of the world-class Mount Morgan volcanic-hosted massive sulfide orebody might thus be anticipated to occur in the Mount Warner Volcanics. Conodont data from units unconformably overlying the Mount Warner Volcanics-Banded Mine Sequence (formerly “Mine Corridor Sequence”) and the Mount Morgan trondhjemite, which intruded and metamorphosed the Mount Morgan orebody, imply that the Mount Morgan trondhjemite was intruded within an interval of six or seven conodont zones (on the order of 6 or 7 m.y., or perhaps more) after the deposition of the ore-hosting Banded Mine Sequence.

[†] Corresponding author: e-mail, jtalent@els.mq.edu.au