

EXTENSIONS OF THE BENDIGO AND STAWELL ZONES IN NEW SOUTH WALES

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Abstract

Interpretation of data from three new airborne magnetic and radiometric surveys in the Murray and Riverina regions of New South Wales has revealed many underlying bedrock features in a region covered by a blanket of Cainozoic sediments.

The new airborne magnetic data, in combination with regional gravity data contributes to a greater understanding of the geometry and evolution of basement geology through the definition of structural zones and defines major faults, granitic bodies, inferred basins and igneous centres. The magnetic and gravity data suggest that the Bendigo, Stawell and Glenelg structural zones defined in Victoria continue north into New South Wales and that the Tabberabbera Zone terminates at a Middle Devonian granite southeast of Hay. A new zone, named the Hay–Booligal Zone is interpreted to consist dominantly of Early Devonian volcanic sequences.

These new data suggest economic potential in the Murray–Riverina region in the form of orogenic gold associated with an extension of the gold-rich Bendigo Zone from Victoria under the Murray Basin in New South Wales. The extension of the Stawell Zone into the Murray region of New South Wales suggests the possibility of orogenic gold associated with tholeiitic basalt domes in the aureoles of granites.

References

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