

# **CRC LEME**

## **OPEN FILE REPORT 217**

### **PREFACE**

The CRC LEME-AMIRA Project 504 *Supergene mobilization of gold and other elements in the Yilgarn Craton* has, as its principal objective, determination of the mechanisms of supergene/secondary depletion, enrichment and dispersion of Au and other elements, so as to improve selection of drilling targets and further optimize interpretation of geochemical data. For this goal, it is important to develop methods for recognition and understanding of any mobilization of Au and potential pathfinder elements.

This report summarizes the investigations undertaken at Carosue Dam by CRCLEME as part of AMIRA P504. The Carosue Dam Prospect, south of Lake Rebecca, is one of three Au prospects being investigated in the Mulgabbie area, the other two sites being Twin Peaks and Monty Dam, which are within Goldfields Exploration tenements. All three sites are located within felsic rocks, with varied regolith and geomorphological environments and differing mineralization styles. In particular, there are changes in thickness of alluvial cover from less than one metre to greater than 80 m. For these reasons, this area is valuable for the enhancement of our knowledge of Au and pathfinder element dispersion during weathering of felsic rocks, and of the influence of geomorphological environment on these processes.

This report gives results on the 3D distribution of Au, Au concentration calculations, Au grain investigations and hydrogeochemistry at Carosue Dam.

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