

# The Samphire Project: A distal IOCG and evidence for Mesoarchean crust in the Gawler Craton

Thesis submitted in accordance with the requirements of the University of  
Adelaide for an Honours Degree in Geology

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November 2014



THE UNIVERSITY  
*of* ADELAIDE

## **THE SAMPHIRE PROJECT: A DISTAL IOCG AND EVIDENCE FOR MESOARCHEAN CRUST IN THE GAWLER CRATON**

### **THE SAMPHIRE PROJECT: A DISTAL IOCG**

#### **ABSTRACT**

The Samphire project on the north eastern Eyre Peninsula contains proven uranium resources. These are in paleochannel-like deposits hosted within saprolite that has a granite origin. This granite forms the bedrock of the area and is of a batholith scale termed the Samphire batholith. Alteration takes the form of hematite, quartz and fluorite, forming vein assemblages that display cross cutting relationships. Characterization of this alteration by scanning electron microscope and geochemical analysis suggests this alteration strongly resembles iron oxide-copper-gold alteration that is seen through out the Gawler Craton. U-Pb dating of zircon, thorite and hematite is used to provide reconnaissance geochronology for age of the host granite and also stages of alteration. The summation of results from these techniques, creates a genetic model with the suggestion of the origin of the uranium in the overlying cover from the bedrock granite.

### **SAMPHIRE, GAWLER CRATON, BEDROCK, MESOARCHEAN, IOCG, U-PB GEOCHRONOLOGY**

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