

Unconformity-related Uranium Mineralisation WA, Australia

Introduction

Unconformity-related mineralisation has provided several world class uranium deposits, such as the McArthur River and Cigar Lake deposits, Saskatchewan in Canada and Ranger, Jabiluka, Koongarra and Kintyre deposits in Australia.

East of Carnarvon in Western Australia, an area with no historical uranium assays, a SkyTEM TDEM survey shows correlations of graphitic conductors with known base metal anomalism, which is a typical signature of unconformity-related uranium mineralisation.

The SkyTEM airborne TDEM survey performed by Geoforce Pty Ltd in the area in 2008 was carried out with special focus on graphitic/sulphide meta-sediments as part of an exploration program by U3O8 Ltd.


SkyTEM airborne system setup

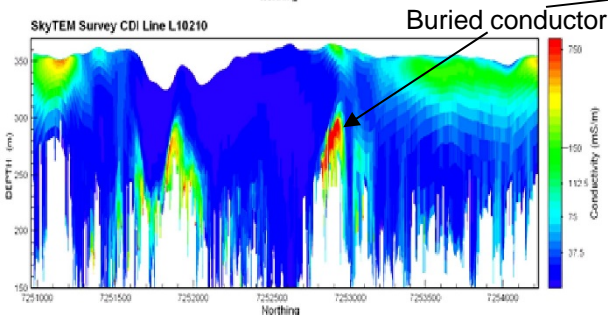
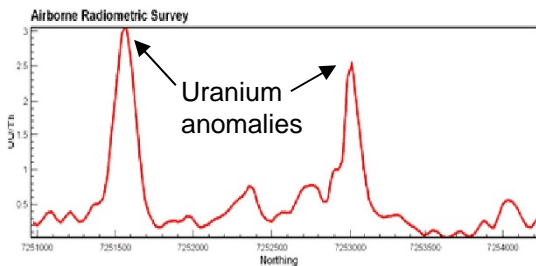
- High TDEM moment.
- 314 m² transmitter area.
- Peak moment of 119000 Am² (high moment)
- Two receivers recording the response from both the z-and the x-component.

Benefits and results

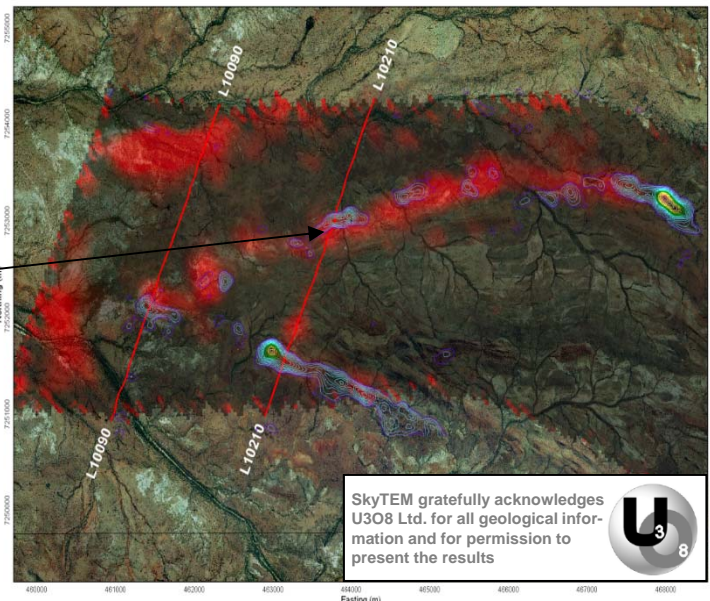
- The high peak moment enables large penetration depth without bias signal
- The two-component receiver system produces a high degree of information on the shape and orientation of the recognized conductors
- Significant new “blind” conductors identified at or near inferred unconformity
- Lines flown in the northern part of survey area show correlation of graphitic conductors with known base metal anomalism (with no historical uranium assays), a typical signature of unconformity-related uranium mineralisation
- Reinforces potential for unconformity-related uranium mineralisation

SkyTEM survey operator:

Geoforce Pty Ltd.
Perth, WA, Australia. 



Conductivity depth section highlighting the proximity of the buried conductor (in red) to uranium anomalies.



Deep EM conductors (red) overlain on an aerial photo of the survey area. Coloured contour lines show uranium anomalies detected by an airborne radiometric survey.