

# Some "cross-cultural" GPR applications in Western Australia

**Adam O'Neill \***

Department of Geology and Geophysics  
University of Western Australia

## SUMMARY

Recently the UWA PulseEKKO GPR system has been used for a variety of research applications. Earthquake seismology, physical geography and historical archaeology have all benefited from high-quality images of the shallow subsurface. These were for delineating a shallow Devonian fault scarp near Wave Rock, mapping fluvial channels and erosion processes in the Irwin River catchment and locating unmarked 19th century graves at the East Perth cemetery. While the radar does not provide literal underground structure, this was appreciated by all the clients, who's specialised knowledge of their field considerably aided the GPR interpretation.

As UWA science restructures to a more cohesive unit, similar multidisciplinary applications are anticipated, such as in agriculture and soil science. In addition, some of the acquisition problems and processing observations are discussed. Often seen with the unshielded PulseEKKO antennas is an unrecoverable clipping before DEWOW, due to signal saturation. Whether this problem is a conductive, (super-)paramagnetic or IP effect is still debatable. However, especially in a high dielectric earth, PulseEKKO seems to perform well.