

Fixed Wing Time Domain Electromagnetic Surveys to Promote Mineral Development in the Republic of Uganda.

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ABSTRACT

Fugro Airborne Surveys (Pty) Ltd conducted fixed wing time domain electromagnetic (TDEM) surveys over two blocks in The Republic of Uganda (Uganda) during 2007 and 2008 using the Genesis system. This Mineral Resource Management and Capacity Building Project (MRMCBP) was funded by the African Development Bank in order to promote mineral development in Uganda. The TDEM data acquisition was accompanied by a much larger airborne magnetic and radiometric data acquisition program with the same aims.

Block EM7 is situated in the North West of Uganda. This survey area straddled the boundary between Tertiary-Quaternary sedimentary packages and the Precambrian basement. The complex nature of this interface is depicted in Figure 1 which shows the conductivity surface at 100m depth. The more competent basement also creates a topographic high in the survey area.

Block EM8 is situated in the South East of Uganda where the survey area is comprised principally of mafic volcanic rocks and sediments. The area is known for the Gold-bearing greenstone belt that is part of the Lake Victoria Gold Field of Northern Tanzania and Western Kenya. The magnetic data collected prior to the TDEM survey highlighted the structural complexity of the area. This can now be better understood due to the additional perspective gained by acquiring the electromagnetic data.

Key words: Uganda, Time domain electromagnetics, Genesis, African Development Bank, Mineral Resource Management and Capacity Building Project

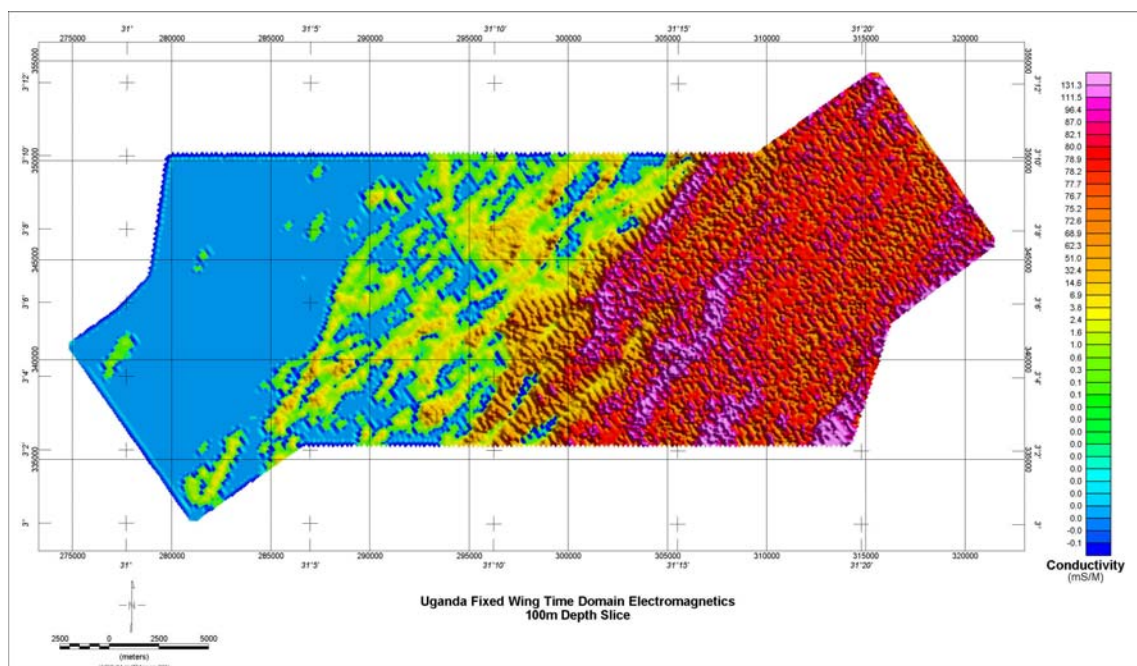


Figure 1. Conductivity depth slice at 100m depth of Block EM7 in the North West of Uganda

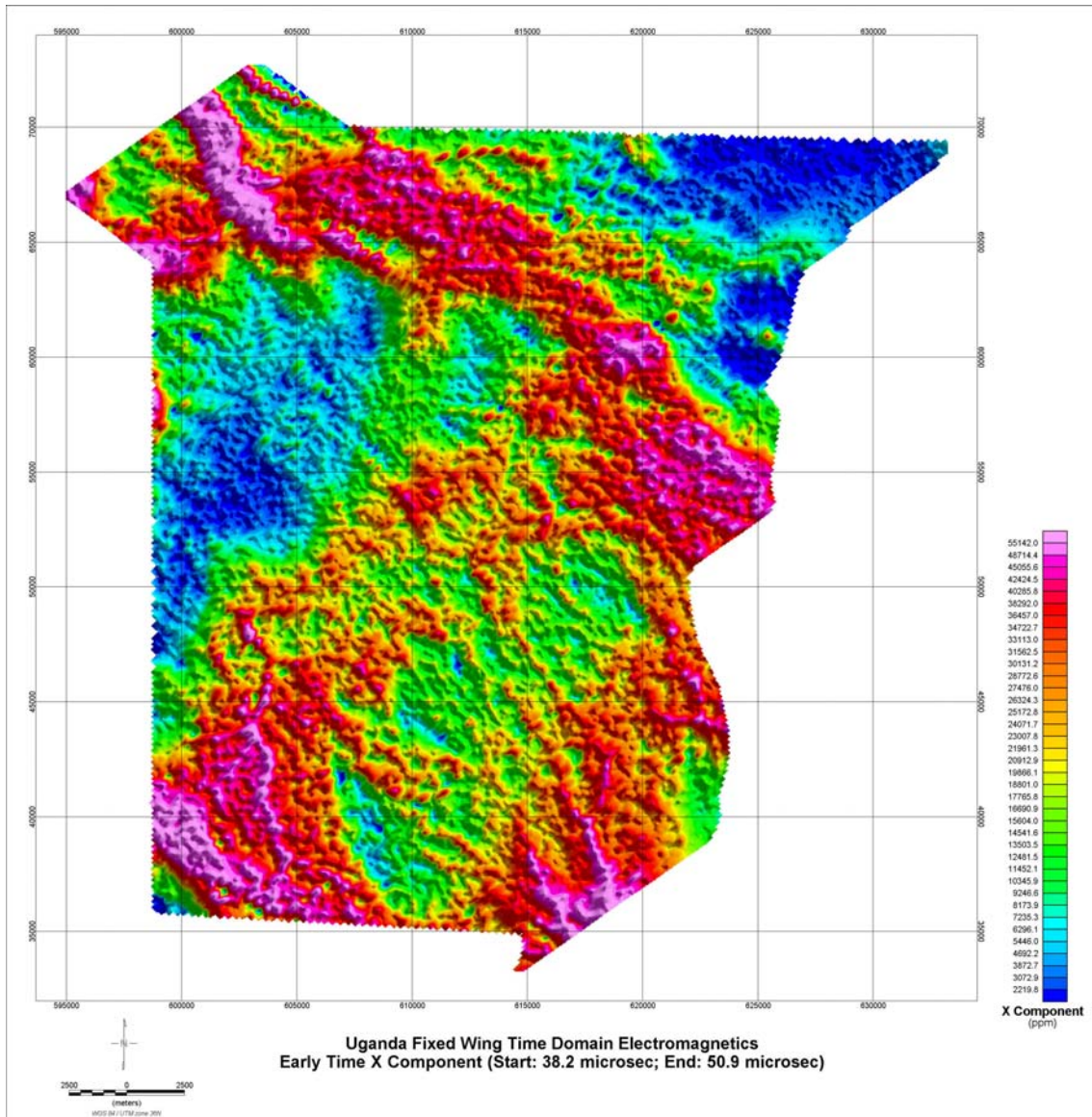


Figure 2. Early time X component channel grid of Block EM8 in the South East of Uganda