The Capricorn 2013 AEM TEMPEST® survey

Managed by Geoscience Australia on behalf of the Geological Survey of Western Australia (GSWA). A contribution to the Distal Footprints of Giant Ore Systems: UNCOVER Australia.

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Capricorn 2013 AEM TEMPEST® survey

The Capricorn 2013 AEM TEMPEST® survey, conducted as part of the Western Australia Exploration Incentive Scheme and managed by Geoscience Australia on behalf of the Geological Survey of Western Australia (GSWA), is a $2.5 million contribution to the Distal Footprints of Giant Ore Systems: UNCOVER Australia. The Capricorn 2013 AEM TEMPEST® survey is the largest AEM survey by area flown in Australia to date at 146 300 km2 (this is larger than the country of Greece).

The Capricorn 2013 AEM survey is Stage 1 of the WA Reconnaissance Airborne Electromagnetic Survey (WARAEM) 2013–20 National Geoscience Agreement project, designed to provide broad-acre, wide line-spacing, airborne electromagnetic (AEM) data over the approximately 70% of the area of Western Australia that is underlain by Precambrian rocks that occur at or within about 300 m of the surface.

The Capricorn Orogen is a geologically complex area, the surface expression of which has a surface extent of approximately 240,000 square kilometres (approximately 9 per cent of the area of the State).  It is prospective for potentially large discoveries of gold, copper, and other base metals.

The Capricorn 2013 AEM TEMPEST® data release includes the final contractor supplied (Phase 1) datasets from the TEMPEST® time domain AEM survey as well as a set of GSWA-produced imagery made from the data. The data will be available from Geoscience Australia’s web site free of charge:

<http://www.ga.gov.au/minerals/projects/current-projects/airborne-electromagnetics.html>

The data release package includes:

• Point-located, computed B-field EM time-series channel data in ASEG-GDF2 (ASCII) format (also TMI and terrain data)

• Point-located computed conductivity and terrain data in ASCII format

• Data multiplots (EM X- and Z-component time series, CDI sections, TMI, altimeter and monitor channels) in PDF format

• CDI stacked sections in PDF format

• Gridded data: EM time constant (X- and Z-components); selected conductivity-depth slices (in ER Mapper format, 1 km cell size)

• Geo-referenced images of gridded EM data in JP2 format

• Geo-referenced images of gridded TMI, Ternary Radiometrics, Bouger Gravity and DEM data in JP2 format

• Flight path map in ESRI shapefile format

• Survey operations report in PDF format

• Metadata and License files

**Summary**

**Survey Name** Capricorn 2013 AEM TEMPEST®

**State** WA

**Sub Region** Capricorn Orogen

**Area (km2)** 146 300

**Line km** 30123

**Survey Completed** January 2014

**AEM system** CGG TEMPEST®