



ASX ANNOUNCEMENT

12th June, 2012

New Priority Drill Targets Identified by SkyTEM⁵⁰⁸ Survey over Musgrave Tenements

Three SkyTEM⁵⁰⁸ airborne electromagnetic (AEM) surveys covering approximately 1,300 line kms were completed during March 2012. The survey areas are located across tenements in the Musgrave Province of South Australia held solely by PepinNini Minerals (100%) or in Joint Venture with Rio Tinto. The survey areas cover the Hanging Knoll Area (Area A), the Caroline Intrusion (Area B), and the Cooperinna Block (Area C) as shown in figure 1.

A total of 14 strong electromagnetic conductive responses have been identified from the survey data. These new SkyTEM⁵⁰⁸ anomalies, which are likely due to bedrock sources interpreted as possibly representing massive magmatic Ni-Cu sulphide accumulations, will be investigated and prioritised for drill testing by PepinNini's onsite diamond drilling operations.

Survey Area B covers part of the Caroline Intrusion which is one of Australia's largest layered mafic-ultramafic complexes and is considered highly prospective for nickel copper sulphide mineralisation. In recent years PepinNini has undertaken vacuum and core drilling with some encouraging results within EL4048 and EL3931. These licences surround the central core of the complex now covered by PepinNini's exploration licence application ELA 367/09. Survey Area B covers portions of EL's 3931 and 4048 as well as the entire area covered by ELA367/09 where outcropping pentlandite (Ni/Cu sulphide) was discovered by DMITRE (formerly PIRSA) in 2004.

Survey Area A extends across the Hanging Knoll layered mafic-ultramafic outcrops which are covered by another of PepinNini's applications (ELA368/09) as well as part of EL 3931.

Survey Area C covers a portion of the Cooperinna Block of EL 4587. A majority of the newly identified conductive features, including seven priority 1 anomalies, are located within the SkyTEM⁵⁰⁸ data acquired from the north eastern part of this block. PepinNini's field camp and drilling rig is currently located at Cooperinna and the targets will be investigated by drilling as soon as statutory approvals and heritage clearances are obtained.

The AEM system deployed is the new SkyTEM⁵⁰⁸ super low moment system which has recently been imported into Australia from Scandinavia. The system which is much higher powered than previous versions is designed to be able to resolve both near surface and deep conductors thus making it highly suitable for use in the Musgrave Province as a tool to identify potential sulphide bodies. The system which has never previously been used in Australia is unlike all other heliborne systems as it is calibrated due to its inherent rigid design geometry.

The survey was undertaken as part of a collaborative funding program with the South Australian Government. PepinNini Minerals was awarded a \$75,000 grant for the program as part of the South Australian Government's 'Plan for Accelerated Exploration 2020' (PACE 2020) Initiative.

The information in this report that relates to Exploration Results is based on information compiled by Norman Kennedy BSc MAusIMM. Norman Kennedy is the Chairman and Managing Director of PepinNini Minerals Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Norman Kennedy consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

For further information please contact:

Mr Norman Kennedy
 Chairman and Managing Director, PepinNini Minerals Limited
 Phone: +61 (0)8 8218 5000

Note: Additional information on PepinNini Minerals Limited can be found on the website: www.pepinini.com.au

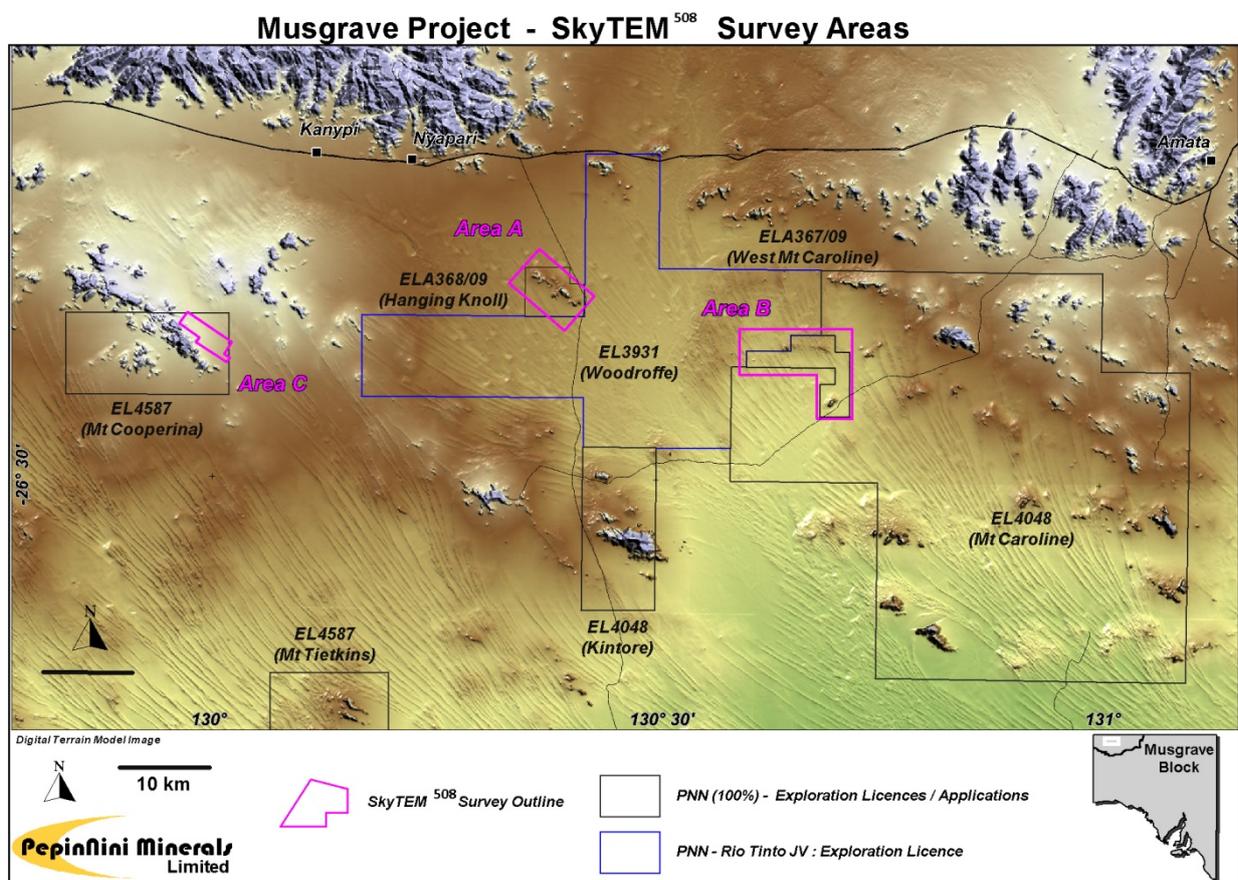


Figure 1. SkyTEM⁵⁰⁸ Survey Areas – Musgrave Project.



Figure 2. SkyTEM⁵⁰⁸ system over PepinNini field camp – Musgrave Province South Australia

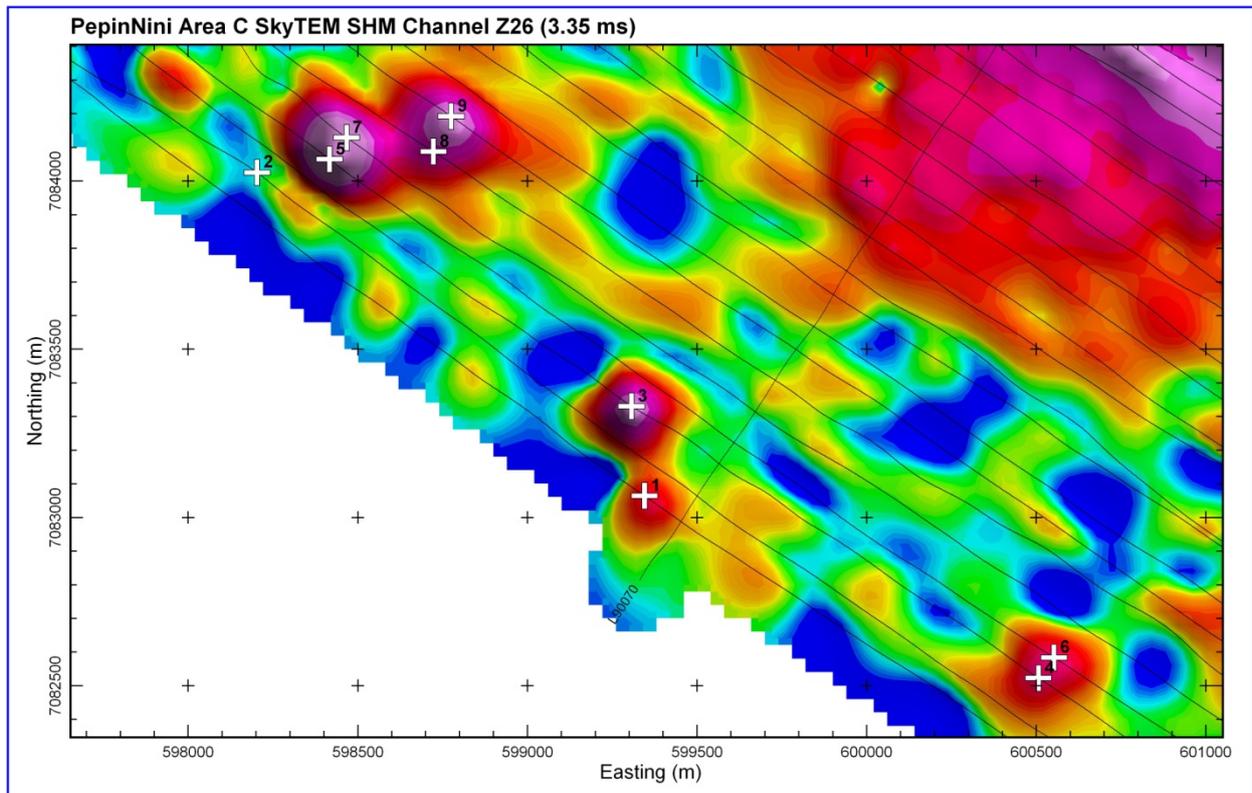


Figure 3. Detailed view of bedrock conductor anomalies Area C - Cooperinna Block

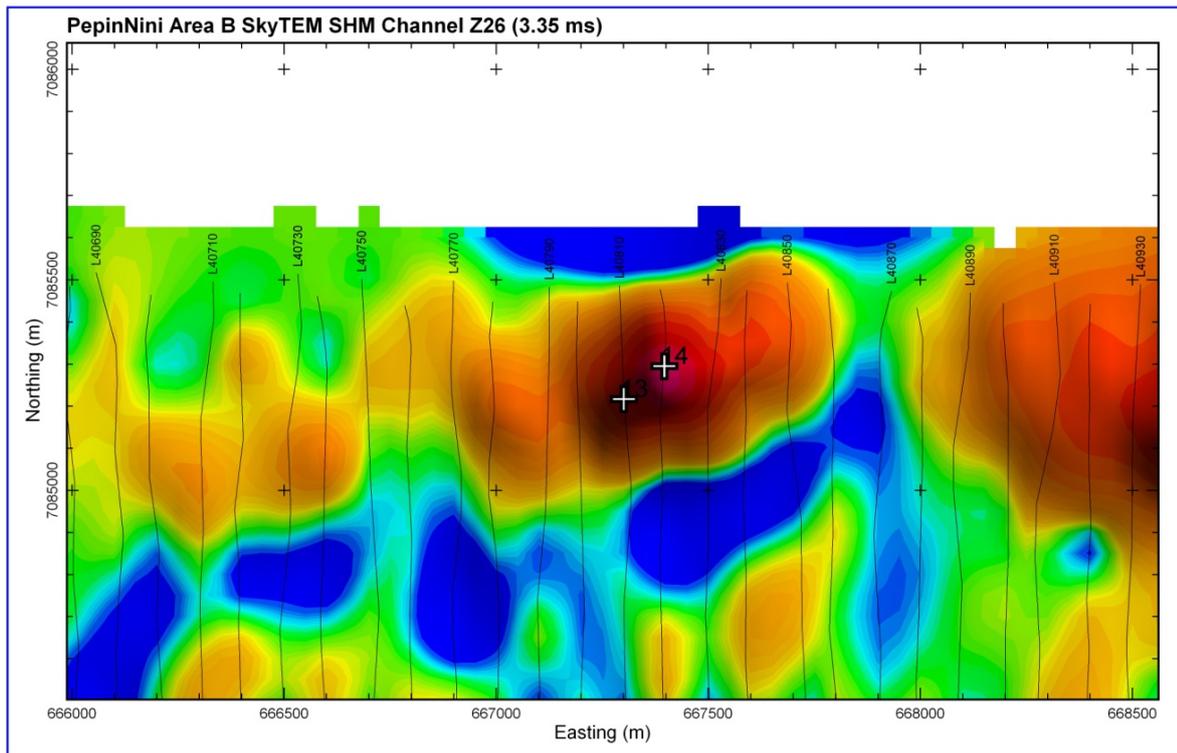


Figure 4. Detailed view of bedrock conductor anomalies Area B – Caroline Intrusion

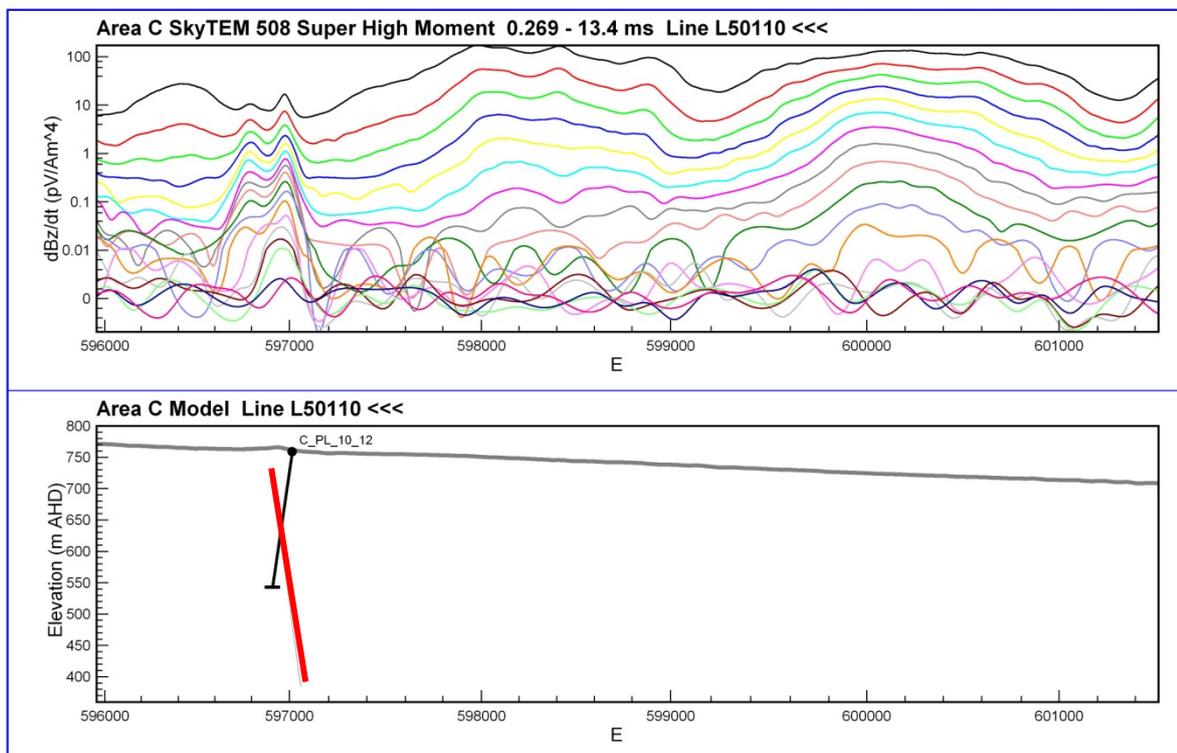


Figure 5. Super-high moment Z-component data from Line 50111 (top) with cross-section (bottom) showing projection of interpreted plate target (red line) and trace of drillhole (black line) recommended to intersect the target. Area C - Cooperinna Block