Western Geoscience Pty Ltd

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MEMORANDUM

DATE: 15th November 2014

TO: Roger Thompson- Meteoric Resources

FROM: Steve Massey

CC:

SUBJECT: Modelling and Interpretation of Magnetic Anomalies on EL24363, Tennant Creek Mineral Field.

1. Introduction, Scope of Works and Background.

Meteoric Resources are exploring for Tennant Creek style iron oxide hosted gold and gold copper deposits within the Tennant Creek Mineral Field (TCMF).

Meteoric have requested Western Geoscience Pty Ltd (Western Geoscience) process and model the aeromagnetic data over the M1 magnetic anomalies on EL24363 to determine the location, geometry, depth and physical properties of the sources to these magnetic anomalies.

The exploration licence EL24363, is located approximately 16 km to the northwest of the Warrego Au_Cu mine (Figure 1)

The underlying geology is interpreted to be the Warramunga formation which hosts most of the high grade deposits that are found in the TCMF. The Au-Cu-Bi mineralisation within the TCMF is generally hosted by iron oxide altered rocks in tabular to pipe-like magnetite – hematite rich bodies (ironstones) that have been emplaced into dilatant zones within the fault architecture. These bodies generally produce discreet very strong magnetic anomalies that can range in amplitude from 300 to 1500 nanoTesla's (nT). Many of the high grade gold deposits (e.g. Warrego and White Devil) are typically hosted within a magnetite-chlorite alteration with magnetic susceptibility (Msus.) values of >0.8 SI units and up to 5.0 SI units. The Geko copper –gold deposits have a similar geometry to the other deposits but the iron

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oxide alteration is more hematite rich with Msus. values that are therefore lower and typically in the range of 0.3-1.0 SI units.

Remanently magnetised rocks within the Oradidgee formation give rise to distinctive magnetic lows to the east south east of the M1 magnetic anomalies
The calculated residual magnetic anomaly has been calculated for the M1 anomaly area (figure 2) The residual TMI data clearly show these are discreet anomalies but are very weak with a peak amplitude of 23 nTesla.

2. Model Calculations using 3D Inversion and Forward Modelling Methods.

The process of 3D inversion produces a 3D distribution of physical rock properties (e.g. magnetic susceptibility) within a block model structure. The 3D inversion method calculates a magnetic susceptibility model directly from the data. The calculation produces a calculated anomaly that replicates the observed potential field anomaly as best as possible and within predefined error limits.

3D Inversion Modelling.

Three dimensional inversion modelling has been completed to determine the depth, geometry and magnetic susceptibility of the magnetic sources underlying the M1 anomaly area. The process is one of completing a "coarse" inversion over an area that is significantly larger than the target and then a detailed inversion which refines the model to gain greater resolution within the target area and immediate surrounds
The 3D magnetic inversion calculation been completed using the MGinv3D software (Author Dr John Paine of Scicomap Pty Ltd). The outputs from the 3D inversions are block models of magnetic susceptibility to a depth of 800m below the surface. Blocks within the detailed part of the model have XY width dimensions of 25m and depth dimension of 12.5m, with each block having a value of calculated magnetic susceptibility.

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3D Forward Modelling

Forward modelling is the process of calculating an anomaly from a given earth model (e.g. a magnetic susceptibility distribution). Forward modelling is a trial an error method that utilizes simple body shapes to represent a geological body. The aim of forward modelling is to replicate the observed magnetic anomaly as best as possible. Forward modelling has been completed using the "Potent" software package. Simple cylindrical bodies have been used to represent the magnetic sources.

3. Model Data Integration and Interpretation.

The calculated magnetic susceptibility block models have been brought into a 3D modelling and visualisation software package. For the purposes of this report, the 3D magnetic susceptibility block model is shown as a series of depth slices through the model at selected depths below the surface and also wireframes at several thresholds of model magnetic susceptibility (Figure 3).

The 3D inversion shows there is a single discreet body of calculated magnetic susceptibility > 0.06 SI units. This is not indicative of an ironstone body but more of weak iron oxide alteration in a pipe-like structure. The calculated depth to the top of the M1 body is 170m below the surface. The 3D modelling nearly always creates bodies of greater thickness and width at depth than the actual size of the bodies. This is a function of the requirement for a smooth model approach in the 3D inversion calculations. The models indicate several hundreds of meters in depth extent.

Independent checks on the 3D inversion have been made using the forward modelling approach. The results represented in figure 4 show the forward modelling predicts a shallower depth to the top of the source body(131m BGL) and a good fit between observed and calculated anomalies has been achieved using a magnetic susceptibility of 0.065 SI units.

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4. Conclusions and Recommendations.

Modelling of the M1 magnetic anomalies shows the magnetic sources are relatively weak. Similar magnetic susceptibility results are achieved by modelling separately with 3D inversion and forward modelling methods, however the forward modelling predicts the source to be approximately 40m shallower.

The low “tenor’ of the M1 magnetic anomalies and the modelling results indicate weak iron oxide alteration is present and in the context of the TCMF style of deposit there seem little chance for there to be anything other than weak mineralisation to be present.

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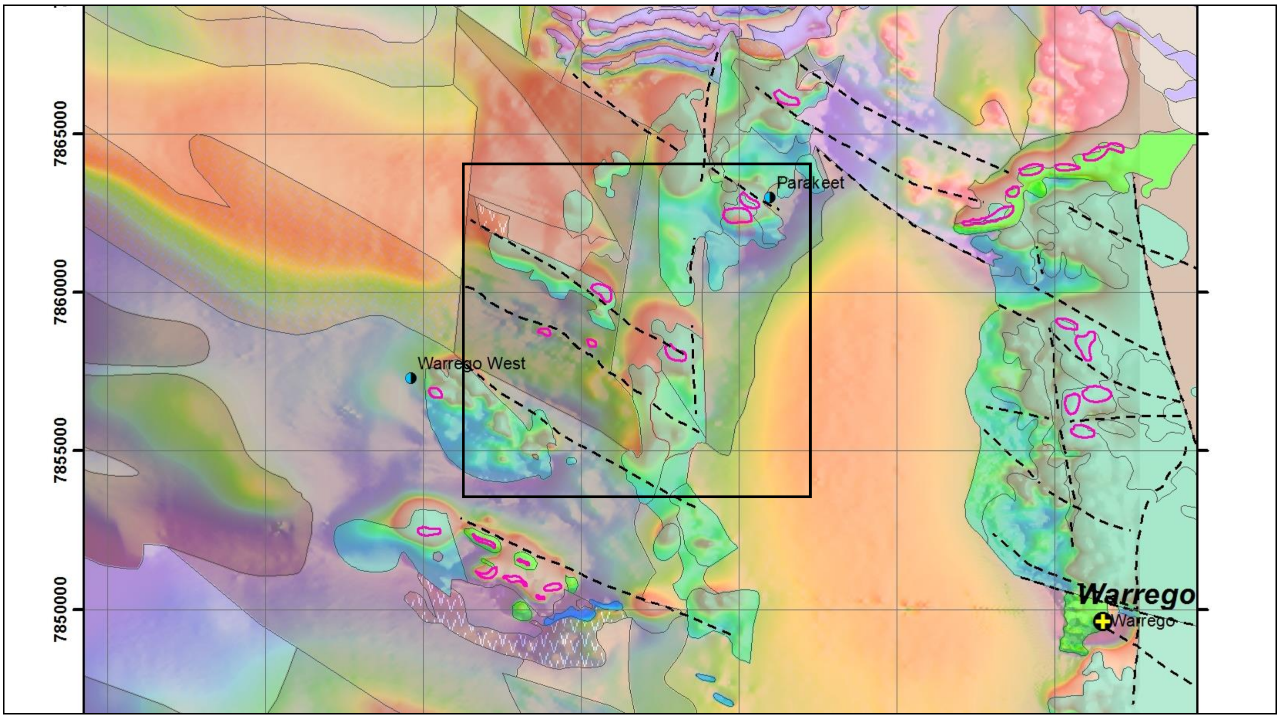
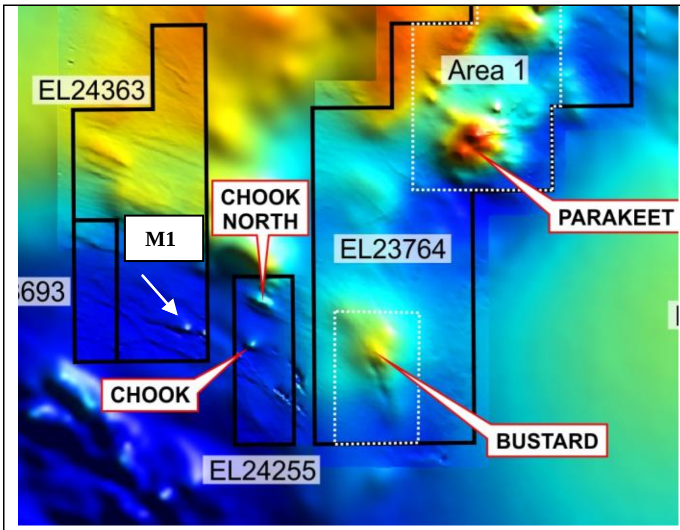
FIGURES





Interpreted ironstone bodies (pink polygons) and main structures.

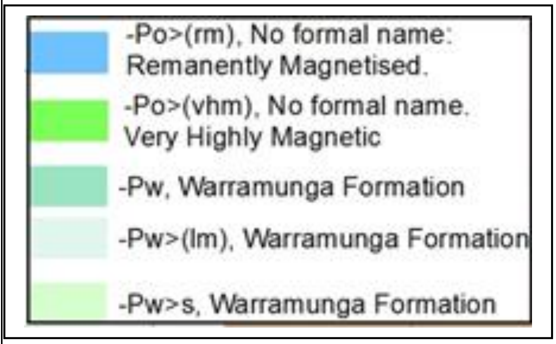


Figure 1. The location of the M1 magnetic anomalies(arrows) within exploration license EL24363 on the regional 1:250K geology and magnetics.

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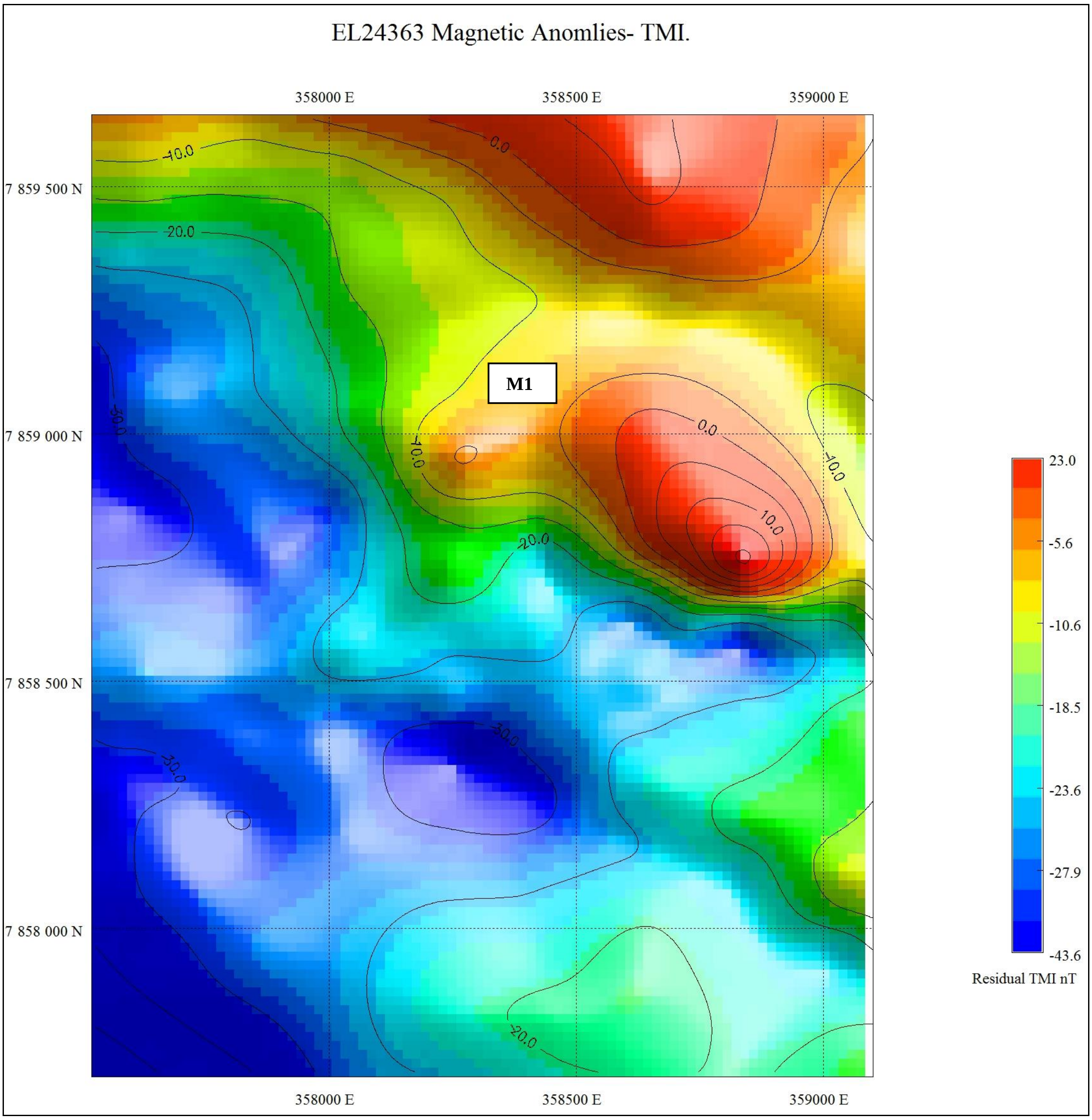

Figure 2. Residual TMI image, EL24363, M1 magnetic anomalies.

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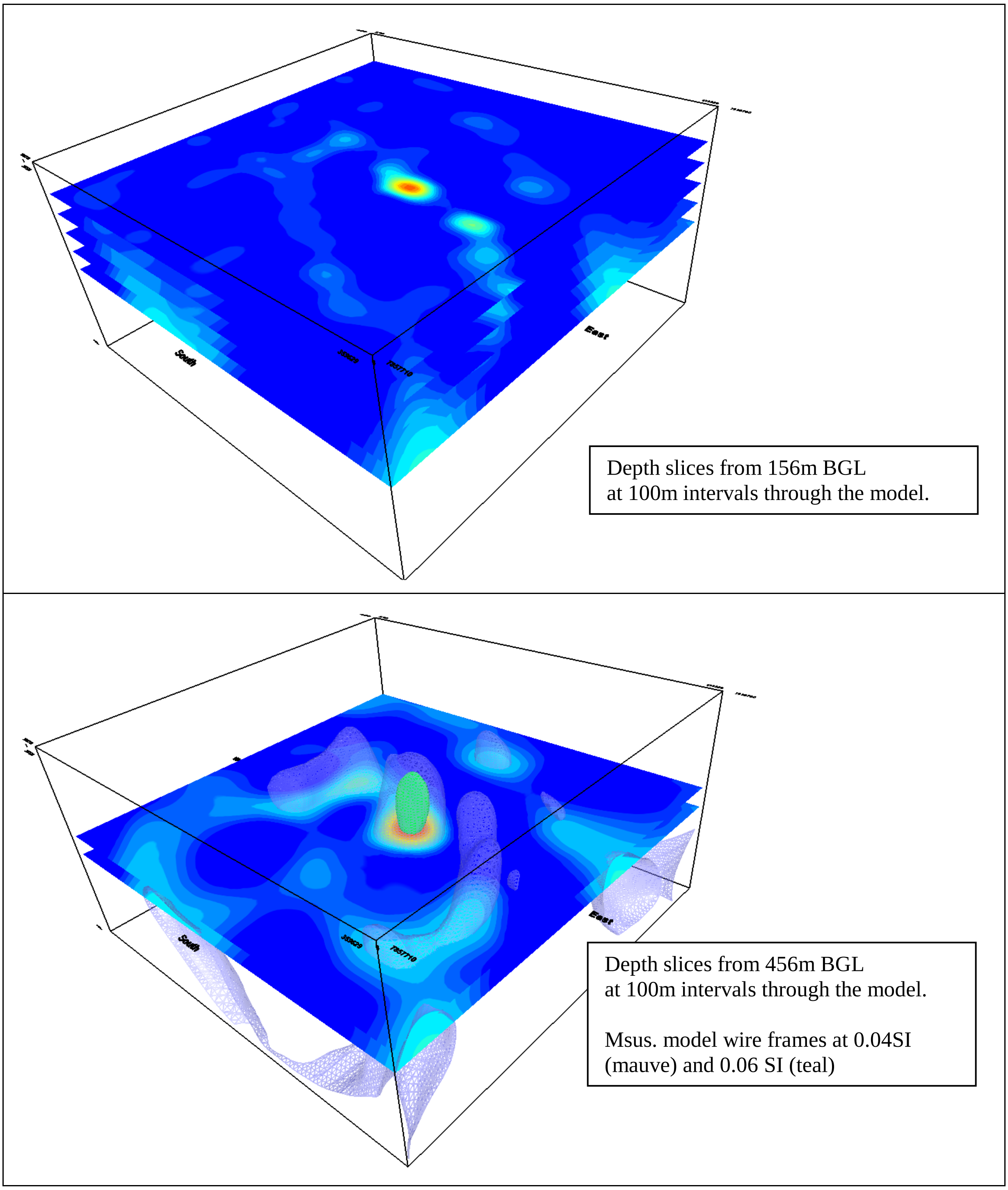

Figure 3. Perspective views looking NW through the 3D magnetic susceptibility inversion model.

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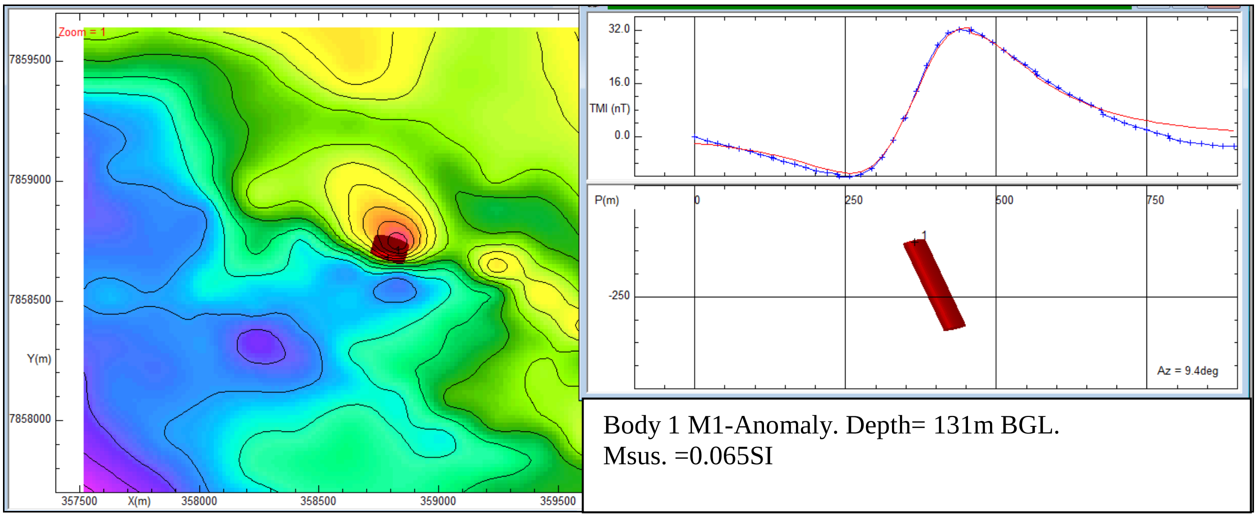

Figure 4. Forward modelling results through the M1 magnetic anomaly.