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ASX Limited

Electronic Lodgement

Dear Sirs

RE: PEAK HILL – DOOLGUNNA PROJECT: Exploration Update – Final VTEM Results

- **29 anomalies are identified from the Ned's Creek VTEM survey completed in April**
- **5 anomalies have been modelled from the preliminary results previously announced (see LSR announcement to ASX dated 16th April) and represent initial drill targets at depths of 200m or less**
- **A further 10 anomalies are recommended for follow up ground EM survey to improve definition of the target conductors**

Lodestar Minerals Limited (Lodestar, ASX code: LSR) advises that the final interpreted results of the recent VTEM survey over two of the Ned's Creek tenements (E52/2456 & E52/2468) within the Company's Peak Hill – Doolgunna project have now been received. Compilation of the VTEM results and available geological information has identified a number of the conductors as attractive targets for sediment – hosted stratabound copper mineralisation or structurally emplaced variants. The Ned's Creek tenements comprise 4 of the 13 tenements held by Lodestar in the Peak Hill – Doolgunna region.

Introduction

Lodestar conducted extensive VTEM surveys over areas of the Peak Hill – Doolgunna project during the initial phase of regional exploration for base metal massive sulphide deposits. The region hosts Sandfire Resource's recently discovered DeGrussa – Conductor 1 deposit (7.13Mt at 5.2% Cu and 1.9g/t Au), Sipa Resource's Thaduna Copper project adjacent to Lodestar's Ned's Creek tenements and the Northling copper prospect being explored by Dominion Mining (Figure 1).

Interpretation

The Ned's Creek VTEM anomalies shown in Figure 2 have been divided into three areas on the basis of their geological association. **Area 1** anomalies are associated with areas of outcropping sediments on the margins of the Yerrida Basin; **Area 2** anomalies are associated with an east northeast trending dyke/structure and **Area 3** anomalies are associated with the concealed K42 magnetic anomaly. The geology within Areas 2 and 3 is obscured to a large degree by products of lateritic weathering.

Area 1 priority targets and structures derived from Geological Survey of Western Australia geological mapping are shown in Figure 3. Features of note include:

- Conductors **B2-B5** and **B7** are associated with a unit of sandstone/shale/chert that forms part of the northern limb of an east southeast plunging fold. The unit strikes across Lodestar's tenement for a distance of 6 kilometres. Conductors **B10** and **B11** may represent the same unit repeated on the southern side of the fold. Conductor **B4** is modelled as an extensive (1500m strike) plate dipping moderately to the south east, conformable with the local geology.
- A large conductive horizon, readily observed in the VTEM image, occurs at the contact between two distinct sedimentary units. A number of VTEM anomalies are associated with the conductive unit and also to the west, higher in the sequence.
- The McDonald Well copper prospects occur at the southern end of the conductive unit. Western Mining explored this area in 1970 and sampled outcropping siliceous ironstones and cherts, reporting maximum values of 4100ppm Cu and 1120ppm Zn. Drill target conductor **B20** is located adjacent to the area of historic sampling. Both the **B12** and **B20** conductors are modelled as horizontal plates, suggesting that these anomalies are likely to be related to conductors within the shallow to moderately dipping sedimentary sequence. Importantly, horizontal or sub-horizontal conductors may have limited geochemical expression at surface, making them "blind" exploration targets.

Area 2 contains anomalies **B22** to **B24** as widely spaced conductors associated with a prominent east north east trending dyke/structure. The geological setting is poorly understood; Conductor **B23** dips shallowly to the south and represents a potential drill target at a depth of less than 100m.

Area 3 covers the K42 magnetic feature where conductors **B25** to **B29** are located on the periphery of the 6 kilometre long magnetic anomaly. The depth and source of the K42 anomaly has not been determined; a vertical hole drilled in 1997 to test the feature was abandoned at 242m in silicified siltstone. The **B29** conductor has been modelled at a depth of ~100m. Additional work is required to establish the relationship between the K42 magnetic body and VTEM conductors and magnetic modelling will be completed over selected areas.

The characteristics of the modelled VTEM conductors are listed in Table 1.

Conclusion

Lodestar is highly encouraged by the results of the VTEM survey that has identified a number of priority drill targets along with multiple VTEM anomalies requiring follow up surface EM to improve definition of the conductors prior to drilling.

Lodestar is working to achieve the grant of the Ned’s Creek tenements as expeditiously as possible to allow field checking of the VTEM anomalies and the planning and execution of follow up geochemical/moving loop EM surveys and drill programs.

Yours Sincerely,

Bill Clayton
Managing Director

The information in this report that relates to Exploration Results is based on information compiled by Bill Clayton, Managing Director, who is a Member of the Australasian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2004 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Clayton consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

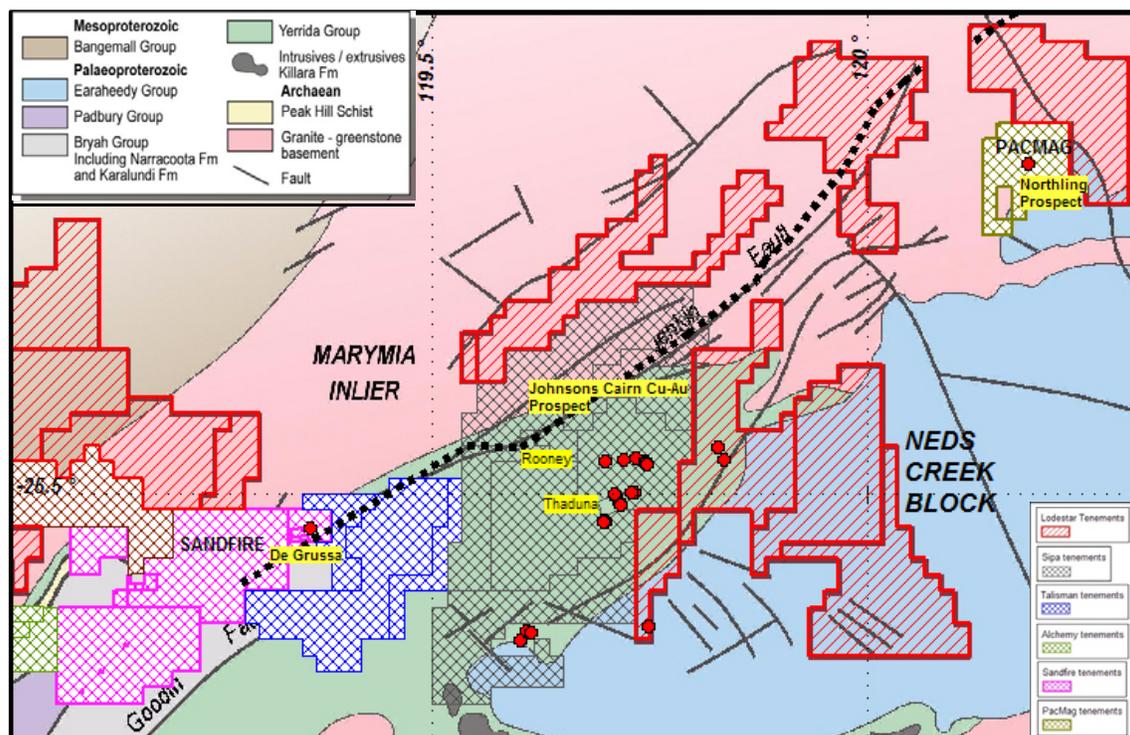


Figure 1 Regional tenements and copper prospects/deposits

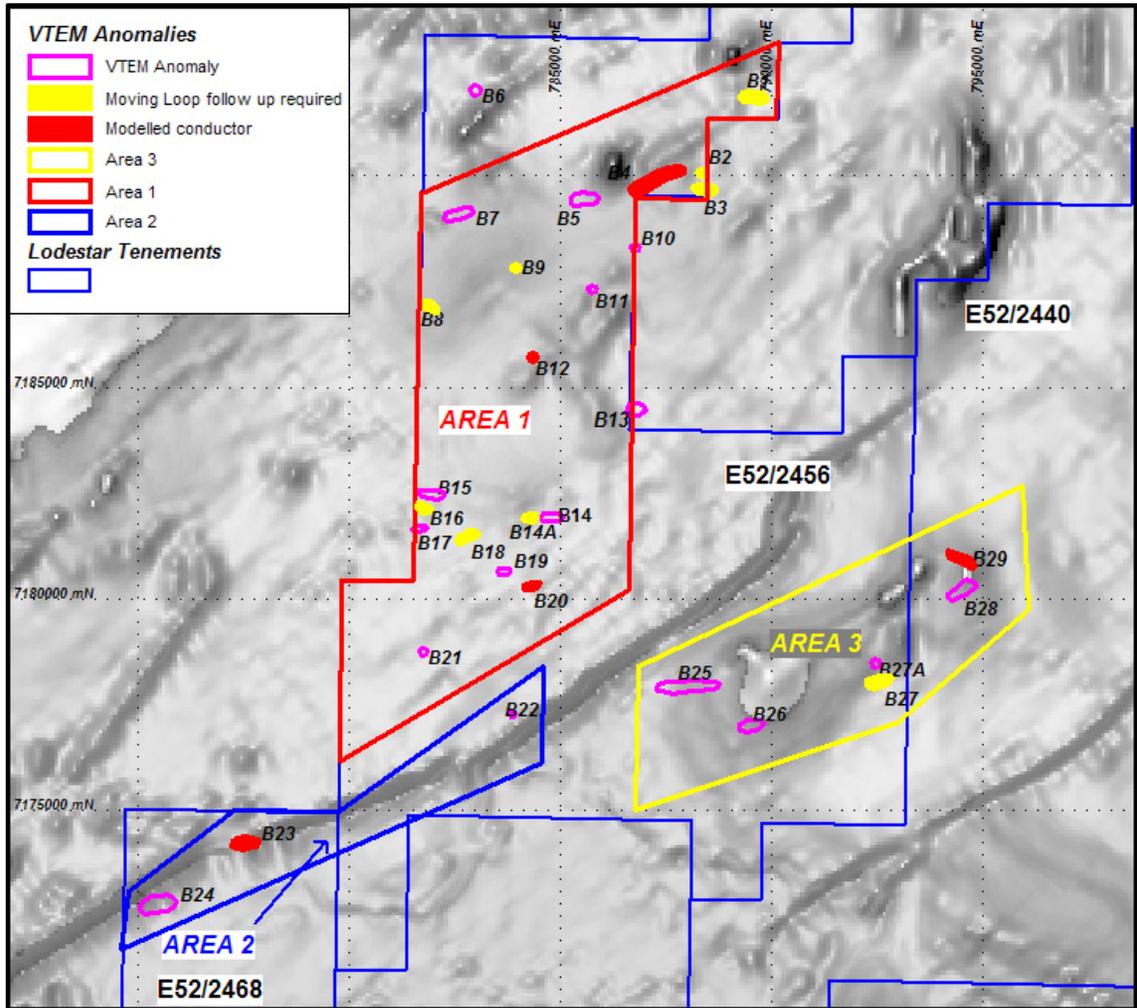


Figure 2 Location of discrete VTEM anomalies in Areas 1, 2 & 3 on aeromagnetic image (aeromagnetic data © Geoscience Australia 2009) GDA94 Zone 50

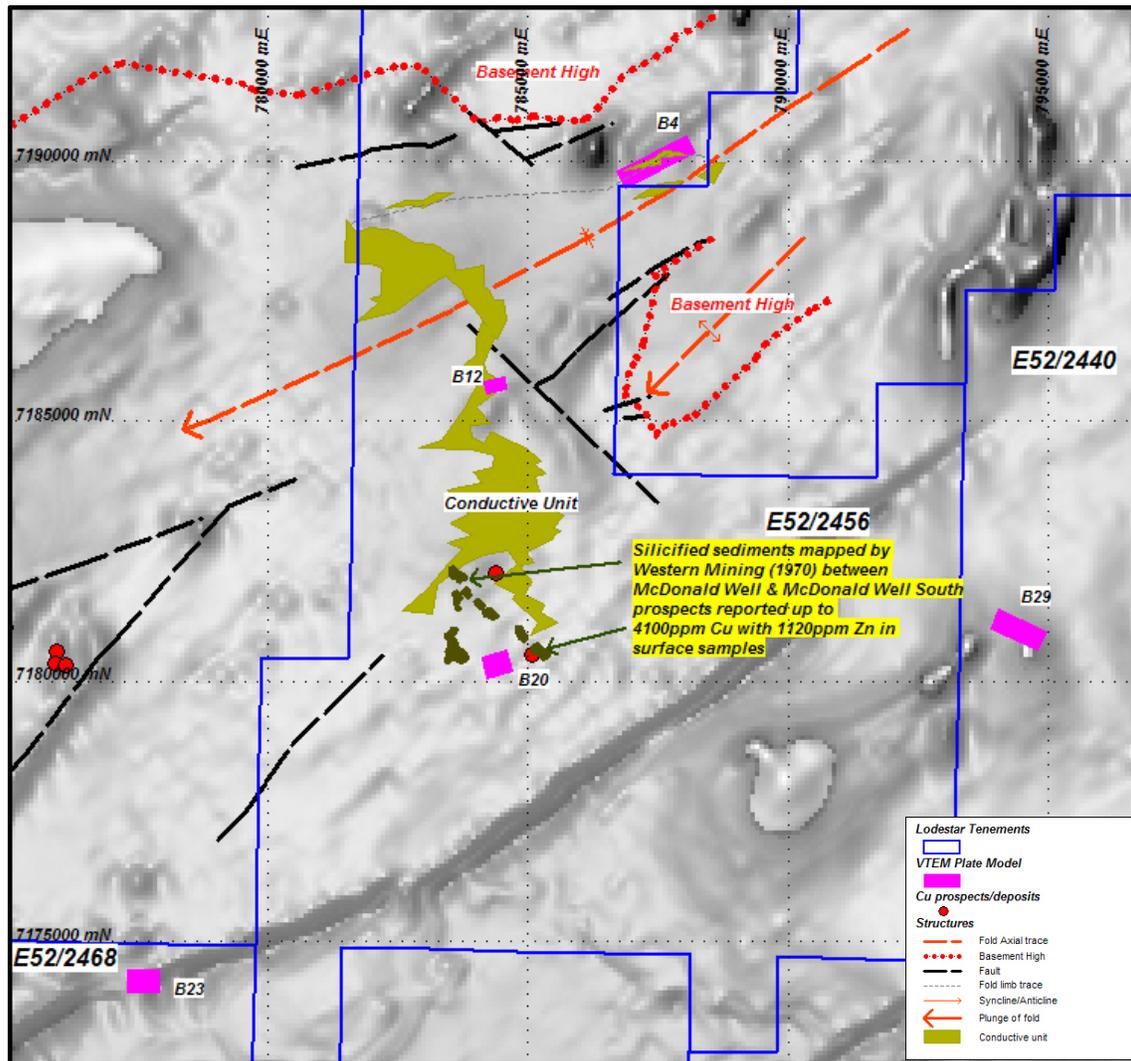


Figure 3 Structural interpretation of Area 1, showing modelled conductor plates (aeromagnetic data copyright Geoscience Australia (2009), MGA94 Zone 50)

Table 1 Characteristics of modelled VTEM conductors

Conductor ID	Centre Top of Plate (MGA94)			Dip Direction	Dip	Length (m)	Dip Extent (m)
	North	East	Depth (m)				
B4	7190165	787365	75	152.5	-20	1500	400
B12	7185805	784350	65	167.5	0	400	220
B20	7180523	784344	85	165	0	500	420
B23	7174455	777605	5	180	-10	600	450
B29	7181161	794508	98	205	-3	1000	400

GDA94 Zone 50