

# MBK secures exclusive rights to explore for Copper in historical mining areas in Jordan

# Highlights

- MBK has entered into two agreements with the Jordan Ministry for Energy and Mineral Resources (MEMR) granting MBK exclusive exploration rights and reconnaissance rights in Jordan:
  - for exploration at Malaga, centered on the historically significant Um el Amad (Mother of 0 Pillars) Copper mine, contiguous to the Feinan Copper district, with potential for significant sediment hosted stratiform copper deposits; and
  - for regional reconnaissance, inspection, assessment and studies for Copper within the Wadi 0 Araba area forming part of the Proterozoic Arabian-Nubian Shield (ANS) in the south of the country, which has very limited exploration to date
- $\triangleright$ This represents the first step in **MBK's strategy to explore the MENA region for Copper deposits**
- $\triangleright$ MBK has now established first mover advantage in this historically prolific copper mining region with exploration activity to commence this quarter

Metal Bank Limited (ASX: MBK) ('Metal Bank', 'MBK' or the 'Company') is pleased to provide an update on significant progress in its strategy of pursuing copper and base metal opportunities within the Middle East and North Africa (MENA) region. MBK has entered into two agreements with the Government of the Hashemite Kingdom of Jordan (Jordan) represented by the Ministry of Energy and Mineral Resources (MEMR) granting MBK exclusive copper exploration rights and reconnaissance rights in Jordan:

- the Malaga Exploration agreement for copper exploration within the Um el Amad historical mining area; and
- a regional reconnaissance agreement for inspection, assessment and studies for copper resources within the highly prospective Wadi Araba area in Jordan, in cooperation with the MEMR.

The two agreements provide MBK with first-mover advantage in Jordan, where very limited base and precious metal exploration has been conducted in recent decades.

The highly prospective Wadi Araba area represents the far north western region of the well-mineralised Arabian-Nubian Shield. Historically Jordan was one of the most prolific sources of copper in the region, with the Um el Amad copper mine described as the "largest copper mine in the Roman Empire"<sup>1</sup>. The Feinan Copper district contiguous to MBK's Malaga agreement is reported to host significant resources according to MEMR studies<sup>2</sup>.

<sup>&</sup>lt;sup>1</sup> Grattan, 2004

<sup>&</sup>lt;sup>2</sup> Hashemite Kingdom of Jordan, Natural Resources Authority, Geological Survey Administration, Mineral Status and Future Opportunity "Copper" by Eng. Ibrahim Rabb'a, Dr. Mohammed Nawasreh, 2006.



#### Commenting on the agreements, Metal Bank's Chair, Inés Scotland said:

"The Malaqa region provides MBK with immediate upside with Copper Resource potential centred on the historic Um el Amad mine; one of the most significant sources of copper in the Roman empire, which has never been subject to modern, systematic exploration.

Equally exciting is the opportunity to investigate and explore the Proterozoic basement rocks of the Arabian-Nubian Shield (ANS) which outcrop in the Wadi Araba area in southern Jordan. The ANS hosts some world-class deposits such as Jabal Sayid in Saudi Arabia, that we have significant experience with from our time in Saudi. While MBK is the sole signatory to the agreements, we will be partnering in Jordan with our previous Saudi Arabian Joint Venture Partner, who has significant business interests in Jordan."



Figure 1: Um el Amad exploration agreement area and local geology



#### Malaqa Exploration Agreement

The Malaqa exploration agreement covers 25km<sup>2</sup> in the central west of Jordan (Figure 1). In Jordan, exploration agreements in the form of a binding Memorandum of Understanding are granted for the exploration and feasibility stages of mineral resource projects and provide the holder with exclusive rights to explore the MoU area. Mineral Resource Executive Agreements are then entered into for development and mining following an approved Feasibility Study.

This exploration agreement has been granted for an initial two-year work program and includes the historic near surface 'Um el Amad' stratiform sediment-hosted copper deposit that was intermittently mined in Chalcolithic (4500-4100 BC) and Roman times. Historical production records are unavailable, however underground mining 'room-and-pillar' method appears commonplace in the region for selective mining of the 1-3m thick seams of high grade copper mineralisation (Figures 2 and 3).



Figures 2 and 3: Entrance to and within the Um el Amad copper mine, central west Jordan. Photo credit (Grattan, 2004)

The primary stratum exploited for its copper-ores is the Burj-Dolomite Shale Formation (Lower and Middle Cambrian). This Formation is further divided into a lower stratum, the 'Numayr Dolomite Member' and an overlying 'Hanneh Siltstone Member', both of which can be rich in copper ores. Within the latter are buff-coloured dolomitic siltstones or sandstones intercalated with black platy shales and ~2-3 m thick zones of secondary copper minerals such as malachite, paratacamite, chalcocite "tile ore", and chrysocolla.





Figures 4 and 5: View from Malaqa looking north to Feinan; Malaqa access track to Um el Amad, central west Jordan



These significant, near surface, oxide copper deposits exist 5km to the south of, and within the same geological sequence as, the famous Feinan Copper district region (reported by the MEMR to host 36Mt @ 1.36% Cu<sup>3</sup>). In addition, host rocks at Um el Amad and Feinan are contemporaneous and correlative to the Timna Formation, host to the Timna copper deposit (28Mt @ 1.51% Cu, USGS) located on the opposite side of the Wadi Araba and separated by the Dead Sea rift structure.

Beyond historical mining activities, modern exploration work in the local region has been largely limited to exploration by Otto Gold in the 1960s and the BRGM (French Geology and Mining Research Bureau) in the 1970's.

#### Sediment-Hosted Stratiform Copper deposit overview

Sediment-hosted stratiform copper deposits are formed by precipitation of copper from metal-rich fluids flowing through porous and pH-reactive sedimentary rocks in typically highly evaporative, epicontinental, shallow marine environments near the palaeo-equator. Copper is deposited in layers or strata within the rock, hence the term "stratiform". These deposits are typically found in basins or rift zones and are globally economically significant accounting for approximately 20% of global copper production.

Key examples of sediment-hosted stratiform copper districts include:

- Central African Copperbelt (Katanga Basin) one of the largest sediment-hosted copper provinces in the world (estimations up to 5Bt of copper ore, including a significant proportion of global Co content), with mineralisation hosted in a late Proterozoic to early Palaeozoic age rift basin in narrow but laterally continuous shale, sandstone and carbonate stratiform horizons.
- Kupferschiefer (Central Europe) Permian-age rift basin sediment-hosted copper within a narrow organic-rich shale and sandstone layer, including significant amounts of silver, gold, lead, zinc, vanadium and nickel
- US Red Bed Copper sediment-hosted copper mineralisation precipitated by redox reactions between oxidised 'red bed' units and reduced or more organic rich units in Permian and late Triassic to early Jurassic age sandstones and sediments, typically associated with deposits in the United States but also recognized and exploited in other locations globally

#### Jordan Wadi Araba Reconnaissance Agreement

In recent years, there has been renewed interest in the mineral potential of Jordan and the wider Arabian-Nubian Shield region. The Jordanian government has identified the mining sector as a key area for economic growth and diversification, and has implemented reforms to attract foreign investment and streamline the permitting process. Of key interest to the Company is the opportunity presented by the Wadi Araba area (Figure 6) which represents the far north western region of the well-mineralised Arabian-Nubian Shield (Figures 6 and 7).

MBK's Reconnaissance agreement, in the form of a memorandum of cooperation with the MEMR, grants to MBK the right in cooperation with the MEMR, for an initial term of two years, to conduct studies, reconnaissance, inspection and assessment for copper throughout the Wadi Araba area of Jordan (excluding those areas already granted to third parties, Military areas or Natural or Archaeological Reserves) with the specific aim of identifying areas for mineral resource exploration and mining potential.

<sup>&</sup>lt;sup>3</sup> Refer footnote 2 on page 1





Figure 6: Jordan project overview showing simplified geology and Wadi Araba reconnaissance area

# **Overview of the Arabian Nubian Shield (ANS)**

The Arabian-Nubian Shield (**ANS**) is a geological region comprising a crustal block in Northeast Africa and Arabia, and is composed dominantly of juvenile Neoproterozoic rocks with some older continental material and Archean–Palaeoproterozoic crust. The ANS spans across the Red Sea region of Northeast Africa, covering parts of Saudi Arabia, Egypt, Sudan, Eritrea, Ethiopia, and Jordan. It is divided into numerous tectono-stratigraphic terranes bound by shear and sutures zones (Figure 7).

The ANS is a highly prospective area for mineral deposits and intense modern exploration and mining are underway for gold, copper, lead, zinc, cobalt, tin, tungsten, titanium, and other metals from deposits of volcanic-massive sulfides (VMS), orogenic gold, intrusion-related gold, epithermal gold, porphyry copper, and Nb–Ta–U–REE-rich granite.





Figure 7: Geology and major mineral deposits and mining projects of the Arabian Nubian Shield (ANS)

#### Next steps

MBK has established a Jordan team ready to commence exploration work including sampling of priority areas in and around historical mining areas, aerial surveys, to be followed by high priority target drilling. The Jordan team will operate activities in cooperation with MBK's partner, which has established and extensive business operations in Jordan.

#### Fieldwork

Initial fieldwork is planned to commence in this quarter, with a focus on mapping and sampling in priority areas in and around the historical Um el Amad copper mine. Multi-element analysis will characterise mineralisation and early stage metallurgical testwork will be completed on bulk samples. Investigations will then continue in Q4, including drill testing the host stratigraphy to confirm lateral continuity of mineralisation.



# The trading halt for the Company's securities can now be lifted.

## Authorised by the Board

## For further information contact:

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# About Metal Bank

Metal Bank Limited is an ASX-listed minerals exploration company (ASX: MBK) holding a significant portfolio of advanced gold and copper exploration projects with substantial growth upside, including:

- Mineral exploration and reconnaissance rights in southern Jordan, focusing on identifying copper deposits within Wadi Araba;
- the right to earn up to 80% of the Millennium Copper & Cobalt project which holds an Inferred 2012 JORC Resource of 8.4Mt @ 1.23% CuEq<sup>4,</sup> across 5 granted Mining Leases with significant potential for expansion;
- a 75% interest in the advanced Livingstone Gold Project in WA which holds a JORC 2012 Inferred Resource of 40,300oz Au<sup>5</sup> at the Homestead prospect, a JORC 2012 Inferred Resource of 30,500oz<sup>6</sup> Au at Kingsley, and an Exploration Target<sup>6</sup> of 290 400Kt at 1.8 2.0 g/t Au for 16,800 25,700oz Au at Kingsley<sup>5</sup>; and
- the 8 Mile, Wild Irishman and Eidsvold Gold projects in South East Queensland where considerable work by MBK to date has drill-proven both high grade vein-style and bulk tonnage intrusion-related Au mineralisation.

Metal Bank's exploration programs at these projects are focussed on:

- Short term resource growth advancing existing projects to substantially increase JORC Resources;
- Identifying additional mineralisation at each of its projects; and
- Assessing development potential and including fast tracking projects through feasibility and development to production, particularly at the Millennium Project in Queensland, where the copper and cobalt project is contained within granted mining licenses.

Metal Bank is also committed to a strategy of diversification and growth through identification of new exploration opportunities which complement its existing portfolio and pursuit of other opportunities to diversify the Company's assets.

<sup>&</sup>lt;sup>4</sup> MBK ASX release 21/03/23 "Millennium delivers substantial Resource increase"

<sup>&</sup>lt;sup>5</sup> MBK ASX release 21/02/23 "Livingstone delivers updated shallow Minerals Resource at Homestead"

<sup>&</sup>lt;sup>6</sup> MBK ASX Release 18/01/22 "Kingsley Deposit Maiden Mineral Resource Estimate and updated Exploration





Figure 8: MBK Projects location map

# **Competent Person Statements**

The information in this report that relates to Mineral Resource Estimations and Ore Reserves was prepared and reported in accordance with the ASX Announcements and News Releases referenced in this report.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant ASX announcements and News Releases. In the case of Mineral Resource estimates and Ore Reserve estimates, all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the original ASX announcements or News Releases.

The information in this announcement, that relates to MBK Exploration Results, Mineral Resources and Exploration Target statements is based on information compiled or reviewed by Mr Rhys Davies. Mr Davies is a contractor to the Company and eligible to participate in the Company's equity incentive plan. Mr Davies is a Member of The Australasian Institute of Geoscientists has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Davies consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

It should be noted that the MBK Exploration Targets described in this report are conceptual in nature and there is insufficient information to establish whether further exploration will result in the determination of Mineral Resources.