## ASX: MKR

## Strategic Exploration Review Highlights Near-Mine Resource Upside

## Highlights

- The Strategic Review outlines proposed high tempo exploration activity over 2023-2024 across Manuka's Cobar tenements to materially grow the Indicated Mineral Resources inventory;
- The Review provides Manuka with the exploration plan to add significant resources of Gold, Silver, Copper and other Base Metals
- Proposed exploration budget of over \$8m over 2 years including >24,000m of drilling;
- Near-mine exploration prioritised given the opportunity to delineate Indicated Mineral Resource targets of:
  - o 22-35Moz Ag @ 40-50g/t Ag, primarily from existing pits at Wonawinta;
  - 250,000-530,000oz Au @ +2.5g/t Au, with Mt Boppy depth extensions, as well as McKinnons & Pipeline Ridge prospects, prioritised.
- Polymetallic Indicated Mineral Resource targets identified, including high grade copper of up to 3%;
- Exploration program expected to yield improved structural model Cobar style deposits often lack surface expression thus delineation of fluid focusing structures is critical to identifying polymetallic mineral deposition;
- Major opportunity to understand 'the plumbing' of Manuka's Cobar target tenement mineralisation with proposed drilling designed to improve synthesis of existing data to better understand controls to mineralisation with broader positive implications for future exploration.
- A comprehensive review<sup>1</sup> of over 30 years of geophysical data and reports completed over the past 24 months has defined new targets and information gaps which will further define exploration tools and strategy.

### Dennis Karp, Manuka's Executive Chairman, commented:

"The results of the strategic exploration review point to substantial resource upside on our Cobar tenements, particularly in terms of near-mine silver and gold, but also high grade copper

<sup>&</sup>lt;sup>1</sup> The Company and Mitre Geophysics Pty Ltd 2021 - 2023

opportunities along with zinc and lead.

With our ~1mtpa+ production infrastructure at Wonawinta capable of producing both gold and silver, near-mine ounces discovered are logical priority targets. Cobar is a region prolific for polymetallic deposits in particular and the proposed drilling activity will yield a wealth of data to inform our understanding of the structural controls that are key to delineating more precious metal and polymetallic deposits on our ground."

# EXCERPT FROM STRATEGIC REVIEW FEBRUARY 2023– MANUKA EXPLORATION PORTFOLIO

#### **EXECUTIVE SUMMARY**

Manuka Resources Ltd (MKR or the Company) is the owner of the Wonawinta Silver Project and Mt Boppy Resources Pty Ltd (MBR) gold project located in the Cobar District of NSW (Figure S1). The assets include the following:

- An oxide processing plant (nameplate 0.8 -1mtpa) at Wonawinta situated on ML1659.;
- the Mt Boppy Gold Mine and associated MLs; and
- an extensive suite of Exploration Licences covering 1081 km<sup>2</sup> effectively contiguous and along strike to the MLs (1,154 Ha) with historic exploration data spanning over 50 years of work undertaken by over twenty previous operators.



Figure 1: Manuka Tenement areas – Manuka Wonawinta & Mt Boppy Tenements

The current JORC 2012 compliant Mineral Resources Estimates (**MRE**) for Wonawinta (Ag-Pb) and Mt Boppy (Au) are shown in Tables 1 and 2 respectively. The exploration strategy and planning discussed focuses on delineating additional Indicated Resources to augment those in Tables 1 and 2.

Wonawinta Project Apr 2021 Resource Categories (> 20g/t Ag)								
Resource category	Material Type	Tonnes (Mt)	Ag (g/t)	Pb (%)	Ag Moz	Pb Kt		
Measured	OX	0.5	54.6	0.94	0.8	4.3		
	FR	0.6	42.0	0.52	0.8	3.2		
Indicated	OX	8.4	46.3	0.96	12.6	81.3		
	FR	3.9	43.8	0.55	5.5	21.4		
Subtotal M & I	Ox + Fr	13.4	45.7	0.82	19.7	110.2		
Inferred	OX	6.9	39.9	0.47	8.9	32.2		
	FR	18.0	38.6	0.36	22.4	64.7		
Subtotal Inf	Ox + Fr	24.9	39.1	0.39	31.3	96.9		
Total	Ox + Fr	38.3	41.3	0.54	51.0	207.1		

 Table 1: MKR Wonawinta Project Mineral Resources (as at Apr 2021)<sup>2</sup>

Table 2: MKR Mt Boppy Mineral Resources (as at May 2022)<sup>3</sup>

Mt Boppy Mineral Resources at 19 May 2022							
Resource	Category	Tonnes	Grade Au g/t	Contained Au Oz			
Current Open Pit (>1.6 g/t)	Measured	36,200	4.60	5,350			
	Indicated	16,100	3.60	1,900			
Subtotal	M & I	52,300	4.31	7,250			
Below current Pit (>3.0 g/t)	Measured	70,650	5.58	12,670			
	Indicated	141,900	5.00	22,800			
Subtotal	M & I	212,550	5.19	35,470			
	Inferred	17,000	3.90	2,100			
	Measured	106,850	5.25	18,020			
Sub Tatal	Indicated	158,000	4.85	24,700			
Sub Total	M & I	264,850	5.02	42,720			
	Inferred	17,000	3.90	2,100			
Grand Total		281,850	4.95	44,820			

The processing plant at Wonawinta operated during 2020-2023 treating Mt Boppy Mine opencut gold ore and more recently (since Q2 2022) Wonawinta ROM stockpiles of silver – lead bearing material. This material will be depleted during Q1 2023 and will provide valuable full scale operating data which will be utilised in developing mining schedules over the Wonawinta oxide resource.

The Company is not aware of any new information or data that materially affects the information included in Tables 1 and 2 above and all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

<sup>&</sup>lt;sup>2</sup> MKR ASX Announcement 1 April 2021

<sup>&</sup>lt;sup>3</sup> MKR ASX Announcement 29 July 2022

#### Manuka Resource Triangle

The resource triangle is a simple management tool to identify and apply appropriate exploration and evaluation work programmes to priority targets that ultimately deliver Indicated Resources to the mining team. Indicated Resources can then be modified through open-cut and/or underground mine viability studies to Probable Ore Reserves.

The Manuka Resource Triangle is shown in Figure 2. The exploration programmes and budget expenditure presented are in line with developing prioritised targets up the Resource Triangle to a point where the target is developed and turned to account by the mining team.



Figure 2: MKR Resource Triangle

#### **Key Work Programmes**

- evaluation of gold bearing surface rock dumps and tailings at Mt Boppy and McKinnons that have potential to be upgraded through screening (rock dumps) and possible gravity or dense media separation upgrading of tailings impoundments;
- drill conversion of existing silver and base metal Inferred Resources to Indicated Resources at Wonawinta (Manuka-Boundary-Belah-Bimble open-cuts and Boundary South prospect);
- evaluating the Mt Boppy gold mine depth extensions on the back of the 2020-22 Mining Associates modelling and designing deeper diamond drilling to test and establish incremental mineral resources;
- effecting geological modelling of the Pipeline Ridge base metal gold deposit, resampling and analysing available diamond core, and design of a drilling programme that enables completion of a Feasibility study level mine plan (open cut and or underground);
- effecting geological modelling of the McKinnons gold deposit and surrounds, and design of drilling programmes that enables completion of a pre-Feasibility study level mine plan (open cut and or underground); and
- systematic geological evaluation of other Exploration Targets with geochemical, geological, drilling, and geophysical targets.

Table 3 shows targeted incremental Indicated Resources for silver, gold and base metals that would be expected from the proposed phased exploration.

Table 3: MKR Summary Ranges of Additional Indicated Resources Targeted for Silver, Gold, and BaseMetals

Commodity Exploration Targets									
	Tonnes	grade	Insitu	grade	Insitu				
	(millions)	(g/t)	(Koz)	(g/t)	(Koz)	%	%	%	
		Silver							
Lower Limit	17	40	22,288						
Upper Limit	22	50	35,683						
	Gold								
Lower Limit	3	2.5	249						
Upper Limit	4	3.8	527						
		Poly Metallic							
		Ag		Au		Cu	Zn	Pb	
Lower Limit	8	40	5	2.5	643	1 7	2.2	2.8	
Upper Limit	17	50	10	3.0	1,640	1.7	2.2	2.8	

The table of Exploration Targets is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Additional Mineral Resources targeted for silver total between 22 and 35 Moz Ag at a grade of 40 to 50 g/t Ag, whilst additional Mineral Resources targeted for gold total between 249 and 527 Koz Au at grades between 2.5 and 3.8 g/t Au. Base metal deposits range between 8 and 17Mt with variable Cu-Zn-Pb-Ag contents and variable gold credits.

#### **Towards a Growth Strategy**

A high level Manuka strategic plan has been developed, and key elements in the short term (2023-2024) are focussed on generating and sustaining cashflow:

- Q1 2023 evaluation of gold-in-fines screening upgrades of ROM and waste rock dumps at Mt Boppy and McKinnons mine sites, and recommencement of mining at Mt Boppy thereafter if economically viable;
- Q1 2023 application for MLs on McKinnons and Boundary South prospects;
- H1 2023 evaluation of upgrading gold tailings dam depositories at Mt Boppy and McKinnons through gravity concentration; scheduling feasibility test work if the application is viable;
- H1 2023 Optimising the plant flow process to treat up to 130tph oxide silver ore (~1.1Mt/annum);
- H2 2023 initiating and sustaining opencut mining of silver lead mineral resources at Wonawinta, and
- 2023 2024 conducting systematic exploration on other prioritised gold and base metal targets that have potential to yield open cut and underground resources to augment mine gold and silver production.

#### Schedule of Work

Exploration activities are initially prioritised to delineate surface mineable and open-cut deposits that can be processed at the Wonawinta metallurgical facility. Deeper underground targets are currently lower priority.

There will be a focus throughout on reviewing and revising geological models and maps, with an

Manuka Resources Limited - Level 4 Grafton Bond Building, 201 Kent St Sydney NSW Australia 2000ABN 80 611 963 225tel +612 7253 2020www.manukaresources.com.au

emphasis on structural controls to mineralisation.

#### Key targets

- 1 Proof of concept bulk sampling and screening for evaluation of up-grading Mt Boppy and McKinnons gold resources in ROM pad, low grade stockpiles and waste dump material into a -8mm or there abouts size fraction;
- 2 Metallurgical test work to evaluate application of gravity concentration to existing gold tailings dam material at Mt Boppy and McKinnons;
- 3 Phased geological modelling and drilling of the Pipeline Ridge and Goldwing polymetallic (Au-Cu-Zn +/- Pb) deposits;
- 4 Phased geological modelling and drilling of the McKinnons gold deposit at depth as well as surrounding gold (+ base metal) geochemical and geophysical anomalies;
- 5 Deep drill testing of gold mineralisation at Mt Boppy Mine;
- 6 Phased geological modelling and drilling of the Hardwicks gold deposit;
- 7 Phased drilling programmes converting Inferred silver Mineral Resources at Wonawinta North and Boundary South to Indicated Mineral Resources; and
- 8 Ongoing phased geological modelling and drilling of other gold, silver and base metal prospects such as Gunderoo, De Nardi and Boppy South-Birthday.

#### **Exploration Target Outcomes Over Two Years**

The planned exploration program prioritises the evaluation and turning to account near surface silver, gold and base metal targets with existing Mineral Resources or advanced stage exploration data.

The exploration programme is firstly designed to upgrade silver Inferred Resources and near mine geological targets at Wonawinta Mine. These resources will add flexibility to the future mine development plan.

The evaluation programme will also include low-cost evaluation and potential screen upgrading of Mt Boppy and McKinnons gold bearing ROM pad, low grade stockpiles and waste dump material. The initial quantum is estimated to be in the order of 193 to 262Kt of sized material containing between 7 and 13 Koz Au.

Geological modelling of the deeper potential at Mt Boppy mine will enable targeting a further 77 to 124Koz Au<sup>2</sup> Indicated Resources that would be amenable to underground development beneath the current opencut, that still has approximately 44Koz Au resources within the open cut design (Table 2).

Geological modelling on the Pipeline Ridge, McKinnons, Hardwicks and Boppy South - Birthday targets will provide accuracy for drill evaluation for the potential to develop a number of small opencut operations that may yield in the order of 146 to 324 Koz Au.

Pipeline Ridge is a polymetallic Au-Cu-Zn-Pb volcanic hosted deposit that historically has been only partly evaluated.

The exploration planning also provides a basis to develop and improve the synthesis of existing exploration data to better understand mineralisation controls on the MKR tenements. It is noted that Cobar-style deposits are an outcome of at least two separate metallogenic epochs linked to the geotectonic evolution of the region - early rifting and then transpressive closure of basins and eventual accretion of the various volcano-sedimentary terrains. Deposits tend to be poddy and with maximum dimensions over 500 to 1,000m in a subvertical direction. Surface exposures of mineralisation are often limited, are of no strike extent, or else don't exist and the orebody targets are often blind structural targets.

The challenge is to delineate the "plumbing" systems of the Manuka tenement mineralisation. On a subregional scale the delineation of fluid-focussing structures is seen as a key factor in the localisation of polymetallic mineral deposition. Recognition of blind, deep long-lived crustal structures that emerged from early crustal extension and commonly mark terrane boundaries, and then have been subsequently deformed with later accretion and transpression are prime targets.

This mineral exploration will require a careful compilation and synthesis of existing geophysical and geological data, leading to a revised structural model. There is potential recognition of alteration patterns associated with structurally controlled mineral deposits as an empirical sign of fluid-wall rock interface and potential proximity to base metal gold and silver mineralisation. Studies on alteration patterns utilising, for example, principal component analysis on ASTER satellite imagery, coupled with ground XRF multielement soil and rock geochemical analyses that could assist in delineating and targeting potentially mineralised structures.



Figure 3: MKR Exploration Targets and Mineral Tenements

**Mr Phil Bentley** is the principal author and Competent Person taking responsibility for this report. Mr Bentley is the Chief Geologist for Manuka Resources Ltd. He has over 35 years' experience in the minerals industry working in open pit and underground mines and exploration roles. Mr Bentley has an MSc Geology from Victoria University of Wellington (NZ) and a MSc (Mineral Exploration) Rhodes University (RSA). Mr Bentley is a Fellow of the Geological Society of South Africa, registered with the South African Council for Natural Science Professions, and the Australian Institute of Geoscientists (Membership in progress). Mr Bentley has the relevant qualifications and experience to be considered a Competent Person as defined in the JORC Code (2012).

#### This announcement has been approved for release by the Board of Manuka Resources Limited.

For further information, contact: Dennis Karp Executive Chairman Manuka Resources Limited 0412 268 114

Media Contact Angela East M+C Partners 0428 432 025

#### Important Information

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