

13 October 2022

## ASX RELEASE

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### Important results from Onedin metallurgy testwork program

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**AuKing Mining Limited (ASX:AKN)** has reported outstanding copper recoveries up to 90% from its metallurgical testwork at the Onedin deposit at its Koongie Park Project in Western Australia's Halls Creek region.

Further to initial results reported in May<sup>1</sup>, these latest results follow the completion of a further stage of testwork at Onedin. Important findings about recoveries on the near-surface oxide ores include the following:

- Excellent copper (Cu) recoveries (> 90%) from certain ores utilising ammonia leaching;
- Cu and zinc (Zn) recoveries are not generally affected by particle size;
- In zones of greater iron (Fe) concentration, Cu recoveries improve over time;
- Higher-grade Zn zones are amenable to ammonia leaching, whereas in the lower-grade Zn zones the mineral is observed to be locked in the weathered Fe lattice and more difficult to recover; and
- Heap leaching appears to be the most likely metallurgical recovery process for these Onedin materials.

AuKing Chief Executive Officer, Mr Paul Williams, described the latest results as “very significant and highly encouraging”.

“Earlier in the year, when we identified this heavy level of iron concentration especially in the mineralised oxide zone at Onedin, the ability to achieve economic-scale recoveries appeared challenging,” Mr Williams said.

“However, this latest program appears to provide AuKing with a sound basis to move into the more substantial testwork activities with a pretty clear processing pathway in mind. Of course, there still needs to be more detailed assessment of the treatment solutions across the entire Onedin deposit, but we are now well-placed to proceed with that work. As noted previously, the ability to establish a processing solution for Onedin can be an important contributor to the overall Koongie Park development strategy.”

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<sup>1</sup> Refer ASX release dated 10 May 2022 Onedin Metallurgical Testwork Program Update



### Introduction

On 10 May 2022, AuKing reported its most recent update as to progress with the metallurgical testwork program at Onedin<sup>1</sup>. In that update it was observed that in the heavily weathered near-surface material (from depths of approx. 0 to 85m) a significant amount of the Cu, Zn and other mineralisation appeared to be dominated by the existence of Fe oxide/hydroxide material and that traditional leaching techniques showed low recovery rates on these materials.

As a result, AuKing developed a further set of initial tests designed to achieve better recoveries from these weathered oxide areas of the Onedin deposit. The tests were conducted on seven different samples taken from the Onedin diamond drilling core samples and a series of different processes were applied to those samples including:

- Both acid and ammonia leaching
- Different processing reagents;
- A range of sample grain sizes; and
- 24 and 48 hour testing periods.

The overall purpose of these further tests was to narrow the scope of AuKing’s proposed major testwork program to be implemented shortly. Due to laboratory availability, the conduct of the program has taken several additional weeks to be completed but preliminary results have now been received and analysed. The key initial findings from this latest program are summarised below.

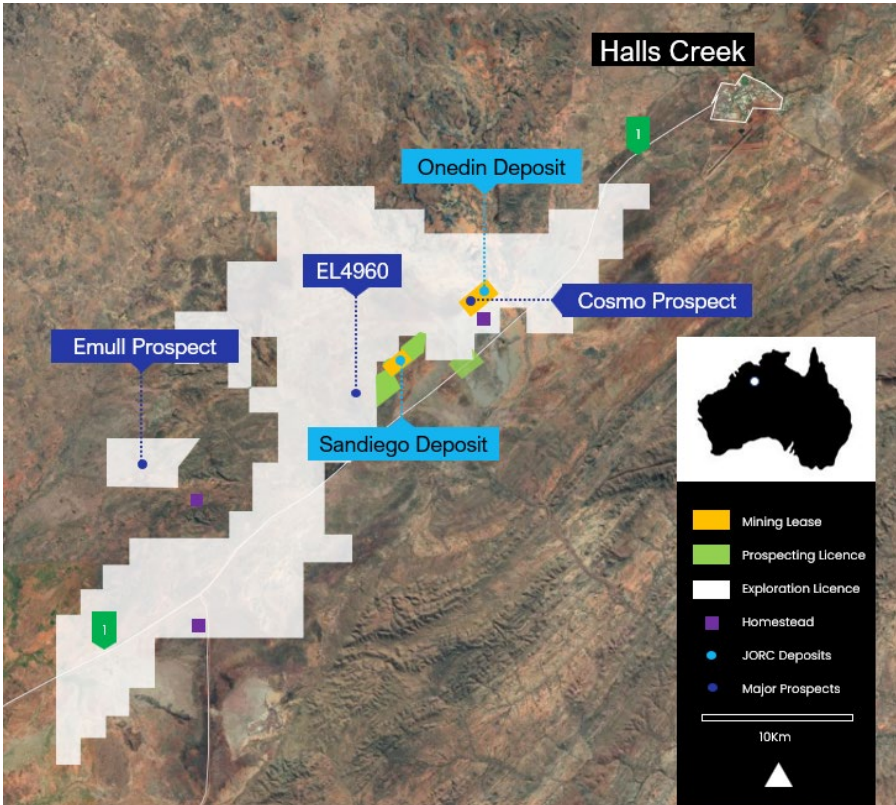


Figure 1. Koongie Park project location featuring key deposits and prospects.



### Near-surface oxides test results

As noted, a focus of the latest round of testing has been on the near-surface oxide materials at Onedin that appear to be dominated by the existence of Fe oxide/hydroxide material due to the heavy weathering profile of this mineralized zone. A summary of the key results that AuKing has identified from the latest testwork (utilizing the ammonia leaching process) are as follows:

- Excellent Cu recoveries (>90%) have been seen in some of the oxide samples;
- Cu and Zn recoveries have not been affected in some samples by the size fraction of the material tested – in other words, the coarser grain sized material generally saw a similar Cu and Zn rate of recovery compared to the finer, ground material;
- In some of the lower grade Cu samples, there appears to be a more optimal size fraction from a recovery perspective;
- The Cu recoveries appear to increase significantly over time – comparing 24 vs 48 hour testing. This leaves open the possibility that optimal Cu recoveries are possible over longer processing times; and
- Zn recoveries are generally not as high as the observed Cu recoveries, due mainly to the likelihood that the Zn is mostly trapped within the weathered Fe oxide/hydroxide material. However, in terms of the observations around size fractions and processing times, it appears possible that higher Zn recoveries can still be achieved.

The current testing program has also identified heap leaching as the most likely form of metallurgical processing at least for the Onedin oxide material. In that context, as the testwork observed significant silica gel formation after treatment by acid leaching agents, the prospect of utilizing acid in a final processing solution has now almost been entirely discounted.

### Other Program Findings

In the course of conducting this latest testwork program, AuKing identified certain other findings including the following:

- The test results were not consistent across the mineralized oxide and transition zones at Onedin. A key intended outcome of the future detailed testwork program will be to create a metallurgical solution that has more consistent results; and
- In the transition ore zone at Onedin there appears to be very high carbonate content – while the occurrence of carbonates was always predicted, some attention will be required with future testwork that addresses the optimal recovery processes for material that is heavily dominated by carbonates.

**This announcement has been authorised by Paul Williams, CEO, AuKing Mining Limited.**



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**About AuKing Mining**

AuKing Mining's (ASX:AKN) flagship Koongie Park Copper Zinc Project in Western Australia's Halls Creek Region hosts a JORC resource and is neighbored by several significant mining and development operations including Nicholson's Gold Mine, Panton PGM Project, and Savannah Nickel Mine. AuKing has secured an 80% ownership of the Koongie Park Project, acquiring this interest under the terms of the Joint Venture with Astral Resources (ASX:AAR). Prior to that, Astral held full ownership of the project since 2003. The tenure holding comprises an area of more than 500km<sup>2</sup> covering over 40km of the base metals prospective Koongie Park Formation. Koongie Park has already been the subject of significant exploration drilling and analysis since the 1970's, often in line with movements in commodity prices. Since its discovery Koongie Park has been the subject of over 300 RC and diamond drill holes consisting of more than 60,000m of drilling in total. The predominant focus of drilling has been at the Sandiego and Onedin deposits, the latter of which offers the potential to establish an open-pit mine.

For further information  
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