



# Positioned for Growth & Success

Copper-gold exploration in the world-class  
Mt Isa district, North Queensland

Dan Thomas, Managing Director

Mines and Money at IMARC

2-4 November 2022

**ASX: HMX**



# Disclaimer and Competent Persons Statement

The announcement of this presentation on the ASX platform has been authorized by Daniel Thomas, Managing Director, Hammer Metals Limited

## Disclaimer

This presentation by its nature contains summarised information. See Hammer's other periodic and continuous disclosure announcements lodged with the Australian Securities Exchange, which are available at [www.asx.com.au](http://www.asx.com.au) for more information.

Within this presentation there may be certain forward- looking statements, opinions and estimates. These are based on assumptions and contingencies which are subject to change without notice and are not guarantees of future performance. Hammer assumes no obligation to update such information. Recipients of this document are cautioned to not place undue reliance on such forward-looking statements.

To the extent permitted by law, Hammer and its officers, employees, related bodies corporate and agents disclaim all liability, direct, indirect or consequential for any loss or damage suffered by a recipient or other persons arising out of, or in connection with, any use or reliance on this presentation or information.

## Competent Persons Statements

Certain exploration drilling results relating to the Mount Isa Project were first disclosed under JORC code 2004 and have not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed.

## Resource Estimates

Where the Company refers to Mineral Resource Estimates for the following projects:

- the Kalman Deposit (refer ASX 27 Sept 2016);
- the Overlander North and South Deposit (refer ASX 26 Aug 2015); and
- the Jubilee Deposit (refer ASX 21 December 2018).

It confirms that it is not aware of any new information or data that materially affects the information included in those announcements and all material assumptions and technical parameters underpinning the resource estimates with those announcements continue to apply and have not materially changed.

The Minerals Resource Estimates shown for Mt Philp and Elaine were prepared and disclosed by previous owners refer to attached Mineral Resource Estimate Appendices

The information in this presentation that relates to Exploration Results or Mineral Resources is based on information compiled by Mark Whittle who is a fellow of the Australian Institute of Mining and Metallurgy and an employee of Hammer Metals Limited. Mr Whittle has sufficient experience which is relevant to the style of mineralisation under consideration 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" (The JORC Code). Mr Whittle consents to the inclusion in the presentation of the matters based on their information in the form and context in which it appears.

Mr Whittle has an interest in Hammer Metals Limited shares and options.

The information in this report that relates to previous exploration results was prepared and first disclosed under a pre-2012 edition of the JORC code.

The data has been compiled and validated. It is the opinion of Hammer Metals that the exploration data is reliable. Nothing has come to the attention of Hammer Metals that causes it to question the accuracy or reliability of the historic exploration results.

In the case of the pre-2012 JORC Code exploration results, they have not been updated to comply with 2012 JORC Code on the basis that the information has not materially changed since it was last reported.



# Exploring two of the world's great metal provinces

1

Quality copper and gold exploration portfolio

4

Team that has made world class mineral discoveries

2

Building copper inventory:  
>400kt of copper equivalent JORC Resources

5

Dominant position in Mt Isa – one of Australia's most prospective copper provinces (~2,600sqkm)

3

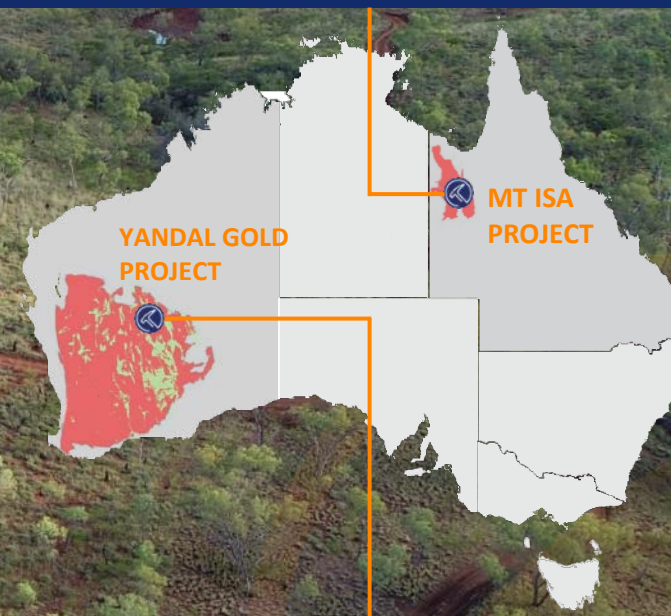
Recent copper discoveries in Mount Isa

6

Fully funded for upcoming exploration programs

## MOUNT ISA PROVINCE

One of the world's largest base metals provinces



## YANDAL GOLD PROVINCE

24Moz of gold produced



# Corporate Snapshot | ASX:HMX

## Board and management with a track record of success

### Russell Davis

Chairman

BSc (Hons) MBA, MAusIMM, AICD

+30 years resources experience

Geologist with exploration and development experience

Founding Director and NED of Gold Road Resources

### Daniel Thomas

Managing Director

BSc, MBA

+20 years business development experience

Industrial Chemist with corporate development experience

Previously Business Development Manager Sandfire Resources

### Ziggy Lubieniecki

Non-Executive Director

BSc, MAIG

+30 years resources experience

Geologist with exploration and mine management experience

Credited with the discovery of Gruyere Gold Deposit (+6.5Moz)

AMEC Prospector of the Year 2015

### David Church

Non-Executive Director

B.Comm, MA, CA

+20 years experience in Mergers and Acquisitions

Lawyer with international experience in corporate transactions

Consultant providing general counsel and M&A services to

Regent Pacific Group

### Mark Whittle

Chief Operating Officer

BSc (Hons), MSc, FAusIMM

+30 years resources experience

Geologist with 10 years experience in the Mount Isa Region

Previously Exploration Manager of Syndicated Metals

### Mark Pitts

Company Secretary

B.Bus, FCA, GAICD

+30 years corporate experience

Accountant with commercial, corporate finance and public practice experience in Australia and overseas.

Partner in corporate advisory firm, Endeavour Corporate

[www.hammermetals.com.au](http://www.hammermetals.com.au)

**820M**

Shares on issue

ASX: HMX

**\$52M**

Market Cap

At \$0.064 (1 Nov 2022)

**\$3.6M**

Cash

As at 30 September 2022

**\$48M**

Enterprise Value

**21 M**

Unlisted Options

Av. Ex Price \$0.047; brings in additional \$1m

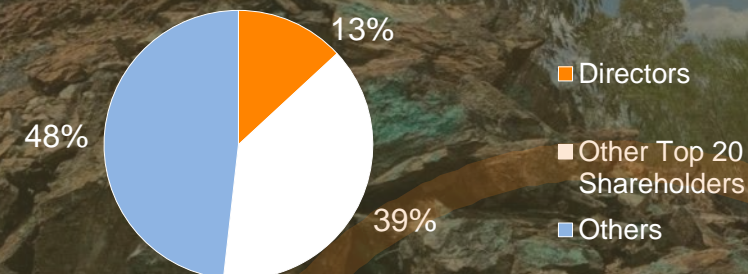
**8M Perf. Rights**

**Nil**

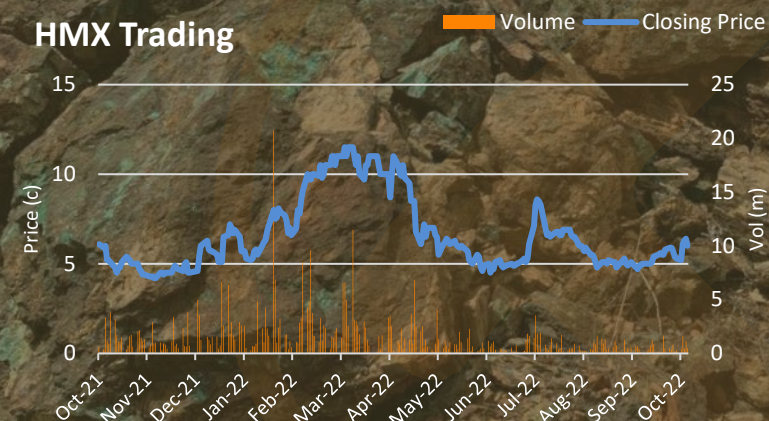
Debt

As at 30 September 2022

## CAPITAL BREAKDOWN



## HMX Trading





# Mt Isa Projects

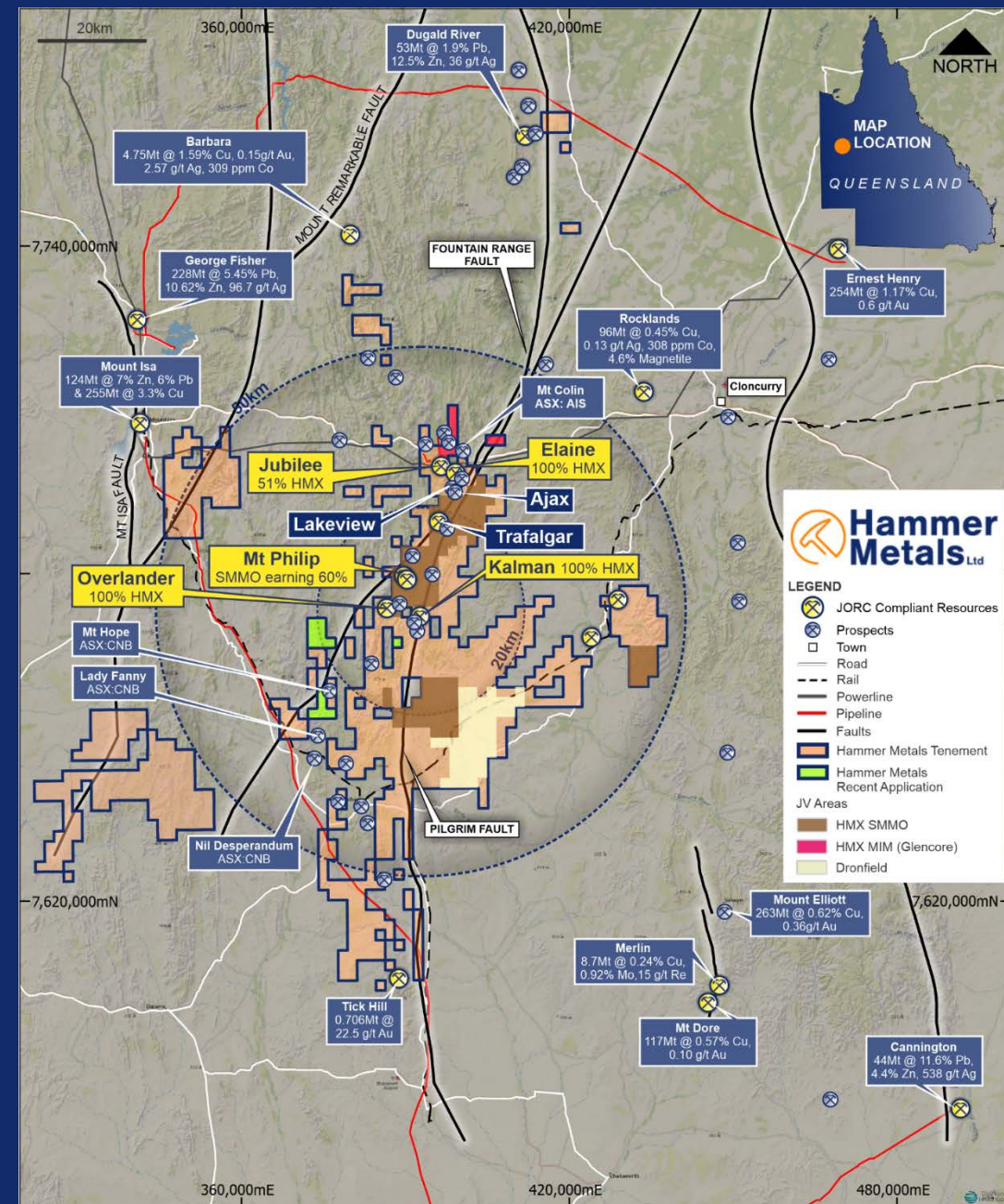
## Queensland

**Hammer is committed to increasing its inventory of  
>400,000 tonnes of copper equivalent metal\***

- Dual-track strategy to become a copper developer:
  - Discover **additional copper and gold inventory** near existing JORC Resources.
  - Explore standalone large-scale **Iron Oxide Copper Gold (IOCG)** systems.
- **Recent extensions to Kalman deposit plus multiple Cu-Au intersections at Ajax, Lakeview, Neptune and Trafalgar (Mt Isa East JV).**
- Joint Venture with major copper producer, Sumitomo Metal Mining (“SMM”) over ~290km<sup>2</sup> area (\$6m expenditure to earn 60%).
- Dominant land holding (~2,600sqkm) in one of Australia’s most exciting copper explorations provinces.

Deposit	Tonnes Mt	CuEq %	Cu %	Au g/t	Co %	Mo %	Re g/t	Fe %	Comment
Kalman	20.0	1.80	0.61	0.34	-	0.14	3.7	-	0.75% Cu Eq cut-off
Jubilee (51% HMX)	1.4	-	1.41	0.62	-	-	-	-	0.5% Cu cut-off
Elaine	9.3	0.95	0.82	0.19	-	-	-	-	0.7% Cu Eq cut-off
Overlander	1.8	-	1.20	-	0.05	-	-	-	0.7% Cu cut-off
Mount Philp	30.5	-	-	-	-	-	-	39	

**\* (JORC 2012 Compliant Resource)**

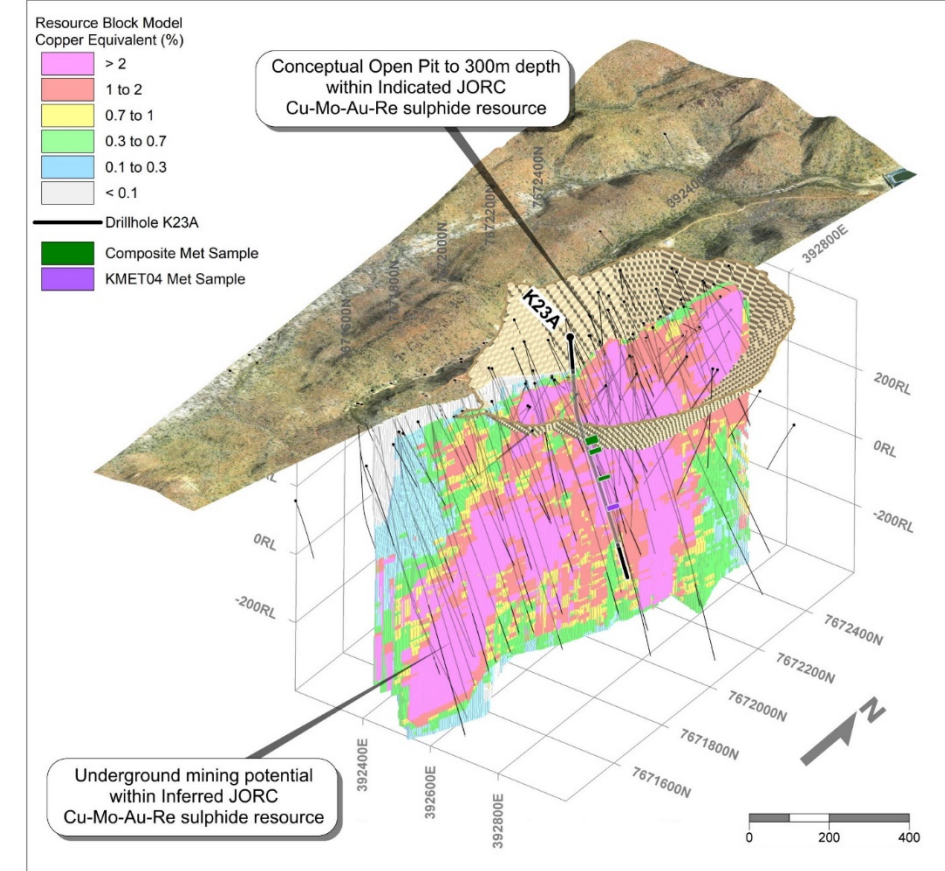


Highly prospective ~2,600km<sup>2</sup> tenement holding

# Kalman – Our cornerstone asset – 100% HMX

## 100% HMX - 360kt of Copper Equivalent Metal

- In ground value of JORC resources based on current metal prices in excess of A\$6 billion.
- Indicated and Inferred Mineral Resource Estimate of 20Mt @ 0.61% Cu, 0.34g/t Au, 0.14% Mo, 3.7g/t Re.
- Recent exploration results highlight potential to increase the JORC resource.
- Asset's economics have dramatically changed with the recent commodity price increases – requires re-examination of potential development options at Kalman.
- Broad mineralised system includes a rich manganese ridge to the east and a broad lead zinc gold anomaly to the west – lightly explored in the project surrounds.
- IP survey recently completed with future upcoming drilling to further test for further shallow northern extensions of the deposit.
- Kalman is the world's 3<sup>rd</sup> highest grade undeveloped Molybdenum deposit\*.



## High Grade Copper/Gold at depth – underexplored and remains open at depth

K106A:

- 7.6m at **23.4% Cu**, 0.5g/t Au & 20g/t Ag from 581.65m; and
- 77m at **1.4% Cu** & 1.3g/t Au from 700m

K106C:

- 53m at **2.1% Cu** and .52g/t Au including 25m at **3.8% Cu** & 0.94g/t Au from 712m

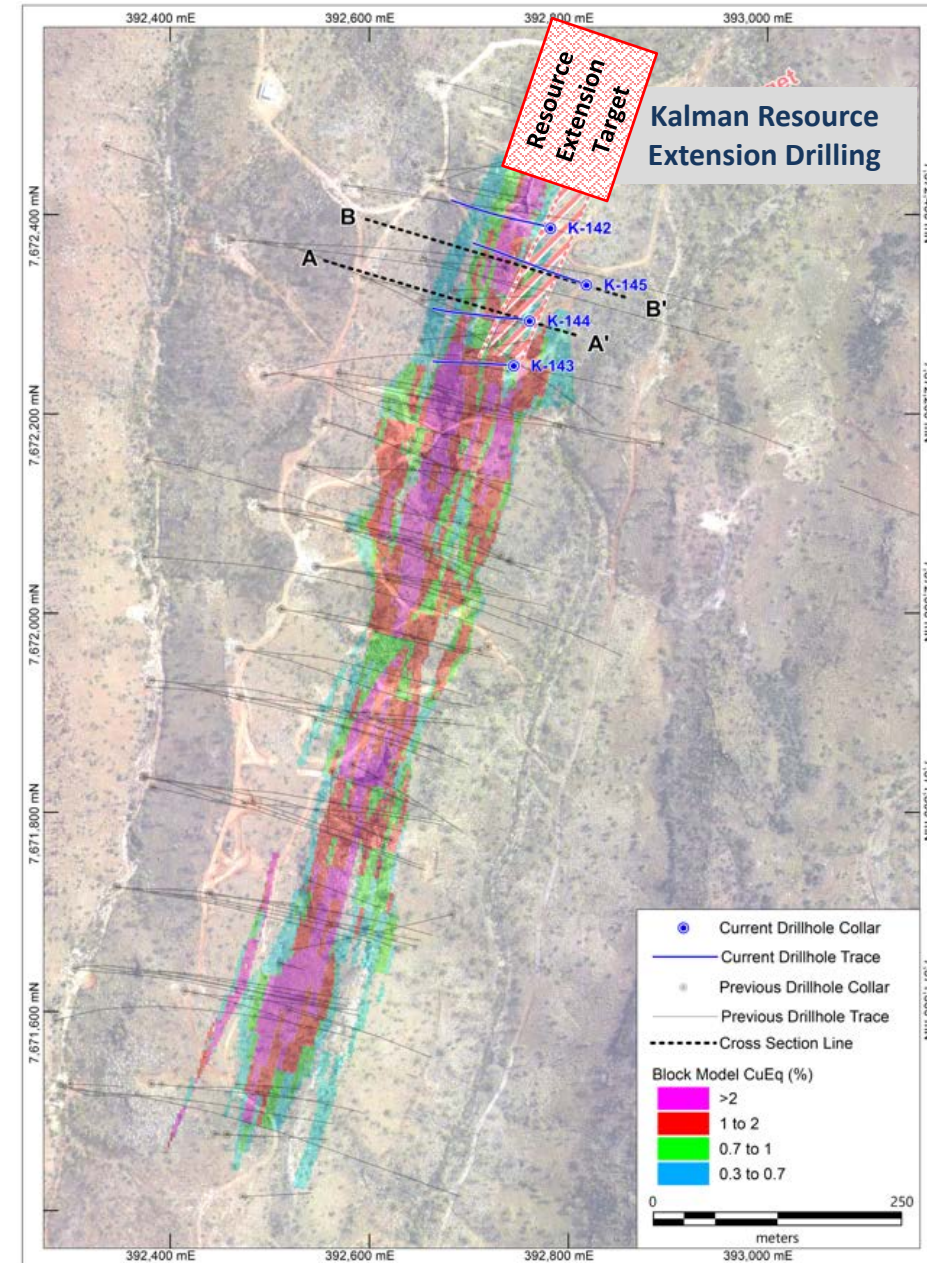
\*Refer ASX Announcement 27 September 2016



# Kalman Cu/Au/Mo/Re Deposit

## New drilling has intercepted shallow Cu/Au/Mo/Re mineralisation to the north of the existing JORC Resource at Kalman

- **50m\* at 0.63% Cu, 0.01% Mo, 0.49g/t Au, 0.53g/t Ag, and 0.08g/t Re (0.79% CuEq†) from 20m in K-144, including:**
  - **16m\* at 1.38% Cu, 0.01% Mo, 0.84g/t Au, 0.62g/t Ag, and 0.04g/t Re (1.59% CuEq†) from 43m.**
- **64m\* at 0.23% Cu, 0.12% Mo, 0.10g/t Au, 2.97g/t Ag, and 2.64g/t Re (0.75% CuEq†) from 67m in K-143.**
- **22m\* at 0.82% Cu, 0.03% Mo, 0.37g/t Au, 0.80g/t Ag, and 0.63g/t Re (1.0% CuEq†) from 99m in K-145.**
- **Additional zones identified to further add to the existing JORC Resource.**
- **Remains open along strike to the north and in a high grade zone at depth to the south.**
- **Copper (US\$7,500/tonne) and molybdenum (US\$45,000/tonne) prices present an opportunity to further assess:**
  - potential opportunities related to ore sorting and metallurgical recoveries; and
  - potential mining scenario prices and costs.



\* True thicknesses are interpreted to be approximately 55-75% of the down-hole thicknesses.

† "Recovered Copper Equivalent" – includes metallurgical recovery factors for each metal. Refer to the detailed explanation of the assumptions and price underpinning the copper equivalent calculations at the end of this document.



# Kalman Ore Sorting and Studies

## Encouraging ore sorting test work indicates Kalman ore amenable to upgrade

- Trial test work using a Kalman deposit bulk sample has shown that ~80% of ore can be recovered with a ~40-45% reduction in mass processed. Specifically:
  - **Copper Grade increase of 28%** (0.71% to 0.91% Cu) with a mass reduction of 35% and recovery of 83.4%;
  - **Gold grade increase of 39%** (0.23g/t to 0.32g/t Au) with a mass reduction of 35% and recovery of 90.7%; and
  - **Molybdenum grade increase of 103%** (0.33% to 0.67% Mo) with a **mass reduction of 61.8%** and a recovery of 76.6%\*.
- Further test work is planned on a bulk sample to better refine these results.
- **Upcoming drilling program at Kalman has been designed to test for northern shallow extensions of the orebody.**
- Opportunity to optimise cut off grades and update resource model at Kalman.

\* As Rhenium is hosted within Mo the sample recovery and mass reduction will be similar to Mo.

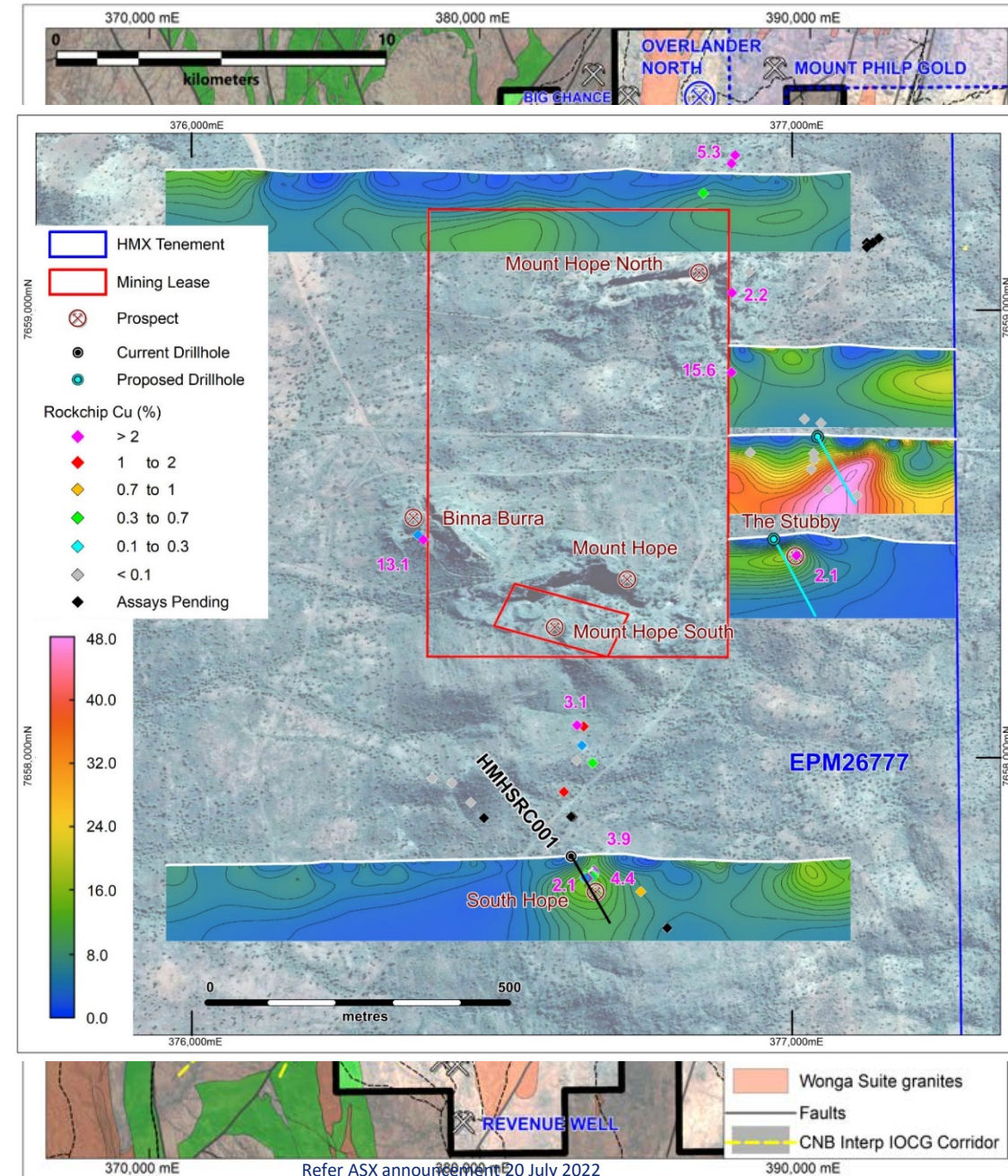




# Mount Hope Region

## Two strong open Induced Polarisation (IP) anomalies

- Hammer's tenure on the Mount Hope trend extends over an area approximately 7km long by 1.7km wide and encompasses the former workings at Mount Hope South and South Hope.
- Rock chip sampling has returned assays of up to 6.2% copper and 0.2% molybdenum.
- South Hope prospect was upgraded, with detailed field mapping identifying suitable drilling targets to be included in current campaign.
- **Face sampling within South Hope pit returned an average grade of 1.7% Cu over 20.3 metres.**
- Hammer is considering further IP surveys at its Mount Hope prospects.



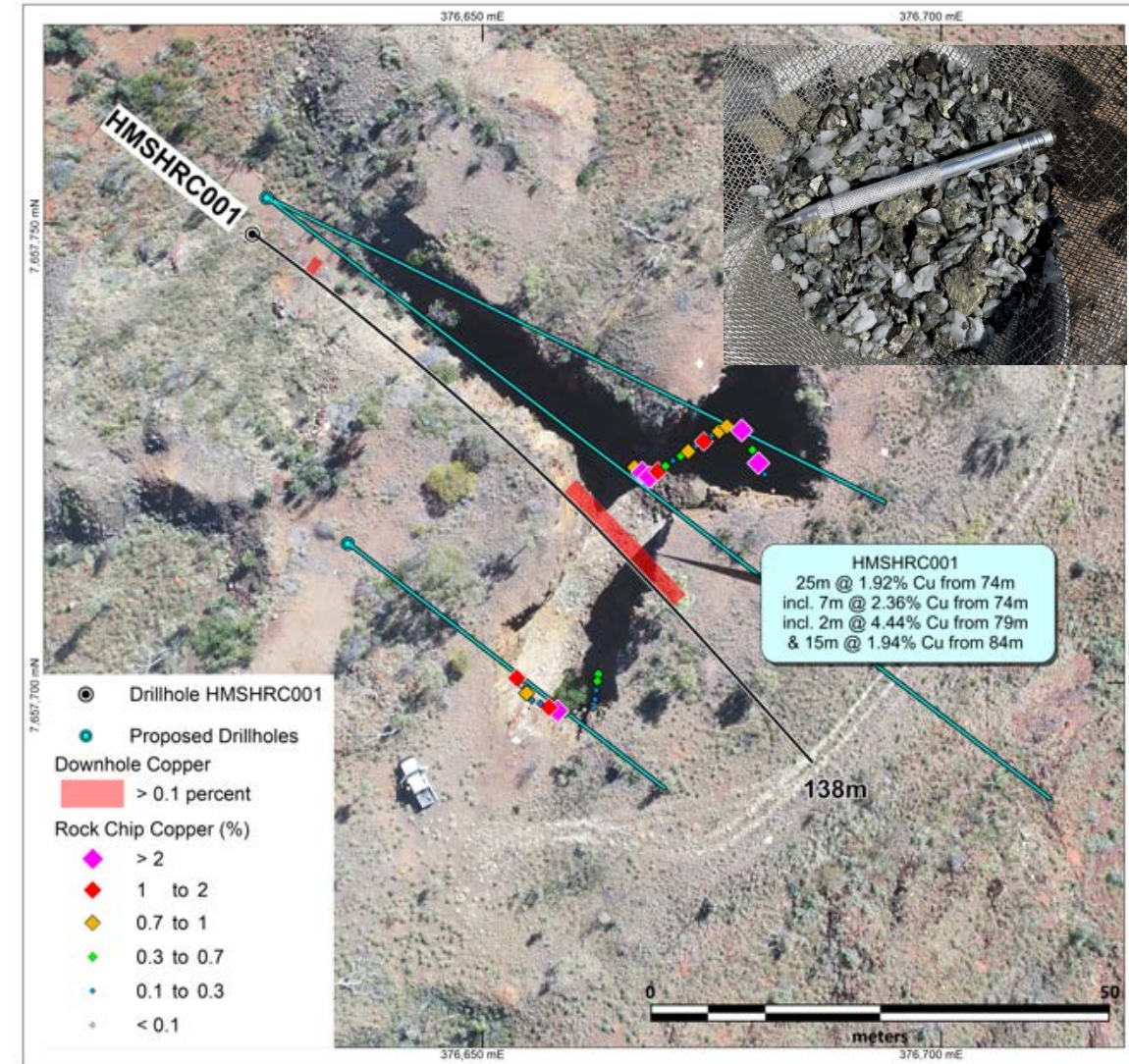
\* Refer ASX Announcement 31 August 2022



# South Hope

## 25 metres at 1.92% Copper intersected in initial drilling at South Hope from 79m in HMHSRC001\*

- Broad zone of copper-bearing sulphides intersected in initial Reverse Circulation (RC) drilling at the South Hope prospect.
- Routine initial analysis by portable XRF has been completed on-site prior to the samples being submitted to the laboratory for definitive analysis. **Samples have been submitted to the laboratory for confirmatory analysis.**
- The hole was cased with PVC to enable the completion of a Down-hole Electromagnetic (“DHEM”) survey in the near future.
- Drilling of follow up holes at South Hope in progress.
- Drill targets still to be tested in the Mount Hope corridor include The Stubby and a significant IP anomaly recorded adjacent to Mount Hope North (ASX announcement 31 August 2022).



\*ASX 25 October 2022 These portable XRF results should be considered preliminary, and they will be subject to confirmation by subsequent laboratory analyses. The lab analyses may vary from those obtained by portable XRF.

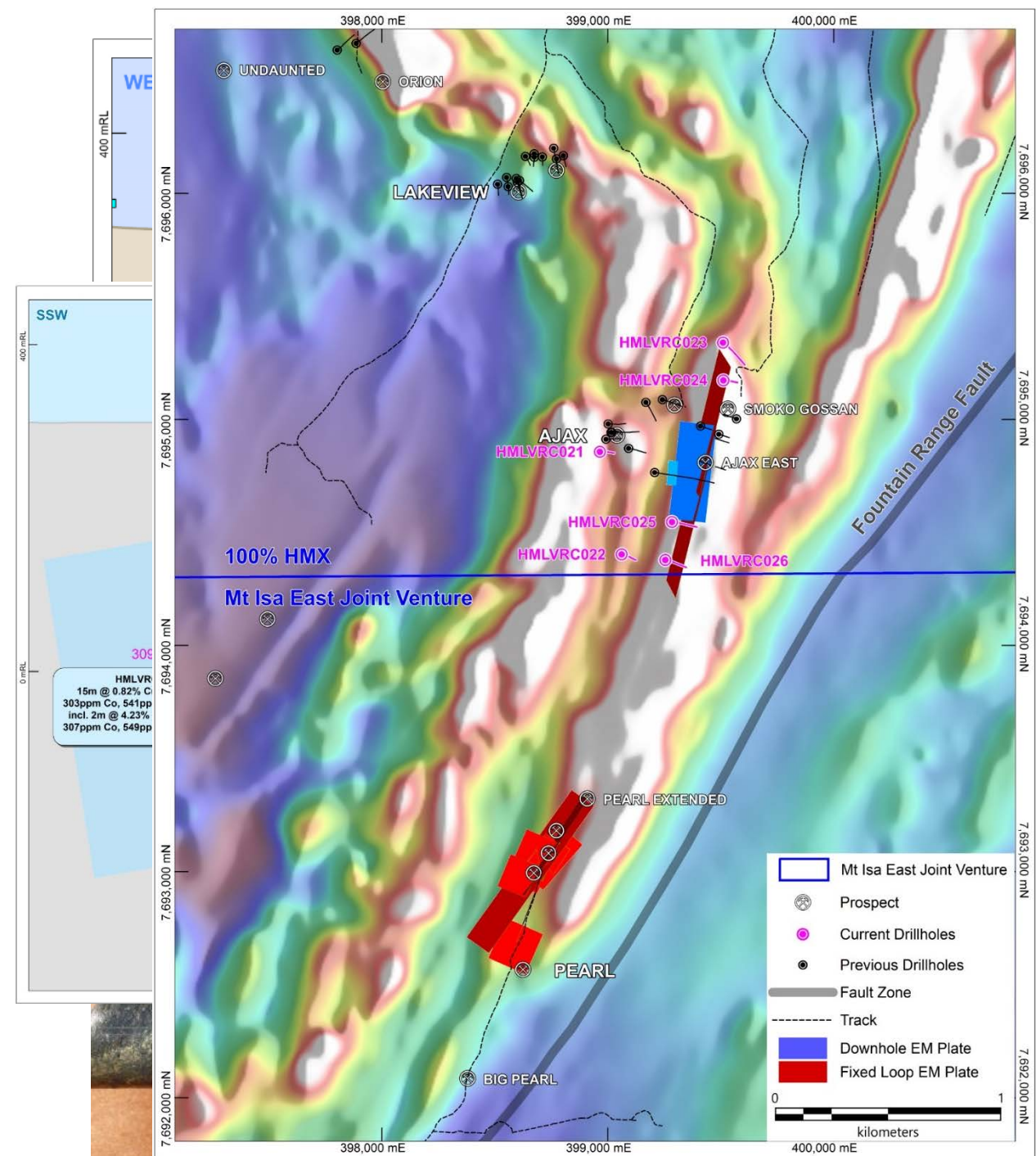
True thicknesses cannot be ascertained as this is the first drillhole into the South Hope Prospect



# Ajax – High Grade Cu-Au

## Significant prospective sulphide horizon identified with high grade copper intercepts

- **Situated along the highly-prospective Trafalgar-to-Elaine trend (13km), with numerous Cu/Au prospects.** Best drilling at Ajax returned an intercept of:
  - **11m at 5% Cu and 2.5g/t Au** from 24m in HMLVRC014, within **16m at 3.5% Cu and 1.8g/t Au** from 22m.
- **Conductive corridor defined for >2km with the zone potentially continuing through the Pearl prospect in MIE JV.**
- All follow up holes have continued to intersect copper mineralisation. Most recent drilling results:
  - **2m at 4.23% Cu and 0.23g/t Au** from 138m within a broader envelope of 15m at 0.82% Cu from 129m in HMLVRC025
  - 1m at 2.58% Cu from 78m within a broader envelope of 10m at 0.49% Cu from 71m in HMLVRC023;
  - **4m at 2.4% Cu and 0.41g/t Au from 27m** within a broader zone of **48m @ 0.43% Cu and 0.12g/t Au from 10m** in HMLVRC021.
- Further geological understanding driving additional holes to be added at the conclusion of our current drilling program.

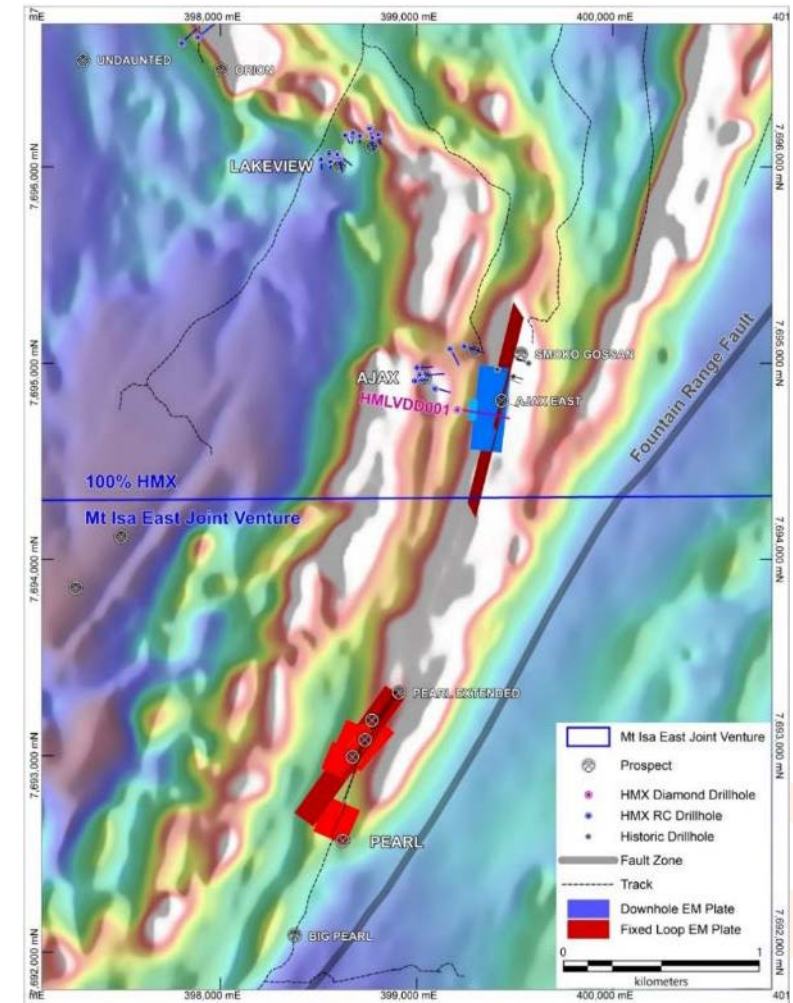




# Mount Isa East Joint Venture (MIE JV)

## Sumitomo Metal Mining is earning a 60% interest in the JV areas

- Collaborative approach – generating high potential targets.
- JV has focused on exploring targets along the Trafalgar trend.
- 16 holes drilled along Trafalgar trend with all intersecting copper and gold mineralisation.
- Results awaited from diamond drilling at Mount Philp and Trafalgar.
- Upcoming RC drilling program likely to focus on targets at Pearl and along Trafalgar trend .



- Hammer's success and identification of sulphide system at Ajax East was applied to the JV's prospects at Pearl.
- EM anomalies identified beneath surface copper workings at Pearl. Anomalies likely to represent the same sulphide horizons identified at Ajax East.
- Joint Venture is in the fourth earn-in year with a minimum expenditure commitment of \$1.5m.



# MIE JV – Pearl Prospect

**Pearl prospect is located on the Trafalgar-to-Jubilee trend, approximately 2km south of Ajax East and on the same magnetic ridge which typifies this trend.**

- **Numerous artisanal copper workings and shafts on five structures located along 800m of strike length.**
- Fixed-Loop EM surveys have identified a significant cluster of conductors at Pearl, with the individual conductors aligning to surface geology observations.
- **Experience at Ajax gives Hammer encouragement to suggest that the Pearl conductor cluster is reflecting sulphide zones at depth.**
- Geological mapping over the area is complete and soil sampling is underway as part of a broader survey over the Trafalgar trend.
- Drilling recently completed at Pearl with results expected during November.





# Upcoming Activities

## What's next?

### Multiple exploration programs progressing across Hammer's 100%-owned and JV interests

#### Hammer's 100%-owned Mount Isa activities

- RC Drilling – South Hope, Mount Hope IP, The Stubby, Mascotte, Mascotte Junction, Lord Nelson and Kalman
- Lakeview JORC resource.
- Hardway REE prospect – historical unsampled core assays.
- Large Scale IOCG Target Reviews – Bullrush, VTEM anomalies.
- Further mapping and soil surveys at emerging targets at Yellowstone, Anna Maria, Hardway and others.

#### Sumitomo Metal Mining Joint Venture

- RC drilling results from Pearl, The Springs and Trafalgar.
- Soil survey results from Pearl, Trafalgar and Agamenon.
- Mapping and soil surveys at Secret, Shakespeare and Thunderer.
- New targets defined for field review at Jimmy Creek, Dronfield, Prince of Wales, Shadow North.
- RC drilling program after completion of 100% HMX program.





# Hammer Metals: Positioned for Growth and Success

1

JORC Equivalent Resources in excess of 400kt of Copper Equivalent Metal

2

5km RC Drilling Program Commencing High Potential Targets

3

High Impact Exploration Program partnered with World Class Copper Producer

4

Committed to replicating past success in one of Australia's most prospective copper provinces

Q2-2023

Q3-2023

A

Nov

Dec

Jan

Feb

Mar

## Aggressive Exploration – Results Driven – News Milestones

RC Drilling Program  
(Ajax East, Kalman, Lady Amy, Mascotte/Mount Hope South)

Kalman Drilling and Resource Review

SMMO JV Program – Drill results from Pearl/Trafalgar/Springs

SMMO JV Program – RC Drilling – TBD – Pearl/Trafalgar trend/IP Anomalies

Mapping, Geophysical (DHEM) and Geochemical Surveys to further define drill targets





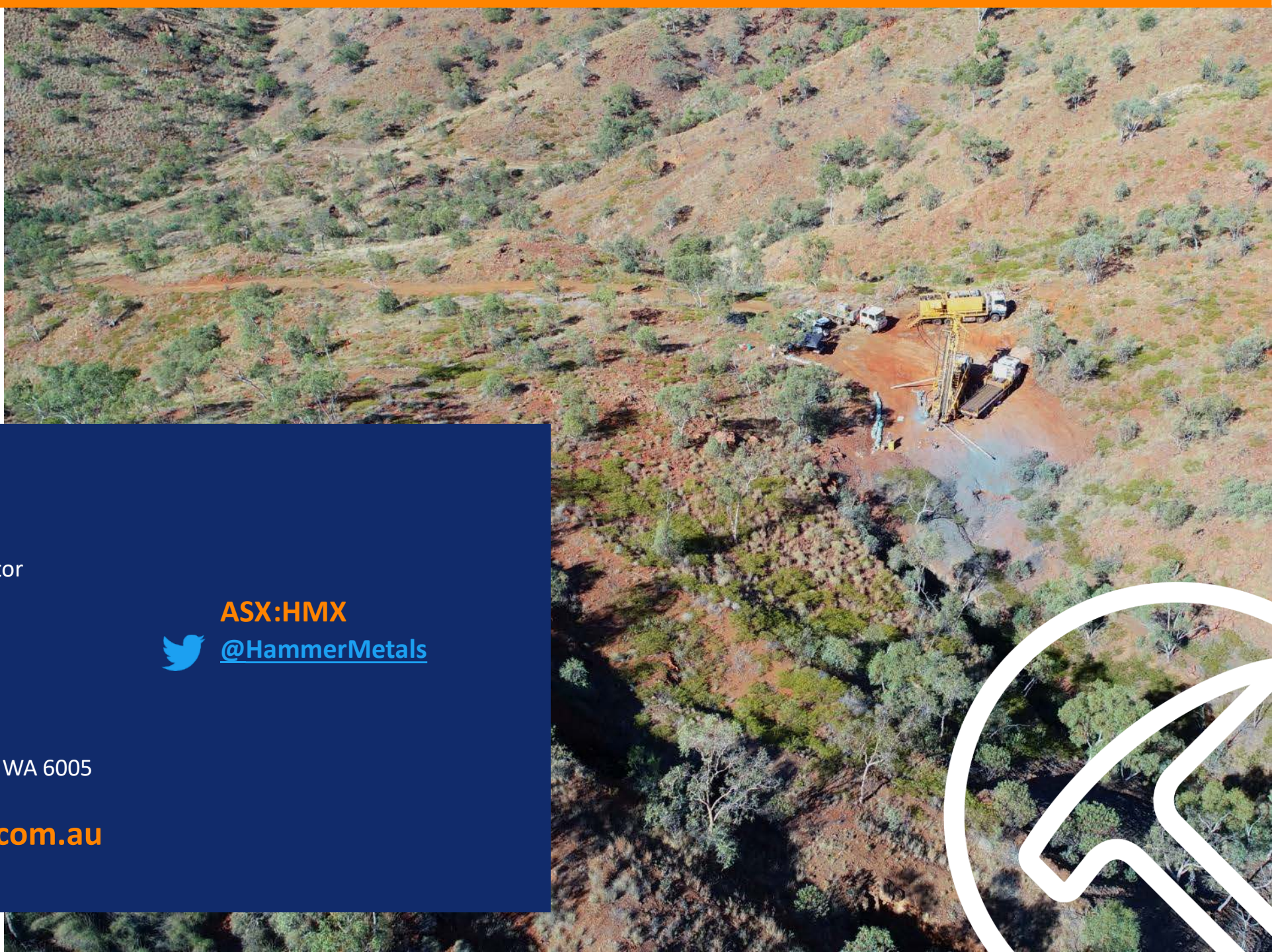
# Contact

Daniel Thomas, Managing Director  
[daniel@hammermetals.com.au](mailto:daniel@hammermetals.com.au)

**ASX:HMX**  
 [@HammerMetals](https://twitter.com/HammerMetals)

28-30 Mayfair Street West Perth WA 6005  
Phone: +61 8 6369 1195

[www.hammermetals.com.au](http://www.hammermetals.com.au)



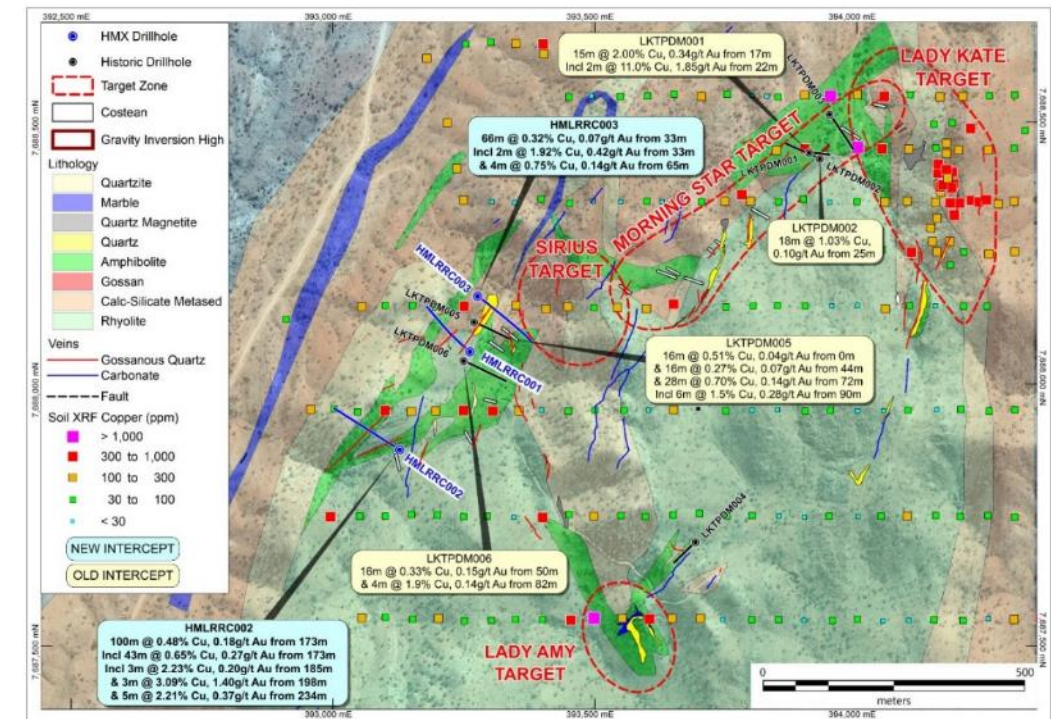
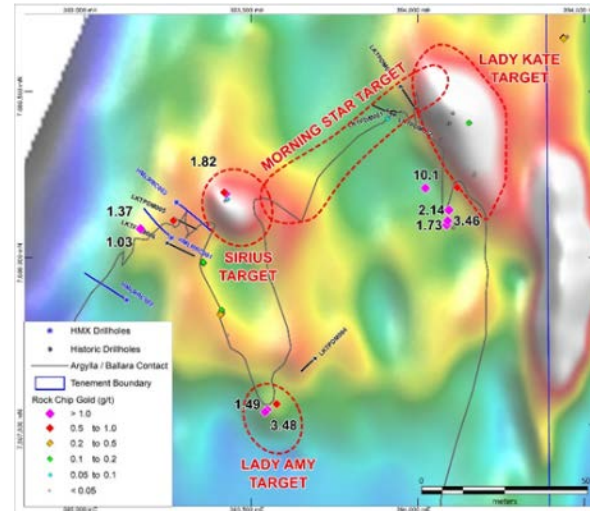
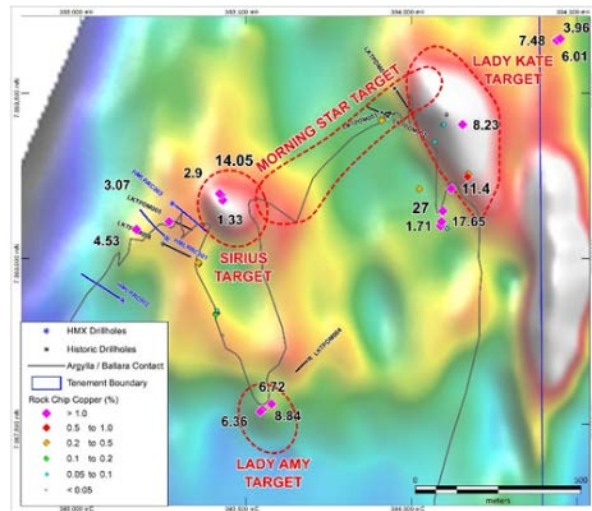


# Appendix

## Neptune: Multiple Targets/Multiple Historical Workings

### IOCG target 2km west of Trafalgar | 100% HMX

- Three holes drilled at Lady Rose intersected copper and gold mineralisation. Significant Hammer intercepts include:
  - 100m at 0.48% Cu and 0.18g/t Au from 173m<sup>1</sup>
  - 66m at 0.32% Cu and 0.07g/t Au from 33m<sup>2</sup>
- Mineralisation is associated with magnetite alteration, displaying strong similarities with other IOCG systems in the Mt Isa region.
- Four discrete targets within the Neptune zone are being tested in the current drilling program.
- Additional drill targets being tested at Ajax, Orion and Sunset.



<sup>1,2</sup> Refer ASX Announcement 26 July 2021



# Yandal Gold Projects

## Western Australia

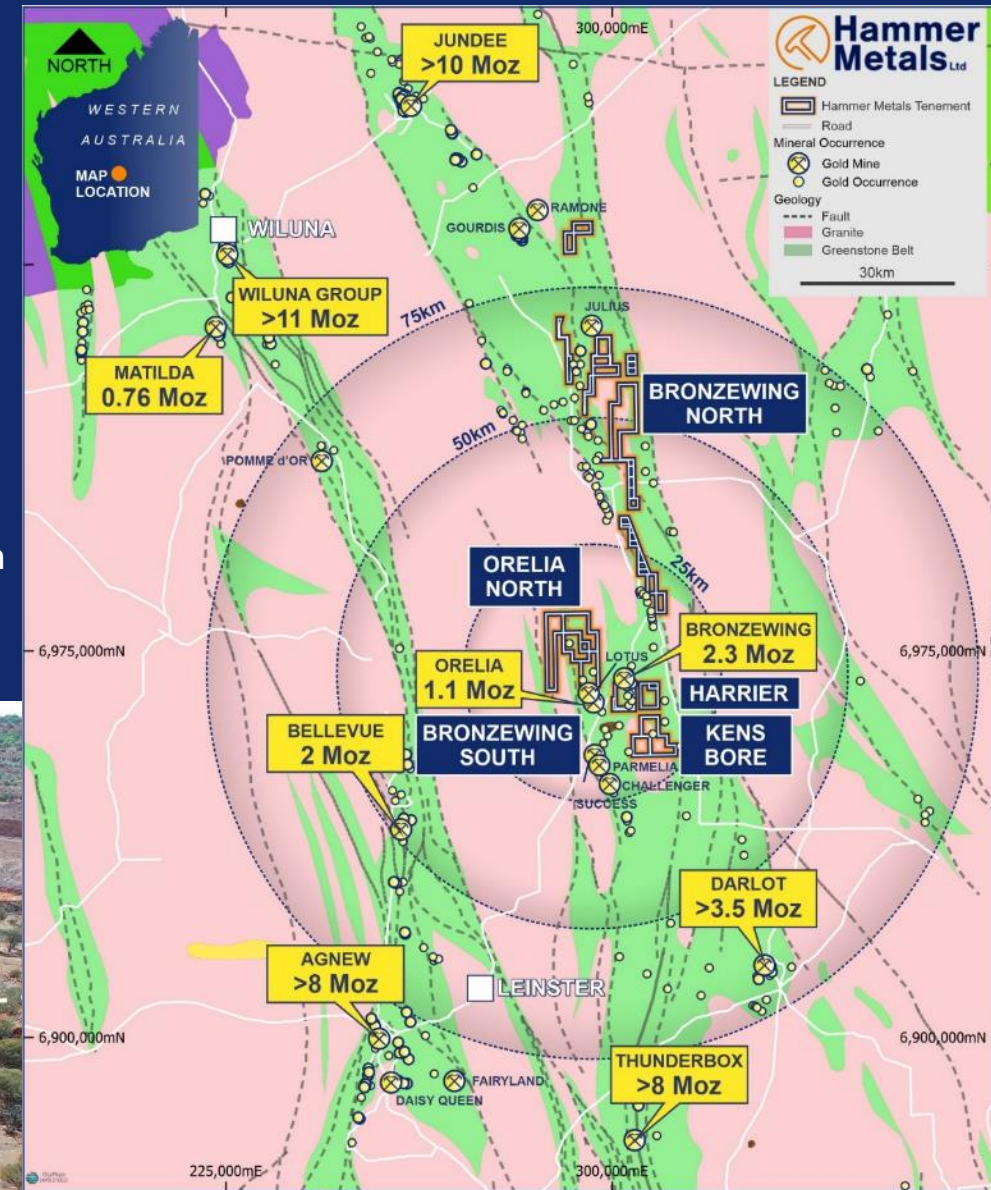
### Highly prospective, underexplored land package in the heart of the Yandal

- 260km<sup>2</sup> tenement position in the highly prospective Yandal Gold Belt.
- Proximal to existing multi-million-ounce resources including the 4Moz Bronzewing<sup>1</sup> gold mine & 1.1Moz Orelia gold deposits.
- Numerous zones of highly anomalous gold identified at both Bronzewing South and North Orelia in drilling to date.
- Drilling programs at North Orelia, Harrier and Bower planned for second half 2022 with potential to define JORC resource at Target 1, North Orelia.



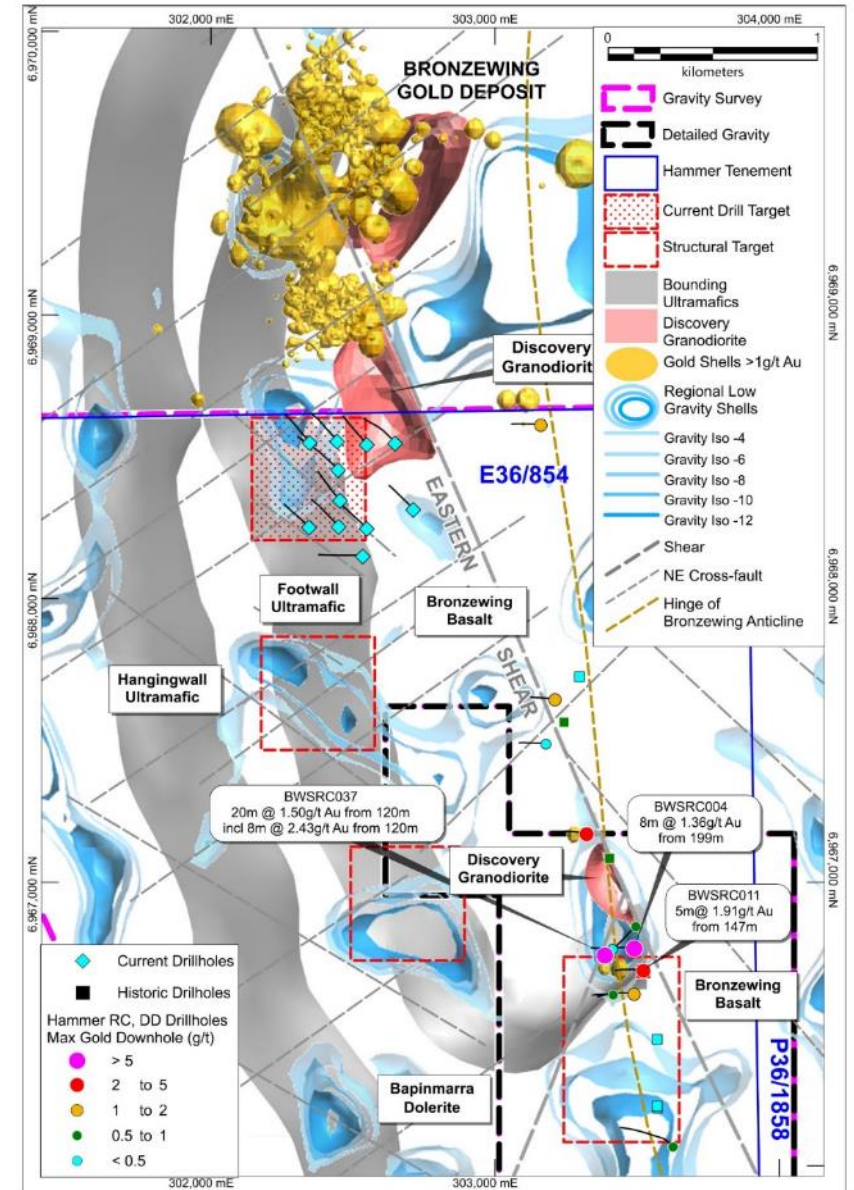
Hammer Metals Limited  
E36/854

1. Includes previously mined resources





## Lightly explored, adjacent to world-class orebody



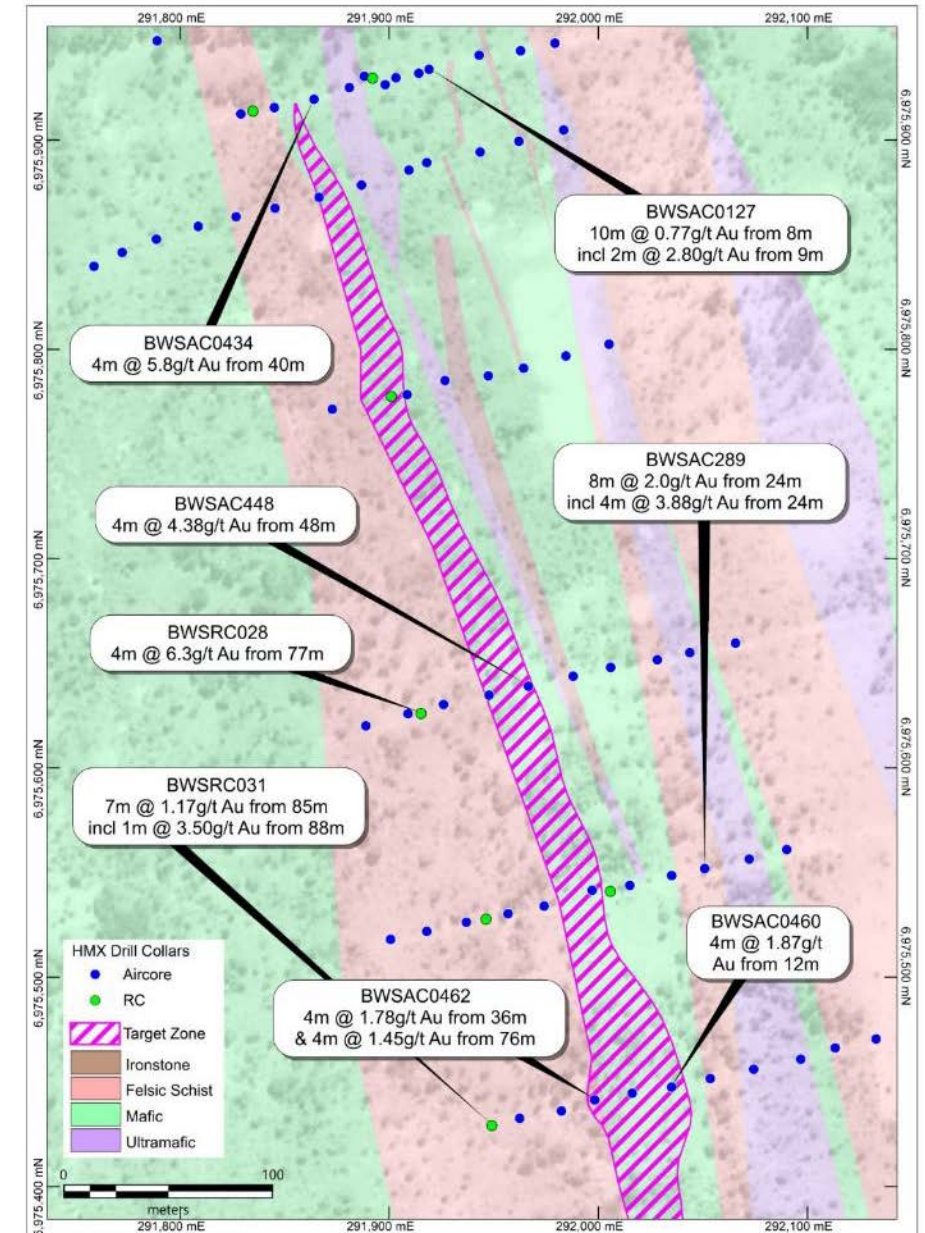


# North Orelia - Successful drilling to date

## Yandal Gold Project

### Mineralisation over a 2km strike length within multiple structures

- Drilling at Orelia North Target 1 provided prospective shallow gold results including<sup>1</sup>:
  - 8m at 4.2g/t Au from 20m in BWSRC0025 including:
    - 1m at 27.1g/t Au from 26m
  - 5m at 3.5g/t Au from 25m in BWSRC0026 including:
    - 1m at 16.6g/t from 25m
  - 4m at 6.3g/t Au from 77m in BWSRC0028
  - 7m at 1.2g/t Au from 85m in BWSRC0031 including:
    - 1m at 3.5g/t Au from 88m; and
  - 14m at 1.80g/t Au from 12m including:
    - 3m at 5.57g/t Au from 21m
  - 4m @ 5.79g/t Au from 40m
  - 4m @ 4.38g/t Au from 48m
- Intercepts in the central zone at Target 1 and in the weathered regolith provide an opportunity for the definition of a shallow oxide gold resource
- Gold intercept of 4m at 6.3g/t Au from 77m (BWSRC0282) remains open at depth and along strike to the north, representing the most significant result in fresh rock. Follow-up of this drilling is planned in 2022.



<sup>1</sup> Refer ASX Announcements 3 August 2020 and 9 November 2020

<sup>2</sup> Refer ASX Announcement 9 November 2020



# Kalman Resource Estimate & Notes on Copper Equivalence Calculation and Metallurgical Recoveries

The Kalman Mineral Resource Estimate was updated in August 2016 in accordance with the JORC Code (2012 Edition). (Refer to the ASX Release dated 27th September 2016 for full details of the Resource Estimate.) The company is not aware of any new information or data that materially affects the information in the HMX ASX announcement dated September 27<sup>th</sup>, 2016. All material assumptions and technical parameters underpinning the mineral resource estimate continue to apply and have not materially changed.

## Kalman Deposit Mineral Resource Estimate

(Reported at 0.75% CuEq cut-off above 100m RL and 1.4% CuEq cut-off below 100m RL)

Classification	Mining Method	CuEq Cut-Off	Mt	Cu Eq %	Cu %	Mo %	Au g/t	Ag g/t	Re g/t
Indicated	Open Pit	0.75%	7.1	1.5	0.48	0.12	0.27	1.4	2.9
Inferred	Open Pit	0.75%	6.2	1.6	0.44	0.15	0.24	1.5	3.9
Inferred	Underground	1.40%	7.0	2.4	0.89	0.16	0.5	2.9	4.5
<b>Total</b>			<b>20.0</b>	<b>1.8</b>	<b>0.61</b>	<b>0.14</b>	<b>0.34</b>	<b>1.9</b>	<b>3.7</b>

•Note: (1) Numbers rounded to two significant figures  
 •Note: (2) Totals may differ due to rounding  
 •Note: (3)  $CuEq = Cu + (0.864268 * Au) + (0.011063 * Ag) + (4.741128 * Mo) + (0.064516 * Re)$

The CuEq calculation is based solely on commodity prices without assumptions about recovery or payability of the different metals. Prices agreed to by Hammer were a reflection of the market as at 27/09/2016 and forward looking forecasts provided by consensus analysis. Metal prices provided are: Cu: US\$4,650/t, Au: US\$1,250/oz, Ag: US\$16/oz, Mo: US\$10/lb. The forward looking price for Rhenium was estimated using available historical and current prices - Re: US\$3,000/kg. The CuEq equation is  $CuEq = Cu + (0.864268 * Au) + (0.011063 * Ag) + (4.741128 * Mo) + (0.064516 * Re)$  and was applied to the respective elements estimated within the resource block model.

## Assumed Metallurgical Recoveries

Based on the testing completed and the current understanding of the material characteristics it has been assumed that the Kalman material can be processed using a “typical” concentrator process flowsheet. The mass balance and stage metallurgical recovery of the four major elements were based on the metallurgical test results from the molybdenum zone sample and benchmarks. The final overall recovery (Table 3) was established from the mass balance and benchmarked against other operations and projects.

Process Stage		Copper	Molybdenum	Gold	Rhenium	Silver <sup>(1)</sup>
Bulk Rougher	% Rec'y	95	95	82	86	82
Overall	% Rec'y	86	86	74	77	74

(1) No data available for Silver recoveries so they have been assumed similar to Gold Recoveries

It is the company's opinion that the metals used in the metal equivalent equation have reasonable potential for recovery and sale based on metallurgical recoveries in flotation test work undertaken to date. There are a number of well-established processing routes for copper molybdenum deposits and the sale of resulting copper and molybdenum concentrates.

## Kalman Exploration Results – Recovered Copper Equivalent Calculation (Slide 8)

Copper equivalent (CuEq) grades were calculated from downhole assays for Cu, Au, Ag, Mo and Re. The CuEq calculation is based on commodity process and metallurgical recovery assumptions as detailed in this release. Prices agreed to by Hammer reflected the market as of early February 2022 and forward-looking forecasts provided by consensus analysis, these prices have not varied significantly. Metal prices provided are: CuEq Price Assumptions are: Cu: US\$9,578/t; Au: US\$1800/oz; Ag: US\$22.88/oz; Mo: US\$20.30/lb; and Re: US\$1,600/kg

The recovered CuEq equation is:  $CuEq = (Cu * 0.86) + (0.6042118 * Au * 0.74) + (0.0076808 * Ag * 0.74) + (4.671895 * Mo * 0.86) + (0.01670 * Re * 0.77)$



# Overlander Mineral Resource Estimate

The 100%-owned Overlander Project is situated 60 kilometres to the southeast of the mining centre of Mount Isa in North West Queensland and 6 kilometres to the west of Hammer's Kalman copper-gold-molybdenum-rhenium deposit. It is a high-priority target area for both shear-hosted copper and IOCG copper mineralisation. The Overlander North and South copper Deposits are situated approximately one kilometre apart within a common shear zone.

Drilling in the Overlander North deposit extends to a vertical depth of approximately 430m and the mineralisation was modelled from surface to a depth of approximately 420m below surface. Drilling in the Overlander South deposit extends to a vertical depth of approximately 215m and the mineralisation was modelled from surface to a depth of approximately 180m below surface. The resource estimates are based on good quality RC and diamond drilling data. Drill hole spacing is predominantly on a 40m by 20m spacing with additional drill holes between sections targeted at the higher grade cores of the deposits.

Following additional drilling in 2014 and 2015, The Mineral Resource Estimates for the Overlander North and South shear-hosted copper Deposits were revised by Haren Consulting and reported in accordance with the guidelines of the JORC Code (2012 Edition). They contain combined resources of 1,772,000 tonnes at 1.2% copper in the indicated and inferred categories (Refer to the ASX release dated August 26<sup>th</sup> 2015). The company is not aware of any new information or data that materially affects the information in the HMX ASX announcement. All material assumptions and technical parameters underpinning the mineral resource estimate continue to apply and have not materially changed.

## Overlander North and South Mineral Resource Estimate

(Reported at 0.7% Cu cut-off)

Overlander North Resource					
Classification	Tonnes	Cu %	Co (ppm)	Cu t	Co t
Indicated	253,000	1.4	254	3,414	64
Inferred	870,000	1.3	456	11,350	396
Total	1,123,000	1.3	410	14,764	461

Overlander South Resource					
Classification	Tonnes	Cu %	Co (ppm)	Cu t	Co t
Indicated	-	-	-	-	-
Inferred	649,000	1	500	6,352	327
Total	649,000	1	500	6,352	327

Overlander Combined Mineral Resource					
Classification	Tonnes	Cu %	Co (ppm)	Cu t	Co t
Indicated	253,000	1.4	254	3,414	64
Inferred	1,518,000	1.2	476	17,700	723
Total	1,772,000	1.2	445	21,112	788

•Note: (1) Numbers rounded to two significant figures to reflect appropriate levels of confidence  
•Note: (1) Totals may differ due to rounding

# Jubilee Mineral Resource Estimate

The 51%-owned Jubilee Deposit is situated 50 kilometres west of Mount Isa in North West Queensland.  
It is a high-priority target area for shear-hosted copper mineralisation.

Mineralisation was modelled from surface to a depth of approximately 325m below surface.

The resource estimates are based on good quality RC and diamond drilling data. Drill hole spacing is predominantly on a 50m by 40m spacing with additional drill holes between sections targeted at the higher grade cores of the deposits.

The Mineral Resource Estimate was conducted by H&S consultants Pty Ltd and reported in accordance with the guidelines of the JORC Code (2012 Edition). They contain combined resources of 1.41Mt at 1.41% copper and 0.62g/t Au in the inferred category (Refer to the ASX release dated December 20<sup>th</sup>, 2018). The company is not aware of any new information or data that materially affects the information in the HMX ASX announcement. All material assumptions and technical parameters underpinning the mineral resource estimate continue to apply and have not materially changed.

## Jubilee Inferred Mineral Resource Estimate

(Reported at 0.5% Cu cut-offs)

Category	Domain	Mt	Cu %	Cu (t)	Au g/t (Cut)	Au oz (Cut)
Inferred	Mod-Slightly Weathered	0.07	1.51	1,000	0.55	1,200
Inferred	Fresh	1.34	1.41	19,000	0.63	27,100
Inferred	Total	1.41	1.41	20,000	0.62	28,300

•Note: (1) Totals may differ due to rounding



# Elaine Project Mineral Resource Estimate & Notes

## Copper Eqv Calculation & Metallurgical Recoveries

The 100%-owned Elaine Cu-Au deposit is situated on granted exploration licence 14022, approximately 50km east of Mount Isa in North West Queensland.

A resource estimate was first completed and reported to ASX by previous owners (Chinalco Yunnan Copper Resources Limited, now AUKing Limited) on 18<sup>th</sup> October 2012. The resource was conducted by Mine Development Associates. The company is not aware of any new information or data that materially affects the information in the AKN ASX announcement. All material assumptions and technical parameters underpinning the mineral resource estimate continue to apply and have not materially changed.

A review of the Resource Estimate was completed for the purpose of compiling this statement and the principles and methodology of the resource estimation procedure and the resource classification procedure are considered to comply. The Elaine Project Mineral Resource Estimate is based on approximately 30 holes to a depth of 450 metres below surface. The current resource totals 9.3 million tonnes (Mt) grading 0.82% Cu and 0.19g/t Au and is classified as being all in the Inferred category. The resource is tabulated below at a variety of CuEq % cut-offs.

CuEq cut-off %	Mt	CuEq %	Cu %	Au g/t
0.10	64.34	0.34	0.31	0.05
0.20	32.77	0.54	0.49	0.08
0.25	26.10	0.62	0.56	0.09
0.30	22.81	0.67	0.60	0.10
0.40	17.81	0.76	0.68	0.12
0.50	15.05	0.82	0.73	0.13
0.60	12.47	0.88	0.77	0.15
<b>0.70</b>	<b>9.31</b>	<b>0.95</b>	<b>0.82</b>	<b>0.19</b>
0.80	6.46	1.04	0.87	0.25

**Elaine Inferred Mineral Resource Estimate Metal Equivalent Information** - The Copper Equivalent (CuEq) equation has been calculated to reflect current and forecast pricing. CuEq grades were calculated using estimated block grades for Cu and Au. Metal prices used were:

- Cu: US\$5,400/t;
- Au: US\$1,300/oz;

The copper equivalent equation is: CuEq % = Cu % + (Au ppm \* 0.70216)

Cut-offs of 0.7% have been applied for reporting Mineral Resources.

Metallurgical test-work indicated that acceptable copper-cobalt sulphide concentrates could be produced via conventional processing methods. Based on the test-work conducted, it is the company's opinion that all metals used in the metal equivalent calculation have a reasonable potential to be recovered.

April 2013 Elaine Metallurgical Testwork					
Test No.	Product	Cu		Au	
		%	% Rec'y	ppm	% Rec'y
Test 11	Final cleaner concentrate	29.9	92.2	2.73	31.7
	Rougher concentrate	8.1	96.0	1.22	54.4
Test 13	Final cleaner concentrate	22.9	77.1	0.88	23.9
	Rougher concentrate	11.6	91.6	0.67	42.3

# Mt. Philp Mineral Resource Estimate

The Mineral Resource Estimate is based on 48 diamond and reverse circulation (RC) drillholes completed in 2011 for a total of 3,801 metres (m). Drilling comprises fans located on a nominal 100 m pattern along the strike length of the ironstone. The Mineral Resource was estimated and reported in-house by Cerro Resource NL.

The current resource totals 19.1 million tonnes (Mt) grading 41.4% iron and 37.9% silica (Table 1-1) in the Indicated category and 11.4 million tonnes (Mt) grading 33.8% iron and 47.4% silica in the Inferred category. This resource is open at depth.

A resource estimate was first completed and reported to ASX by previous owners on 28<sup>th</sup> September 2012. The company is not aware of any new information or data that materially affects the information in the ASX announcement. All material assumptions and technical parameters underpinning the mineral resource estimate continue to apply and have not materially changed.

## Mt Philp Deposit Mineral Resource Estimate

Mt Philp Mineral Resource						
Classification	Mt	Fe %	P %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	LOI %
Indicated	19.11	41	0.02	38	1.2	0.29
Inferred	11.40	34	0.02	48	2.0	0.31
<b>Total</b>	<b>30.51</b>	<b>39</b>	<b>0.02</b>	<b>42</b>	<b>1.6</b>	<b>0.30</b>

- Note: (1) Numbers rounded to two significant figures to reflect appropriate levels of confidence
- Note: (1) Totals may differ due to rounding



# Notes

---

