

# TERRAMIN

## SOUTH AUSTRALIA UPDATE

SOUTH AUSTRALIA RESOURCES AND ENERGY INVESTMENT CONFERENCE

Richard Taylor | CEO



9 April 2019

# Forward Looking & Competent Person Statements

## Disclaimer

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## Competent Person Statement

The information in this presentation that relates to Exploration Results and Mineral Resources is based on information compiled by Mr Eric Whittaker and Mr Dan Brost, both are Competent Persons who are Members of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Whittaker is an employee and Principal Resource Geologist of Terramin Australia Limited. Mr Brost is a consultant retained by Terramin. Mr Whittaker and Mr Brost have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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'. Both consent to the inclusion in the report of the matters based on their information respectively in the form and context in which it appears.

The information in this report that relates to Ore Reserves is based on information compiled or reviewed by Mr Luke Neesham, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Neesham is Principal Mining Engineer for GO Mining Pty Ltd a consulting firm engaged by Terramin Australia Limited to prepare mining designs and schedules for the Tala Hamza Feasibility Study. Mr Neesham has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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 Neesham consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Aspects of the information used as inputs to or generated as part of the Feasibility Study associated with the Mineral Resources and Ore Reserves Estimates rely upon information prepared by parties other than the Competent Persons and outside of their areas of expertise. The associated documentation has been reviewed and utilised by the Competent Persons in compiling the Mineral Resources and Ore Reserves Estimate and Table 1 commentary.

# Corporate Update



## Corporate Snapshot - 31 March 2019

Share on issue	1,869,601,371
Market Cap	\$177M @ \$0.95/share
Liquidity	12 Month - (0.01%)
Enterprise Value	\$198M

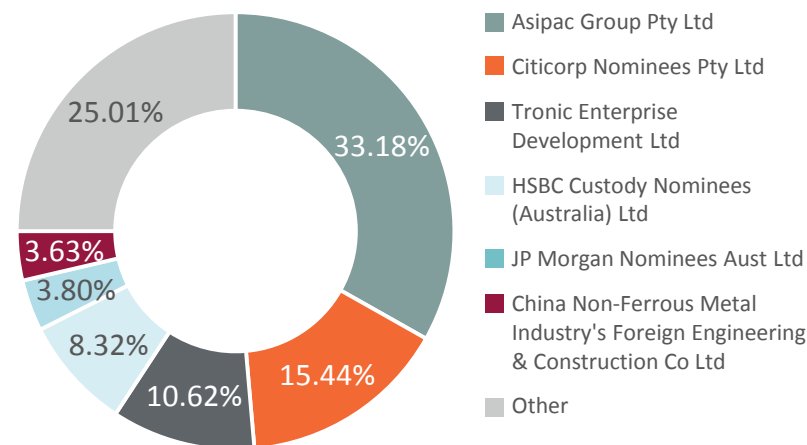
## Board and Management

Feng Sheng	Executive Chairman
Michael Kennedy	Non-Executive Vice-Chairman
Angelo Siciliano	Non-Executive Director
Kevin McGuinness	Non-Executive Director
Wang Xinyu	Executive Director
Richard Taylor	CEO / Company Secretary
Andre van Driel	Acting CFO

## 5 Year Share Price Snapshot



## Largest Shareholders - 31 March 2019

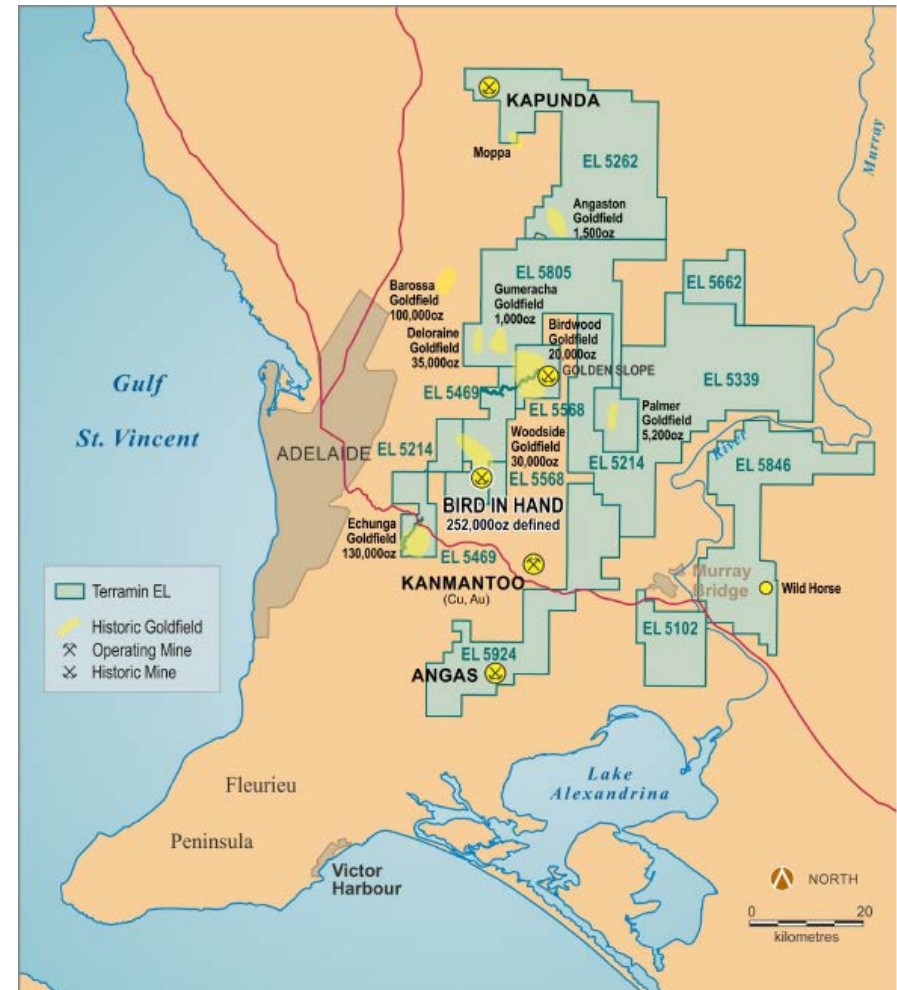


# Terramin South Australia Gold



## South Australia... A great place to be in gold

- SA Government Gold Commodity Strategy may follow successful launch of its 'Copper Strategy'
- Gold mineralisation widespread and occurs in almost all geological provinces in the state
- Currently eight operational or approved mines including Olympic Dam - the 4th largest gold resource in the world
- 27.5% of Australia's economic demonstrated gold resources<sup>1</sup>
- World renowned research and collaboration
- Large well-educated workforce and large numbers of mining professionals wanting to return to SA from inter-state
- "More gold exploration is warranted to reflect South Australia's abundant gold potential"



# Robust economics – Scoping Study 2018

Positioned to deliver outstanding returns for investors. Scoping Study 2018 released to ASX on 30 October 2018

Key financial metrics	Scoping Study 2018
<b>Commodity Price Metrics<sup>1</sup></b>	
Gold price – LOM average	US\$1,225/oz (A\$1,700/oz)
Silver price – LOM average	US\$15.5/oz (A\$21.5/oz)
<b>Schedule production</b>	
Processed materials	595kt at 11g/t Au and 5g/t Ag
Annual production – LOM average <sup>2</sup>	46,000 oz Au and 21,500 oz Ag
<b>Cost Metrics</b>	
C1 Operating Costs – LOM average	A\$629/oz
All-in Sustaining Costs (AISC) – LOM average	A\$841/oz
<b>Financial Metrics</b>	
Discount rate	8.0%
Start-up-capital cost <sup>3</sup>	<b>A\$34M</b>
Sustaining capital cost	A\$32M
NPV <sub>8</sub> Post-tax nominal <sup>4</sup>	A\$101M
IRR Post-tax nominal (%) <sup>4</sup>	96%
Free cash flow – Post tax nominal	A\$135M
Payback Period	1 year

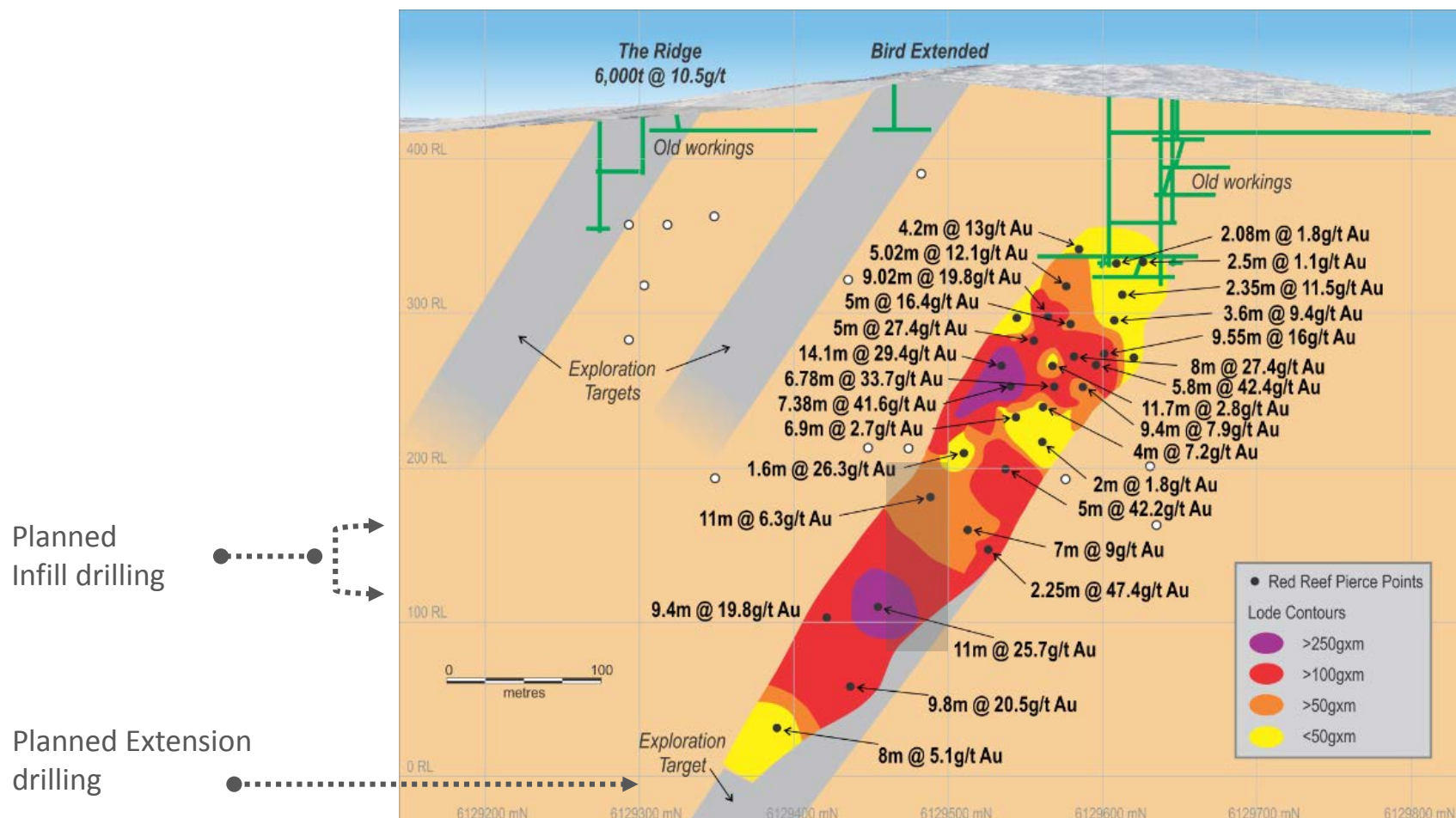
- ✓ **Low costs, strong margin:** All in sustaining costs of approximately A\$840/oz, positions the project in 1<sup>st</sup> quartile of the cost curve
- ✓ **Significant return:** post-tax nominal IRR of 96%
- ✓ **Low restart capex and short payback:** Pre-production capital of A\$34m, with a 1 year payback
- ✓ **Existing infrastructure** – processing plant and associated infrastructure in place at the 100% owned Angas Zinc Mine
- ✓ **High grade resource with growth potential** – initial 5 year mine life, with potential to increase mine life through development and resource expansion

Notes: Above based on ASX Release BIH Scoping Study Generates Strong Returns 31 October 2018, inclusive of resource statement (1) Commodity price assumption is based on current spot prices US\$1,225/oz. Exchange rate assumption is AUD/USD FX 0.72 (2) Schedule Production, Mining Rate and Concentrate Grade represent the average values following initial operational ramp up period (approx. 1 year) (3) Start-up Capital Costs represents pre-production capital requirements exclusive of working capital and sustaining capital (4) NPV has been discounted using a discount rate of 8% and is a post-tax nominal calculation. NPV and IRR are discounted from ramp up of start-up capital



# Bird-in-Hand 100% Terramin Owned

Bird-in-Hand Gold Project has significant exploration upside – deposit open at depth and historic mines highlight the potential along strike. Current Bird in Hand resource stands at 265,000 ounces.



Notes: Above based on ASX Release BIH Scoping Study Generates Strong Returns 30 October 2018, inclusive of resource statement.

# Angas Zinc Re-Start Potential: Studies Underway

Terramin operated the Angas Zinc Mine at Strathalbyn from 2009-2013. Angas closed at the low point in the zinc commodity price cycle. A study now focusses on incorporating up to one year's production from Angas onto BIH

## Re-Start Study

- Early cashflows
- Mobilisation of equipment and project teams
- Refurbishment of plant ahead of BIH feed
- Permitting and approvals
- Community engagement
- Hydrostor refurbishment of underground access



A core value of Terramin is Safety and Sustainability, particularly acting in a manner that both complies and exceeds regulatory, safety and environmental standards.

## Sustainability Program

- Mining Baseline studies covering
  - Water sources (ground and surface water)
  - Soil and land quality
  - Air quality (noise and dust)
  - Ecosystems
  - Local community and demographics
- Developing design and management measures to minimise impacts for all projects
- Ensure environmental legislation is designed to and managed appropriately
- Developing approvals for key projects
- Continual monitoring and review of environmental data and reporting to government agencies and the public





# Stakeholder Engagement



Terramin actively engages with communities in South Australia through the Strathalbyn and Woodside Community Consultative committees as well as hundreds of informal interactions annually

## Terramin Approach

- All Projects – Community Engagement Plan
- Clearly identifies key stakeholders within the community
- Outlines the framework for how Terramin engages with the stakeholders during all stages of development, operation and ultimate closure of Projects.
- Enhances and encourages positive relations between all parties
- Clearly disseminates information about the company's plans, projects, activities and potential impacts, both adverse and positive
- Details how this information flow will be achieved
- Manages the identification and response to issues raised by stakeholders.



Scouts Tree Planting during National Tree Day 2017

# Stakeholder Engagement



Terramin has changed its proposed project considerably to address issues raised by stakeholders. The project has a small footprint, is on Terramin owned land and largely hidden from view

## Project changes

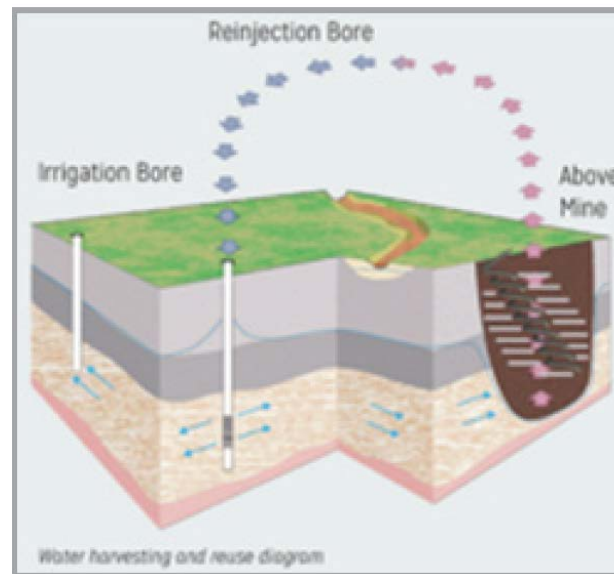
- Designed the site with landscape architects to fit the project within the local landscape
- Moved infrastructure to ensure only water dams and revegetated reforested bunds are visible
- Operational activities such as drilling only in daylight hours and reduced surface activity
- Developed a full hydrogeological model for the area and surveyed all accessible bores
- Purchased 36 hectares of rural property and situated the property within a buffer zone
- Planted 40,000+ trees and created nature corridors for local wildlife
- Minimised traffic through transport selection to fit in with existing road use. Limited truck movements to 12 per day and selected roads to avoid built up areas



Terramin has completed its Managed Aquifer Recharge (MAR) trial which demonstrated the aquifer is suitable to accept reinjection of water inflows expected during mining

## Initial Water Results

- Aquifer performed according to the model that has been developed over the past 5 years
- Pre-excavation grouting is expected to reduce predicted water inflows by 90% and the water system has been designed to a lower bound of 70% effectiveness
- Peak annual average water flows expected with 90% effectiveness is estimated to be 5 L/s (Litres per second) at 70% effectiveness this would increase to 15 L/s
- BHRIB01 alone maintained reinjection at 13 L/s during the trial
- Mining Lease proposal includes up to 8 reinjection sites to allow spare capacity, allow for bore maintenance and to distribute the water evenly
- Data is being reviewed by Golder and final results are expected next month, followed by a peer review
- Good quality water derived from the limestone environment





# Visual Amenity – Landscape View - Site 1





## Visual Amenity – Landscape View - Site 2





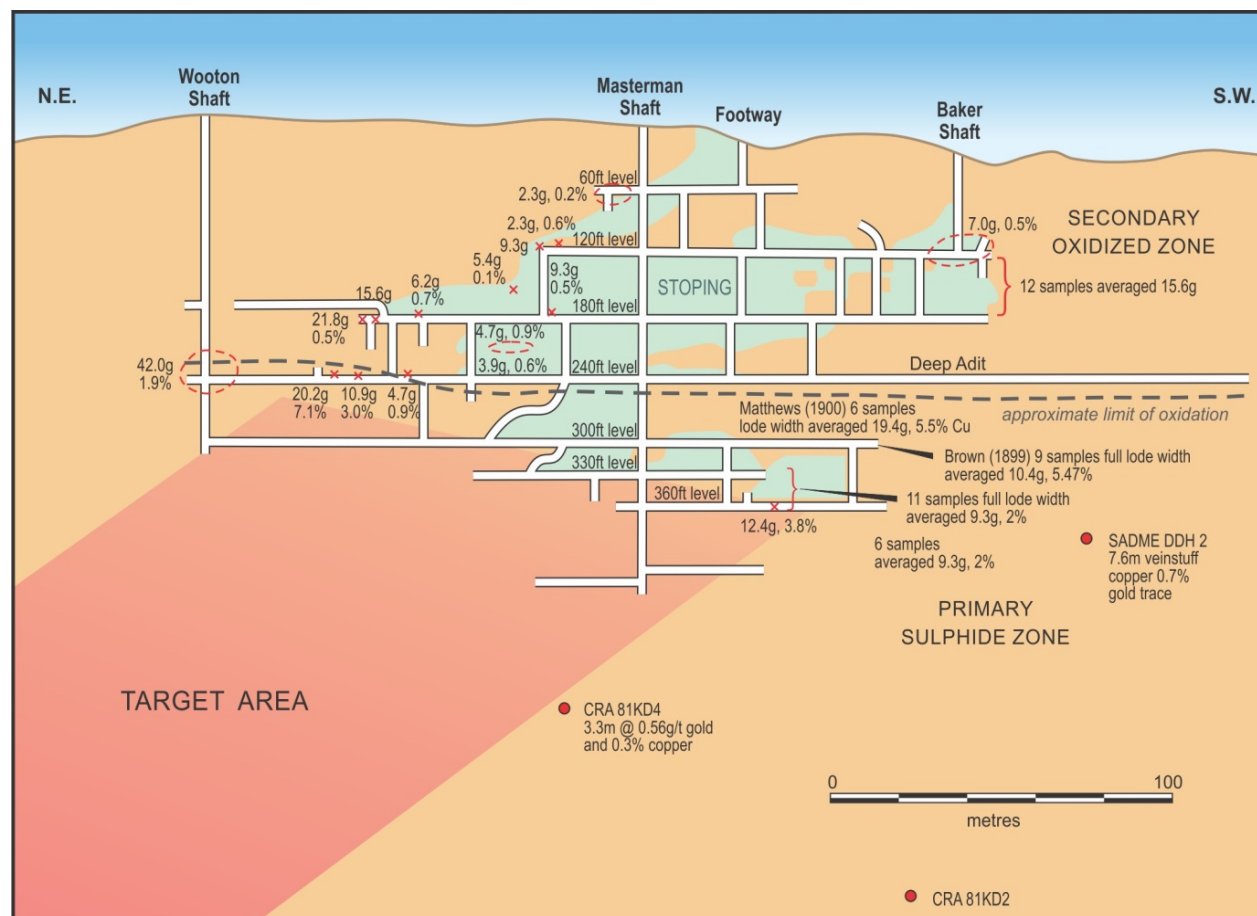
## Visual Amenity – Landscape View - Site 3



# Kitticoola High Grade Gold-Copper Joint Venture



Terramin entered into an agreement to acquire rights in the historic Kitticoola Private Mine PM53 in January 2019. EPEPR (environmental approvals) awaiting SA Department for Energy & Mines Approval. Close to Bird-in-Hand and short haul to Angas' processing hub



Notes: Above based on ASX Release Kitticoola Gold Project Agreement Reached 9 January 2018



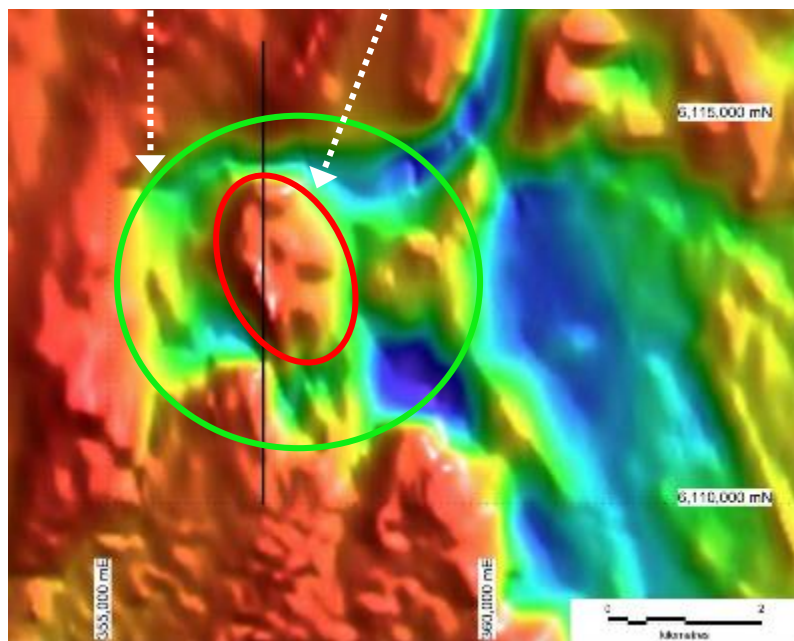
# Terramin Exploration – Wild Horse



Terramin Wild Horse which represents a potential porphyry gold-copper system which we plan to test in 2019. Commonwealth Department of Defence approved Deed of Access in March 2019.

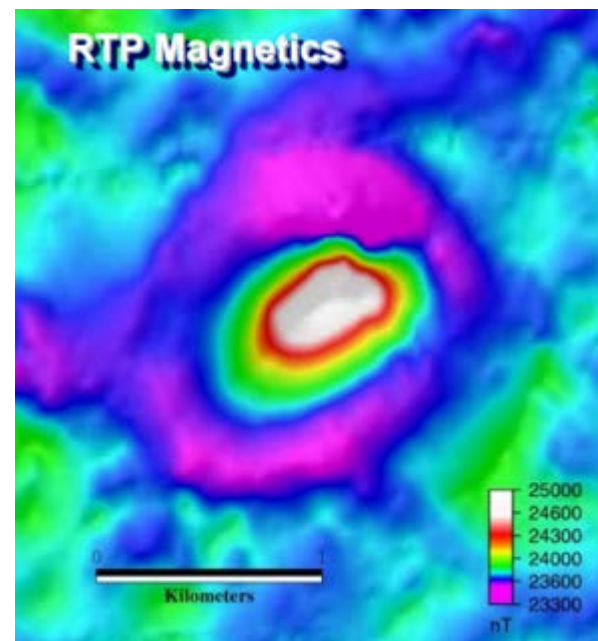
Quartz-Sericite-Pyrite?

Potassic Zone?



## Wild Horse – Terramin

Wild Horse aerial magnetic feature exhibits the classic ring zonation of a Western Pacific porphyry deposit



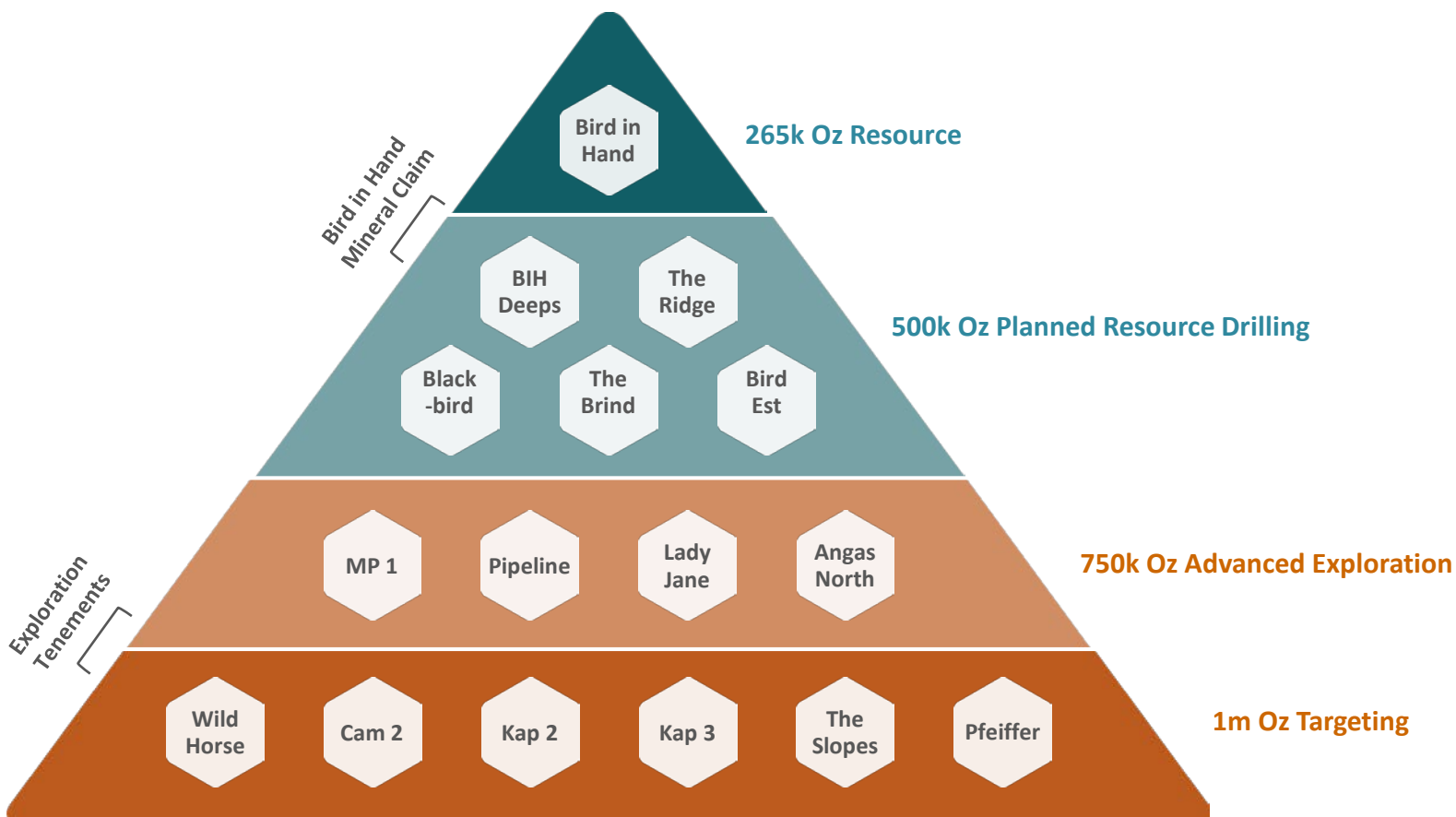
## Alumbraera – Argentina

The pre-mining measured resource was:  
695 Mt @ 0.51% Cu, 0.66 g/t Au, with a high grade core of 118 Mt @ 0.64% Cu, 0.92 g/t Au



# Terramin Exploration Pipeline – Pathway 1m Oz

Terramin has a pipeline of high grade potential gold targets that will form the basis of its aspirational target of 1m Oz in resource from existing tenements and potential acquisitions.



# Reasons to Invest in Terramin

Terramin is in the right place at the right time and with the right projects and people to capitalise on a strong price environment for its key commodities.



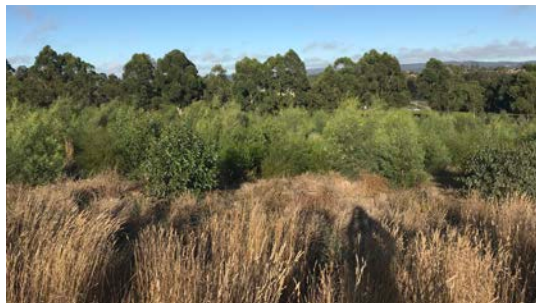
## Right Commodity

- Zinc & lead historic high levels
- Gold in AUD at record prices
- Strong long term fundamentals



## Right Assets

- Algeria an emerging mining jurisdiction
- First mover advantage
- Multiple near mine targets
- High grade gold targets
- Low opex



## Right People

- Significant base & precious metals experience
- Long association with the projects
- Strong shareholder support



# Contact Details



For further information please contact:

## **Richard Taylor**

Chief Executive Officer

## **Andre van Driel**

Acting Chief Financial Officer

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# Annex: Tala Hamza Resources & Reserves

## Tala Hamza Resource

2009 Resource Tala Hamza	Terramin Interest (%)	Measured + Indicated Resource			Inferred Resource			Total Resource		
		Tonnes (Mt)	Zn (%)	Pb (%)	Tonnes (Mt)	Zn (%)	Pb (%)	Tonnes (Mt)	Zn (%)	Pb (%)
Tala Hamza	-	51.1	4.87	1.27	17.5	3.7	0.6	68.6	4.6	1.1
Total	-	51.1	4.87	1.27	17.5	3.7	0.6	68.6	4.6	1.1
Terramin Share	65%	33.2	4.87	1.27	11.4	3.7	0.6	44.6	4.6	1.1

- 1 November 2009 Tala Hamza Resource was prepared and reported in accordance with the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves, December 2004 (JORC Code 2004).
- 2 Resource Estimate assumed the bulk mining method of block caving.
- 3 Resource classification; Measured - drill spacing < 50 m, Indicated - drill spacing 50 to 75 m, Inferred - drill spacing > 75m.
- 4 Estimated at a nominal 2.5% ZnEq cut-off for the Measured and Indicated Resources with internal waste included (~approximately 8Mt @ 1.9% Zn + Pb).
- 5 Zinc Equivalence formula %ZnEq = %Zn + 0.59 x %Pb.
- 6 Inferred Resource is at a 2.5% zinc equivalent cut-off within the 1% lead + zinc outline.
- 7 The 2009 Resource was inclusive of Reserves

2018 Resource Tala Hamza	Terramin Interest (%)	Indicated Resource			Inferred Resource			Total Resource		
		Tonnes (Mt)	Zn (%)	Pb (%)	Tonnes (Mt)	Zn (%)	Pb (%)	Tonnes (Mt)	Zn (%)	Pb (%)
Tala Hamza	-	44.2	5.54	1.44	8.9	4.0	0.7	53.0	5.3	1.3
Total	-	44.2	5.54	1.44	8.9	4.0	0.7	53.0	5.3	1.3
Terramin Share	65%	28.7	5.54	1.44	5.8	4.0	0.7	34.5	5.3	1.3

- 1 January 2018 Tala Hamza Resource Estimate prepared and reported in accordance with the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves, December 2012 (JORC Code 2012).
- 2 Resource Estimate assumes the selective mining method of Underhand Drift and Fill.
- 3 Resource classification; Indicated - drill spacing < 75 m, Inferred - drill spacing > 75m.
- 4 Zinc Equivalence formula %ZnEq = %Zn + %0.856 Pb.
- 5 Estimated at a 3.0% ZnEq cut off within the 1% lead + zinc outline.
- 6 The 2018 Resource is inclusive of Reserves



# Annex: Tala Hamza Resources & Reserves

## Tala Hamza Resource

2010 Reserve Tala Hamza	Terramin Interest (%)	Probable Reserve			Total Reserve		
		Tonnes (Mt)	Zn (%)	Pb (%)	Tonnes (Mt)	Zn (%)	Pb (%)
Tala Hamza	-	38.10	4.78	1.36	38.10	4.78	1.36
Total	-	38.10	4.78	1.36	38.10	4.78	1.36
Terramin Share	65%	24.80	4.78	1.36	24.80	4.78	1.36

- 1 2010 Ore Reserves reported under JORC-2004
- 2 Reserves estimated based on Block Caving Mining Method
- 3 Total extraction included 46.8Mt, less 6.9Mt waste material separated and 1.8Mt Inferred or unclassified material
- 4 Cut-off grade was 2.5% ZnEq

2018 Reserve Tala Hamza	Terramin Interest (%)	Proved Reserves			Probable Reserves			Total Reserves		
		Tonnes (Mt)	Zn (%)	Pb (%)	Tonnes (Mt)	Zn (%)	Pb (%)	Tonnes (Mt)	Zn (%)	Pb (%)
Tala Hamza	-	-	-	-	25.9	6.3	1.8	25.9	6.3	1.8
Total	-	-	-	-	25.9	6.3	1.8	25.9	6.3	1.8
Terramin Share	65%	-	-	-	16.8	6.3	1.8	16.8	6.3	1.8

- 1 2018 Ore Reserves Estimate is reported in accordance with JORC-2012
- 2 Designs and schedules use the Underhand Drift and Fill method
- 3 Project cut-off grade is 4.5% Pb+Zn (approx. 4.4% ZnEq)

# Annex: Gold, Lead & Zinc Resources

## Bird-In-Hand Resource

2018 Resource Bird in Hand	Indicated Resource			Inferred Resource			Total Resource				
	Tonnes (kt)	Au (g/t)	Ag (g/t)	Tonnes (kt)	Au (g/t)	Ag (g/t)	Tonnes (kt)	Au (g/t)	Au (koz)	Ag (g/t)	Ag (koz)
Bird in Hand	432	14.4	7.56	220	9.2	2.4	650	12.6	265	5.8	122
Total	432	14.4	7.56	220	9.2	2.4	650	12.6	265	5.8	122

1 BIH Resource as at 30 October 2018 as per ASX Release BIH Scoping Study Generates Strong Returns, inclusive of resource statement.

## Angas and Sunter Resource

2018 Resource	Indicated Resource						Inferred Resource						Total Resource					
	Tonn-es (Mt)	Zn (%)	Pb (%)	Cu (%)	Ag (g/t)	Au (g/t)	Tonn-es (Mt)	Zn (%)	Pb (%)	Cu (%)	Ag (g/t)	Au (g/t)	Tonn-es (Mt)	Zn (%)	Pb (%)	Cu (%)	Ag (g/t)	Tonn-es (Mt)
Angas <sup>1, 2</sup>	0.66	4.68	1.81	0.14	19	0.35	0.25	2.8	1.3	0.1	18	0.3	0.91	4.2	1.7	0.1	19	0.3
Sunter <sup>1, 3</sup>	0.13	5.7	2.31		21		0.24	2.9	1.2		13		0.38	3.8	1.6		15	
Total	0.79	5.2	1.45	0.12	19	0.29	0.49	3.46	1.77	0.05	16	0.15	1.29	4.87	1.54	0.07	18	0.21

1 Resources for Angas and Sunter (JORC 2004) are estimated at a cut off of 2% Pb+Zn.

2 Angas Resources as at 1 Jan 2013. Resources exclude oxide and transitional material.

3 Sunter Resources as at 29 November 2011. Resources exclude oxide and transitional material.