



# **TERRAMIN INVESTOR UPDATE MINES AND MONEY**

Richard Taylor | CEO

Q1 2019



# Forward Looking & Competent Person Statements

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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

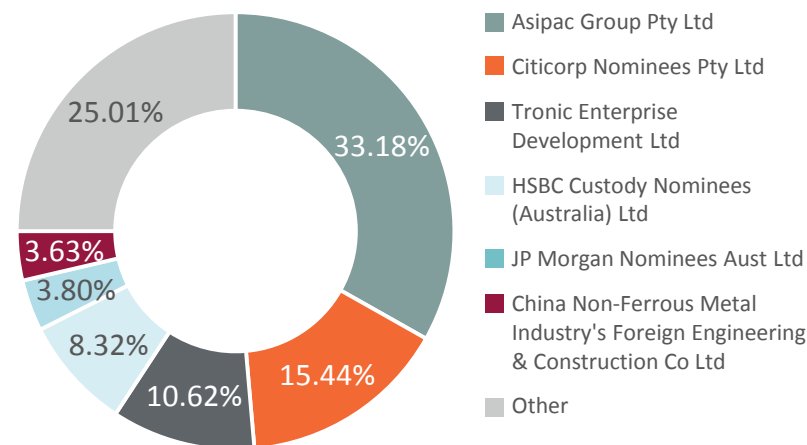
## Board and Management

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



# Tala Hamza Highlights

## High grade & large scale

- Tala Hamza is a high grade zinc and lead operation
- Concentrate production will be significant in global terms



## Long life

- Tala Hamza has a projected mine life of 21 years
- Deposit is open to the south and east with near mine exploration potential



## Terramin 65% & control

- Terramin owns 65% of the WMZ joint-venture
- Strong joint venture partners in state-owned ENOF and ORGM



## Robust economics

- Compelling economics from initial project
- Optimisation potential from already identified expansion cases



## Strategic advantage

- Located in the heart of the Mediterranean
- Close to major infrastructure, including ports, roads and rail



# Tala Hamza Overview

Tala Hamza is one of the largest undeveloped zinc & lead mines in the world and an important part of future supply geared towards meeting projected increases in global zinc demand next decade

## Overview

- World class resource containing 3.5 million tonnes of zinc and lead.
- Global resource<sup>1</sup> of 53.0 million tonnes at 6.6% zinc plus lead.
- Joint venture with Algerian government owned entity (65% Terramin).
- Infrastructure available including deep water port and international airport.
- Low operating cost due to availability of low cost power and fuel.
- Young educated workforce available.



1. As per Tala Hamza DFS 2018

# Stakeholder Engagement

Terramin actively engages with communities in Algeria through formal government processes as well as employing predominantly from the local area and conducting hundreds of informal interactions

## Terramin Approach

All Projects have a Community Engagement Plan

CEP clearly identifies key stakeholders within the community

Outlines the framework for how Terramin engages with the stakeholders during all stages of development, operation and ultimately closure

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.



*Farming communities in the local area of Tala Hamza and Oued Amizour*



*Community Participation in Tala Hamza  
Biodiversity Monitoring*



*Bejaia and local port surrounds*



# Mining Method Comparison: Jinchuan Nickel

## Jinchuan

- Largest nickel producer in Asia
- 90% of China's domestic nickel production
- 150,000t of refined nickel metal
- Based in Gangsu Province P.R. China
- Commenced production in 1958
- Jinchuan International listed in Hong Kong
- Assets Zambia and DRC
- Centrally owned State Owned Enterprise

## Processing

- Concentrator capacity 29,000t per day
- Standard comminution circuit crush and grind
- Tailings dewatered and used in cement paste backfill
- Jinchuan owned smelter capacity utilised to produce nickel metal from concentrate

## Mining Method

- Underhand Drift and Fill (UDF)
- 6.5km along strike and 1km depth
- 6.0Mt contained nickel metal and 3.9Mt copper
- Three open operating areas
- Material mined from No2 Mine 4Mt and from Mines 1&2 a further 1Mt for a combined mine output of 5Mt
- Poor rock quality and highly fractured material was the primary reason for selecting UDF

## Jinchuan Visit



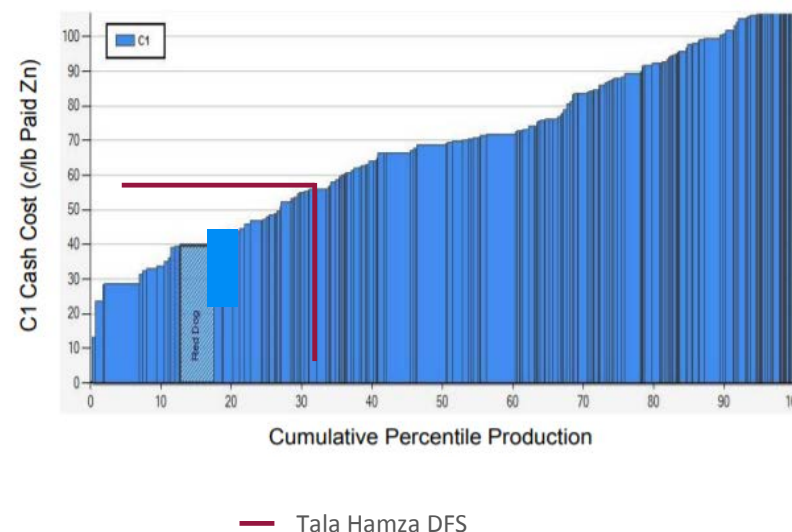
# Supportive Economics with competitive cost position

Low pre-production capital and highly competitive operating costs, with optimisation potential from already identified expansion cases

## Key financials and outputs – DFS 2018

Key financial metrics	DFS 2018 <sup>3</sup>
<b>Commodity Price Metrics</b>	
Zinc price – LOM average	US\$1.25/lb - US\$1.50/lb
Lead price – LOM average	US\$1.05/lb - US\$1.11/lb
<b>Cost Metrics</b>	
C1 Operating Costs – LOM average	US\$0.53/lb - US\$0.55/lb
All-in Sustaining Costs (AISC) – LOM average	US\$0.61/lb - US\$0.64/lb
<b>Financial Metrics</b>	
Discount rate	8.0%
Start-up-capital cost	US\$341M (A\$449M)
Sustaining capital cost	US\$144M (A\$190M)
NPV <sub>g</sub> Post-tax nominal <sup>1 2</sup>	US\$303M - US\$553m (A\$399M - A\$728m)
IRR Post-tax nominal (%) <sup>1</sup>	14% - 19%
Free cash flow – Post tax nominal <sup>1</sup>	US\$1.5B - US\$2.1B (A\$2.0B - A\$2.8B)
Payback Period	7 years - 9 years

## 2<sup>nd</sup> Quartile cost curve position<sup>(4)</sup>



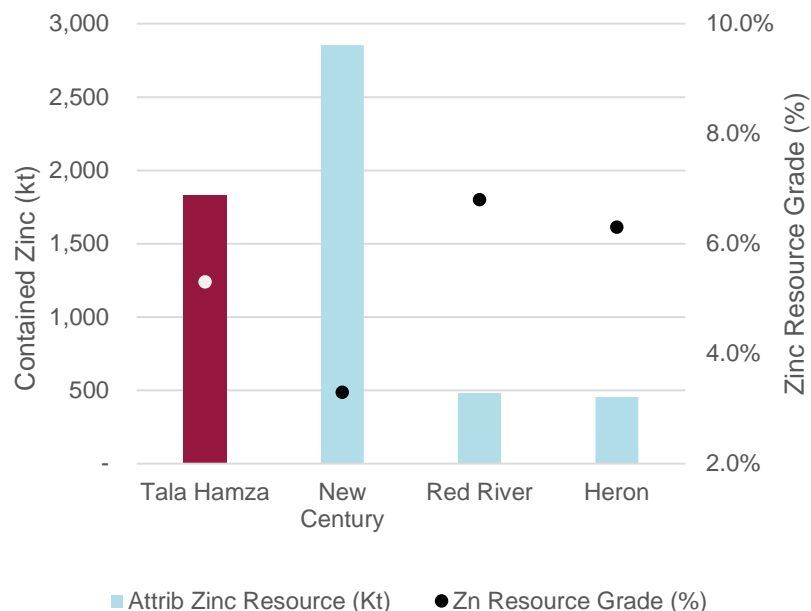


# Large scale & long life: exposure across commodity cycles

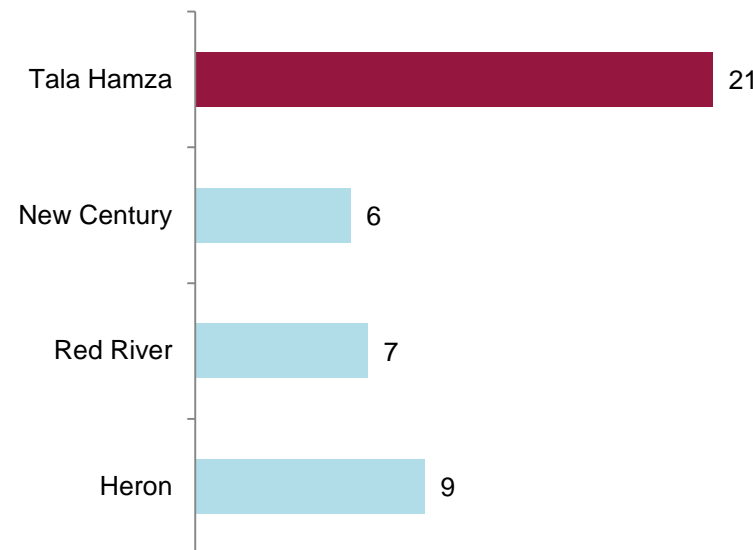


Concentrate production will be significant in global terms with projected mine life of 21 years, outlasting peer projects. Large resource allows flexibility in increasing throughput

## Contained zinc metal vs grade<sup>(1)</sup>



## Mine life comparison with ASX listed peers (years)<sup>(2)</sup>



Notes: (1) Displays resource attributable to 100% of the Tala Hamza Project, Terramin has a 65% interest in Tala Hamza. Peer statistics as per company announcements;  
(2) Peer mine life as per respective presentations at the Diggers & Dealers Mining Forum 6-8 August 2018

# Optimisation Potential

Terramin commenced optimisation studies immediately after completion of DFS 2018 to embed optionality into ongoing engineering studies in preparation for early site works

## Optimisation of mine plan

- Initial optimisation study works have been very promising
- ✓ Potential for significant scale efficiencies and unit cost reduction
- ✓ Target production rate could be increased to 2.0Mtpa from 1.32Mtpa
- ✓ 8Mt of additional ore to be produced without significantly impacting life of mine
- ✓ Potential to significantly increase the value and returns of the project
- ✓ Options analysis of cut-off grade and processing plant size

## Further Work

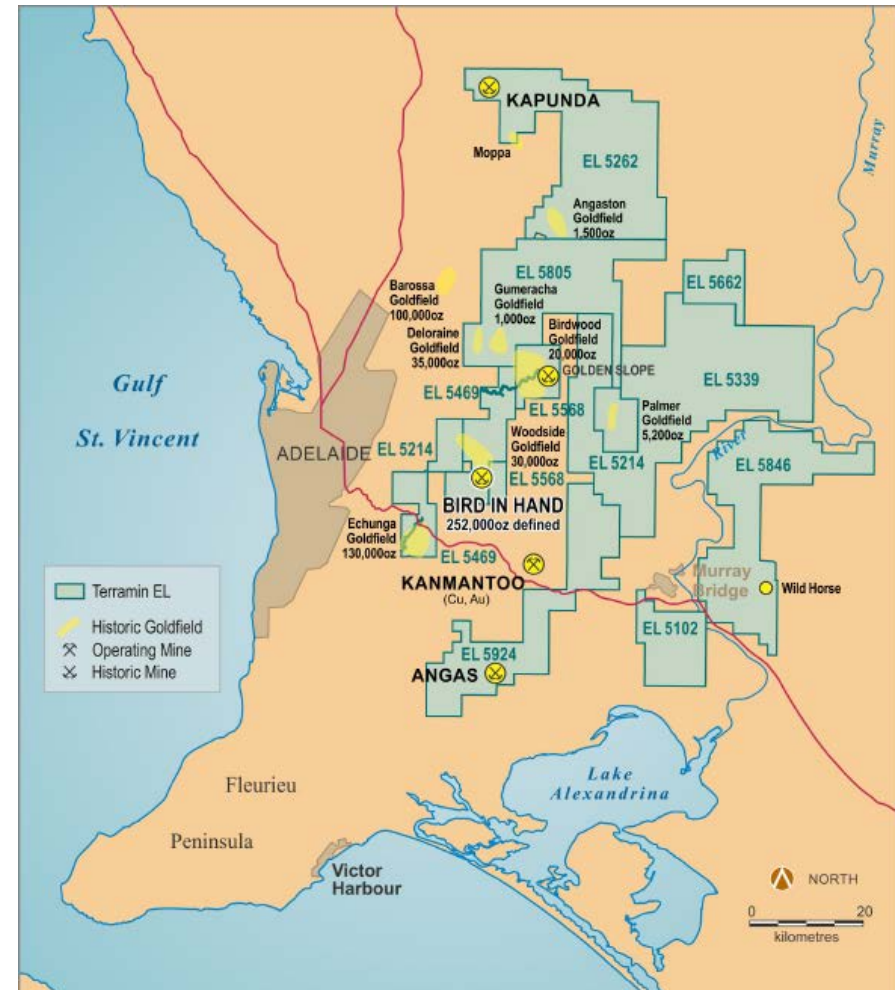
- Costs and engineering studies to enhance confidence around capital cost implications
- An exploration work program planned to support expansion cases

# Terramin South Australia Gold



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

- SA Government Gold Commodity Strategy to 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

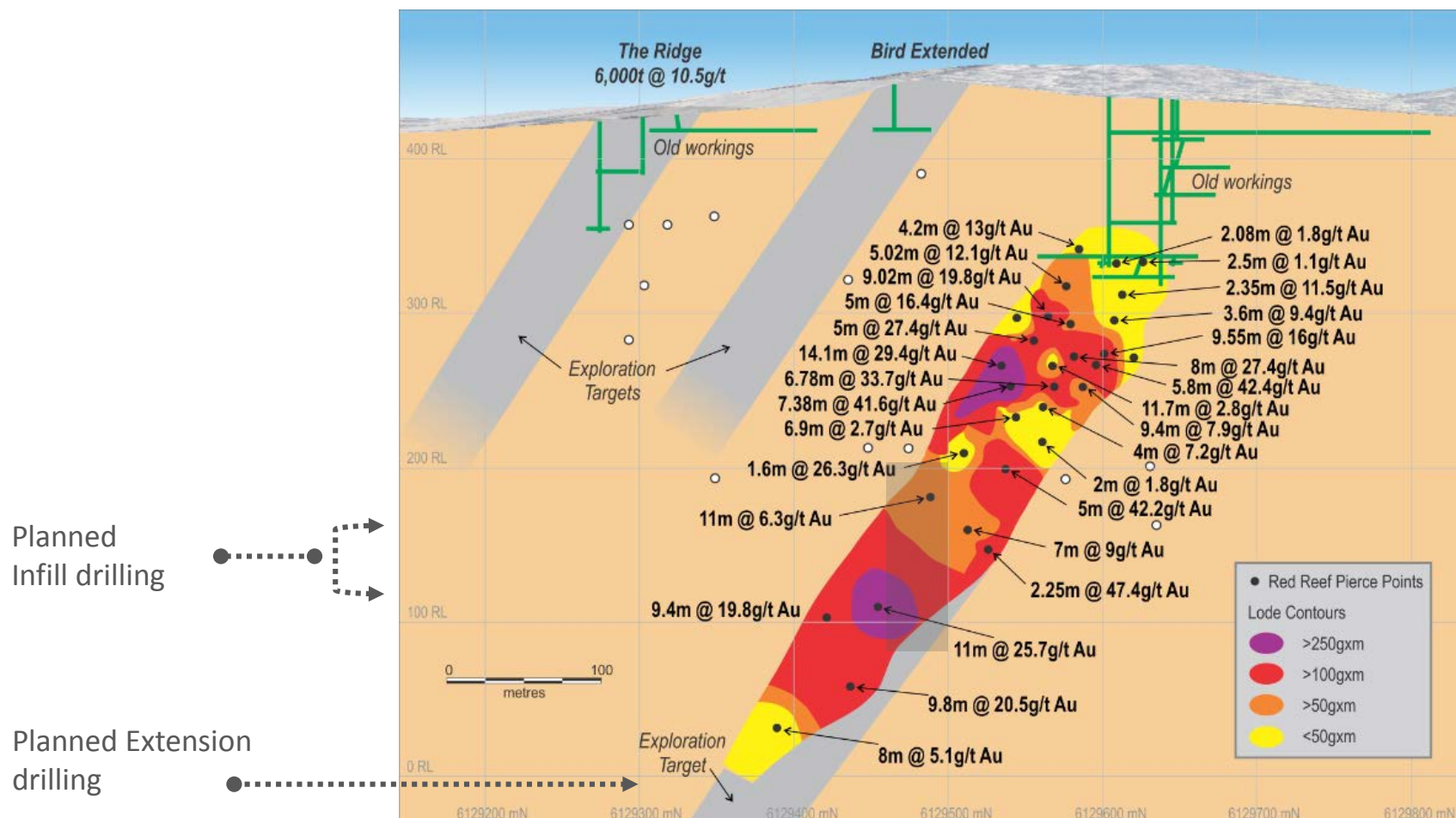
Key financial metrics	Scoping Study 2018
<b>Commodity Price Metrics<sup>1</sup></b>	
Gold price – LOM average	US\$1,225/oz (A\$1,700/oz)
Silver price – LOM average	US\$15.5/oz (A\$21.5/oz)
<b>Schedule production</b>	
Processed materials	595kt at 11g/t Au and 5g/t Ag
Annual production – LOM average <sup>2</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: (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

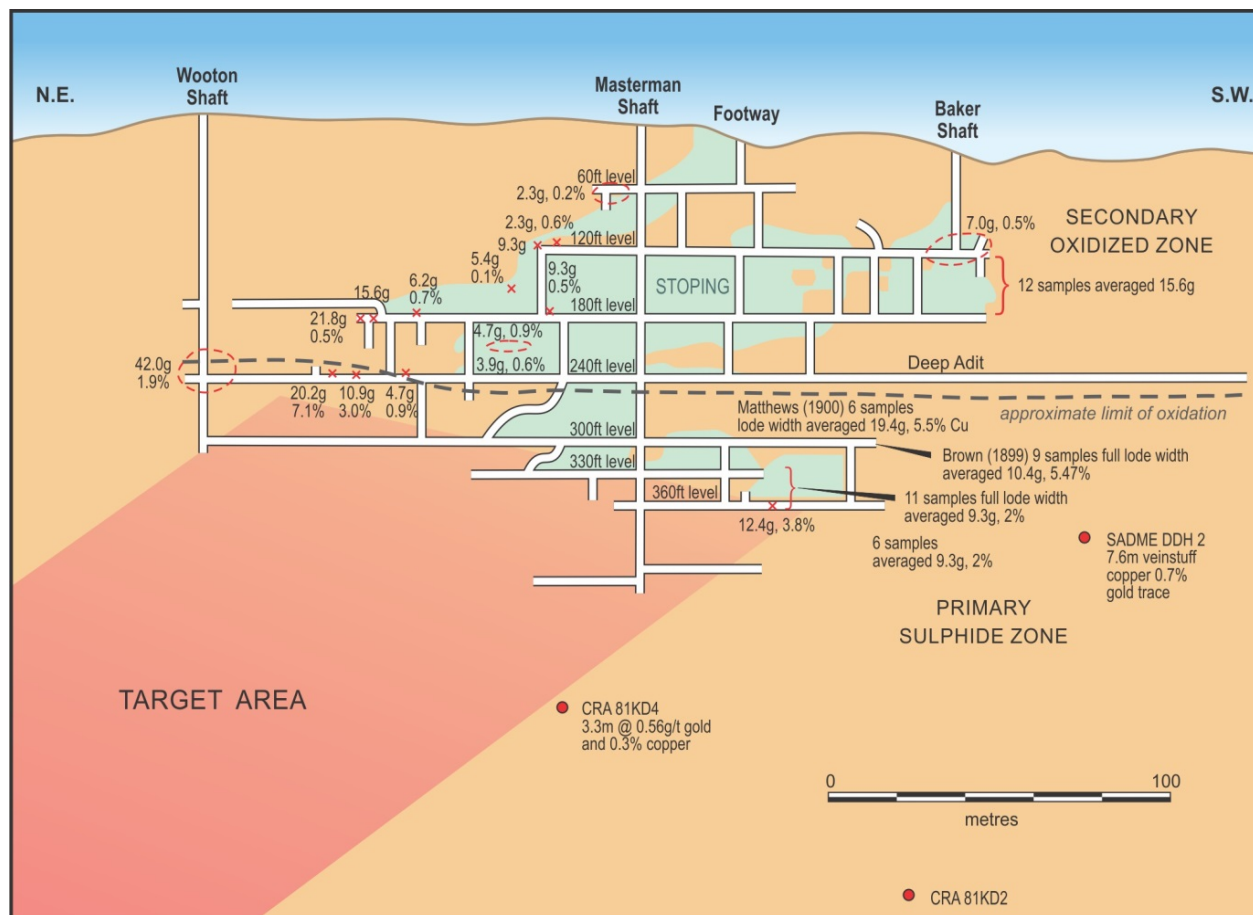
Bird-in-Hand Gold Project has significant exploration upside – deposit open at depth and historic mines highlight the potential along strike. Current Bird in Hand resource stands at 265,000 ounces.



# 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





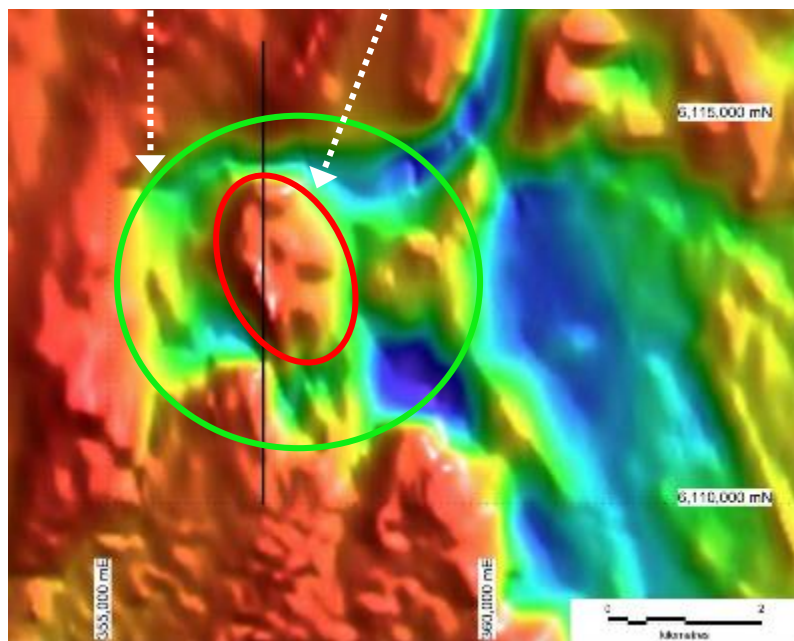
# Terramin Exploration – Wild Horse



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.

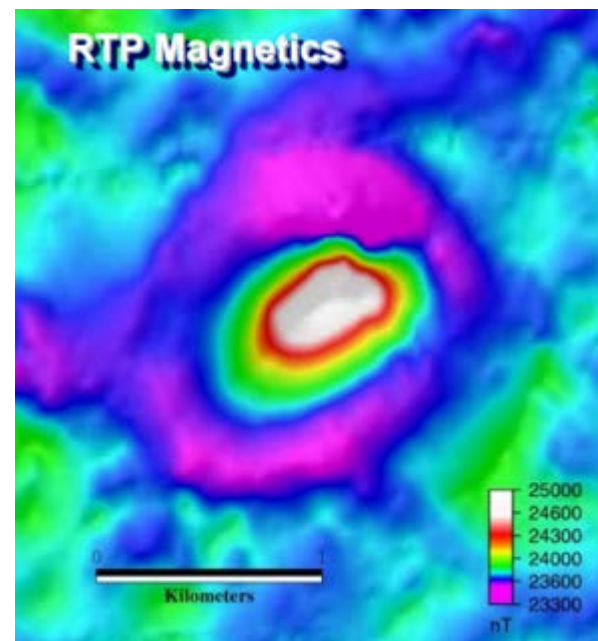
Quartz-Sericite-Pyrite?

Potassic Zone?



## Wild Horse – Terramin

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

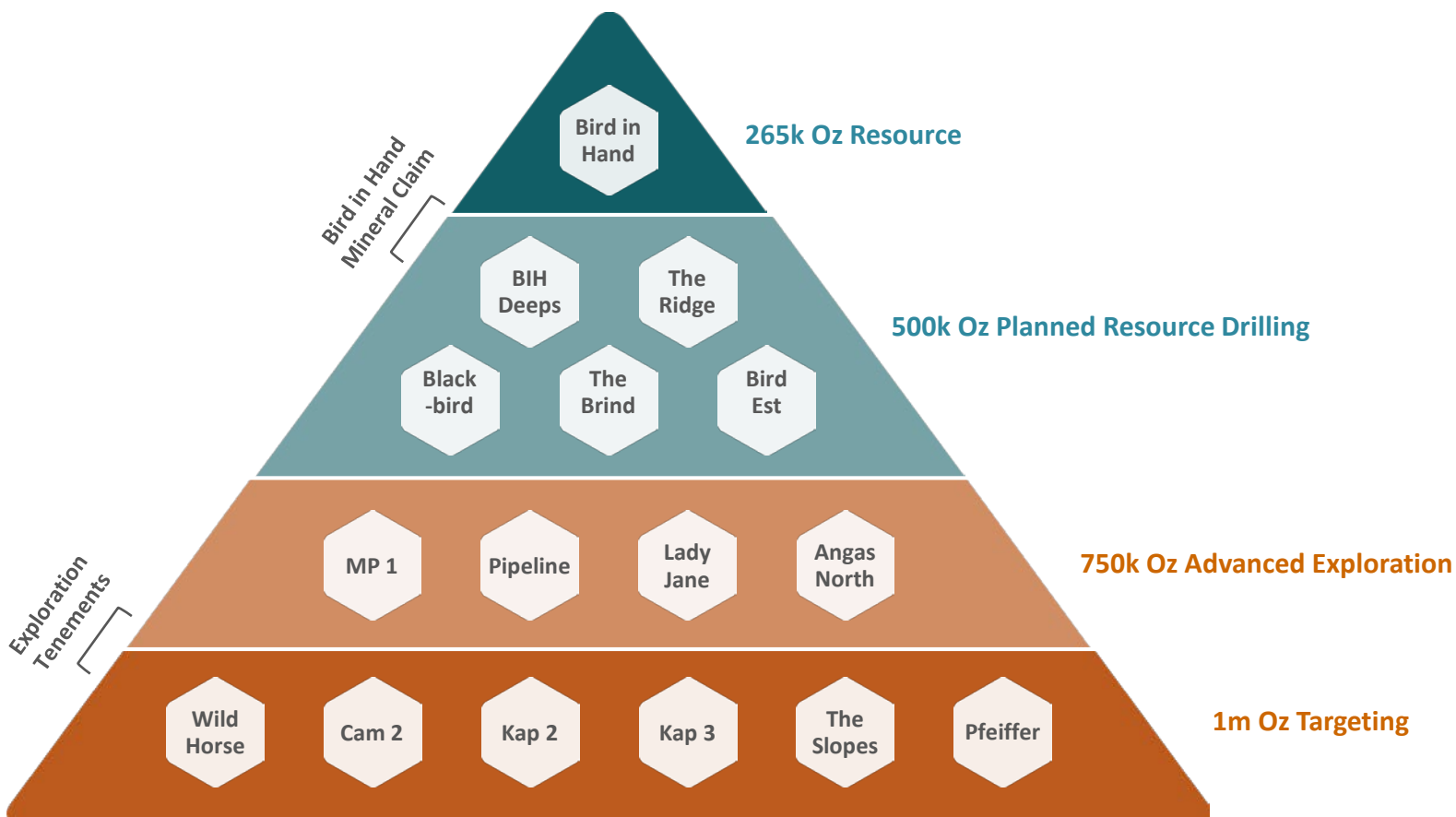


## Alumbraera – Argentina

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.



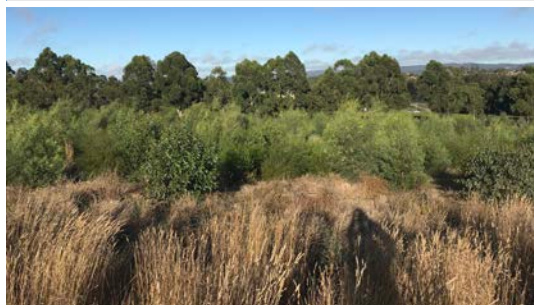
## Right Commodity

- 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:

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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
<b>Total</b>	-	<b>38.10</b>	<b>4.78</b>	<b>1.36</b>	<b>38.10</b>	<b>4.78</b>	<b>1.36</b>
<b>Terramin Share</b>	<b>65%</b>	<b>24.80</b>	<b>4.78</b>	<b>1.36</b>	<b>24.80</b>	<b>4.78</b>	<b>1.36</b>

- 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
<b>Total</b>	-	-	-	-	<b>25.9</b>	<b>6.3</b>	<b>1.8</b>	<b>25.9</b>	<b>6.3</b>	<b>1.8</b>
<b>Terramin Share</b>	<b>65%</b>	-	-	-	<b>16.8</b>	<b>6.3</b>	<b>1.8</b>	<b>16.8</b>	<b>6.3</b>	<b>1.8</b>

- 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 October 2018.

## 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.