

A photograph of an industrial facility, likely a refinery or chemical plant, at night. The facility is illuminated by warm orange lights, with various structures, pipes, and storage tanks visible against a dark sky. In the foreground, there is a large, dark, silhouetted pile of material, possibly ore or slag.

**Find.**

**Enhance.**

**Deliver.**

# **Investor Presentation**

## **Zurich Precious Metals Summit**

**November 2019**

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RESOURCES LTD

# Disclaimer

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This document has been prepared in accordance with the requirements of Australian securities laws, which may differ from the requirements of United States and other countries' securities laws. Unless otherwise indicated, all ore reserve and mineral resource estimates included or incorporated by reference in this document have been, and will be, prepared in accordance with the JORC classification system of the Australasian Institute of Mining, and Metallurgy and Australian Institute of Geosciences.

## COMPETENT PERSON

Unless otherwise stated, the information in this presentation that relates to mineral exploration, mineral resources and ore reserves is based on information compiled by Mr D I Chalmers, FAusIMM, FAIG, (director of the Company) who has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Ian Chalmers consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

# Strategy and Investment Highlights

Grow shareholder value by increasing production at Tomingley, pursuing organic growth through exploration and development, and strategic acquisition.

including a potential demerger and listing in H1 2020.

Unlock the value of Australian Strategic Materials (ASM),

Corporate Strength	Existing Production	Landmark Discovery At Boda	Growth Options
<ul style="list-style-type: none"> <li>▪ \$74M in cash, bullion and listed securities as at 30 September 2019 (nil debt)</li> <li>▪ Extensive senior management expertise in the full mining-cycle (exploration, approvals, construction, operation, rehab)</li> <li>▪ Well-credentialled and experienced Board</li> </ul>	<ul style="list-style-type: none"> <li>▪ Tomingley mill partially utilised for the existing underground; upgraded FY20 guidance of 30,000oz-35,000oz</li> <li>▪ Production growth through Tomingley Corridor (San Antonio, Roswell)</li> <li>▪ Expediting development pathway; underground initially with open pit longer term</li> <li>▪ Potential for strong near term cash flow</li> </ul>	<ul style="list-style-type: none"> <li>▪ Extensive porphyry mineralisation encountered with similar characteristics to Newcrest's Cadia Project (110km south)</li> <li>▪ Strong indications of large system at Kaiser-Boda</li> <li>▪ RC drilling shows extensive low grade from surface, with increase in grade from ~200m</li> <li>▪ 502m at 0.48g/t Au and 0.2% Cu; higher than Cadia East reserve grade</li> <li>▪ Q4 drill program will test scale and depth extension; 3-5 step-out diamond holes</li> </ul>	<ul style="list-style-type: none"> <li>▪ Extensive tenement holding in NSW with strong exploration potential</li> <li>▪ 15% of Genesis Minerals (ASX: GMD)</li> <li>▪ 13% of Calidus Resources (ASX: CAI)</li> <li>▪ 100% of Australian Strategic Materials, including Dubbo Project, with imminent demerger under consideration</li> </ul>

## Corporate Profile



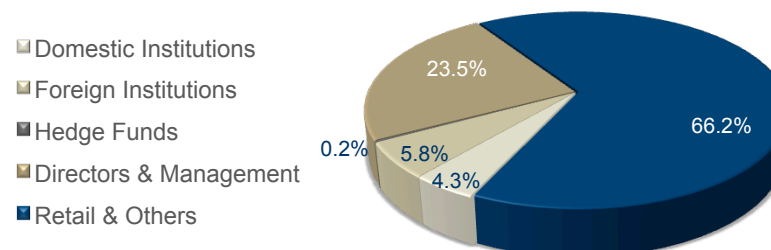
### Capital Structure

Ordinary Shares	506 million
Share Price (5 November 2019)	A\$0.67
Market capitalisation	A\$339M
12 Month low/high	A\$0.18/\$0.86
Cash and Gold Bullion (nil debt)	A\$58.4M
Listed Investments (at market, 30.09.2019)	A\$15.5M
Interest Bearing Debt	Nil
Enterprise Value	A\$266M

### The Board

Ian Gandel	Chairman
Nic Earner	Managing Director
Ian Chalmers	Technical Director
Anthony Lethlean	Non-Executive Director
Gavin Smith	Non-Executive Director
Dennis Wilkins	Company Secretary

### Shareholder Ownership (At 30 Sept 2019)



### Share Price And Volume (4 Months)





# Corporate History – 50 Years of Find. Enhance. Deliver.



## Timeline of Key Milestones (incorporated 1969)



## Business Overview



### Alkane Gold Business: Positioned For Growth

Tomingley Gold Project	Tomingley Corridor	Boda Discovery (NMPP)	Regional Exploration	ASX Gold Investments
<ul style="list-style-type: none"> <li>49,000oz in FY19, revised FY20 guidance 30,000-35,000oz</li> <li>UG development advanced, stope production expected Q4 19</li> <li>Underground revised modelling underway to extend mine life</li> </ul>	<ul style="list-style-type: none"> <li>Multiple gold discoveries in 2018 including San Antonio, Roswell</li> <li>60,000m drill out advancing</li> <li>Initial resource expected Q4 19</li> <li>Expediting pathway to UG mining to utilise mill capacity</li> </ul>	<ul style="list-style-type: none"> <li>Significant discovery in Q3 2019</li> <li>502m at 0.48g/t Au and 0.2% Cu</li> <li>Q4 program to test scale and identify high grade zones</li> <li>Agreements in place for land access</li> <li>Arrangements for existing programme agreed with landholder and being finalised with leaseholder</li> </ul>	<ul style="list-style-type: none"> <li>Extensive landholding in NSW</li> <li>Peak Hill resource</li> <li>NMPP porphyry regional targeting underway following Boda discovery</li> <li>Long track record of discovery in NSW, excellent understanding of permitting regime</li> </ul>	<ul style="list-style-type: none"> <li>Cornerstone investments with strategic alliance</li> <li>15% Genesis Minerals (ASX: GMD)</li> <li>13% Calidus Resources (ASX: CAI)</li> </ul>

# Tomingley Gold Operations



1 Mt/year processing



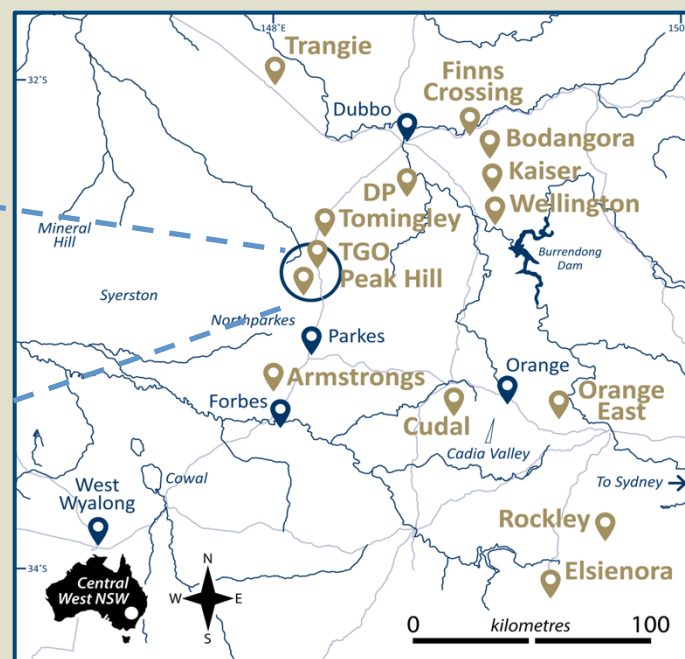
## Tomingley Gold Project



- 1.0 mtpa plant (achieved run rate of 1.4mtpa on oxide ore)
- Construction completed in 2014 on time and budget
- Upgraded production guidance for FY20 30,000 – 35,000oz Au
- Currently treating existing low grade stockpiles
- Underground development advanced, ahead of budget and schedule
- Underground mining of ore has commenced
- Updated underground mine plan modelling underway
- Current modelling has plant forecast to run at ~50% capacity for calendar 2020
- Exploration has revitalised the Project – underground and Tomingley Corridor
- Potential for strong near term cash flow

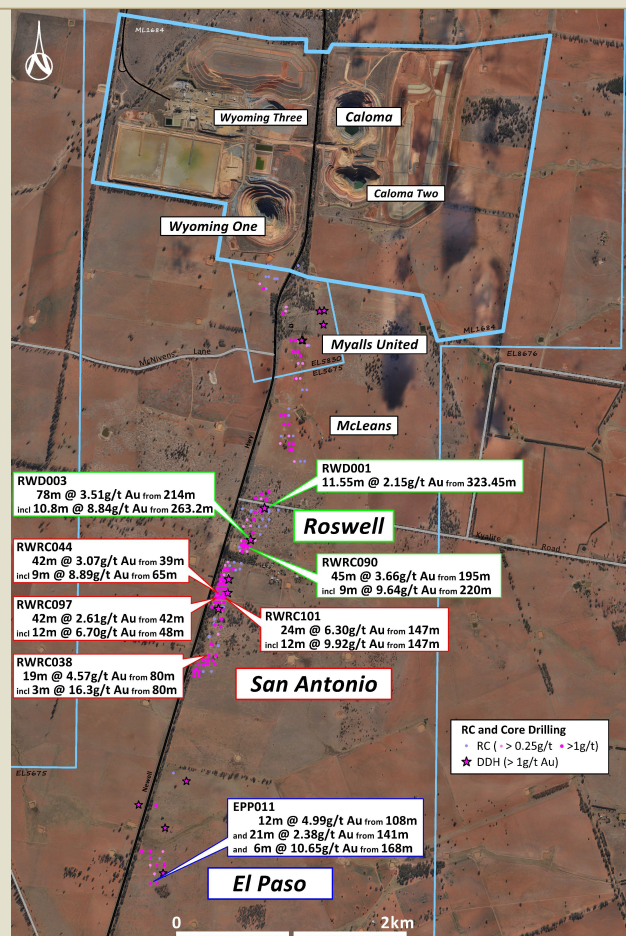
## Tomingley Corridor: Central West NSW

~10km mineralisation adjacent to established processing infrastructure





# Tomingley Corridor: Exploration in Plan



- Three major target areas within 8km of mill; Roswell, San Antonio and El Paso
- Exploration Target of **~15.8-23.8 million tonnes (open pit and underground) at a grade ranging between 1.7-2.2 g/t Au\***
- Infill drilling at 40m spacing of Roswell, San Antonio largely progressed
- Maiden Resource (Roswell) by December 2019
- Extent of mineralisation in San Antonio, Roswell alone covers significantly larger area than original Tomingley discoveries

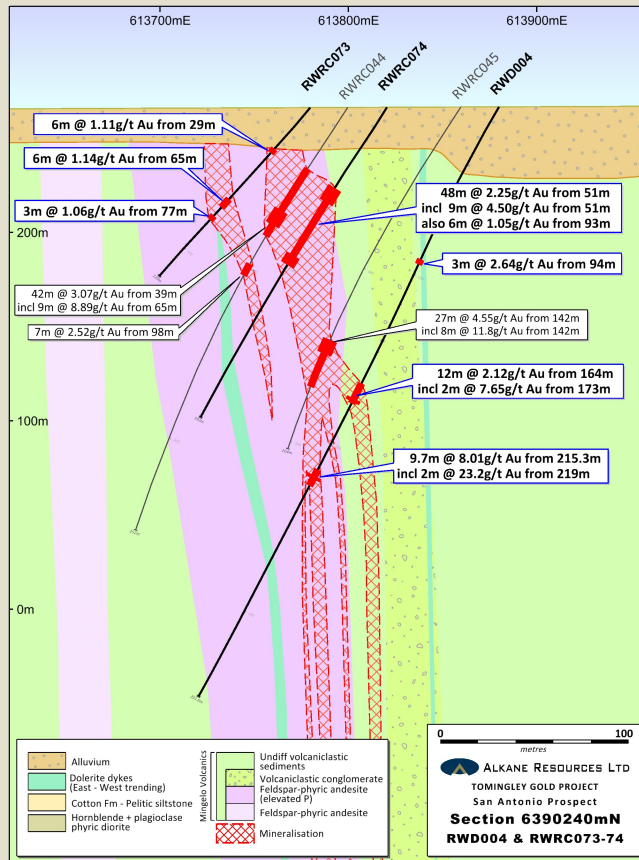
ASX release 9 July 2019

*\*The potential quantity and grade of the Exploration Target is conceptual in nature and therefore is an approximation. 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. The Exploration Target has been prepared and reported in accordance with the 2012 edition of the JORC Code.*

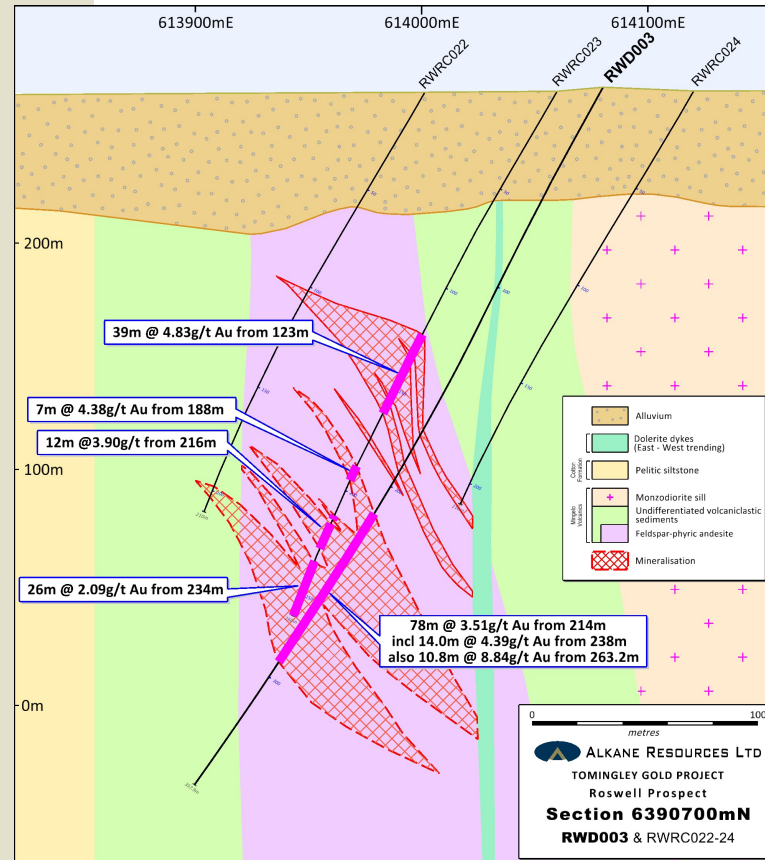
# Tomingley Corridor: Cross sections



## San Antonio



## Roswell



## Tomingley Corridor: Development plan



**Objective:** to define the initial resource and develop an underground and subsequently an open pit mine on an accelerated timetable

<b>Resource Delineation</b>	<ul style="list-style-type: none"><li>▪ 40m space drilling largely complete at Roswell (resource early December)</li><li>▪ Drilling ongoing at San Antonio (resource Q1 2020) and El Paso (resource H2 2020)</li></ul>
<b>Exploration Drive</b>	<ul style="list-style-type: none"><li>▪ From existing Wyoming One decline</li><li>▪ Drilling positions and bulk samples between Wyoming and Roswell</li><li>▪ Approvals (applications submitted)</li><li>▪ Development team (equipment procurement and recruitment underway)</li><li>▪ Surface vent fan (land under option)</li></ul>
<b>Underground Permitting</b>	<ul style="list-style-type: none"><li>▪ Utilising exploration drive for production</li><li>▪ Environmental approvals process underway</li><li>▪ Resource definition drilling H1 2020</li><li>▪ Mine plan after resource drilling</li></ul>
<b>Open Pit Permitting</b>	<ul style="list-style-type: none"><li>▪ Infrastructure Impact – studies and consultation underway</li><li>▪ Approvals – environmental approvals underway</li><li>▪ Landholder agreement – land under option or consultation</li><li>▪ Resource definition drilling and mine planning to follow</li></ul>

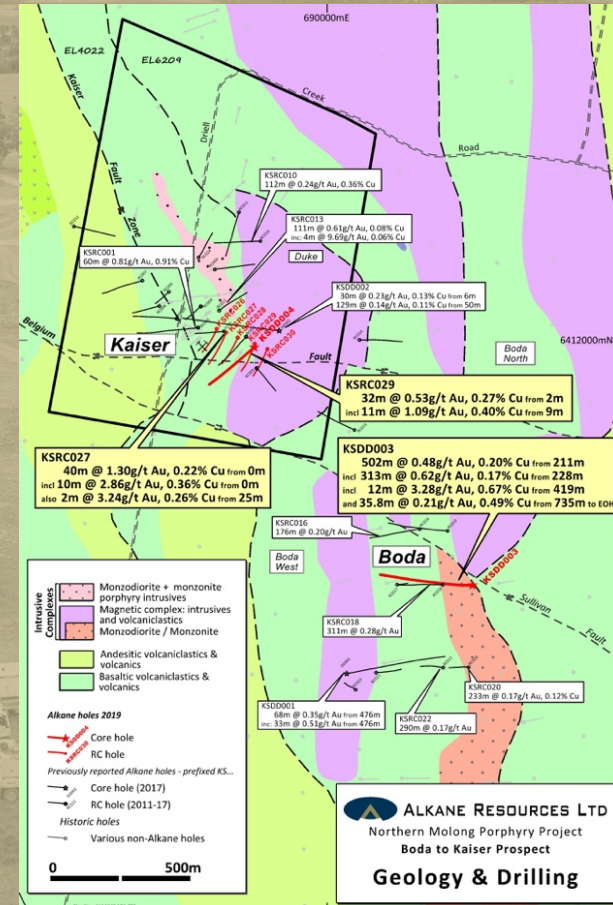


# Northern Molong Porphyry Project

## "A game changing discovery"

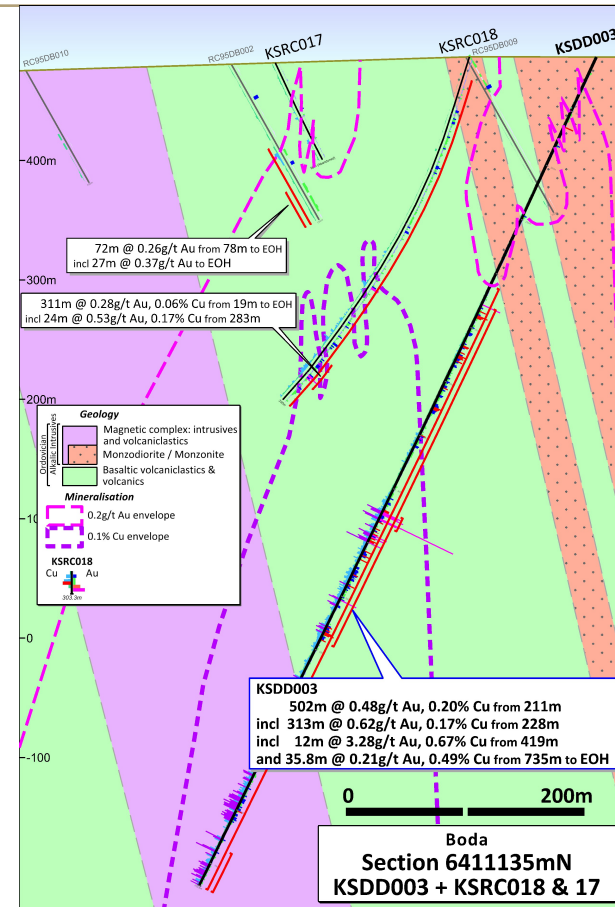
- Significant Gold-Copper Porphyry mineralisation at Boda and Kaiser prospects
- Boda target identified by geophysics followed by RC drilling (KSRC018 311m @0.28g from surface)
- Recent diamond hole demonstrates increasing grade at depth\*:
  - KSDD003 502m @ 0.48g/t Au, 0.20% Cu from 211m
  - Incl 313m @ 0.62g/t Au, 0.17% Cu from 228m
  - Incl 12m @ 3.28g/t Au, 0.67% Cu from 419m
  - And 35.8m @ 0.21g/t Au, 0.49% Cu from 735m to EOH
- Numerous other intercepts within 2-3km strike length demonstrating extensive mineralised system
- Prospect potential akin to Cadia Valley (Newcrest)
- Regional targeting underway informed by Boda

\*ASX Release: 9 September 2019



## Boda Drilling

- Series of 3 to 5 step out holes at ~100m spacing planned along strike and also targeting underneath the discovery hole KSDD003 (which finished in mineralisation)
- Updated IP survey planned over ~5km prospective corridor
- IP survey and drilling contracts have been let
- Landholder and leaseholder (wind farm) access agreements in place. For next drilling programme: landholder arrangements agreed, leaseholder arrangements being finalised





## Broader Strategy for Gold Assets

- Stated vision to become a multi-mine Australian gold producer
- Tomingley well-positioned to anchor strategy
- Strong regional NSW exploration portfolio
- Potential growth via strategic investment and future M&A
- Collaborative approach to investments with board representation agreed

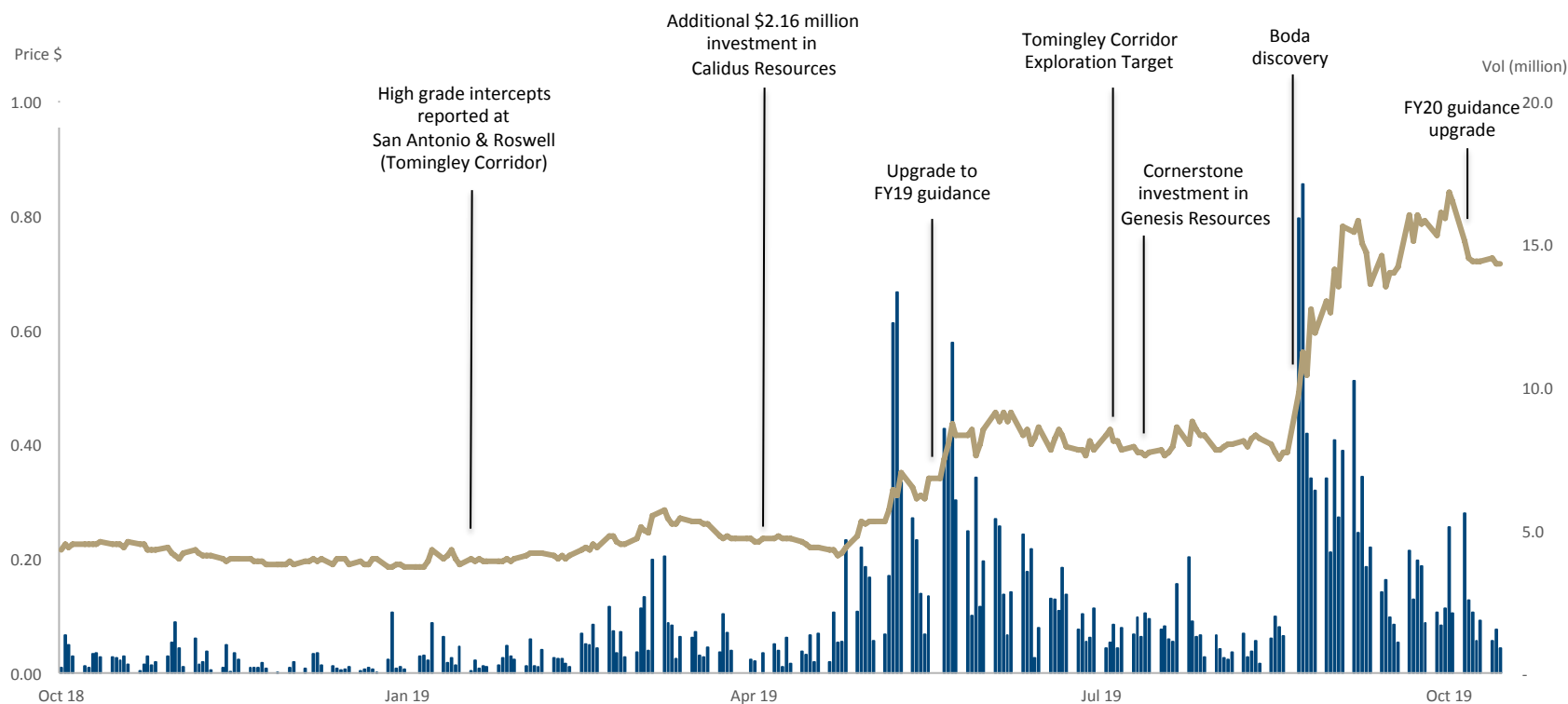


Alkane owns ~15% of Genesis Minerals, which has a 700,000oz high grade Au resource, excellent exploration potential and is seeking a path to production.



Alkane owns ~13% of Calidus Resources, which is on track to develop an 80,000oz+ p.a. Au project in WA from its 1,250,000oz resource.

## 2019 News Flow and ASX Trading



## Key Work Plan & Milestones – Next 6 Months



- Commencement of step-out drilling at Boda<sup>1</sup> (Q4) and results (Q4 / Q1 2020)
- Inferred Resource for Tomingley Corridor (Roswell early December)
- Updated Tomingley Underground Mine Plan and Scheduling
- Acquisition of key land for Tomingley Corridor UG development (under option)
- Approvals and Commencement of Tomingley Corridor Exploration Drive
- Update on ASM Demerger Considerations (Q4)

<sup>1</sup> Subject to finalisation of leaseholder arrangements – land access agreements in place, landholder arrangements in place

## Business Overview



### Australian Strategic Materials: A Unique Specialty Metals Company

Dubbo Project	ASM Technology	Korean Metals Plant	Potential Demerger
<ul style="list-style-type: none"><li>▪ All major permits in place and piloting completed</li><li>▪ Construction ready; land and water secured</li><li>▪ Ongoing offtake discussions</li></ul>	<ul style="list-style-type: none"><li>▪ IP developed through Dubbo R&amp;D</li><li>▪ Investment in RMR Tech, South Korea</li><li>▪ Pilot plant under construction</li><li>▪ Global commercialisation rights for Zirconium, Hafnium</li></ul>	<ul style="list-style-type: none"><li>▪ 2020 feasibility to be undertaken</li><li>▪ Zirconium, Hafnium separation and metalisation</li><li>▪ Customer discussions commencing</li></ul>	<ul style="list-style-type: none"><li>▪ Demerger and listing of ASM to maximise value under active consideration by Board</li><li>▪ Consultation with key regulators commenced</li><li>▪ CEO search for ASM underway</li></ul>




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# Australian Strategic Materials

## Dubbo Project

- Critical minerals resource
  - Rare earths, zirconium, hafnium and niobium
  - Used in clean energy, electric vehicles and most modern technology
- Defined resource supports 70+ year open pit operation
- 400km northwest of Sydney
- Extensive piloting at ANSTO since 2008
- Full FEED with Hatch and further updates
- All major State and Federal approvals in place
- Land and resource wholly owned

## Korean Metals Plant

- RMR tech pilot plant under construction
- Seeking to confirm low cost, low emission process
- 2020 feasibility on integrated separation and metallisation plant



## Dubbo Project Financials

### 20-year Base Case (1Mtpa)

- 1.0Mtpa (base case)
- CAPEX: A\$1.3B
- Revenue: A\$663M
- Operating Costs: A\$341M
- EBITDA: A\$320M
- IRR: 17.5%
- NPV: A\$1.24B

### Modular (4 June 2018)

#### Stage 1

- 0.5Mtpa
- CAPEX: A\$808M
- Revenue: A\$397M
- Operating Costs: A\$202M

#### Stage 2

- 0.5Mtpa
- CAPEX: A\$692M
- Revenue: A\$663M
- Operating Costs: A\$341M

## Dubbo Project Engineering and Financials Update (4 June 2018)

### Modular Advantage

- Large elements of construction occur offsite
- Significantly reduces initial start-up capex
- Reduces construction period
- Allows the Project to develop and grow with its customers and the target markets for its products

Note: As per ASX announcement of 4 June 2018. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which any Competent Person's findings are presented have not been materially modified from the original market announcement

## Tomingley (TGO) Resources



### Tomingley Gold Operations Mineral Resources (as at 30 June 2019)

Deposit	Measured Tonnage (Kt)	Grade (g/t Au)	Indicated Tonnage (Kt)	Grade (g/t Au)	Inferred Tonnage (Kt)	Grade (g/t Au)	Total Tonnage (Kt)	Grade (g/t Au)	Total Gold (Koz)
<b>Open Pittable Resources (cut off 0.50g/t Au)</b>									
Wyoming One	184	1.5	982	1.7	137	0.7	1,303	1.6	60
Wyoming Three	86	2.0	16	1.3	33	1.4	135	1.7	8
Caloma	895	1.6	1,016	1.2	824	1.2	2,735	1.3	116
Caloma Two	64	2.3	812	2.0	26	1.4	902	2.0	58
Sub Total	1,229	1.6	2,826	1.6	1,020	1.2	5,075	1.5	242
<b>Underground Resources (cut off 2.5g/t Au)</b>									
Wyoming One	0	0.0	787	4.0	109	3.2	896	3.9	113
Wyoming Three	10	3.6	6	3.1	4	3.1	20	3.4	2
Caloma	78	3.8	32	3.4	44	3.0	154	3.5	17
Caloma Two	-	0.0	218	3.6	76	3.2	294	3.5	33
Sub Total	88	3.8	1,043	3.98	233	3.2	1,364	3.8	165
<b>Total</b>	<b>1,317</b>	<b>1.8</b>	<b>3,869</b>	<b>2.2</b>	<b>1,253</b>	<b>1.5</b>	<b>6,439</b>	<b>2.0</b>	<b>407</b>

Note: Full details including Competent Person Statements in ASX announcements 23 September 2019 - the Company confirms that all material assumptions and technical parameters underpinning the estimated Mineral Resources and Ore Reserves, and production targets and the forecast financial information as disclosed continue to apply and have not materially changed

## Tomingley (TGO): Reserves



### Tomingley Gold Project Mineral Reserves (as at 30 June 2019)

Deposit	Proved Tonnage (Kt)	Grade (g/t Au)	Probable Tonnage (Kt)	Grade (g/t Au)	Tonnage (Kt)	Grade (g/t Au)	Total Gold (Koz)
<b>Open Pittable Reserves (cut off 0.50g/t Au)</b>							
Wyoming One	0	0.0	0	0.0	0	0.0	0
Wyoming Three	0	0.0	0	0.0	0	0.0	0
Caloma	0	0.0	0	0.0	0	0.0	0
Caloma Two	0	0.0	0	0.0	0	0.0	0
Stockpiles	677	0.7	0	0	677	0.7	15
Sub Total	677	0.7	0	1.7	677	0.7	15
<b>Underground Reserves (cut off 2.50g/t Au)</b>							
TGO Underground	45	2.7	688	3.2	732	3.1	74
Sub Total	45	2.7	688	3.2	732	3.1	74
<b>Total</b>	<b>722</b>	<b>1.8</b>	<b>688</b>	<b>1.9</b>	<b>1,409</b>	<b>2.0</b>	<b>89</b>

Note: Full details including Competent Person Statements in ASX announcements 23 September 2019 - the Company confirms that all material assumptions and technical parameters underpinning the estimated Mineral Resources and Ore Reserves, and production targets and the forecast financial information as disclosed continue to apply and have not materially changed

## Peak Hill (PHGM): Gold and Copper Resources



### Proprietary Mineral Resource

Project	Resource Category	Cut-Off	Tonnes (Mt)	Gold Grade g/t	Gold Metal (Koz)	Copper Metal (%)
Proprietary Underground	Inferred	2g/t Au	1.02	3.29	108	0.15
<b>Total</b>			<b>1.02</b>	<b>3.29</b>	<b>108</b>	<b>0.15</b>

Note: Full details including Competent Person Statements in ASX announcement 18 October 2018 - the Company confirms that all material assumptions and technical parameters underpinning the estimated Mineral Resources and Ore Reserves, and production targets and the forecast financial information as disclosed continue to apply and have not materially changed



# Dubbo Project: Resources and Reserves



## Dubbo Project – Mineral Resources

Resource Category	Tonnes(Mt)	ZrO <sub>2</sub> (%)	HfO <sub>2</sub> (%)	Nb <sub>2</sub> O <sub>5</sub> (%)	Ta <sub>2</sub> O <sub>5</sub> (%)	Y <sub>2</sub> O <sub>3</sub> (%)	TREO* (%)
Measured	42.81	1.89	0.04	0.45	0.03	0.14	0.74
Inferred	32.37	1.90	0.04	0.44	0.03	0.14	0.74
<b>Total</b>	<b>75.18</b>	<b>1.89</b>	<b>0.04</b>	<b>0.44</b>	<b>0.03</b>	<b>0.14</b>	<b>0.74</b>

\*TREO% is the sum of all rare earth oxides excluding ZrO<sub>2</sub>, HfO<sub>2</sub>, Nb<sub>2</sub>O<sub>3</sub>, Ta<sub>2</sub>O<sub>5</sub>, Y<sub>2</sub>O<sub>3</sub>

## Dubbo Project – Ore Reserves

Reserve Category	Tonnes (Mt)	ZrO <sub>2</sub> (%)	HfO <sub>2</sub> (%)	Nb <sub>2</sub> O <sub>5</sub> (%)	Ta <sub>2</sub> O <sub>5</sub> (%)	Y <sub>2</sub> O <sub>3</sub> (%)	TREO* (%)
Proved	18.90	1.85	0.04	0.440	0.029	0.136	0.735
Probable	0						
<b>Total</b>	<b>18.90</b>	<b>1.85</b>	<b>0.04</b>	<b>0.440</b>	<b>0.029</b>	<b>0.136</b>	<b>0.735</b>

\*TREO% is the sum of all rare earth oxides excluding ZrO<sub>2</sub>, HfO<sub>2</sub>, Nb<sub>2</sub>O<sub>3</sub>, Ta<sub>2</sub>O<sub>5</sub>, Y<sub>2</sub>O<sub>3</sub>

Note: Full details including Competent Person statements in ASX announcement 19 September 2017 - the Company confirms that all material assumptions and technical parameters underpinning the estimated Mineral Resources and Ore Reserves, and production targets and the forecast financial information as disclosed continue to apply and have not materially changed