



ARCHER

*Archer Exploration Limited*

*AGM presentation*

3 November 2017



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## FY 16/17 highlights

- New Copper discovery at Blue Hills
- Copper and Cobalt discovered at North Broken Hill
- Campoona Graphite/Graphene Mining Lease application lodged
- Completion of OneSteel bulk magnesia trial
- Drill success at Ketchowla

## Recent achievements

- Acquisition of Carbon Allotropes online graphene/graphite trading platform
- Appointment of Mohammad Choucair as CEO – world renowned graphene expert
- Grant of Campoona Mining Lease imminent
- Establishment of Sydney office – close proximity to potential customers

## Key information\*

<b>ASX Code:</b>	AXE
<b>Share price:</b>	7.8 cents
<b>Shares on issue:</b>	137.2 million
<b>Market cap:</b>	\$10.1 million
<b>Cash at Bank</b> (30 Sept 2017)	\$1.0 million

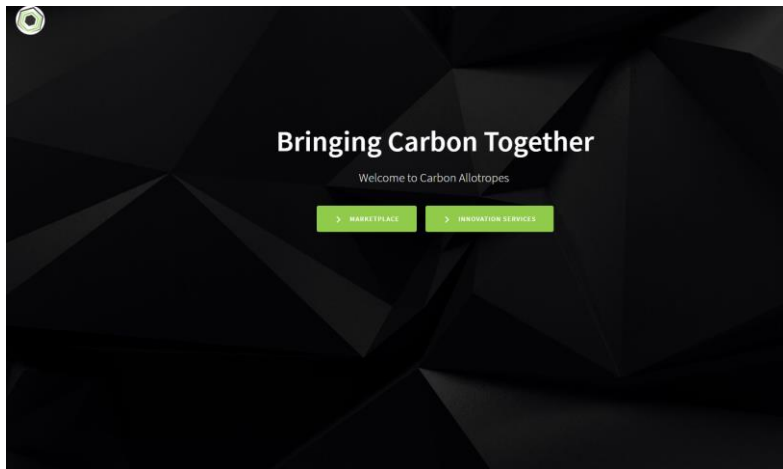
## Shareholdings

Management:	9%
Top 20:	27%
Top 50	41%

\* Information as at COB 1 November 2017



## “Complements Archer’s graphite project”



The image shows a product catalog page for Graphene on the Carbon Allotropes website. The page has a dark header with the company logo and a search bar. Below the header is a navigation bar with tabs for "ALL PRODUCTS", "GRAPHENE", "FULLERENES", "NANOTUBES", "DIAMOND", "GRAPHITE", "CARBON", and "SERVICES". The "GRAPHENE" tab is selected. Below the navigation bar is a breadcrumb trail showing "Graphene". The main content area has a dark header with the word "Graphene" and the subtext "Graphene and related products." Below this is a section titled "GRAPHENE" with a subtext "There are 16 products." The section includes a "Sort by" dropdown menu set to "Product Name: A to Z", a "Show" dropdown menu set to "12 per page", and a "View" dropdown menu set to "Grid". There are also "Showing 1 - 12 of 16 items", "Previous", "Next", "Show all", and "Compare (0)" buttons. The products are displayed in a grid of three items, each with a "NEW" badge and a 3D molecular model. The products are: "Graphene Powder (1 g)", "Graphene-Iron (II,III) Oxide Nanocomposite...", and "Graphene-Nickel Nanocomposite (1 g)".

- Acquisition of Carbon Allotropes, a well established graphite, graphene and carbon online sales platform.
- Leverages Archer's Eyre Peninsula Graphite Project - provides a critical distribution capability and access to customers
- Dr Mohammad Choucair:
  - founder of Carbon Allotropes
  - appointed as Archer CEO
  - member of World Economic Forum's Global Future Council for Advanced Materials
- Dr Choucair will drive the growth of Carbon Allotropes' business and Archer's graphite business.



- Enhanced service offering – Carbon Allotropes online graphite and graphene sales and consulting services are highly complementary to Archer, and will benefit from Archer's development of the Eyre Peninsula Graphite Project.
- Cross-sell and up-sell opportunities – to new and existing, global graphite and graphene customers.
- Strengthened competitive position by combining distribution, production and supply.
- Accelerates growth in the graphite and graphene space – increased synergies and opportunities for Archer and Carbon Allotropes in fast growing international and domestic markets.
- Carbon Allotropes will retain its brand and focus following the appointment of Dr Mohammad Choucair as CEO of Archer.

- Archer to leverage Dr Choucair's previous work in the enhancement of battery storage devices:
  - Development of graphene product that improves the performance of new-age li ion batteries.
  - Manufacture of fullerides that are capable of reversible hydrogen storage with potential applications in hydrogen fuel cells and industrial catalysis.
- Continue graphite and graphene development work develop in collaboration with industry – initial focus on defence, medical, industrial and quantum computing applications.
- Increase sales and customer engagement through Carbon Allotropes web site.
- Direct engagement with possible offtake partners for Eyre Peninsula Graphite Project.

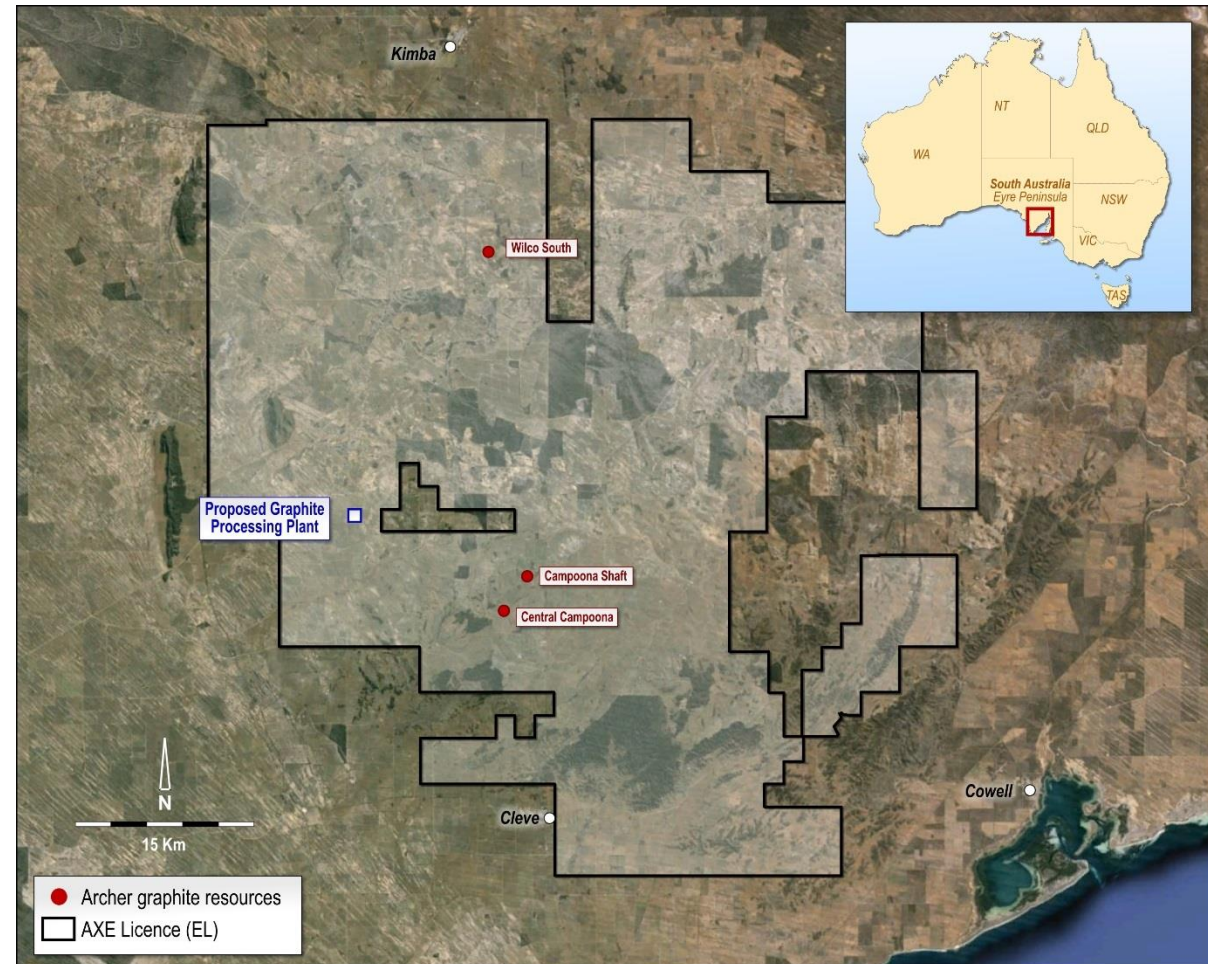


***“Positioning for  
the New Economy”***





- Mining Lease Application lodged for Campoona Shaft graphite deposit on SA's Eyre Peninsula
- Capable of producing ultra pure ultra fine battery grade graphite, and suitable for graphene manufacture
  - Opportunity to progress into an advanced materials company capable of supplying high purity graphite and graphene materials and products to local and overseas customers
  - Australia's first vertically integrated graphite and graphene manufacturing facility

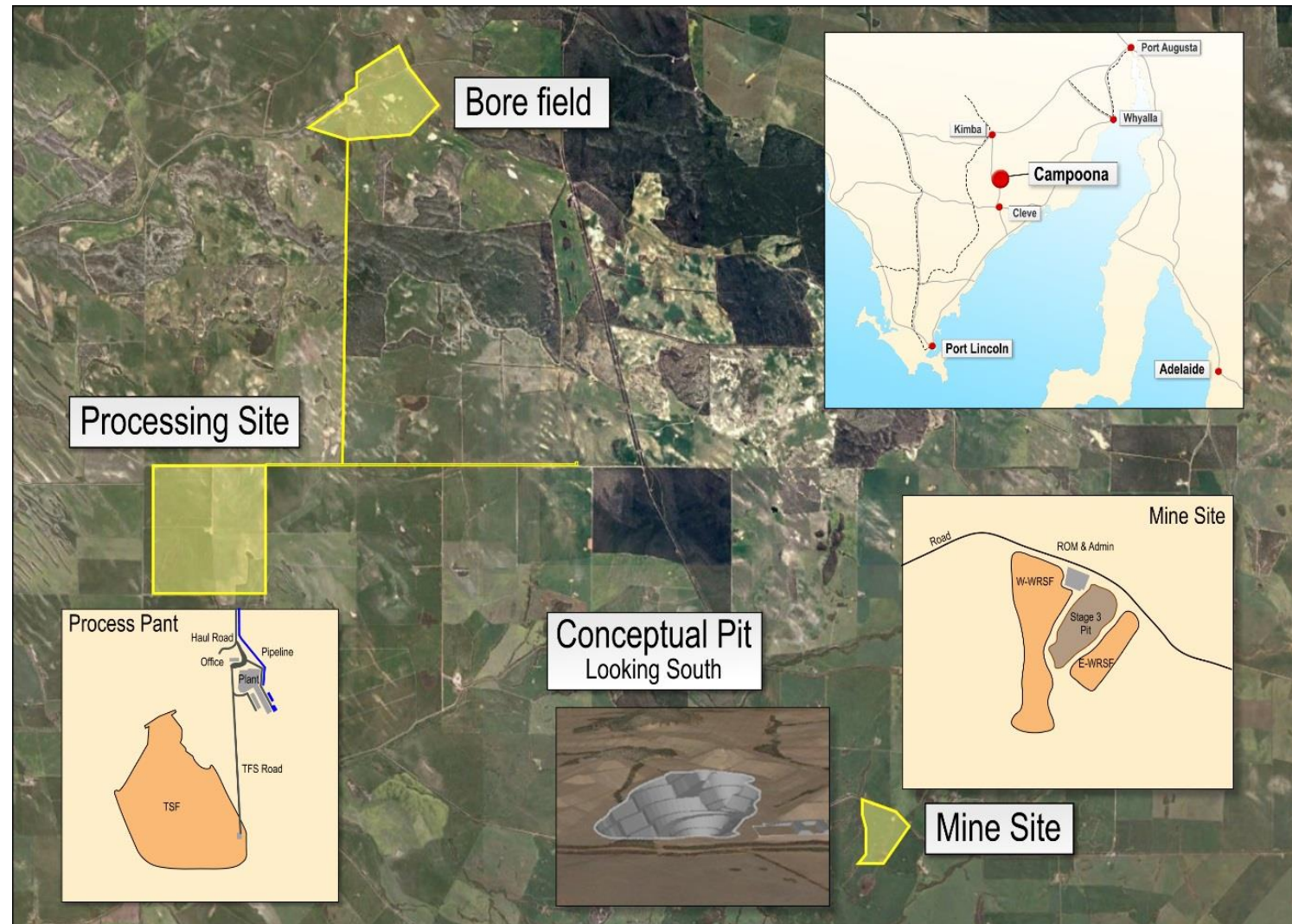


- Indicative life of mine revenue of A\$858 million and NPV of A\$126m over 17 year mine life\*
- Local environment supportive of developing advanced material technology and businesses.
- Eyre Peninsula Graphite Project enhanced by recent developments on Eyre Peninsula.

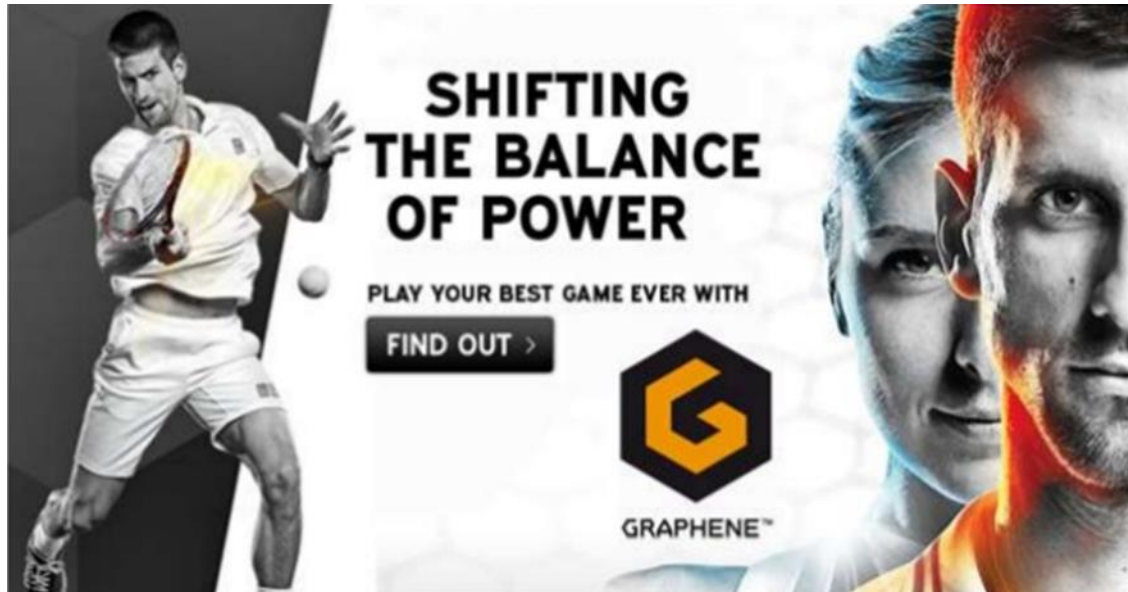


*“Hub and spoke method” with Sugarloaf Processing Facility close to all graphite projects*

- Graphite ore will be mined at Campoona Shaft
- Mining lease application is for the processing of up to 140,000 tpa of graphite ore.
- Ore transported from Campoona Shaft to Sugarloaf in trucks on existing roads.
- Sugarloaf Processing Plant:
  - simple froth flotation process with hydrofluoric acid upgrade.
  - produce +98.5% graphite concentrate
- Power, water and other essential services all within 5km of Sugarloaf
- Graphite to be trucked to Adelaide for export

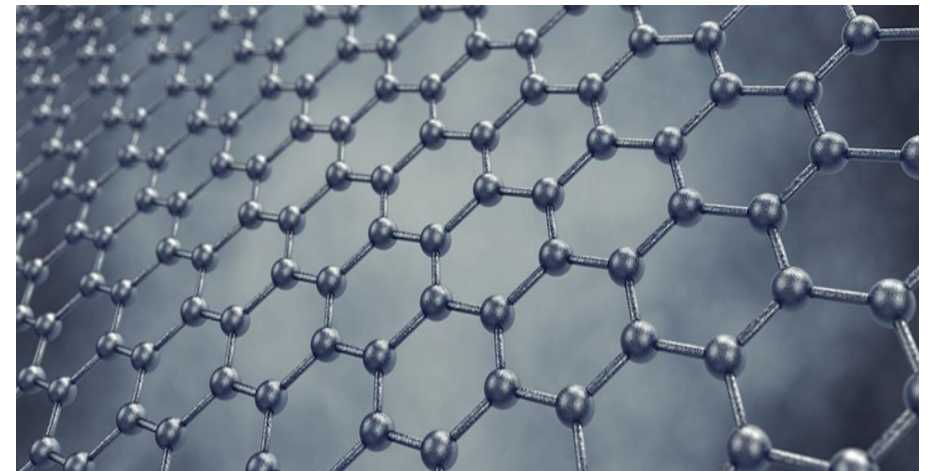






Introducing the new GR Graphene stick range for 2014/15

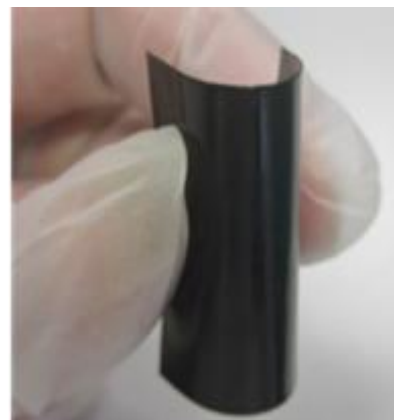
The New Graphene Enhanced Technology will offer greater energy transfer and performance, whilst the Graphene composite construction gives greater power when hitting and improved response when controlling the ball, as well as shock absorbing properties for added feel and response.





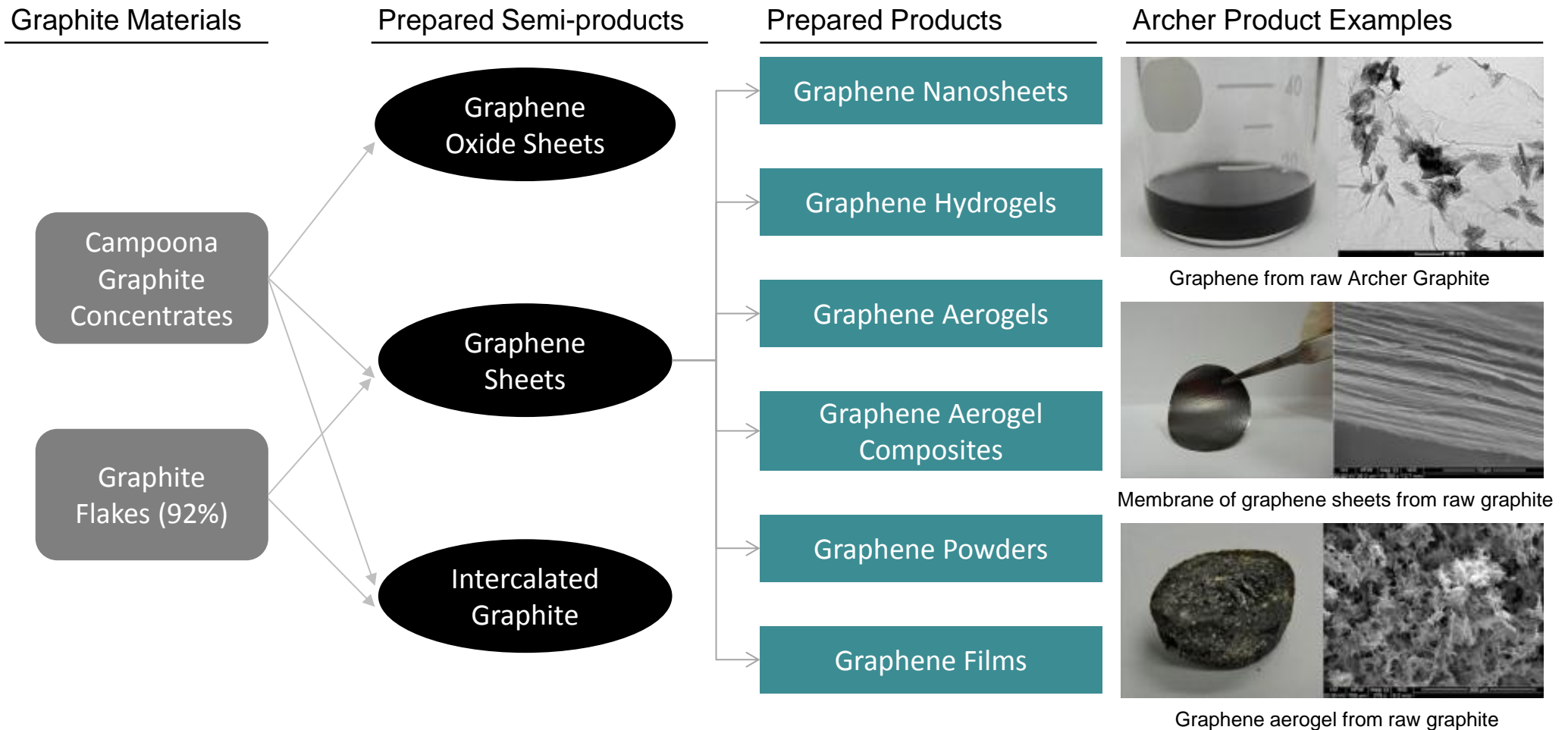
## High grade Campoona graphite concentrate enables production of pure graphene

- Research collaboration agreement with University of Adelaide. Test results showed:
  - Production of high grade graphene using one step process.
  - Manufacture of numerous products (inks, conductive films, electrodes).
  - Graphene electrodes performs well (resistivity of 0.5 Ohm/sq).
- Graphene products have enormous potential – sales through Carbon Allotropes
- Further discussions and test work ongoing.



Selected graphene products : graphene conductive film, conductive flexible polymer, graphene composite and electrodes for batteries and supercapacitors

Archer and the University of Adelaide have been making graphite and graphene related products – work to continue with Dr Choucair



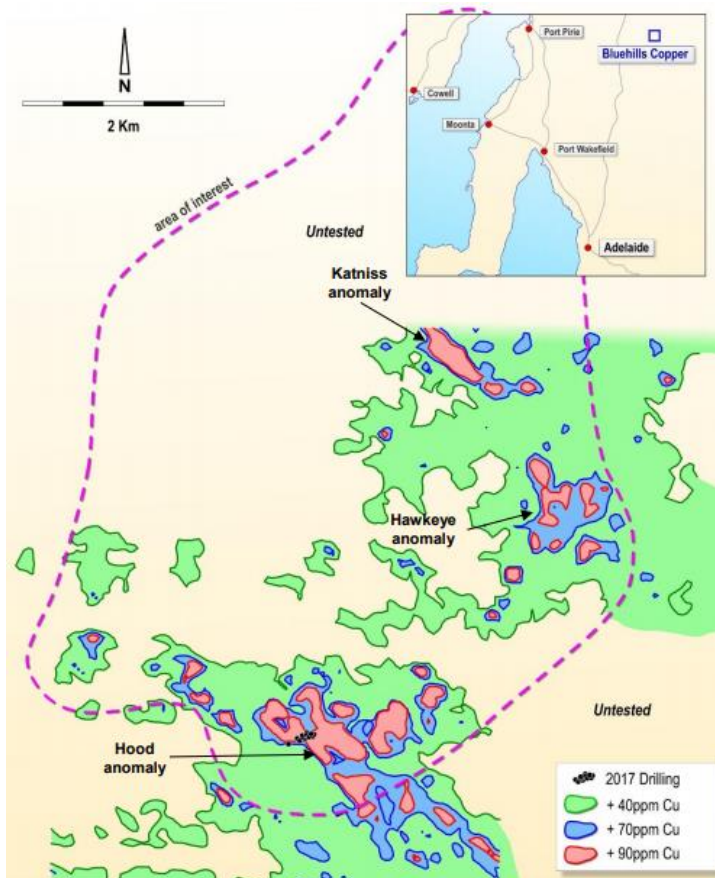


***“New discoveries over large areas”***

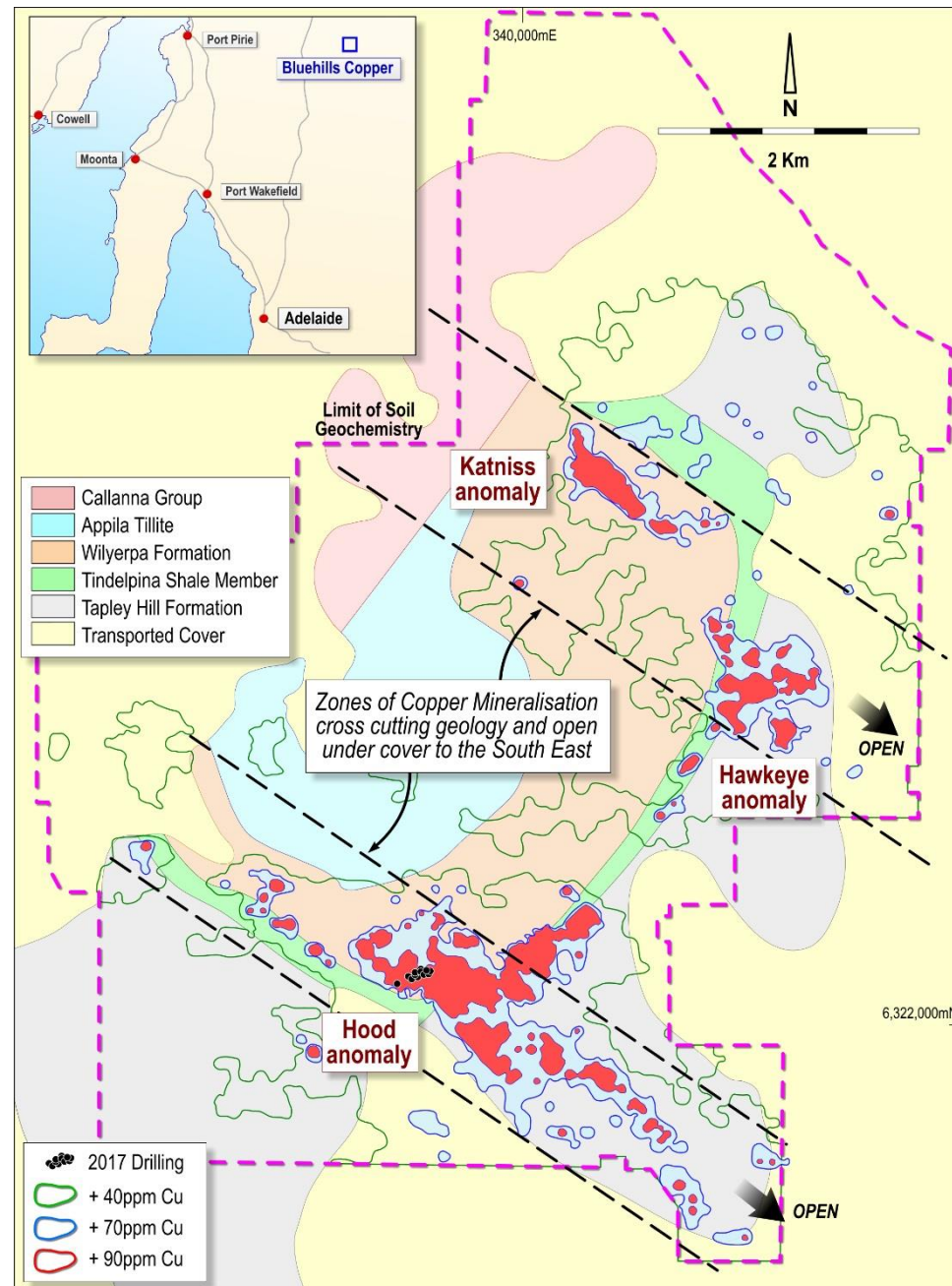




- Located 40 km north east of Burra
- 25km<sup>2</sup> mineralised anomaly identified
- Regional scout drilling grades up to 0.5% copper from surface, and intersections of +20m of copper from surface



- Regional soils program confirm anomaly is consistent with copper mineralisation over a large area
- Mineralisation found to be cross-cutting different geological units
- Gold up to 0.76g/t reported with copper in drill intervals, and rock chips of up to 8.1g/tonne gold were sampled
- The presence of copper-gold supports an intrusive related mineralisation style, typically associated with large copper deposits.





- Seven tenements granted in June 2017 in close proximity to Broken Hill prospective for Cobalt
- New copper targets discovered during regional reconnaissance cobalt exploration program
  - Secret South West: +5km long with a peak grade of 6.4% copper
  - Yancowinna: mapped over an area of 4km<sup>2</sup> with a peak grade of 15.5% copper
  - Purnamoota: +4km long with a peak grade of 3.5% copper



Secret South prospect

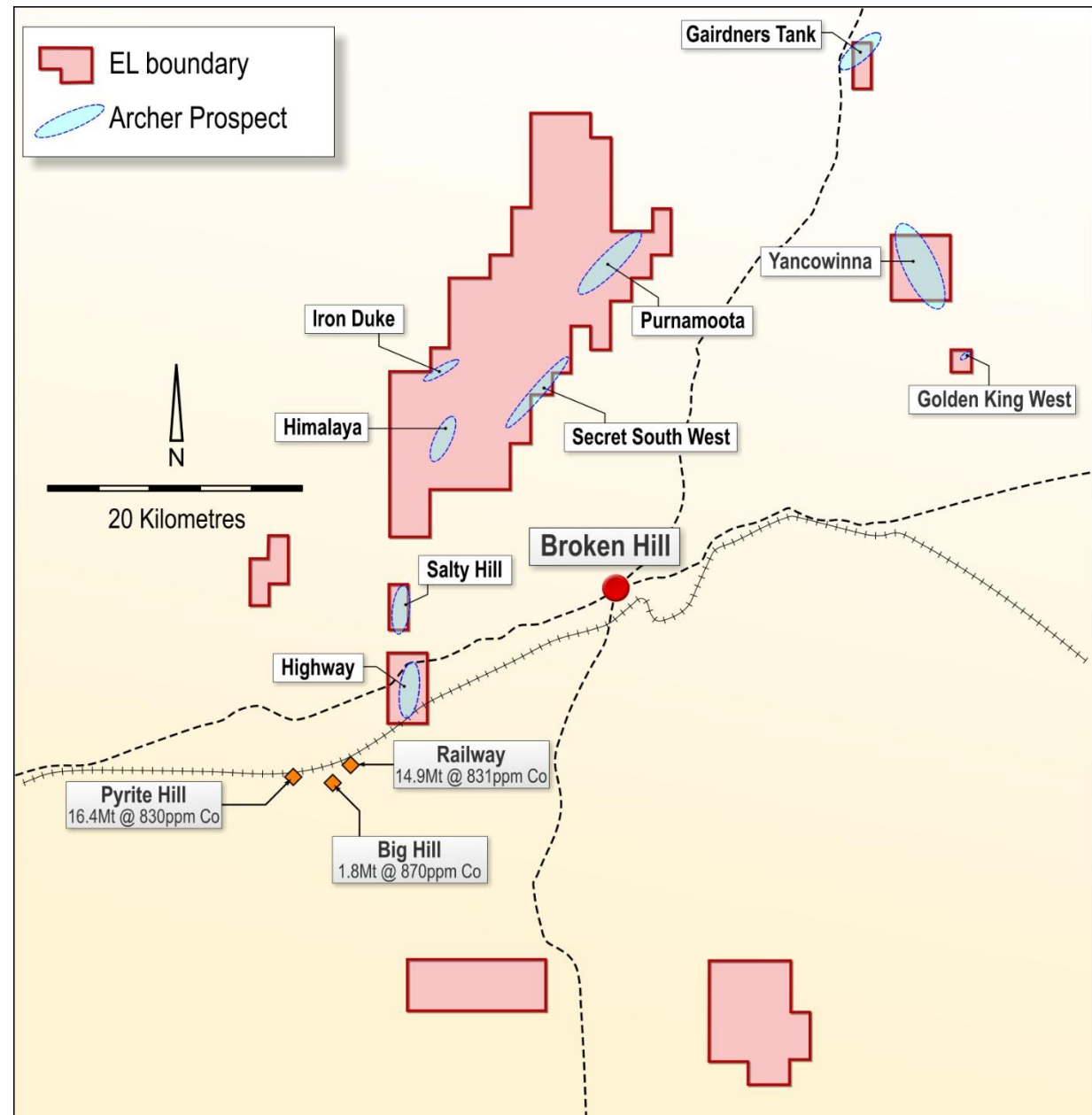


Purnamoota prospect



Multiple cobalt projects identified to date:

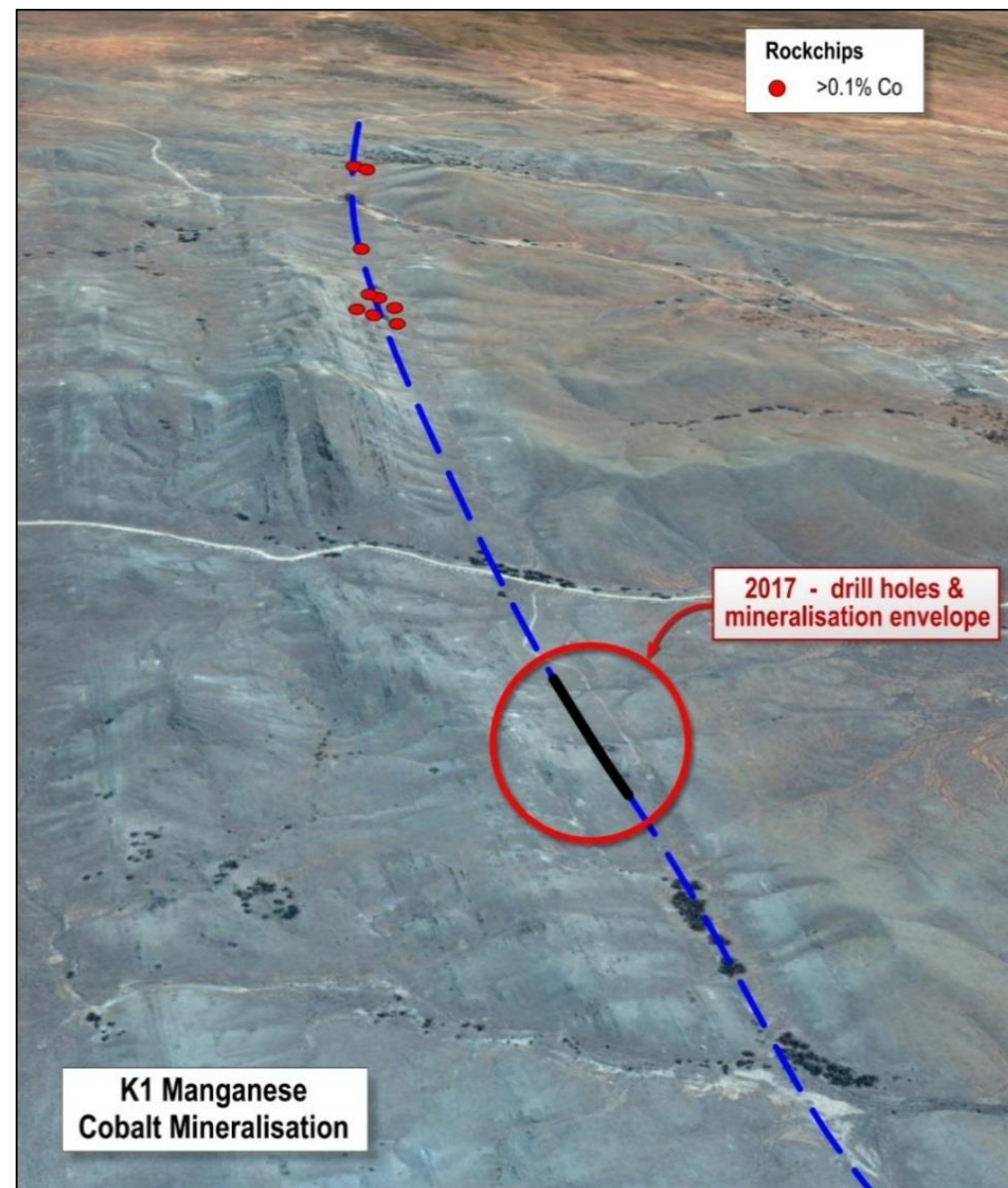
- Yancowinna - Discovered a significant 2.5km zone of cobalt mineralisation at up to 0.30% cobalt and 0.65% copper.
- Purnamoota – 1km of up to 0.14% Co
- Himalaya – 3km of up to 0.16% Co
- Golden King West – 0.3km up to 0.15% Co
- Other cobalt companies positioning into this highly prospective area.



- Drilling program was successful in intersecting cobalt and manganese mineralisation, confirming that:
  - K1 mineralisation is open for at least 5km along strike to the north.
  - K2 mineralisation open to the south.
- Archer has drilled < 1% of the +20km Ketchowla structure
- Metallurgical test work underway to determine optimum processing method.

Hole Id	From (m)	To (m)	Interval (m)	Mn%	Co %	Cu%	Ni%	Zn%
K1RC1701	2	15	13	12.4	0.06	0.17	0.17	0.14
incl.	7	9	2	<b>29.3</b>	<b>0.1</b>	<b>0.3</b>	<b>0.34</b>	<b>0.27</b>
K1RC1705	7	12	5	9.6	0.11	0.14	0.12	0.09
incl.	8	11	3	<b>13.4</b>	<b>0.17</b>	<b>0.17</b>	<b>0.17</b>	<b>0.11</b>
K1RC1707	8	13	5	7.3	0.1	0.13	0.11	0.06
K1RC1710	12	13	1	14.3	0.11	0.26	0.27	0.2

*Encouraging drill intercepts*



*K1 target looking north showing area of latest drilling (red circle)*



***“48% of the world’s known  
resource of its type”***

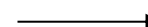




## Leigh Creek Magnesia Project is 48% of world cryptocrystalline resources

- Test work commissioned by CSIRO confirmed Leigh Creek magnesia can be processed to make a saleable product
- Bulk trial undertaken by local kiln operator produced saleable product
- Leigh Creek magnesia continues to be used in steel operations undertaken by a potential customer with the magnesia performing as expected
- Continuing discussions with kiln operators with aim for commercial toll treatment agreement

Country	Resources (Mt)
Australia – Leigh Creek	453
Australia – Other	97
Turkey	162
China	121
India	59
Other	59
<b>Sub Total</b>	<b>951</b>



Bed 3  
H1  
2 Hours  
1650°C



AXE is focused on capital efficiency and promotion of early cash flow projects



- Campoona Mine Lease Proposal lodged and awaiting approvals
- Plan to produce ultra-pure graphite suitable for Li-Battery production
- Graphene commercialisation work underway with acquisition of Carbon Allotropes and appointment of Dr Choucair as CEO



- New Copper-Gold discovery at Blue Hills coincident with large magnetic anomaly, with highly encouraging initial drilling results
- Supportive soil sampling suggesting best targets not drilled to date
- Initial results include 23m of 0.3% Cu from surface and rock chips up 9% copper and 8.1 g/t gold coincident with the anomaly
- New Copper discovery at North Broken Hill; rock chips up to 15.4% Cu



- Drilling and assays confirmed the presence of high grade **cobalt & manganese** at Ketchowla
- 4 North Broken Hill **cobalt projects** identified with up to 0.16% Co
- Cobalt tenements remain 100% owned by Archer



- Worlds largest known deposit of cryptocrystalline **Magnesite**
- Toll processing opportunities utilising existing infrastructure
- Bulk sample work successfully completed, proving the ability to manufacture CCM and DBM products

## Scoping Study

Information in relation to the Eyre Peninsula Graphite Project Scoping Study, including production targets and financial information, included in this document is extracted from an ASX announcement entitled “*Positive results from SA Graphite Project scoping study*”, lodged with ASX on 19 September 2016 and is available to view at [www.arccherexploration.com.au](http://www.arccherexploration.com.au). Archer confirms that all material assumptions underpinning the production target and financial information set out in that announcement continue to apply and have not materially changed.

## Forward looking statements

The information in this presentation is published to inform you about Archer Exploration Limited and its activities. Some statements in this presentation regarding estimates or future events are forward looking statements.

Although Archer Exploration Limited believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results and outcomes will be consistent with these forward-looking statements.



## Competent Person Statement

The Mineral Resource estimates and exploration results reported herein, insofar as they relate to mineralisation, are based on information compiled by Mr Wade Bollenhagen, Exploration Manager a full time employee of Archer Exploration Limited. Mr Bollenhagen is a Member of the Australasian Institute of Mining and Metallurgy who has more than eighteen years experience in the field of activity being reported. Mr Bollenhagen has sufficient experience which is relevant to the styles of mineralisation and types of deposit under consideration and to the activity that he is undertaking 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' relating to the reporting of Exploration Results. Mr Bollenhagen consents to the inclusion in the report of matters based on his information in the form and context in which it appears.

The information relating to the Mt Hutton Central Mineral Resource estimate was extracted from an announcement entitled "Mount Hutton Central JORC 2012 Resource", lodged with ASX on 12 April 2016. The information relating to the Leigh Creek Magnesite Resource (excluding Mount Hutton Central) was first reported by Pima Mining NL on 3 September 1999 and was prepared in accordance with the JORC Code 1999. Archer confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 12 April 2016 or 3 September 1999 and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

The report includes results that have previously recently been released under JORC 12 by Archer on 17/01/17 and 23/01/17. Archer is not aware of any new information that materially affects the information included in those announcements.

The logo for Archer Exploration Limited, featuring the word "ARCHER" in white capital letters on a dark teal rectangular background, followed by a stylized orange and yellow oval graphic.

ARCHER

## *Archer Exploration Limited*

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