

ASX Announcement

28 April 2017

# Third Quarter Activities Report

For the three months ending 31 March 2017

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## Cobalt drilling underway, magnesite trials progressing

- Closing of public consultation phase of Campoona Mining Lease Application.
  - Magnesite trials continuing with positive results.
  - Outstanding cobalt and graphite assay results from historic drilling on Eyre Peninsula.
    - Cockabidnie: high grade graphite (42.8% Cg) and cobalt (0.2%).
    - Polinga: 6m @ 0.15% cobalt from 27m. Cobalt mineralised structure > 20km in length and open to north and south.
  - Additional high grade cobalt and manganese mineralisation in rock chips at Ketchowla (cobalt up to 0.64% and manganese > 50%).
  - Ketchowla drilling has commenced, first results due mid-May.
  - Oversubscribed Placement raised \$1.89 million, Archer now fully funded to commence Ketchowla drilling and accelerate other cobalt focussed exploration.
  - Applications lodged for additional cobalt focussed tenements near Broken Hill, grant of first tenements expected in coming weeks.
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Commenting on the third quarter activities Greg English, Executive Chairman of Archer Exploration, said, "The Company is excited about the drilling underway at Ketchowla, where previously drilling and exploration work by Archer has identified near surface high grade cobalt and manganese. We have secured a suitable drill rig so are now able to access the best drill targets at Ketchowla."

"The potential of the Eyre Peninsula Graphite Project continues to grow with the highest-grade graphite to date intersected at Cockabidnie which is only 5km for the proposed Sugarloaf Graphite Processing Facility. Also, the successful closure of the public submission phase of the Campoona Mining Lease Application process marks the completion of another major milestone toward the grant of a mining lease" said Mr English.

Mr English said "A bulk sample of Leigh Creek magnesite has been provided to a potential key customer for trial in commercial iron and steel operations. These trials are progressing well with the magnesite performing as expected. Negotiations with Adelaide Brighton Cement are continuing."

"With the help of Taylor Collison, we successfully completed a placement to raise \$1.89m and are fully funded to progress our cobalt focussed exploration effort". Mr English concluded.

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## Quarterly Activities to 31 March 2017

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Archer Exploration Limited (ASX: AXE) (**Archer** or **Company**) is pleased to report on its activities for the three-month period ending 31 March 2017 (**Quarter**).

### **Eyre Peninsula Graphite Project**

Archer's Eyre Peninsula Graphite Project is located near the township of Cleve which is approximately 120km south east of Whyalla, South Australia. The Eyre Peninsula Graphite Project tenement area covers more than 2,700 km<sup>2</sup>.

#### Campoona Mining Lease Proposal

In late 2016 Archer completed and lodged with the South Australian Department of State Development (ASX announcement 10/11/16) a Mining Lease Application (MLA) for the Campoona Shaft Graphite Mine and the Sugarloaf Graphite Processing Facility.

During the Quarter, Archer announced the completion of the public submission phase of the MLA (ASX announcement 24/03/17). The completion of this phase of the MLA process is an important step toward the grant of a mining lease at Campoona and the required miscellaneous purposes licences at Sugarloaf. The MLA process is progressing as planned and Archer is anticipating the grant of a mining lease sometime in mid-2017.

The decision to proceed with a Mining Lease Application follows the completion of a high level Scoping Study (refer to ASX announcement dated 19 September 2016) that supported Archer's future development of the broader Eyre Peninsula Graphite Project.

Archer's proposed graphite mining and processing operations include:

- Small open pit mining operation at Campoona of up to 140,000tpa of ore. Mining will be mostly free dig for the first 70 metres.
- The graphite will be processed at the Sugarloaf Processing Facility (located approximately 15km west of the Campoona Mine) using a conventional flotation circuit. The graphite will be upgraded on site at the Company's Carbon Upgrade Facility.

#### Cockabidnie Assay Results

The Company has been re-assaying historic base metals focussed exploration undertaken by other explorers on Archer's recently granted Cockabidnie tenement, located approximately 5km south of the proposed Sugarloaf Graphite Processing Facility.

The Cockabidnie tenement was granted to Archer in mid-2016 and since that time Archer has been methodologically reviewing historical exploration data and assaying prospective drill samples for graphite, cobalt and other minerals. Exploration efforts and drilling by other explorers at Cockabidnie was primarily focussed on the discovery of zinc and nickel deposits, intervals of graphite were recorded in drill holes, but assaying for graphite (and in many instances cobalt) was not undertaken at the time.

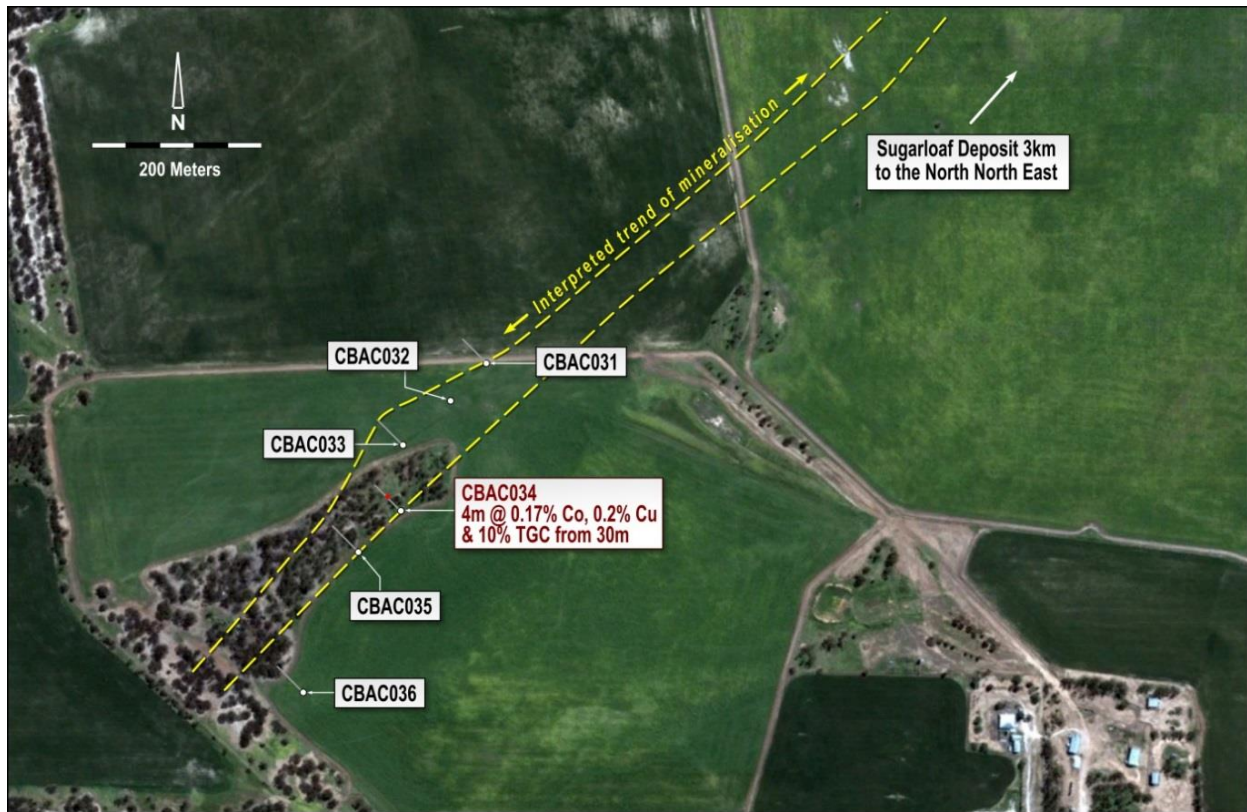


Figure 1: Location of drill holes assayed by Archer at Cockabidnie, including significant cobalt interval

Archer recovered sample pulps (remnant material from the assay process) and submitted available intervals for graphitic carbon assay. Subsequent assay results received by Archer include 42.8% Cg from 52m to 54m (2m interval) (Hole CBAC033) which is the highest-grade graphite interval reported on the Eyre Peninsula. Significant graphite results from the assay work undertaken are shown below (ASX announcement 23/01/17).

Hole Id	From (m)	To (m)	Cg%
CBAC031	62	64	14.75
CBAC032	14	19	8.79
	27	32	10.6
CBAC033 incl.	32	56	11.22
	52	54	<b>42.8</b>
CBAC034	26	40	8.9
CBAC035	44	70	15.06

The assay results also confirm the southern extension of the Sugarloaf deposit. Although the exact morphology of the graphite is unknown at this stage, Archer believes it to be similar to that at Sugarloaf.

## **Leigh Creek Magnesite Project**

The Leigh Creek Magnesite resource is located approximately 550km north of Adelaide, South Australia and is the world's largest magnesite deposit of its type. The magnesite deposit contains characteristics that make it ideal for the manufacture of caustic calcined magnesia (CCM) and monolithic dead burn magnesia (MDBM).

The Leigh Creek Magnesite Project (Project) business plan is based on Archer toll processing magnesite in third part rotary kilns to make CCM and MDBM products for sale to domestic and international customers.

### Commercial Trial

Archer has provided a large quantity of DBM product and CCM product to a potential key customer for use in commercial iron and steel operations.

The potential customer has been successfully using the calcined magnesia in steel making operations and will continue to do so until the CCM and DBM stocks are depleted. Archer understands that the magnesia product has been behaving as expected with no adverse impacts on steel production.

### Adelaide Brighton Cement

Archer is in discussions with Adelaide Brighton Cement Limited (ASX:ABC) regarding a bulk trial for the manufacture of CCM and/or DBM products.

## **Cobalt Projects**

The Company has three key project areas that are prospective for cobalt: Ketchowla, Polinga and Broken Hill. The Polinga and Ketchowla Projects have recorded high grade cobalt and manganese mineralisation whereas the Broken Hill project area is prospective for the same style of mineralisation that hosts the Big Hill, Railway and Pyrite Hill cobalt deposits.

### Ketchowla Cobalt Manganese Project

The Ketchowla Cobalt Manganese Project, is located north of Burra, South Australia, within the Nuccaleena Formation. Ketchowla is a cobalt and manganese project which includes the K1 Prospect (centred around the historic small Ketchowla Mine) and numerous outstanding exploration targets and prospects, including the K2 to K9 prospects.

During the Quarter, Archer undertook rock chip and soil sampling as part of the preparatory work for the Ketchowla RC drilling program (ASX announcement 17/03/17). A total of 18 samples were collected from the K1, K2 and K8 prospects, results include:

- Cobalt up to 0.64%.
- 17 samples (94% of all samples) reported grades of > 0.1% Co.
- Average grade of all samples was 0.28% cobalt.



In addition to high grade cobalt, manganese grades > 50% were reported at several locations. These manganese grades were so high that the actual grade could not be measured at this time so were simply reported as > 50% Mn. The average grade reported was 37.3% Mn (grades > 50% were assigned a value of 50% in calculating the average).

The Company has held the Ketchowla tenement since 2009 and in early 2010 Archer completed its maiden RC drill program (ASX announcement 19/03/2010). This early reconnaissance drilling targeted easily accessible areas (due to inability to access a suitable drill rig) with the Company yet to drill test the best targets. Shallow cobalt and manganese mineralisation was intercepted in both of two holes drilled at K1 (K1RC001 and K1RC004):

- K1RC001: 11m @ 0.11% Co and 12%Mn from 6 to 17m, including 4m @ 0.14% Co and 15.6% Mn.
- K1RC004: 4m @ 0.11%Co and 17.5%Mn from 11 to 15m.



Figure 2: Old workings (looking South) showing outcropping manganese.

The Company reported (ASX announcement 17/01/17) that simple beneficiation and acid leach test work showed that:

- Cobalt and manganese could be easily upgraded using simple heavy media separation.
- Agitated sulphuric acid leaching resulted in metal recoveries of >90% for all elements tested (Co, Cu, Ni, Zn and Mn).

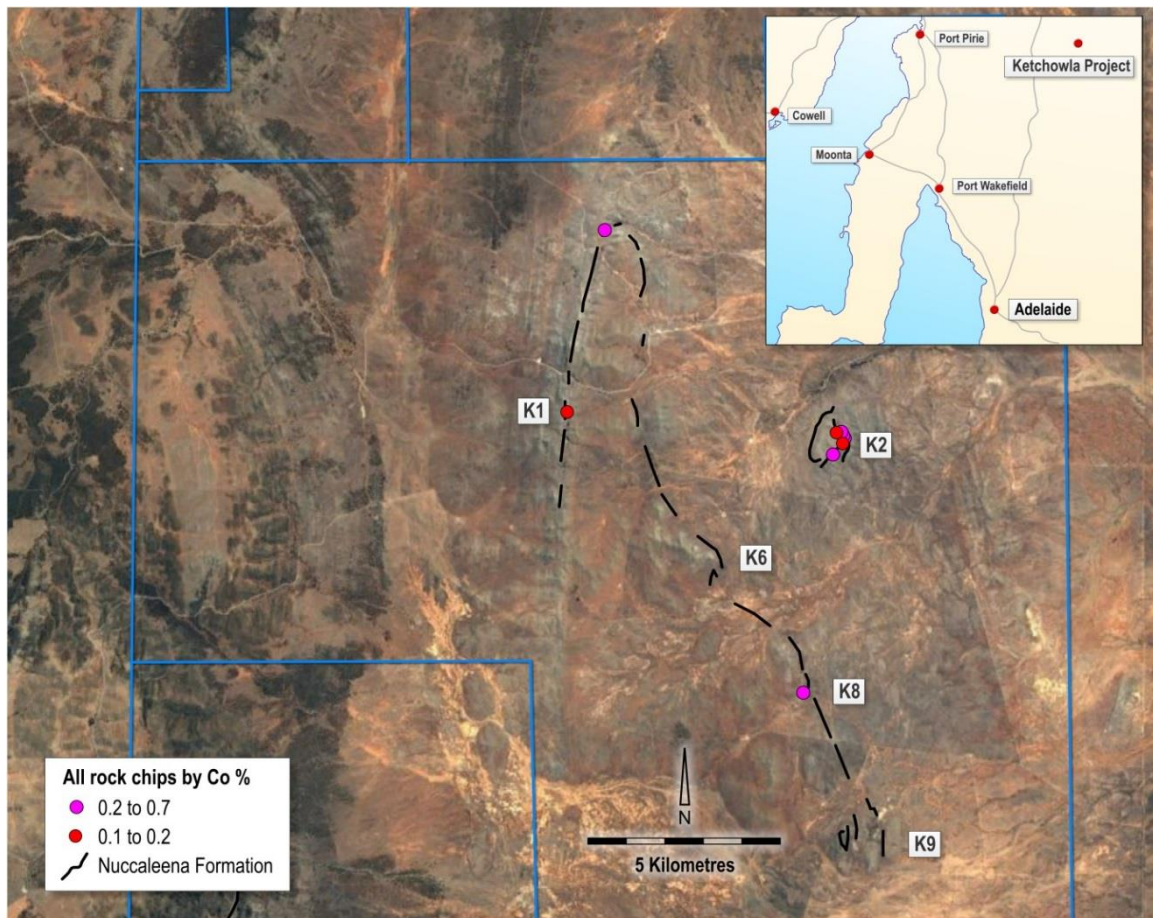


Figure 3: Location of reported rock chip samples from the Ketchowla Cobalt Manganese Project.

## Polinga Manganese Cobalt Project

The Polinga Manganese Cobalt Project is located on the same tenement area as the Company's Archer's Eyre Peninsula Graphite Project, approximately 120km south west of Whyalla, South Australia. The tenement area covers more than 2,700 km<sup>2</sup>. The Polinga Manganese Cobalt Project comprises a large north south trending structure that extends for over 20km and is open to north and south.

At Polinga, the Company has been re-assaying historic manganese focussed drilling undertaken by Monax Mining Limited (ASX:MOX) to the north and historic base metals focussed exploration undertaken by Lincoln Minerals Limited (ASX:LML) to the south.

The Company recovered sample pulps (remnant material from the assay process) from the LML drilling and these pulps were then assayed by the Company for graphite and cobalt. Significant graphite (refer to detailed in Eyre Peninsula Graphite section of this document) and cobalt mineralisation was discovered. A significant average cobalt grade of 0.2% Co was reported in hole CBAC034 over a broad 8m downhole intercept (from 30 to 38m) (ASX announcement 23/01/17).

The Polinga Project was first drilled by Monax Mining in 2008. Exploration efforts and drilling by Monax was primarily focussed on the discovery of manganese, with almost no assaying



for cobalt. Archer located the previous drill holes and submitted some samples for assay for cobalt mineralisation. Significant cobalt results reported by the Company (ASX announcement 22/02/17) from the first six holes assayed were:

- 6m @ 0.15% Co from 27m and 3m @ 0.11% Co from 38m in hole PRC0024.
- 5m @ 0.095% Co from 31m in hole PRC003.

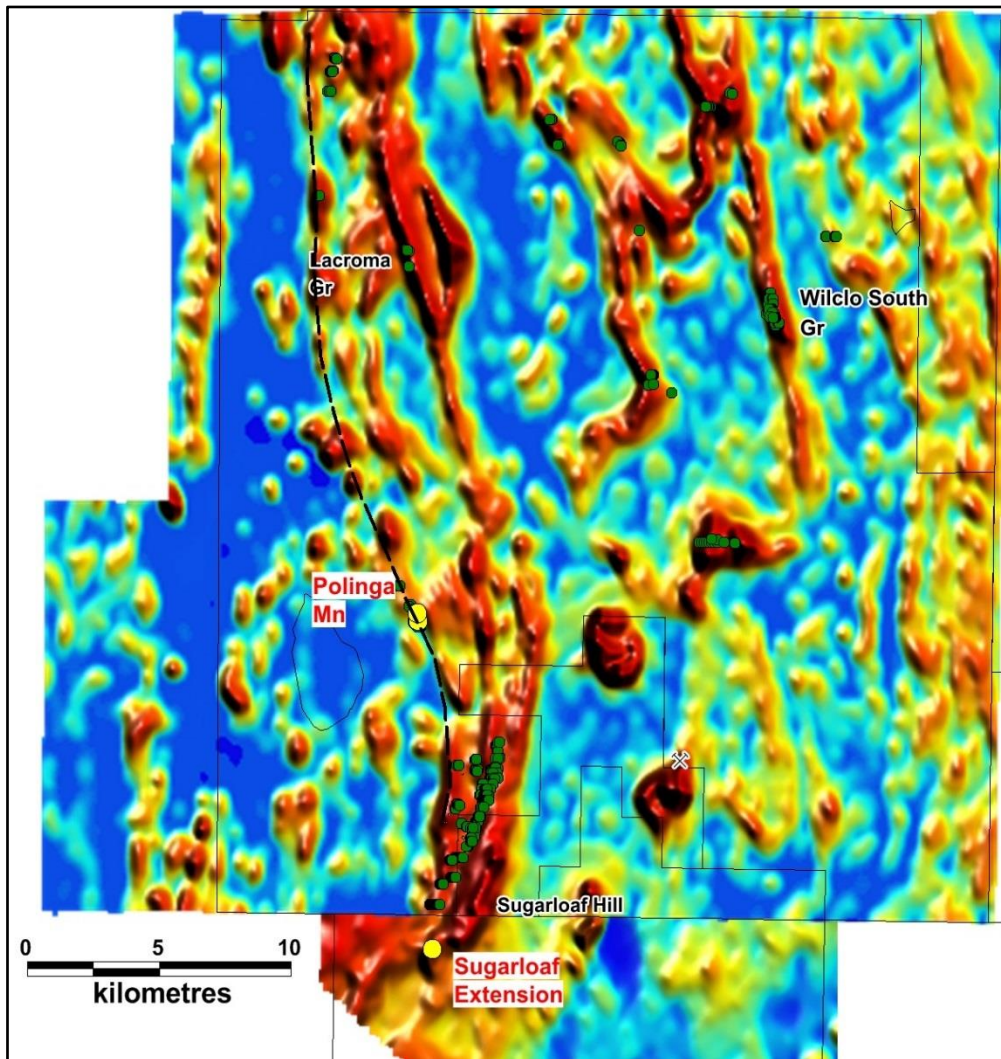


Figure 4: Location of historic Poling structure and drill holes shown on electromagnetic (EM) image

An additional four holes were assayed by the Company (ASX announcement 24 March 2017) and these holes were selected to allow Archer to determine the northern extent of Poling at Hodgins and to better understand the structures controlling mineralisation at Poling. The assay results for these previously drilled holes suggest that the boundary of the cobalt and manganese mineralisation extends to footwall and hanging wall of the Poling structure. Whilst it appears that Poling does not extend north all the way to Hodgins, the Poling structure still extends for over 20km and is open to the south and is still open some distance to the north.

## Broken Hill Cobalt Project

The Company has applied for tenements that are prospective for cobalt approximately 20km northwest of Broken Hill, NSW (ASX announcement 16/02/17). The tenement areas are close to existing town, rail, road and other critical infrastructure.

The tenement areas cover known outcrops of the Himalaya Formation which host Cobalt Blue's Pyrite Hill, Big Hill and Railway cobalt deposits with a combined resource of 33.1Mt @ 0.0833% cobalt (Figure 5). The Himalaya Formation is considered one of the most prospective areas for cobalt mineralisation in NSW.

The Company's main project areas are along strike from Cobalt Blue's cobalt deposits and the presence of the same rocks that host these deposits and previously reported cobalt occurrences on Archer's ground suggest high potential for further cobalt mineralisation.

The Company is expecting the first tenement to be granted in the next couple of weeks with the subsequent tenements due to be granted in May/June 2017.

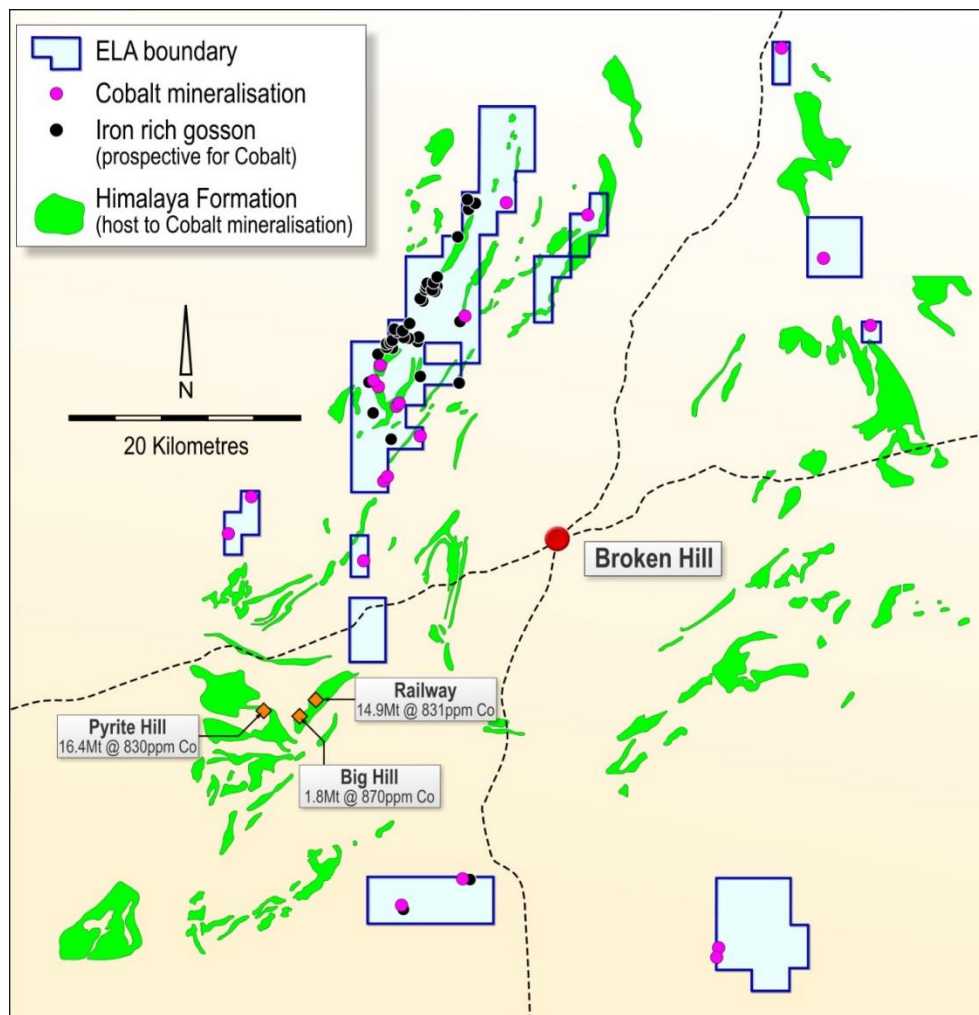


Figure 5: Location of Archer Broken Hill tenement areas



## Termination of Cobalt Bull Joint Venture

During the Quarter, the Company terminated the Farmin and Joint Venture Agreement (**Agreement**) with Cobalt Bull Pty Ltd (**CB**) (ASX announcement 01/02/17). Under the terms of the Agreement (ASX announcement 31/08/16) CB could earn a 75% joint venture interest in certain tenements, including the Ketchowla Cobalt Manganese Project. The Agreement allowed Archer to terminate if CB was unable to complete a capital raising or ASX listing by 31 January 2017.

Archer elected to terminate the Agreement so that it could actively explore the tenement areas (including the Ketchowla Cobalt Manganese Project) and retain 100% of the upside of any exploration success.

Since terminating the Agreement, Archer has received numerous enquiries regarding the cobalt potential of the Company's tenements and the Company will continue to engage with interested third parties.

## **Corporate**

### Cash balance

The Company's cash balance on 31 March 2017 was \$1,985,000.

### Shareholder meetings

During the Quarter, Archer hosted presentations for Archer shareholders in Melbourne and Adelaide. The events were well attended and are part of Archer's ongoing investor relations and shareholder engagement activities. More presentations are planned for later in the year.

### Placement

During the Quarter, the Company raised approximately \$1.89 million before costs through the issue of 27 million new shares to sophisticated and professional investors, at an issue price of \$0.07 per share (Placement).

Proceeds from the Placement will be used to fund the Ketchowla drilling program and to accelerate cobalt focussed exploration activities at Polinga, Broken Hill and on the Company's other tenements.

## Issued Capital

Time	Shares on issue	Options on issue	Performance Rights on issue
Start of Quarter	110,194,306	22,177,944 (SPP Options) <sup>(1)</sup> 5,000,000 (Rix Options) <sup>(2)</sup>	2,700,000 <sup>(3)</sup>
New issues during Quarter	27,000,000 <sup>(4)</sup>		
End of Quarter	137,194,306	22,177,944 (SPP Options) 5,000,000 (Rix Options)	2,700,000
28 April 2017	137,194,306	22,177,944 (SPP Options) 5,000,000 (Rix Options)	2,700,000

### Notes

- (1) Unlisted options with an exercise price of \$0.12 and expiry date of 30 June 2017.
- (2) Options issued to Paul Rix, a director, exercise price of \$0.15, expiry date of 31 January 2019 and subject to satisfaction of certain vesting conditions.
- (3) Performance Rights issued to Archer directors and management subsequent to shareholder approval granted at 2016 AGM.
- (4) Shares issued under the Placement.

For further information, please contact:

Mr Greg English  
Archer Exploration Limited  
Tel: (08) 8272 3288

Mr Cary Helenius  
Market Eye  
Tel: (03) 9591 8906

## List of Archer tenements

Tenement	Location	Commodity
EL 5920	Caraptee Hill	Graphite
EL 5804 <sup>(1)</sup>	Wildhorse Plains	Graphite
EL 5815	Waddikee	Graphite
EL 5383	Mt Messenger	Graphite
EL 5791	Cockabidnie	Graphite
EL 5434	North Cowell	Graphite/Copper
EL 4729	Witchelina	Magnesite
EL 5730	Termination Hill	Magnesite
EL 5553	Collaby Hill	Magnesite
EL 5540	Spring Creek	Copper
EL 5433	Burra North	Manganese
EL 5794	Blue Hills	Gold & Copper
EL 5769	Napoleons Hat	Gold & Copper
EL 4869	Ediacara	Barite
PELA 567	Ediacara	Coal / gas
EL 5870	Carpie Puntha	Graphite
EL 5909	Yanyarri	Cobalt
EL 5935	Whyte Yarcowie	Cobalt & Copper
MC 4393	Campoona	Graphite
<b>Tenements granted during, or after end, of Quarter</b>		
EL 5909	Yanyarri	Barite
EL 5935	Whyte Yarcowie	Cobalt & Copper
<b>Tenements relinquished during, or after end, of Quarter</b>		
EL 4893	Cleve West	Graphite

### Notes

All tenements are located in South Australia and are 100% held by wholly owned subsidiaries of Archer, except for:

- (1) EL 5804: Archer has the right to explore for all minerals except for uranium.



## **Competent Person Statement**

The exploration results reported herein, insofar as they relate to mineralisation, are based on information compiled by Mr. Wade Bollenhagen, Exploration Manager who is an employee of Archer Exploration Limited.

Mr. Bollenhagen is a Member of the Australasian Institute of Mining and Metallurgy who has more than twenty years' experience in the field of activity being reported. Mr Bollenhagen has sufficient experience which is relevant to the style of mineralisation and type 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.