

ASX Announcement (ASX: AXE)

24 July 2017

# Fourth Quarter Activities Report

For the three months ending 30 June 2017

# **New copper discovery at Blue Hills**

- Archer completes next step towards the decision on the grant of Mining Tenements by lodging Response Document with South Australian Government.
- Leigh Creek magnesite continues to be used in steel operations undertaken by a potential customer with the magnesite performing as expected.
- Decision on the grant of the Campoona and Sugarloaf Mining Tenements anticipated toward the end of September.
- Cobalt drilling extends mineralisation at Ketchowla.
- Significant copper intersected around and below old copper workings at Blue Hills.
- North Broken Hill cobalt tenements granted, reconnaissance field work has commenced.

Commenting on the fourth quarter activities Greg English, Executive Chairman of Archer Exploration, said, "During the Quarter, Archer took a significant step toward the grant of the Campoona Mining Tenements with the lodgement of a detailed Response Document. At this stage, we anticipate the grant of the Mining Tenements toward the end of September".

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."

"We are excited about the new copper discovery at Blue Hills where shallow reconnaissance RC drilling led to the discovery of significant copper mineralisation below old workings. A follow up rock chip sampling program extended the footprint of the mineralisation at Blue Hills with rock chips recording up to 8.1g/t gold and up to 9% copper. Based on the information so far, Archer believes that Blue Hills is a significant new copper discovery." said Mr English

"Recent drilling at K1 confirmed the presence of cobalt and manganese mineralisation along a 5km strike length. The latest drill results at Ketchowla are consistent with previous drilling undertaken by Archer" said Mr English.

"With the grant of North Broken Hill Project tenements and the recent success at Blue Hills, Archer has an exciting period ahead of us as we actively explore these highly prospective areas". Mr English concluded.



# **Quarterly Activities to 30 June 2017**

Archer Exploration Limited (ASX: AXE) (**Archer** or **Company**) is pleased to report on its activities for the three-month period ending 30 June 2017 (**Quarter**).

# **Eyre Peninsula Graphite Project**

In late 2016 Archer completed and lodged with the South Australian Department of State Development a Mining Lease Application (MLA) for the Campoona Shaft Graphite Mine and the Sugarloaf Graphite Processing Facility. The MLA includes applications for a Mining Lease at Campoona (the location of the graphite mine) and two Miscellaneous Purpose Licences at the site of the Sugarloaf Processing Facility (together the Mining Tenements).

During the Quarter, Archer prepared a comprehensive Response Document that responds to queries raised by various SA Government departments regarding the mining and processing operations proposed by Archer. This document was lodged by Archer at the end of the Quarter but was not receipted by the SA Government until the start of the September Quarter.

The SA Government incorporates a public consultation phase as part of the overall assessment process. Archer understands that no public submissions were made during the public consultation phase.

Archer anticipates that the Mining Tenements will be granted near the end of the current Quarter.



Figure 1: Sugarloaf Hill looking west to Darke Peake.



## **Leigh Creek Magnesite Project**

In late 2016 Archer announced that a bulk sample of Leigh Creek magnesite had been provided to a potential key customer for trial in commercial iron and steel operations. The magnesite was calcined on site using a rotary kiln to make CCM and DBM. The resultant CCM and DBM products were used by the potential customer during the Quarter in the steel making process.

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 behaved as expected in the steelmaking process with the expected benefits demonstrated.

As previously announced, Archer is in discussions with Adelaide Brighton Cement Limited regarding a bulk trial for the manufacture of CCM and/or DBM products. Negotiations with Adelaide Brighton Cement continued during the Quarter.

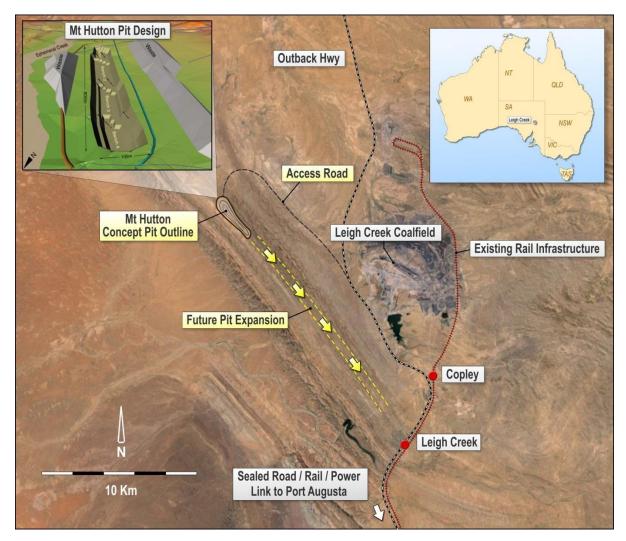


Figure 2: Leigh Creek Magnesite Project conceptual layout



# **Ketchowla Cobalt Manganese Project**

The RC drilling campaign at Ketchowla was completed during the Quarter. Drilling at Ketchowla was broad spaced with the drill program designed to test the width and depth extent of outcropping manganese and cobalt mineralisation at K1 and K2, where previous sampling by Archer returned grades up to 0.64% cobalt and >50% manganese. The results from the drilling were positive and extended the zone of cobalt and manganese mineralisation at K1.

Significant results from the K1 drilling are shown below.

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	29.3	0.1	0.3	0.34	0.27
K1RC1705	7	12	5	9.6	0.11	0.14	0.12	0.09
incl.	8	11	3	13.4	0.17	0.17	0.17	0.11
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

Table 1: Summary of drill results

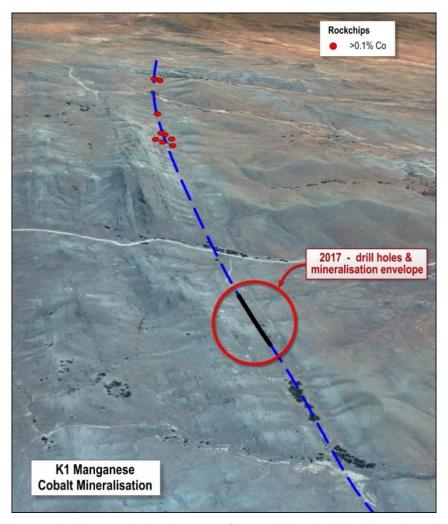


Figure 3: K1 target looking north showing area of latest drilling (red circle) and previous drill and previous rock chips



K1 and K2 are part of the larger Ketchowla project (comprising targets K1 – K9) which is a structurally fluid focused style system that has an overall strike of length of 20km and is open down plunge beyond the drilling.

At K1 the drilling focussed on 1km of the total 5km strike length of the known surface mineralisation. The drilling confirmed the presence of extensive cobalt and manganese mineralisation at K1 and identified a potential cobalt and manganese target of approximately 5km long that outcrops at surface.

The drilling at K1 was reconnaissance with nature with broad spaced shallow drilling, to a maximum depth of 20 metres, over a strike length of approximately 250 metres. The 250 metre of strike length represents < 20% of K1 structure and < 1% of the larger Ketchowla structure.

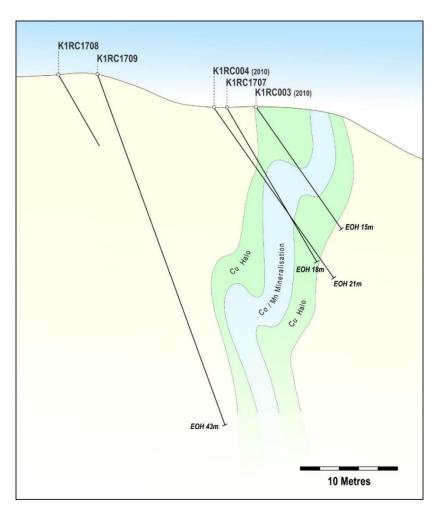


Figure 4: K1 cross-section showing extensive copper mineralisation surrounding the cobalt and manganese mineralisation.

The mineralisation at K1 comprises a near vertical lens of manganese dominated wad (dominated by lithiophorite and cryptomelane manganese minerals) containing cobalt and other metals and an adjacent footwall and hangingwall stockwork zone of chalcopyrite (copper sulphate) veins and stringers (Figure 4).

Archer has identified multiple drill targets over more than 20km of the greater Ketchowla structure and will undertake further work to prioritise these drill targets.



# **Blue Hills Copper-Gold Prospect**

During the Quarter, drilling by Archer at the Blue Hills Project, located approximately 5km north of Ketchowla, resulted in a significant new copper discovery. The drilling at Blue Hills took place immediately after completion of the drilling at Ketchowla. A total of 16 holes for 435 m were drilled at Blue Hills in May 2017 (Figure 5).

Shallow RC drilling by Archer intercepted significant visual copper mineralisation, including malachite and chalcopyrite over lengths of up to 23m. The Blue Hills drilling was part of a larger scale regional drilling program designed to assess and prioritise areas within the larger North Burra project.

The most significant drill intersections at Blue Hills include:

- BHRC 1701 23m @ 0.3% Cu from surface.
- BHRC 1704 **12m @ 0.5% Cu** from surface
- BHRC 1708 **11m** @ **0.32% Cu** from surface, including **2m** @ **1.4% Cu** from 6m.
- BHRC 1710 **15m** @ **0.15% Cu** from 2m, including **2m** @ **0.9% Cu** from 14m (hole BHRC1710).
- BHRC 1716 18m @ 0.16% Cu from surface.

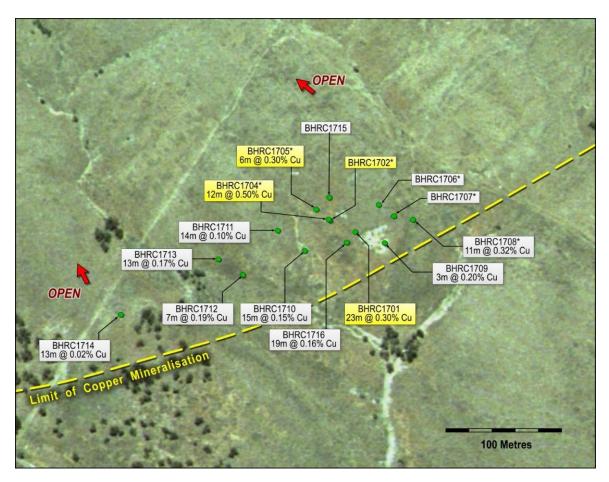


Figure 5: Cross-section showing copper mineralisation is open at depth and to the east. Previous drill results shown in yellow text box, results the subject of this announcement are shown in white text box



Archer also completed a rock chip sampling campaign at Blue Hills toward the end of June with the assay results reported after the Quarter, on 10 July. A total of 30 rock chip samples were collected. The purpose of the rock chip sampling was to extend the footprint of the Blue Hills copper mineralisation and assist in the identification of future drill targets.

The best rock chip results from samples taken along strike from Blue Hills include:

- 9.27% and 5.61% copper.
- 2.4% copper and 8.1 g/t gold.

Some regional samples were also collected as part of a larger program designed to test rocks associated with a larger geophysical structure in the area. Some of the better results from these regional rock chip samples include copper up to 0.6% and gold up to 0.3g/t.

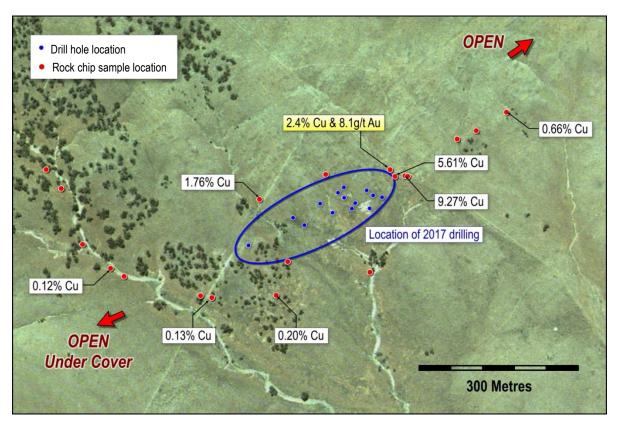


Figure 6: Blue Hills copper project showing location of some rock chips (red dots) and location of drill collars from recent RC drilling by Archer (blue dots).

Blue Hills is an area of historic copper workings which have not been drill tested by historical explorers. Previous field reconnaissance by Archer at Blue Hills included the sampling of spoil piles surrounding the historic workings. The discovery of significant copper and gold mineralisation at Blue Hills represents a potentially significant new development for Archer and the region.

Archer aims to commence a detailed and expansive mapping and rock chip and soil sampling campaign over the area of the anomaly during the September Quarter. This work will be complemented by a close spaced geophysics program. The exploration program will commence upon the grant of the new Pine Creek tenement, immediately to the north of Blue Hills.



## North Broken Hill Cobalt Project

All of the exploration licences forming the North Broken Hill Cobalt Project were granted toward the end of the Quarter.

The North Broken Hill Project (Figure 7) is located approximately 20km north of Broken Hill and is situated along strike from Cobalt Blue Ltd's (ASX:COB) Thackaringa Cobalt Project which includes the Pyrite Hill, Big Hill and Railway cobalt deposits where COB recently announced (ASX 05/06/17) a Mineral Resource of 54.9Mt @ 910ppm Co.

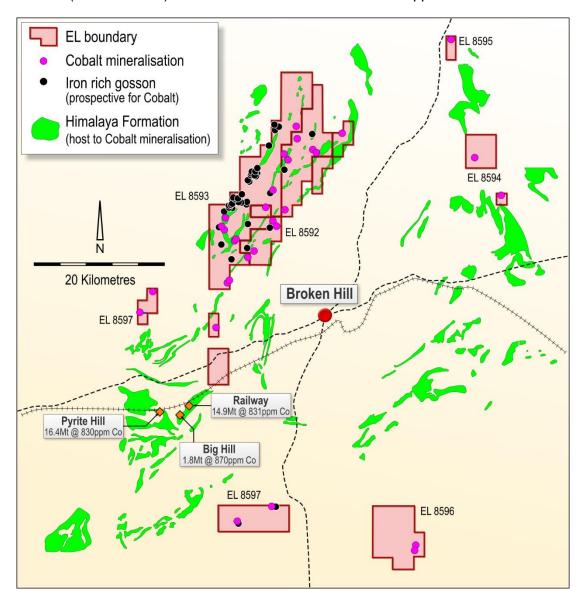


Figure 7: Archer's North Broken Hill Cobalt Project

The North Broken Hill Cobalt Project tenements cover a combined area of 381km² and contain multiple known outcrops of the Himalaya Formation and Thackaringa Group. The Himalaya Formation is considered one of the most prospective areas for cobalt mineralisation in NSW and cobalt at COB's Thackaringa Project is associated with Thackaringa Group. The presence of the same rocks that host the COB cobalt deposits and



previously reported cobalt occurrences on Archer's ground suggest high potential for the discovery of cobalt mineralisation by Archer.

Despite the presence of cobalt being reported within the area of the North Broken Hill Project, previous exploration in the area focussed on Broken Hill style mineralisation and there is no recorded historic cobalt focussed exploration on the Archer tenements.

Archer has met with numerous affected landowners during the Quarter and executed land access agreements with key landowners which will allow access to the tenements. Land access agreements will be negotiated with the remaining landowners during the September Quarter.

Archer plans to commence reconnaissance exploration during the September Quarter, this work will include mapping and the collection of soil and rock chip samples. Archer will also reprocess publicly available geophysical data (particularly IP and EM) to determine the scale of potential drill targets. The reprocessed data and rock chip results will be used to rank prospective drill targets.

Archer is anticipating generating Cobalt prospective areas to then re-process available historic geophysics (particularly IP and EM) to determine scales of drill targets for drill testing.

# **Polinga Cobalt Project**

There were further exploration activities undertaken at the Polinga Cobalt Project during the Quarter as the Company's exploration efforts focussed on the more advanced Ketchowla Cobalt manganese Project and the newly granted North Broken Hill Project area.

# Corporate

#### Cash balance

The Company's cash balance at the end of the Quarter was \$1,528,000.

#### **EGM**

Archer held a General Meeting of members on 23 June 2017. The two resolutions considered at the meeting were:

- Subsequent approval for the issue of the Placement Shares under Listing Rule 7.1.
- Subsequent approval for the issue of the Placement Shares under Listing Rule 7.1A.

Both resolutions were passed meaning that Archer has its full placement capacity available under Listing Rule 7.1 (15%) and Listing Rule 7.1A (10%) should the company elect to issues securities in the future.



### **Expiry of SPP Options**

Archer completed a share purchase plan in June 2016. Shareholders who were issued shares under the SPP were also issued unlisted share options on a 1 for 2 basis (**SPP Options**). The SPP Options had an exercise price of \$0.12 and expiry date of 30 June 2017. SPP Options that were not exercised prior to 30 June 2017 automatically expired on that date.

### **Expiry of Performance Rights**

At the 2016 AGM, Performance Rights were issued to Archer directors and management (**Rights**). The Rights were to vest in 3 tranches, subject to the satisfaction of certain share price based hurdles for each tranche. The share price hurdle for the first tranche of Rights was not achieved for the period up to 30 June 2017, meaning that all of the first tranche Rights (a total of 750,000 Rights) have lapsed.

### **Issued Capital**

Time	Shares on issue	Options on issue	Performance Rights on issue	
Start of Quarter	137,194,306	22,177,944 (SPP Options) 5,000,000 (Rix Options) <sup>(1)</sup>	2,250,000 (2)	
New issues Nil during Quarter		Nil	Nil	
End of Quarter 137,194,306		5,000,000 (Rix Options)	1,500,000	
24 July 2017 137,194,306		5,000,000 (Rix Options)	1,500,000	

#### Notes

- (1) 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.
- (2) In the March 2017 Quarterly Report the number of Rights on issue was incorrectly shown as 2,700,000. The correct number of Rights at the start of the Quarter was 2,250,000 as 450,000 Rights issued to Tom Phillips AM lapsed on his retirement as a director.

For further information, please contact:

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### **List of Archer tenements**

Tenement	Location	Commodity			
South Australia					
EL 5920	Carappee 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	Copper / gold			
EL 5769	Napoleons Hat	Copper / gold			
EL 4869	Ediacara	Barite			
PELA 567	Ediacara	Coal / gas			
EL 5870	Carpie Puntha	Graphite			
EL 5909	Yanyarrie	Cobalt			
EL 5935	Whyte Yarcowie	Cobalt / Copper			
MC 4393	Campoona	Graphite			
New South Wales		·			
EL 8592 (2)	Morris's Blow	Cobalt / base metals			
EL 8593 <sup>(2)</sup>	Broken Hill	Cobalt / base metals			
EL 8594 <sup>(2)</sup>	Broken Hill	Cobalt / base metals			
EL 8595 <sup>(2)</sup>	Broken Hill	Cobalt / base metals			
EL 8596 <sup>(2)</sup>	Kanbarra	Cobalt / base metals			
EL 8597 <sup>(2)</sup>	Kanbarra	Cobalt / base metals			
EL 8598 <sup>(2)</sup>	Kanbarra	Cobalt / base metals			
Tenements relinquished during, or after end, of Quarter					
None					

### **Notes**

- (1) All tenements are 100% held by wholly owned subsidiaries of Archer, except for EL 5804 where Archer has the right to explore for all minerals except for uranium.
- (2) These tenements were granted during the Quarter.



## **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.