

# Archer to purchase EL4662 Waddikee

SX Code: AXE

## Directors

Greg English  
Chairman

Gerard Anderson  
Managing Director

Tom Phillips AM  
Director (Non-Executive)

Alice McCleary  
Director (Non-Executive)

## Company Secretary

Craig Gooden

## Shares on Issue

83.6 million

## Unlisted Securities on Issue

3.4 million Performance Rights

## Key focus

Campoona and Sugarloaf Graphite Projects (Eyre Peninsula, South Australia). Second tier projects cover magnesite, manganese, copper and gold.



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## ARCHER TO PURCHASE EL4662 WADDIKEE

### Highlights

- Archer to purchase Waddikee EL4662 by paying \$290,000 (making \$300,000 in total) to Monax once Ministerial consent allows transfer of the tenement to Archer.
- Waddikee EL4662 hosts several flake graphite deposits including Wilclo South with a 2012 JORC Inferred Resource of 6.38Mt grading 8.8% TGC (5% TGC lower cut-off).
- Highly encouraging flotation and gravity testing indicates 20-35% flake graphite extractable at grades to 93.5% TGC.
- Several other graphite deposits have limited or no drilling.
- Waddikee will provide flake graphite production flexibility to compliment Campoona.

Archer Exploration Limited ("Archer") is pleased to announce that it has completed due diligence under the Sale and Purchase Agreement with Monax Mining Limited ("Monax") and will proceed with the purchase of Monax's Waddikee Exploration Licence EL4662.

The purchase remains conditional on the Minister consenting in writing pursuant to the Mining Act to the Sale and Purchase Agreement and the transfer of all legal and beneficial interest in Waddikee EL4662 to Archer.

### Waddikee EL4662

Waddikee EL4662 is located between the townships of Cleve and Kimba on central Eyre Peninsula (Figure 1). The 999km<sup>2</sup> tenement is situated immediately north of Archer's main graphite interests on EL4693 Wildhorse Plain. Waddikee is highly prospective for graphite, manganese, iron (magnetite and hematite), gold and base metals (Ag-Pb-Zn-Cu).

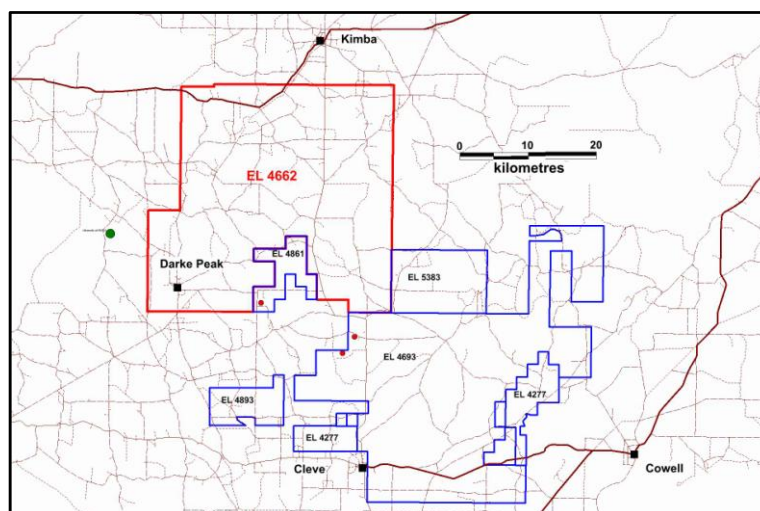


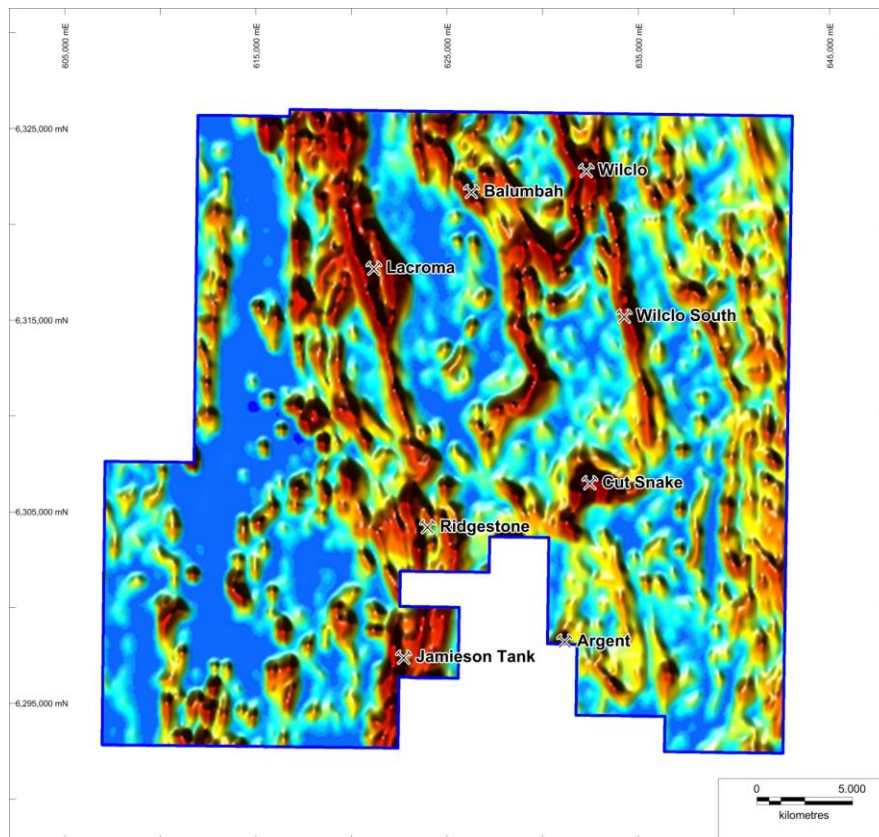
Figure 1. Location of Waddikee EL 4662 (shown in red) relative to AXE tenure on Eyre Peninsula.



## Waddikee Graphite

Waddikee has a number of graphite deposits and prospects that have been evaluated using combinations of geophysics (airborne magnetic and electromagnetic surveys) rock chip sampling, detailed petrology and drilling.

Rock chip sampling by Monax returned high grade graphite at the Argent, Wilclo, Cut Snake, Balumbah and Lacroma prospects.

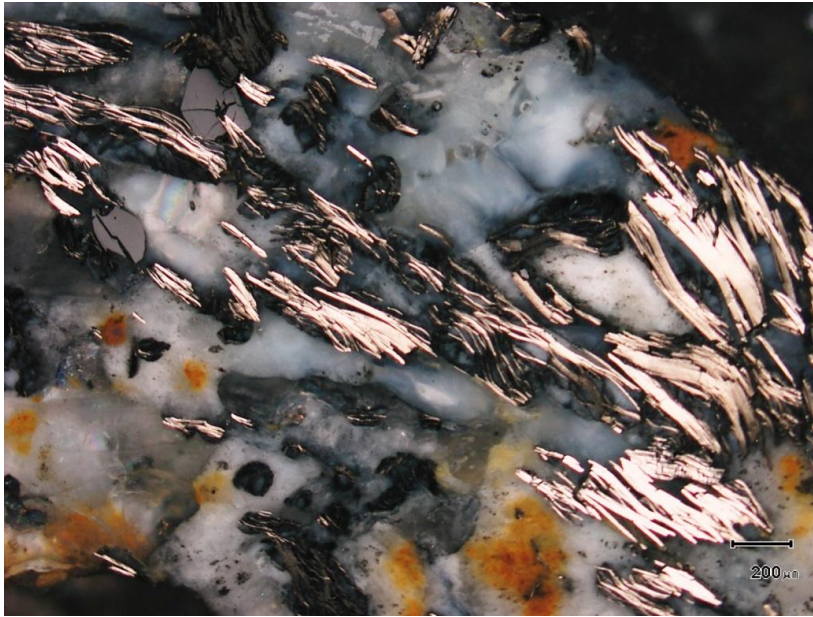


**Figure 2. Key graphite deposits and prospects on Waddikee EL4622**

Petrology from several samples showed the presence of large and jumbo flake graphite at the Argent, Balumbah and Cut Snake prospects.

The graphite morphology at Waddikee contrasts to that at Campoona. Graphite at Waddikee is:

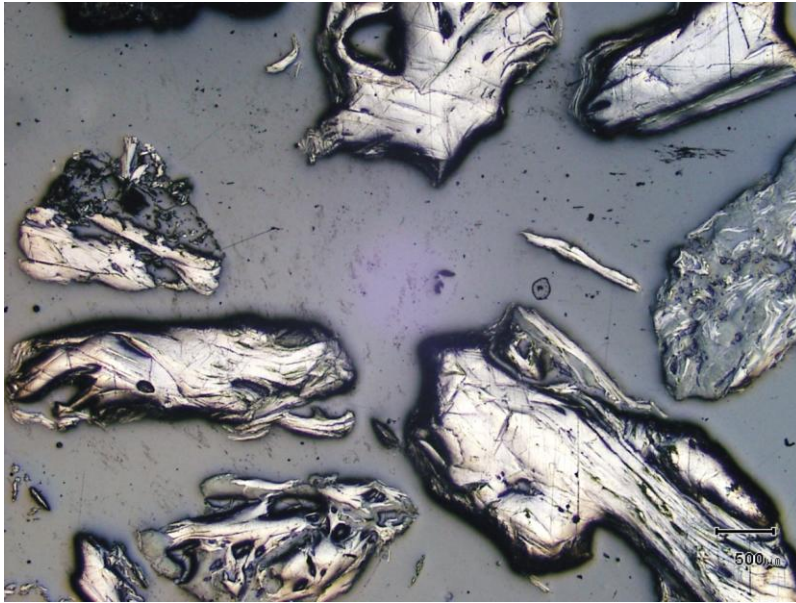
1. Clearly coarser than at Campoona with flake graphite mostly exceeding 200 $\mu$ m with some flake exceeding 500 $\mu$ m.
2. Flake graphite occurs as individual coarse flakes, as aggregates of flakes and as massive graphite aggregates.
3. Apart from flake graphite also occurs as finer ragged flake aggregates of various sizes.



**Plate 1. Sample 28736 Hole WG103, 33- 34m**  
(PPL), (Xnic). Schistose graphite within metamorphic mosaic of white ghost-like clays ex-felspar (± minor micas). Accessory interstitial quartz.



**Plate 2. Sample 28731, Hole WG091, 44-46m**  
Composite particle with ~ 35% graphite in a host rock of yellow iron-stained clay, minor white clay and quartz



**Plate 3. Sample 28731, Hole WG091 44-46m**  
Example of four liberated graphite particles, and three composite together with small areas of silicate host rock. Note bar scale 500µm.



**Plate 4. Sample 28727, Hole WG090, 74-75m**  
Large liberated flake, (x20), scale bar 500µm.



Plate 5. Sample 28718, Hole WG044, 73-74m (PPL), (Xnic). Graphite scattered as individuals and composites, all enclosed within ochreous-red ferruginised ex-felspars and local micas.



Plate 6. Flake aggregates from RC drill hole WG041 (98-99m)

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The rock chip sampling and detailed petrology has been supported by airborne magnetic and electromagnetic (AEM) data that showed that each of the graphite prospects was located within areas of linear conductive features.

Subsequent work by Monax increased the number of graphite prospects to eight.

In July 2012 Monax drilled 40 reverse circulation drill holes for 2,908 metres on five of the graphite prospects. From this drilling Monax identified the Wilclo South, Francis and Lacroma prospects as high priority exploration targets.

## Wilclo South 2012 JORC Indicated Resource

In February 2013 Monax completed 77 reverse circulation drill holes for 7,307 metres over 1.4km of the Wilclo South graphite prospect. The drilling identified multiple shallow dipping graphite horizons.

Graphite mineralisation at Wilclo South is divided into upper and lower lenses separated by two low angle thrust faults.

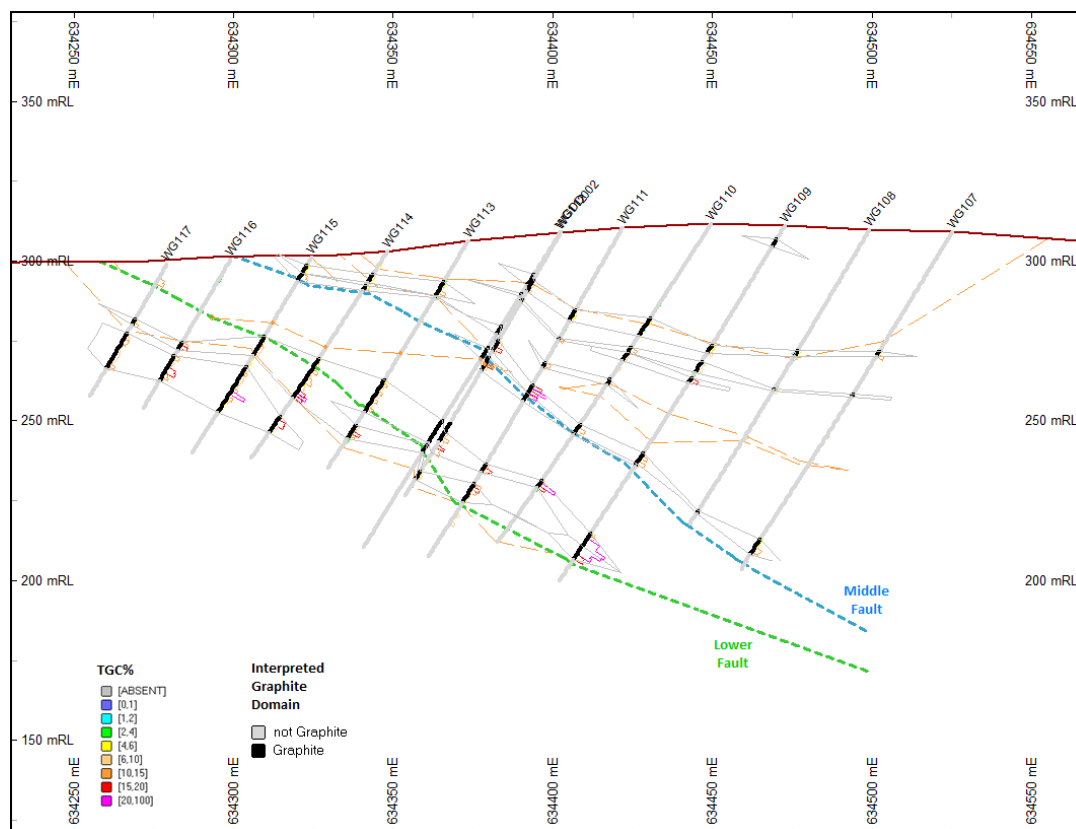


Figure 3. Wilclo South interpreted geology showing graphite lenses separated by the Middle and Lower thrust faults.

Drilling was conducted on a combination of 200 metre, 100 metre and 75 metre line spacings. All resources are Inferred.

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## Wilclo South Inferred Mineral Resources (no lower cut-off applied)\*

Fault Zone	Oxidation State	Tonnage (Mt)	TGC (%)	Density (t/m <sup>3</sup> )
Upper Block	Oxide	1.32	7.3	2.3
	Fresh	3.56	7.4	2.3
Middle Block	Oxide	0.39	7.9	2.1
	Fresh	1.83	9.2	2.1
Lower Block	Oxide	0.32	7.1	2.1
	Fresh	0.40	8.5	2.1
Subtotals	Oxide	2.02	7.4	2.2
	Fresh	5.79	8.0	2.3
<b>Total Inferred (no cut-off)</b>		<b>7.81</b>	<b>7.9</b>	<b>2.2</b>

\*This information was prepared and first disclosed under the JORC Code 2014 (Monax Mining Limited, ASX Announcement 26th August 2013). It has not been updated since on the basis that the information has not materially changed since it was last reported.

## Wilclo South Inferred Mineral Resources (>5% TGC cut-off)

Fault Zone	Oxidation State	Tonnage (Mt)	TGC (%)	Density (t/m <sup>3</sup> )
Upper Block	Oxide	1.02	8.4	2.3
	Fresh	2.67	8.7	2.3
Middle Block	Oxide	0.36	8.2	2.1
	Fresh	1.72	9.5	2.1
Lower Block	Oxide	0.25	7.9	2.1
	Fresh	0.36	9.1	2.1
Subtotals	Oxide	1.63	8.3	2.2
	Fresh	4.74	9.0	2.2
<b>Total Inferred (no cut-off)</b>		<b>6.38</b>	<b>8.8</b>	<b>2.2</b>

## Wilclo South Inferred Mineral Resources (>10% TGC cut-off)

Fault Zone	Oxidation State	Tonnage (Mt)	TGC (%)	Density (t/m <sup>3</sup> )
Upper Block	Oxide	0.25	11.9	2.3
	Fresh	0.76	11.9	2.3
Middle Block	Oxide	0.07	12.0	2.1
	Fresh	0.60	13.3	2.1
Lower Block	Oxide	0.03	11.8	2.1
	Fresh	0.08	14.3	2.1
Subtotals	Oxide	0.33	11.9	2.2
	Fresh	1.43	12.6	2.2
<b>Total Inferred (no cut-off)</b>		<b>1.75</b>	<b>12.5</b>	<b>2.2</b>



Wilclo South currently contains over 560,000 tonnes of contained graphite. The deposit is open to both the north and south. It is reasonable to expect that additional drilling at Wilclo South will increase the graphite inventory.

The Francis deposit contains very high grade graphite intercepts including 15m @ 20.7% TGC; 12m @ 21.9% TGC; 3m @ 22.2% TGC, and 2m @ 25.0% TGC. The intercepts are downhole intervals and may have intersected the mineralisation at a high angle.

Drilling at Lacroma also returned solid intercepts including 60m @ 6.8% TGC. The graphite from the limited petrology undertaken suggests very fine graphite.

Rock chip sampling at Balumbah returned grades in excess of 13.7% TGC but importantly petrology recorded very coarse flake graphite.

The airborne EM data suggests that there are several kilometres of prospective linear conductors that remain to be drill tested.

### ***Waddikee Metallurgy***

The 4 week due diligence period meant that only preliminary metallurgical evaluation could be conducted. Approximately 20 kilograms of sample was collected from selected drill holes at Wilclo South and Francis. Samples were taken by scoop from individual sample bags and combined to form one sample for metallurgical testing.

The yield of flake obtained was calculated about 20% (+/- 5%) of the available elemental carbon at 90% grade cut-off.

Gravity testing was performed on three size fractions of +150, +106 and +75 microns. The highest grade was achieved in the middle size range of +106  $\mu\text{m}$  to 93.1% TGC at an overall grade of final products 89.9%. Similar good results were obtained in other size ranges as well, with an overall grade of 91.9% TGC for +75  $\mu\text{m}$  and 86.7% TGC for +150  $\mu\text{m}$ .

The potential yield of combined flake increases to around 32% at about 85% grade cut-off into 20-25% of the sample weight.

The flotation response of this chip sample was about 90% grade at 75% recovery, (test CN7); After passing through roughing plus 3 stage cleaning, following regrinding to about 400 mesh, 38 microns.





## Waddikee Manganese and Iron

The Waddikee project has strong potential for iron and manganese mineralisation within the Palaeoproterozoic Hutchison Group metasedimentary rocks. More than 80km of strike length of the host sequence, including banded iron formation (BIF), occur throughout the tenement. The BIF sequences are clearly evident as long curvi-linear highs within Monax's 100m line spaced aeromagnetic data (Figure 2). Rock chip sampling by Monax identified a number of iron (hematite) and manganese prospects within the tenement. Samples returned maximum values of 60.1% iron and 43.8% manganese.

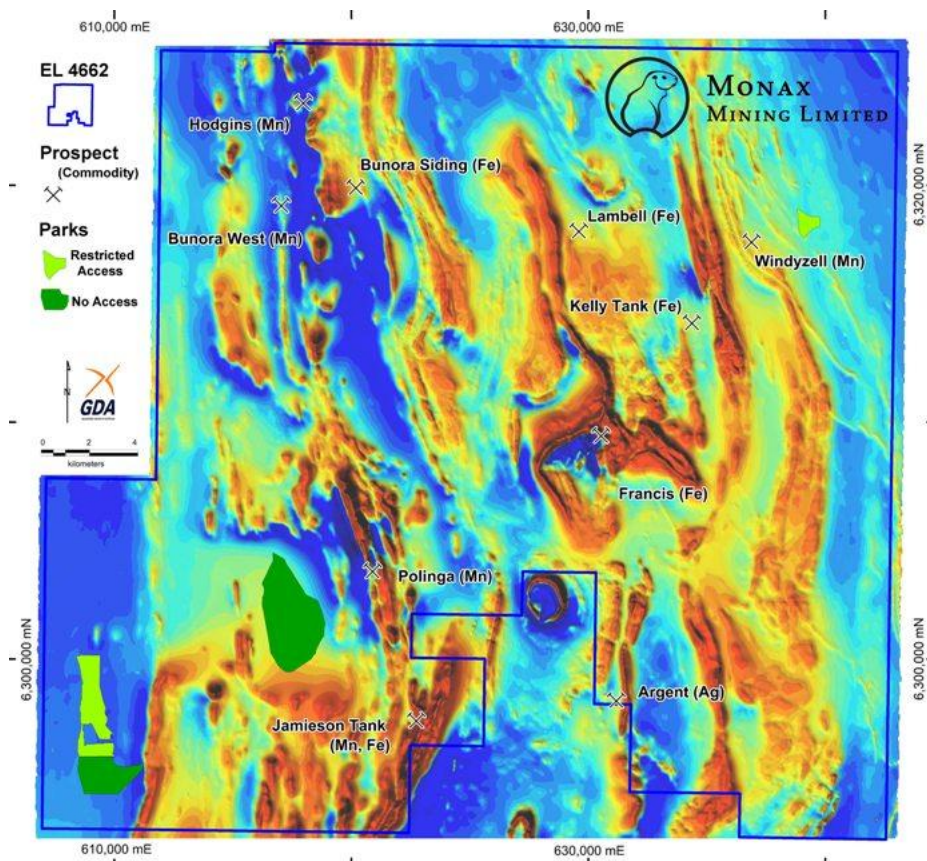


Figure 4. Total Magnetic Intensity (TMI) image showing BIF sequences and Monax's iron and manganese prospects.

Monax completed 13,204 metres of RC Air Core and Percussion drilling across the project primarily evaluating the potential for economic manganese mineralisation.

The Jamieson Tank manganese prospect in the south west of the tenement comprises over 5km strike of banded iron formation. Manganese mineralisation occurs along strike parallel bands on either side of the BIF sequence. Jamieson Tank manganese mineralisation extends well into EL4693 Wildhorse Plain. Archer has the rights to all minerals other than uranium on EL4693.

Significant manganese results reported by Monax included:

- 10m @ 17.5% Mn (JTRC069 26-36m) including 2m @ 26.7% Mn (26-28m)
- 5m @ 19.2% Mn (JTRC119 14-19m)

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- 7m @ 17.1% Mn (JTRC121 22-29m)
- 4m @ 14% Mn (PRC003 25-29m) and 6m @ 16% Mn (PRC003 31-37m).
- 3m @ 19.8% Mn (JTRC057 18-21m)

Manganese beneficiation test work undertaken by Amdel Laboratories demonstrated the ability to significantly improve the manganese grades with effective removal of iron and silica. Results from this beneficiation include:

- JTRC034 (14-21m) – initial Mn grade of 18.7% Mn was upgraded to 34.7% Mn (88.2% recovery); and
- JTRC036 (8-13m) – initial grade of 20.3% Mn was upgraded to 42.5% Mn (80.96% recovery) – see ASX Release 18 December 2008 for full details of the beneficiation.

Significant intersections of iron include:

- 44m @ 34.6% Fe (PRC001 25-69m)
- 17m @ 31.6% Fe (JTRC011 3-20m)
- 12m @ 33.8% Fe (JTRC012 18-30m)
- 17m @ 31.6% Fe (JTRC013 33-50m)
- 24m @ 28.4% Fe (JTRC014 54-78m)
- 17m @ 33.3% Fe (JTRC041 9-26m)
- 20m @ 33.8% Fe (JTRC042 20-40)
- 16m @ 34.6% Fe (JTRC043 43-59m)
- 12m @ 34.8% Fe (JTRC044 67-79m)
- 20m @ 32.1% Fe (JTRC054 5-25m) and 8m @ 25.9% Fe (JTRC054 31-39m)

The iron potential of the Waddikee tenement has not yet been fully tested.

For further information please contact:

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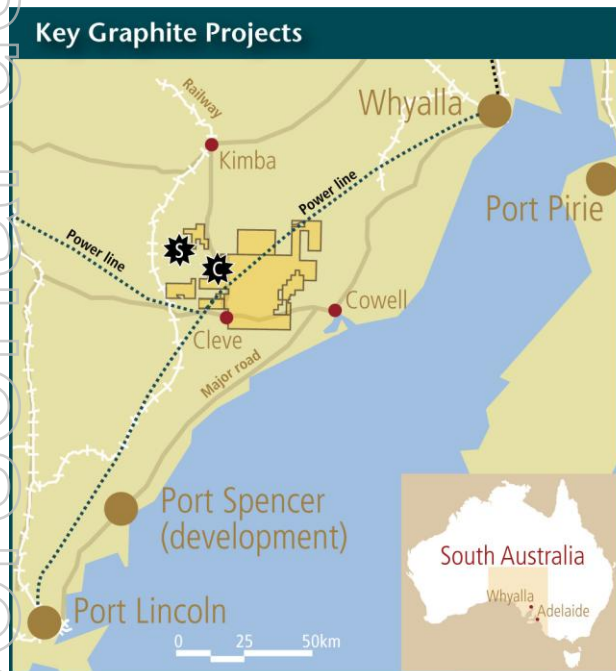
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## About Archer

Archer Exploration Limited is an Australian Stock Exchange listed company with 100% ownership of 13 tenements all in South Australia covering 4,954 km<sup>2</sup>. Archer also has the rights to all minerals other than uranium on EL4693 covering a further 816 km<sup>2</sup>. Archer's flagship project is the Campoona Graphite Project which is located within reach of established and major developing infrastructure. It has a JORC 2004\* Resource of 2.53 million tonnes @ 12.3 % TC (based on 5% TC cut-off). Archer plans to submit a Mining Lease Proposal to the South Australian Government for approval in the third quarter of calendar 2014.

\* This information was prepared and first disclosed under the JORC Code 2004 (Archer Exploration Limited, ASX Announcement 6th December 2012). It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

*What sets Campoona apart from almost all other graphite deposits in the world is its ability to deliver ultra-pure, high-value, highly crystalline ultra-fine graphite using conventional mechanical cell flotation.*



### Advanced Graphite Projects

- Campoona
- Sugarloaf



### Priority 1 and 2 targets:

- Graphite
- Magnesite
- Manganese
- Copper
- Gold



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

The Archer information in this report that relates to the JORC 2004 Mineral Resource estimation has been prepared by Mr B Godsmark who is a Member of the AusIMM and peer reviewed by Mr G Reed who is also a Member of the AusIMM (CP). Mr Godsmark is a full time employee of Mining Plus Pty Ltd and Mr Reed is a sub-contractor to Mining Plus Pty Ltd., both have more than five years' experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Godsmark and Mr Reed have consented in writing to the inclusion in this announcement of the Mineral Resource estimation information in the form and context in which it appears. This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.