## Significant advances in graphene Research



SX Code: AXE

#### **Directors**

Greg English Chairman

Gerard Anderson

Managing Director

Tom Phillips AM

Director (Non-Executive)

Alice McCleary

Director (Non-Executive)

# CompanySecretary

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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### Significant Advances in Graphene Research

## **Highlights**

 Research funded by Archer Exploration Limited with the University of Adelaide School of Chemical Engineering has identified potential commercial applications using graphene.

The joint graphene research funded by Archer Exploration through the University of Adelaide has generated excellent first outcomes. The \$200,000 research funding over two years helps support a graphene research team at the School of Chemical Engineering under Professor Dusan Losic.

Archer's research is focused on the development of scalable production of graphene from its South Australian graphite deposits and graphene's broad industrial, environmental and agricultural applications.

Key outcomes thus far have included:

- Graphite samples from Archer's Campoona and Sugarloaf graphite deposits have been characterized to determine mineral composition, graphitic carbon concentration and impurities as inputs into optimising processing conditions for the production of graphite concentrates and graphene based products. The results confirmed high concentrations of graphitic carbon critical for the production of high quality graphite.
- 2. Campoona and Sugarloaf graphitic ores readily produce graphene.
- 3. Early research using Archer graphene has demonstrated excellent performance in new adsorbents for water purification, in the removal of spilled oils from water, for the removal of toxic metals from waste waters, in soil remediation and in agricultural applications. Further research will be directed at identifying potential commercial developments.
- 4. Archer's sponsored graphene research was presented by the University team at the Nanotech USA 2014 Conference in Washington from the 15-18th June 2014. The conference is one of world's biggest Nanotechnology conferences. (http://www.techconnectworld.com/Nanotech2014/sym/Graphene.html).
- 5. The University team presented two papers from the graphene research showing a new and green approach for the reduction of graphene oxide nanosheets using non-aromatic amino acids which can be used for production of graphene and graphene oxide with controllable size and chemistry of nanosheets. The second paper outlined the development of Graphene composite hydrogels and aerogels for selective removal of oils and organic contaminants.

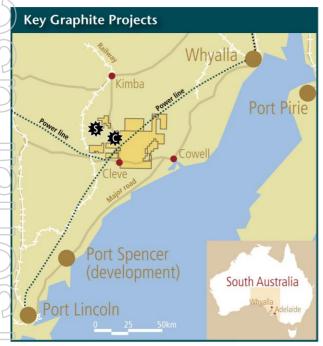
For further information please contact:

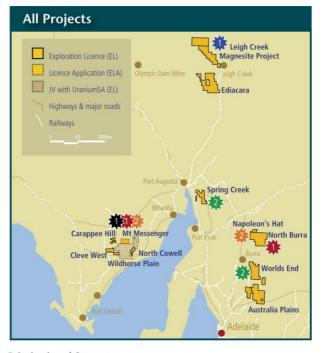
Mr Greg English Chairman Archer Exploration Limited Tel: (08) 8205 3343 Mr Gerard Anderson Managing Director Archer Exploration Limited Tel: (08) 8272 3288

## **About Archer**

Archer Exploration Limited is an Australian Stock Exchange listed company with 100% ownership of 13 tenements all in South Australia covering  $4,954~\rm km^2$ . Archer also has the rights to all minerals other than uranium on EL4693 covering a further  $816~\rm km^2$ . 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.





Advanced Graphite Projects
Campoona
Sugarloaf

Priority 1 and 2 targets:

∰Graphite ∰Magnesite ∰Manganese ∯Copper ॐ

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.



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Telephone +61 8 8272 3288 Facsimile +61 8 8272 3888 www.archerexploration.com.au 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 subcontractor 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.