Archer Exploration Ltd.: Market Briefing - Graphite Projects Update and Outlook

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Adelaide, Australia (ABN Newswire) - In this Market Briefing interview, Greg English, Archer Exploration Ltd. 's (ASX:AXE) Executive Chairman, discusses the Company's strategic direction and current project developments, including:

- The path to commercialisation of the Eyre Peninsula graphite projects

- Progress on the Campoona battery grade graphite project

o Mining lease proposal

o Marketing for off-take and potential partners

o Further battery testing underway

- Update on the Sugarloaf deposit and potential fertiliser project

o Progress on research with Adelaide University

- Longer term prospects of the Waddikee large flake project

- Current status of the Leigh Creek Magnesite Project

- Outlook for next 6 months and key steps

Interviewer:

Greg, Archer Exploration owns Australia's largest JORC 2012 graphite resource and has been actively pursuing the development of these resources. How do you see these resources being commercialised?

Greg English

Our South Australian, Eyre Peninsula tenements currently have the largest graphite JORC 2012 resource recorded in Australia, with significant further potential across our tenements to increase the size of these resources. The nature of our deposits provide us with a wide spread of flake sizes, and various forms of graphite that give rise to a variety of potential end markets and users.

We have identified two immediate potential projects, with the prospects of a third project as we progress.

Our initial graphite Project at Campoona Shaft is the basis of our battery grade graphite project. Campoona Shaft graphite has been recently tested and shown to match or perform better than commercially available 'synthetic graphite' in battery performance. It is important to note that not all naturally occurring graphite deposits are suitable for battery anodes. Our deposit has physical properties that allow it to be used for battery anode production, in addition to use in high quality lubricants.

Our work has identified two further deposits in the immediate vicinity (Central Campoona and Lacroma) that have essentially the same graphite as at Campoona Shaft that can be processed using the same equipment to produce the same high grade graphite.

The Campoona Shaft Project is progressing with the final mining lease proposal expected to be lodged in the coming weeks, and we are now awaiting final government approvals process to be completed over the next six months.

The second immediate prospect of a commercial project exists with our Sugarloaf deposit. This deposit is additional to our current JORC resources and is a massive outcropping deposit with an exploration target of 40 to 70 million tonnes of graphite at 10 to 12 percent carbon. Whilst we initially were undertaking research at the University of Adelaide to explore the potential for graphene production from this deposit, which we

showed was easily achieved; the recent research has focussed on the agricultural potential for this material. Sugarloaf consists of an amorphous carbon which naturally has elevated amounts of macro and micro nutrients essential for plant growth. Whilst a lot more work needs to be done, the initial findings from the University suggest that this material significantly assists plant growth. If further research confirms this outcome, it could mean this massive deposit has ready applications as a soil conditioner.

Our third potential project exists in our acquired Waddikee tenements, which contain large flake graphite. These deposits include our largest JORC resources and provide us with the 'mass market' opportunities for large flake graphite. We will pursue this longer term opportunity once we have fully examined the potential of our battery and fertiliser project opportunities.

Interviewer:

If we consider each of the projects in turn, can you outline what activities are currently being undertaken to pursue the development of the high grade graphite project?

Greg English

As I mentioned we have undertaken a lot of work to pull together our Campoona Shaft Mining Lease proposal, and this is about to be submitted in its final version. This process involved conducting numerous studies into the technical, environmental and social aspects of the project and included widespread consultation with local farmers and government and authorities. This project will have access to power, water and infrastructure and is accessible by sealed road.

We will now await the formal approval of this application, and that means we enter a period of lower expenditures until the mining lease is granted, which could be a six-month period.

We are using this time to seek project partners or off take partners to assist with the development of this project and the construction of the processing facility. At this stage this work is in its preliminary stages, and we have appointed parties to assist us with this process in the major global markets.

We also intend to undertake the next phase of battery testing. Whilst our initial tests showed equal or superior results were achieved with our graphite, our graphite is naturally occurring and this resulted in various flake sizes being used in the initial test work. We now want to test the hypothesis that if we have a more uniform particle size it will further enhance our performance. We now have more uniform sample sizes produced and these will be tested by the CSIRO to see if this further improves our performance relative to the synthetic grade graphite.

Interviewer:

If the Campoona graphite is as good as synthetic graphite why haven't you found an off-take partner for this project?

Greg English

Spherical graphite which is made from natural flake graphite, has traditionally been used in the bulk of battery anodes. However, around 30% of lithium-ion batteries use synthetic graphite. Our graphite has been shown to be equal to synthetic graphite. Potential buyers of our graphite need to test our graphite in their applications to make sure the graphite meets their technical specifications.

Our initial battery tests were very encouraging. Since releasing the initial test results we received a number of requests from companies seeking to test our graphite concentrates. Whilst some companies are still testing our material others have given positive responses seeking various levels of supply subject to agreeing prices.

The next round of battery testing using more uniformly sized micronized graphite is important because if we can further improve our performance, our graphite will provide a battery producer with a higher quality battery, with cheaper input costs. We think this should be a compelling case for the right partner to take an interest. Especially as there is an increasing demand for Lithium ion batteries with home power storage batteries increasing in popularity, and an expected increase in electric cars to provide additional growth prospects to the current increasing demand profile for Lithium ion batteries.

However, our graphite can also be used for high quality lubricants and other purposes, so we are not just reliant on the battery market. We are stepping up our efforts to find a partner, and our further testing should assist us in this process.

Interviewer:

What would the financial aspects of this project involve based on your Mining Lease proposal?

Greg English

We are aiming to be a boutique producer of high grade graphite. We would look to construct a production facility on our wholly owned land near the Sugarloaf deposit, which provides a central facility close to all of our graphite projects, to potentially allow for the convenient processing of all our graphite over the longer term.

Our current Mining Lease proposal is simply in respect of our Campoona Shaft deposit, which would provide a 14-year mine life on its own. Our recent confirmation that Central Campoona and Lacroma contain similar graphite to Campoona Shaft would allow us to potentially expand production, or extend mine life, or both.

Our initial financial analysis has been based solely on the Campoona Shaft deposit, and it suggests an internal rate of return of around 25 - 30% can be achieved based on a capital requirement of $36 million to move into production. This cap-ex would allow us to produce high grade graphite of 92-97% purity from the initial processing, and an acid wash improving the grade to greater than 99% purity and suitable for battery anode use.
Of course, a final feasibility study will allow us to confirm the financial modelling with greater accuracy, although as we are using components in our facility that are effectively 'off the shelf' we would not anticipate any significant levels of cap-ex required beyond our initial estimates.

Interviewer:

What activities are taking place at the Sugarloaf project?

Greg English

The research collaboration with the University of Adelaide has advanced to the point of proof-of-concept for the potential application of Sugarloaf carbon as a soil conditioner and slow release fertilizer. We use the term carbon because it consists of fine, porous carbon as opposed to highly crystalline graphite.

The research work to date has shown that Sugarloaf carbon has several unique characteristics that combine to underscore its potential as a soil conditioner. Firstly, Sugarloaf carbon naturally has 11 of the 13 critical macro and micro nutrients essential for plant growth. The research showed that these macro and micro nutrients are present in both highly soluble and more slowly soluble forms providing plants with sustained nutrient availability.

Secondly, raw run-of-mine Sugarloaf carbon when added to soil improves the soil's ability to retain moisture.

Thirdly, initial plant trials using wheat showed that adding Sugarloaf carbon improved root development and promoted thicker, stronger plant stems.

The results have been very encouraging and we are now planning the next broader phase of testing.

We haven't incurred any significant project development expenses to date, and do not expect to occur additional major expenditure in the near term.

Sugarloaf has an enormous resource potential certainly of many tens of millions of tonnes. If Sugarloaf becomes a commercial project it should be a relatively straight forward process to dig this deposit and apply low cost processing. At this stage it doesn't appear that Sugarloaf will require any form of mineral processing, the concept is to simply dig, crush, screen and bag. We think that the suitable partner to pursue this project would be a local fertiliser manufacturer, and we have yet to actively seek partners pending research outcomes from Adelaide University.

Interviewer:

Are you undertaking any activities with respect to the Waddikee tenements?

Greg English

As I mentioned, these are actually our largest component of JORC resource, and contain our large flake graphite. We did some further drilling on these tenements early in the year and it was sufficient for us to have confidence that we have considerable scope to expand these resources significantly, particularly through our step out drilling at Wilclo South, which still only covers a couple of kilometres of an 11 kilometre strike, as

indicated by our electromagnetic surveying.

We already have Australia's largest JORC 2012 resource that can support a long life operation, so have no immediate need to keep drilling at Waddikee. At this stage, we are not doing further work on these tenements, but they will prove to be a valuable additional product when we have established our Sugarloaf graphite processing facility.

The market for large flake graphite is very broad, but this segment has been under some pressure with the large flake deposits being identified in Mozambique.

We believe that these graphite resources will provide us with another attractive graphite project over time, with the demand for large flake also set to increase over time and end users wanting supply from a range of producers, and not being dependent on a single provider or with too great an exposure to unstable political regions.

Interviewer:

You have previously flagged the Leigh Creek Magnesite deposit as an asset where you are seeking to crystallise value. What is happening with this asset?

Greg English

At Leigh Creek we own the world's largest cryptocrystalline (small crystal) magnesite deposit. We have almost half the World's known resource of this type, which is a higher purity form of magnesite.

Our proposed project is to produce magnesia, which is magnesium oxide. It has a huge variety of applications and can be readily produced through heating the magnesite to high temperatures. The magnesite deposit is vast with the potential to support a mine life in excess of 100 years.

We have received some interest for this asset, with some indicative offers on the table, but these are too preliminary to provide any further details at this stage.

Additional recent developments have made this asset potentially more attractive;

We have just signed a Heads of Agreement with Leigh Creek Energy that would secure the supply of low cost gas for this project. Also the imminent closure of Alinta's Leigh Creek Coal project provides significant scope to utilise the existing infrastructure. There is increasing prospects that would support having a production capability at Leigh Creek which would enhance the project economics significantly.

This project is moving in a very interesting direction, and we are actively involving ourselves with on-going discussions.

Interviewer:

What is the financial position for Archer, do you have to raise capital?

Greg English

We recently received our 2015 R&D refund from the ATO and currently have $1.5m cash in the bank. Our operating expenses have now come down to low levels, so we could run with that balance for 8 to 12 months if required. However, as some of our projects develop further, we will be keen to pursue these and that will give us the opportunity to create significant shareholder value. When these opportunities arise we will look at our various funding alternatives to provide the best outcomes for shareholders.

In the interim, if we were to raise any capital, it would be a low level sufficient to pursue some of the additional project opportunities in our portfolio with a view to testing their prospectivity in commodities such as copper and gold. This opportunity arises as we wait to progress the Campoona and Leigh Creek projects.

Interviewer:

What is the outlook for Archer Exploration over the next few months?

Greg English

We will continue to pursue our Campoona project with further CSIRO testing of our graphite and comparing it to commercially available lithium-ion battery quality graphite. We will also continue the search for off-take

and potential project partners, as we await the final Mining Lease approval.

We will also undertake further research with Adelaide University in respect of the suitability of the Sugarloaf deposit for use as a 'slow release fertiliser and soil enhancer'.

At Leigh Creek we will continue to monitor events, whilst still being open to offers that may emerge for developing that asset.

In addition, we will take the opportunity to thoroughly assess the balance of our tenement portfolio and prioritise our opportunities in our mainstream commodities such as copper and gold.

While we are working towards developing our graphite assets and see great potential to be able to do something with our magnesite deposit, we are still at our heart an exploration company. The cost of maintaining our various tenements is minimal and we see value in continuing to progress these assets to the point where shareholder wealth can be realised.

We believe it will be an exciting six months ahead of us as our projects move forward, and opportunities are crystallised.

Thank you, Greg.

About Archer Exploration Limited:

Archer Exploration Ltd. (ASX:AXE) is an Australian Stock Exchange listed company with 100% ownership of 15 tenements and one Exploration Licence Application all in South Australia covering 6,053 km2.

Archer also has the rights to all minerals other than uranium on EL4693 covering a further 816 km2. Archer's main project is the Campoona Graphite Project which is located within reach of established and major developing infrastructure. It has a JORC 2004 Resource of 5.27 million tonnes @ 7.6 % TC (based on 2% TC cut-off).

Contact:

Archer Exploration Ltd.
T: +61-8-8272-3288
F: +61-8-8272-3888
E: info@archerexploration.com.au
www.archerexploration.com.au