

1<sup>st</sup> June 2012

**ASX ANNOUNCEMENT / MEDIA RELEASE** 

Archer Exploration Limited ABN 64 123 993 233 Level 1, 28 Greenhill Road Wayville, SA 5034 Australia

Telephone +61 (0)8 8272 3288 Facsimile +61 (0)8 8272 3888 info@archerexploration.com.au www.archerexploration.com.au

## CAMPOONA DELIVERS LARGE, MEDIUM AND FINE FLAKE AND VERY HIGH GRADE AMORPHOUS GRAPHITE IN CONCENTRATES

## **Highlights**

- A composite RC sample from Campoona hole CSRC12\_006 has produced large, medium and fine flake with most in the medium flake range.
- The results are considered a minimum result as the samples received by the laboratory were finely pulverised by the drilling method with 97% passing 2mm. The samples as received already had 80% passing 220 micron thus making it potentially unsuitable for the recovery of flake graphite. Despite the limitations of the sample large, medium and fine flake graphite was recovered.
- Mostly medium and fine flake was recovered with lesser large flake. Flake grades of 91%TGC achieved. Acid wash results are pending.
- Test work will continue over the coming months based on trench and diamond drill samples and will involve several iterations of grinding and flotation regimes. Focus will be on developing the optimum process flow sheet to meet the desired marketing strategy of maximizing flake size and purity.
- Separate samples of Campoona graphite were crushed to 35µm to determine if high value amorphous graphite could be produced. High grade amorphous powder grading >99%TGC commands a price of US\$35,000 per tonne. Results using conventional flotation were extremely encouraging and indicate that high purity, high value concentrate can be readily produced.
  - CSRC12\_003: 92%TGC Concentrate & 98% recovery.
  - CSRC12\_006: 93%TGC Concentrate & 92% recovery.

Archer Exploration Limited ("Archer") advises that initial metallurgical test work results from Campoona drill samples drilled in February and April 2012 have been received.

The Company's 100% owned Campoona Graphite Project is located approximately 12km north of the township of Cleve on Eyre Peninsula, South Australia.

Drilling by the Company in February and in April 2012 (Figure 1) confirmed the presence of visible flake graphite within a discrete intense graphitic shear zone hosted in low grade graphitic proto-gneiss (high grade metamorphosed sediments). The high grade graphite unit averages 10-

50m in true width with the hangingwall section particularly high grade averaging over 15% graphitic carbon and carrying visible flake.

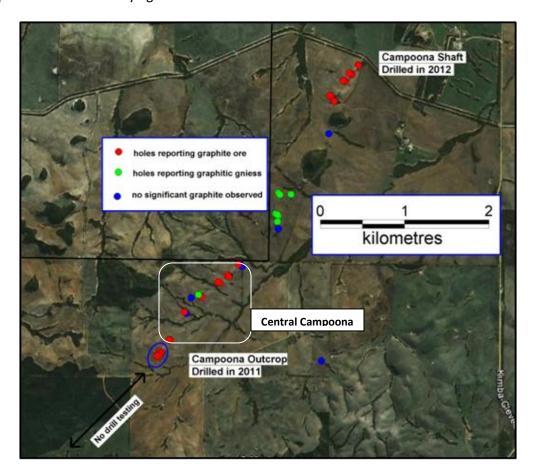


Figure 1. Existing drilling at Campoona Shaft and Central Campoona

## **Metallurgical Testwork**

Two composite RC samples were submitted for detailed metallurgical evaluation. CSRC12-003 head assay was 16.2%TGC and 97% passing 2mm sizing. CSRC12-006 head assay was 15.5%TGC and also 97% passing 2mm sizing.

The first process was to determine if high quality amorphous graphite could be recovered. Using conventional flotation methods the following results were achieved:

- CSRC12\_003: 92%TGC Concentrate & 98% recovery.
- CSRC12\_006 : 93%TGC Concentrate & 92% recovery.

Most amorphous graphite is sourced from metamorphosed coal where the presence of fine ash makes it difficult and costly to achieve grades above 85%TGC. Campoona can provide very high quality amorphous graphite and it is possible with further refinement of the liberation and flotation process, that market premium concentrates could be readily produced.

The samples as received already had 80% passing 220 micron thus making it potentially unsuitable for the recovery of flake graphite. Despite the limitations of the sample it was considered prudent to continue the recovery process for flake even though the results could only ever be seen as probably indicating a "worse case" result.

The tests as seen in Plate 1 to Plate 4 clearly show that flake graphite is present and recoverable with grades to 91%TGC. Acid washing is in progress which is expected to result in even higher flake grading.

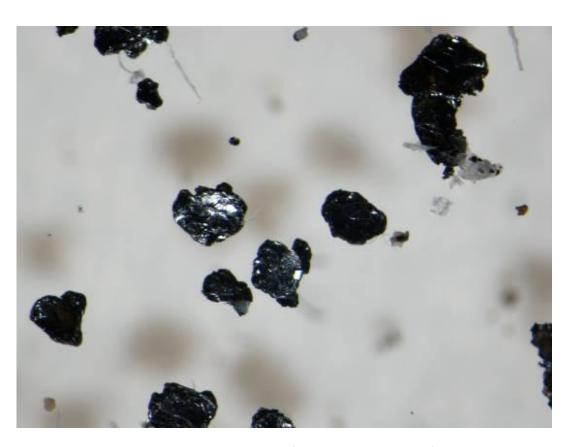


Plate 1. CSRC12\_003 +212µm fraction showing large flake

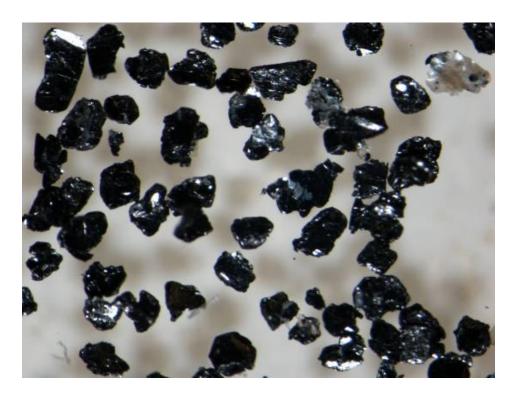


Plate 2. CSRC12\_003 +150µm fraction showing medium flake

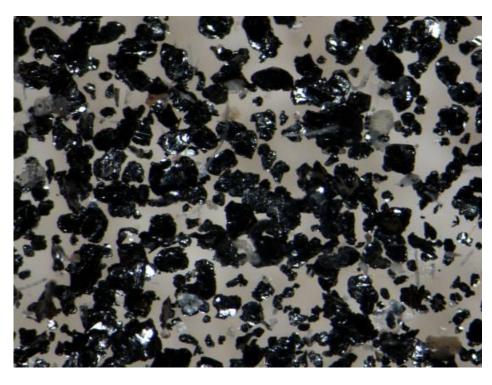


Plate 3. CSRC12\_003 +106µm fraction showing fine flake

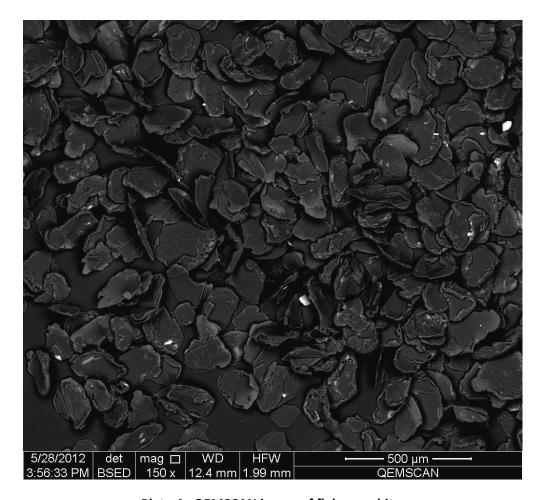


Plate 4. QEMSCAN image of flake graphite

These are considered to be extremely promising results, particularly given that the only samples available for testing were RC chips which are far from ideal for flake recovery. The fine nature of the samples were challenging for any real attempts at recovering coarse flake graphite as the as received samples were already 80% passing 212 microns and any flake present would have undergone serious damage to its structure during the sample recovery process in the field.

The initial tests clearly show that flake is present in the deposit. The focus is now on obtaining large weight trench samples and diamond drill samples that will enable preservation of flake prior to comminution testing, liberation and recovery phases.

## **Next Steps**

Now that a baseline has been established, future work will focus on optimizing a two-stage approach to recovery of product. This will be performed on trench samples and diamond drill core which will ensure the samples tested have far less chance of damage caused to flake present via the drilling and sample recovery process.

The two stage approach will involve targeted sizing and comminution ahead of flotation and then density separations to produce high grade large, medium and fine flake concentrate. The rejects will then be combined with the bulk sample for grinding and production of a very high grade amorphous graphite product. This two stage approach will be confirmed initially on rock samples and then further optimized on trench and diamond core samples when they become available. This will ensure the desired marketing strategy of producing the highest value products is fulfilled.

For further information please contact:

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

The 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 consents to the inclusion in the report of matters based on his information in the form and context in which it appears.