ARCHER
ABN 64 123 993 233

ASX Announcement **19 September 2016**

Scoping Study indicates SA Graphite Project is economically robust and low technical risk

Key Points

- Scoping Study (accuracy +/- 30%) for Eyre Peninsula Graphite Project supports Archer's decision to lodge a mining lease application in Q4 calendar 2016 with the subsequent grant of a mining lease anticipated middle of 2017.
- Net operating pre-tax cash flow average of $21.5m per annum (after royalties and sustaining capital) delivering a life of mine pre-tax net cash flow of $366m.
- Estimated average annual production (after ramp-up) of 11,592 tonnes of graphite concentrate increasing to 18,648 after Year 7[1].
- Final three years of production (Years 15-17) are based entirely on Inferred Resources which contain a low level of geological confidence.
- The Project is viable based solely on the mining and processing on site of Measured and Indicated Mineral Resources. The Project is not reliant on the Inferred Mineral Resource to be viable.
- Indicative life of mine revenue of A$858 million over the 17 year mine life.
- Estimated pre-production capital of A$36 million (Years 1- 3) with a further A$25 million expansion capital ($18m in Year 6 and $7m in Year 14).

[1] As a proportion of the production target includes Inferred Mineral Resources, Shareholders and potential investors should be aware that there is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

- Estimated annual steady state operating cost of A$1,680 per tonne of graphite in concentrate (excluding royalties and sustaining capital).
- Project highly leveraged to growing global graphite markets.
- Multiple graphite expansion opportunities (Waddikee prospects and projects) Graphene production and Sugarloaf carbon not included in the Study.

As discussed elsewhere in this announcement, the Scoping Study has been prepared at an accuracy of $^{+}$*/*-30%. The Scoping Study results, production target and forecast financial information set out in this announcement should be read subject to the cautionary statements included below on page 4 and elsewhere in this announcement.

Archer Exploration Limited (ASX:AXE) (**Archer** or **Company**) is pleased to advise that it has completed a scoping study for its Eyre Peninsula Graphite Project, located near the township of Cleve, South Australia.

Archer Executive Chairman, Greg English, said "*The Scoping Study showed that the Eyre Peninsula Graphite Project is an exciting project which can generate strong returns for Archer shareholders*.

"*Archer has the enviable combination of high grade graphite resources, estimated low operating and capital costs and is able to produce a high purity concentrate that should be commercially attractive for use in Lithium ion batteries and other high value applications*,"

Mr English also said that the Project has the capacity to deliver a very solid platform for the Company from which to increase production rates and mine life, subject to the usual approval processes.

"*Based on these positive results from the Scoping Study, we plan to complete and lodge the Mining Lease Application and finalise all other project approvals at the same time with a view to Archer obtaining a granted mining lease in the middle of 2017*."

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Graphite Project Scoping Study

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Cautionary Statements

Scoping Study includes Inferred Mineral Resources

The Scoping Study referred to in this announcement is based on low-level technical and preliminary economic assessments, and is insufficient to support the estimation of Ore Reserves, provide assurance of an economic development case at this stage, or provide certainty that the results from the Scoping Study will be realised.

The Mineral Resource that forms the basis for the Scoping Study, the production target and forecast financial information set out in this announcement also includes Mineral Resources in the Inferred category. Accordingly, Archer advises that the Scoping Study results, the production target and forecast financial information set out in this announcement are preliminary in nature.

Approximately 53.3% (by contained graphite) of the Campoona Shaft Mineral Resource is in the Measured and Indicated Resource category with the remaining 46.7% being classified as Inferred Resources (refer to Table 3 and Table 4 below).

All of the Wilclo South Mineral Resources are classified as Inferred Mineral Resources. However, only 10% of this Inferred Mineral Resource has been included when preparing the Scoping Study, which has been included in Years 15 to 17. Therefore, the viability of the project is not reliant on this Inferred Mineral Resource.

It is important to note that:

- the project has a payback of less than 2 years (before tax) during which time almost entirely Measured Mineral Resources and some Indicated Mineral Resources will be mined and processed. Therefore, the overall proportion of Inferred Mineral Resources included in this forecast financial information is not the determining factor for the project's viability; and
- there is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the conversion of Inferred Mineral Resources to Indicated Mineral Resources, or that the production targets in this announcement will be realised;
- all of the Wilclo South Mineral Resources are classified as Inferred. Therefore, only 10% of this total Inferred Mineral Resource was included in Years 15 to 17; and
- costs and revenues are only estimates and actual results may vary.

Archer believes that:

- the production target, forecast financial information derived from that target and other forward looking statements included in this announcement; and

- other variables that have been assumed in the Scoping Study to estimate potential revenues, cash flows and other financial information for the Eyre Peninsula Graphite Project,

are based on reasonable grounds. The detailed reasons for this belief are outlined elsewhere in this document.

Investors should be aware that actual commodity prices, exchange rates and other variables may differ materially over the contemplated initial mine life and, accordingly, the potential revenue, cash flow figures and other financial information provided in the Scoping Study and set out in this announcement should be considered as an estimate only that may differ materially from actual results.

No representation by Archer

Neither Archer nor any other person makes or gives any representation, assurance or guarantee that the production target or expected outcomes reflected in the Scoping Study and this announcement will ultimately be achieved.

A number of key steps need to be completed in order to bring the Campoona Project into production. Many of those steps are referred to in this announcement (Section 13). Investors should note that if there are any delays associated with completing those steps or the completion of the steps does not yield the expected results, the estimated revenue and cash flow figures in this announcement may differ materially from actual results.

Investors should be cautious

For the reasons given above, **Archer cautions investors from relying on the production targets and forecast financial information in this announcement**.

Scoping Study Summary

The Scoping Study is based only on the mining and production of graphite from Campoona Shaft, Central Campoona and only 10% (by tonnes of contained graphite) of the total Wilclo South Mineral Resource (**Project**). Key observations of the Scoping Study include:

Description	Value
Physicals	
Annual steady state ore tonnes mined and processed	140,000 tpa, increasing to 210,000 tpa in Year 8
Mine life considered	17 years
Life of mine ore tonnes mined	2,780,000
Processing plant recovery	90%
Average life of mine feed grade	9.5% Total Graphitic Carbon (TGC)
Average annual steady state graphite concentrate production	11,592 tpa (Years 4 – 7) 18,648 tpa in (Years 8 -14) 16,632 (Years 15-17)
Financials	
Capital costs – pre-production	A$36 million
Capital costs – expansion	A$18 million (Years 6 and 7) + A$7 million (Year 14)
Average life of mine operating costs (excl. royalties and sustaining capital)	A$1,680/t of graphite
AUD:USD exchange rate	$0.69
Graphite basket sales price	US$2,500/t or A$3,623/t
NPV before tax (10% discount rate)	A$126 million
IRR before tax	62%
Payback before tax	1.8 years (@ steady state 140,000 tpa)

Table 1: Summary of Scoping Study Results

The Study only considered a mine life of 17 years which includes 3 years of ramp up and 14 years of steady state production. Whilst Wilclo South hosts Mineral Resources of 6.38 million tonnes, all of these resources are in the Inferred category so only 630,000 tonnes (approx. 10% of all tonnes) of the Wilclo South Mineral Resources were modelled in the Study.

The results of the Scoping Study indicate that the Project has robust economics and is a technically low risk graphite development when considered against a strong graphite and graphene market outlook (subject to the cautionary statements below).

Production and processing: The Study was based on a progressive ramp up period of 1 - 3 years with full production rate achieved at the end of Year 3 and an estimated average annual process plant throughput after ramp up of 140,000 tonnes (range of 100,000 to 140,000 tonnes). Process plant throughput was further increased to 210,000 tpa at the start of Year 8.

It was assumed that all graphite ore will be processed in the same year in which it is mined.

Years	Average ore mined and processed (tpa)	Average graphite concentrate produced (tpa)
1 – 3 (ramp up)	40,000	3,312
4 – 7	140,000	11,592
8 - 17	210,000	18,043

Table 2: Summary of annual graphite ore and concentrate production

The decision was made to slowly ramp up to full capacity as Archer felt that this approach better reflects best practice as it is unrealistic to expect a newly built processing plant to operate all full capacity from Day 1.

Project Mineral Resource: The Project Mineral Resource of 2,800,000 tonnes @ 9.5% TGC for a contained 266,000 tonnes of graphite (at 5% TGC cut off) used in the Scoping Study consists of:

- Campoona Shaft (58.9% by tonnes and 57.2% by contained graphite).
- Campoona Central (18.6% by tonnes and 21.9% by contained graphite)
- 10% of the Wilclo South Mineral Resource (22.5% by tonnes and 20.9% by contained graphite).

Refer to Table 4 below for a more detailed description of the Project Mineral Resource.

Operating costs: The cash operating costs over the mine life (including during ramp up) are estimated to average A$1,680/t (excluding royalties and sustaining capital) of graphite concentrate.

Capital costs: Up-front capital requirements to reach full production capacity of 140,000 tpa are estimated to be $36 million. Incremental capital costs of $18 million in Years 6 and 7 were estimated to increase annual production from 140,000 tonnes to 210,000 tonnes and a further $7 million in Year 14 for the changeover from Campoona to Wilclo South ore.

The projects take full advantage of the well-established road, water, electricity and other nearby infrastructure.

Cash flow: The indicative life of mine pre-tax NPV is $126.3 million. The life of mine average annual net cash flow (after royalties and sustaining capital) is estimated to be $21.5 million per annum (range of $5.38m to $30.2m) after ramp-up. The project is anticipated to generate a life of mine net cash flow (before tax) of $366 million.

Sales Price: The Project will be capable of producing a range of graphite products so a typical graphite sales basket price of A$3,623 was used to estimate an average graphite sales price (refer to Section 9).

AUD amounts: Unless otherwise stated, all amounts stated in this announcement are in Australian dollars, and are not subject to inflation/escalation factors. AUD:USD exchange rate of $0.69 was used in the Study (refer Section 9).

Prices: The on site Sugarloaf processing plant, capital and operating costs are derived from a study undertaken by Parsons Brinkerhoff dated September 2014, a Worley Parsons report dated January 2015, quotes obtained from contractors and other sources. Mining costs are based on a Campoona Shaft mining study prepared by AMC Consultants dated January 2016.

Archer has formed the view that the prices and costs shown in the various reports and used in the Study represent current market pricing without the need to apply any discount or escalation factors.

Future growth opportunities: The broader Eyre Peninsula Graphite Project includes:

- The Campoona Project (Campoona Shaft + Central Campoona) which is the subject of the Study.
- The Wilclo South Project of which only 10% is included in this Study.
- Numerous prospects and targets within the adjoining Waddikee tenement area.
- Archer's graphene research and proposed graphene production business model.

- Sugarloaf Carbon Project.

Based on the geological, geotechnical and metallurgical information available to the Company, Archer believes that increased production from Wilclo South may support a future expansion of the Sugarloaf graphite processing facility. However, any additional forecast production from these additional sources and/or the manufacture of graphene is currently considered aspirational as there is insufficient certainty in relation to any of these additional Inferred Resources and business opportunities.

Mining Lease Application: The Scoping Study supports the work plan established by Archer to complete and lodge the Mining Lease Application for Campoona Shaft.

1. Eyre Peninsula Graphite Project

Archer's Eyre Peninsula Graphite Project is located near the township of Cleve which is approximately 120km south east of Whyalla, South Australia. The Eyre Peninsula Graphite Project tenement area covers 2,873 km^2.

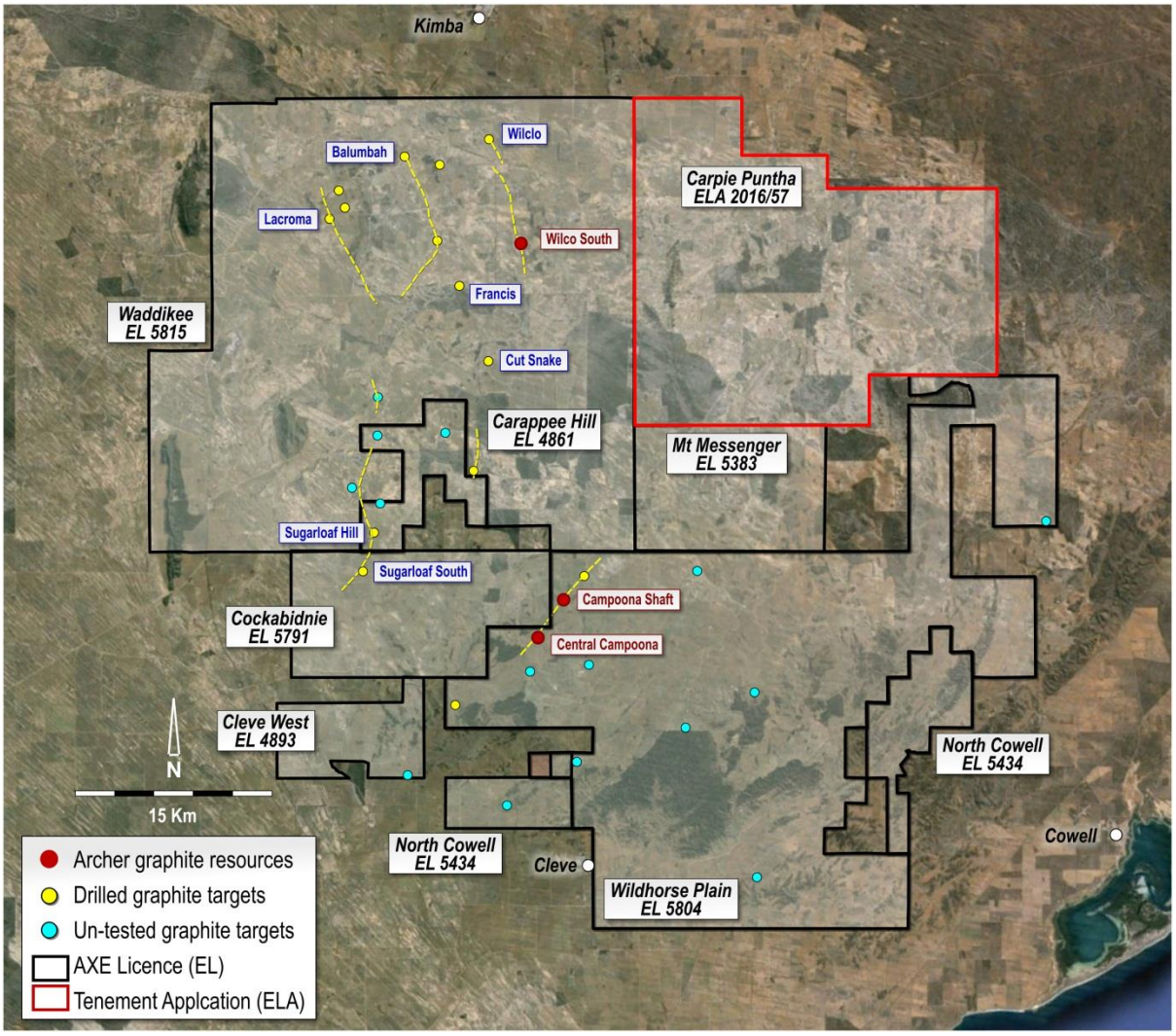

Figure 1: Eyre Peninsula Graphite Project location and tenement map

The larger Eyre Peninsula Graphite Project comprises Campoona Shaft, Campoona Central and Wilclo South (all the subject of this Study), Waddikee (including Lacroma, Wilclo, Wilclo South and Cut Snake) and Sugarloaf projects.

2. Mineral Resources

Eyre Peninsula Graphite Project Mineral Resource

The larger Eyre Peninsula Graphite Project has a global Mineral Resource of 8.55 million tonnes at 9.0% TGC (5% TGC lower cut-off) (**EPGP Mineral Resource**):

Area	Resource Category	Tonnes (Mt)	Graphite (% TGC)	Contained Graphite (tonnes)
Campoona Project *(Campoona Shaft + Campoona Central)*	Measured	320,000	12.7	40,640
	Indicated	1,000,000	9.1	91,020
	Inferred	850,000	9.1	77,650
Wilclo South	Inferred	6,380,000	8.8	561,440
Total		8,550,000	9.0%	770,750

Table 3: Eyre Peninsula Graphite Project JORC Mineral Resource (5%TGC lower cut-off grade)

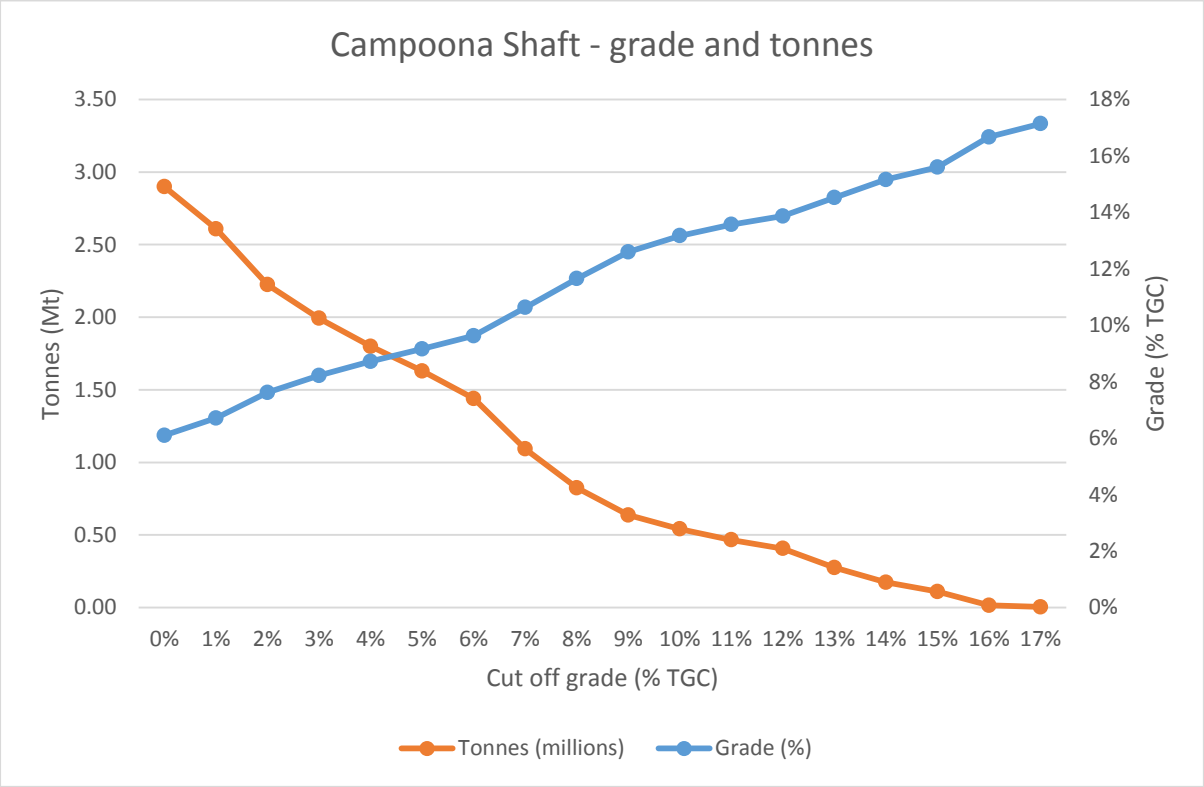

Figure 2: Campoona Shaft grade tonnage curve (Measured + Indicated + Inferred)

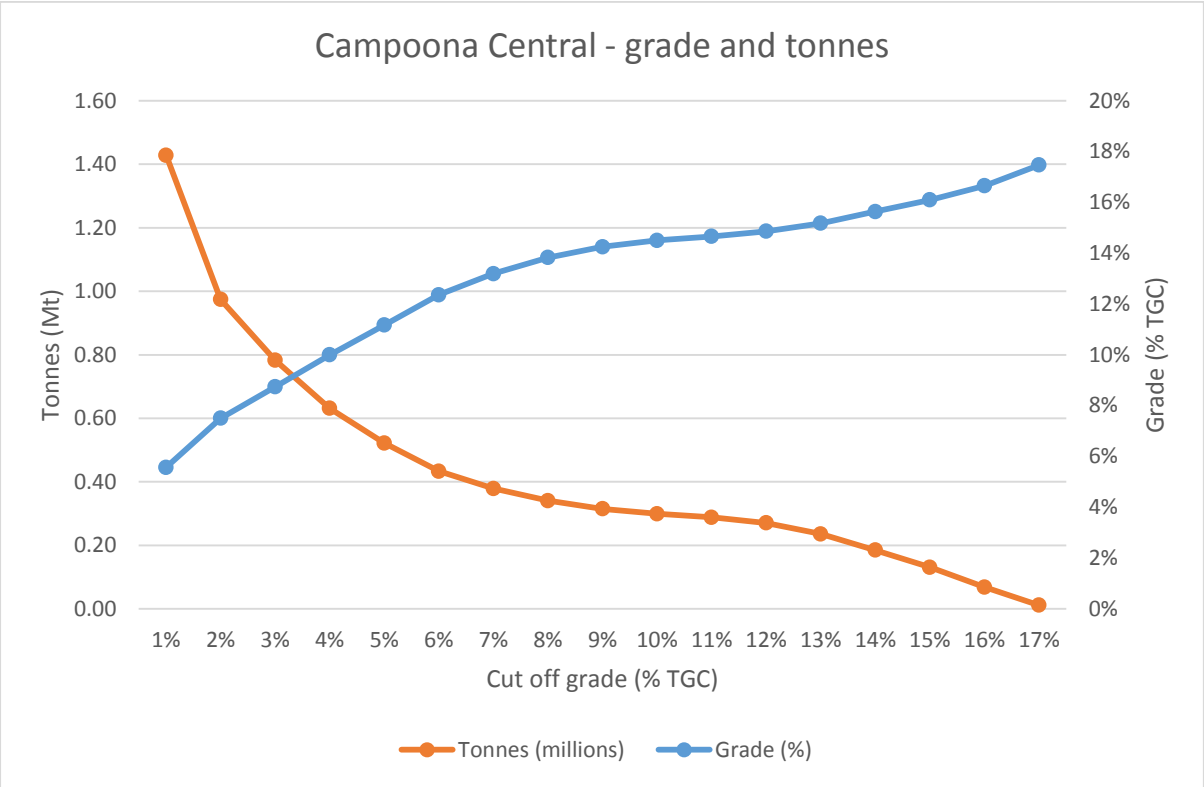

Figure 3: Campoona Central grade tonnage curve (Indicated + Inferred)

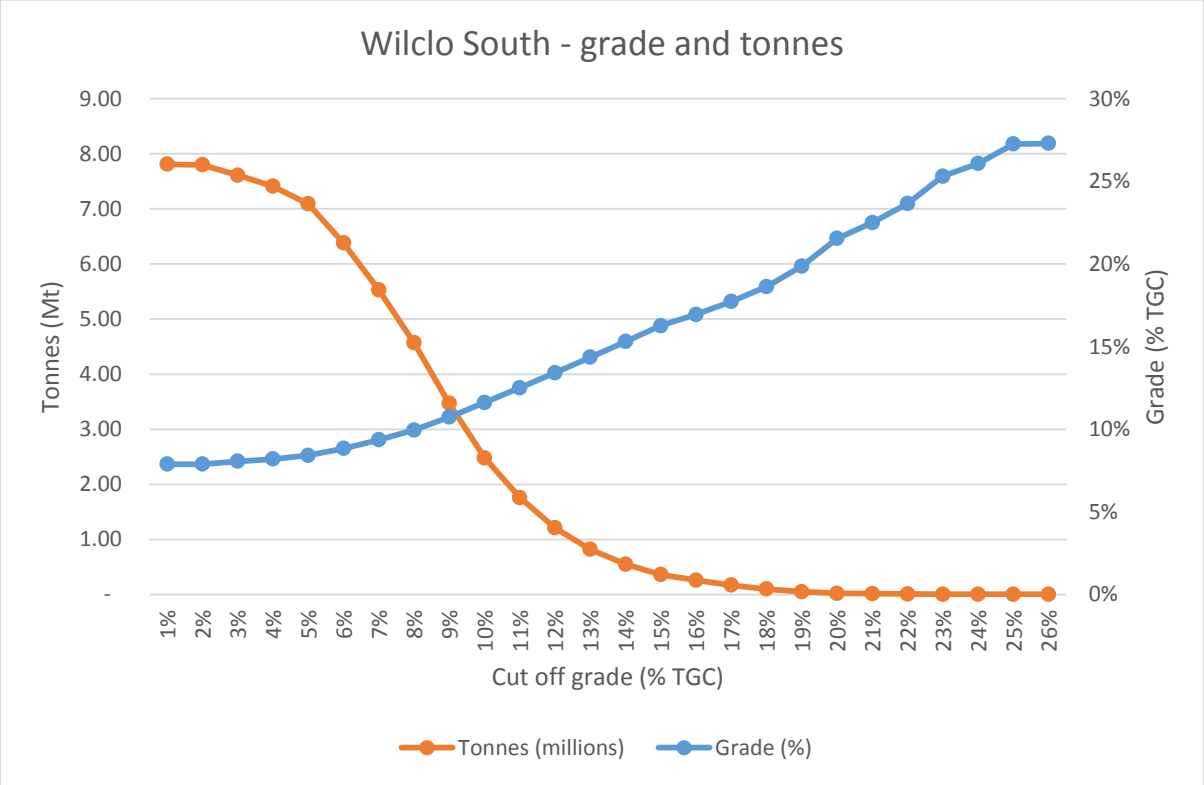

Figure 4: Wilclo South grade tonnage curve (Inferred only)

Mineral Resources used in Scoping Study

The Mineral Resources used in the Scoping Study (the **Project Mineral Resources**) comprised Campoona Shaft, Campoona Central and approximately 10% of Wilclo South Mineral Resources.

The total Project Mineral Resource is 2,800,000 tonnes @ 9.5% TGC for a contained 266,000 tonnes of graphite (at 5% TGC lower cut off), refer to Figure 6 and Table 4.

	Tonnes	Grade (TGC)	% by tonnes	% by contained graphite
Campoona Shaft				
Measured	320,000	12.7	19.4	26.9
Indicated	780,000	8.2	47.3	42.2
Inferred	550,000	8.5	33.3	30.9
Total	1,650,000	9.2	100	100
Campoona Central				
Indicated	220,000	12.3	42.3	46.7%
Inferred	300,000	10.3	57.7	53.3%
Total	520,000	11.2	100	100
Wilclo South				
Inferred	630,000[2]	8.8	100	46.7%
Total Project Mineral Resource				
Measured	320,000	12.7	12.4	16.5
Indicated	1,000,000	9.1	38.6	37.0
Inferred	1,270,000	9.0	49.0	46.5
Total	**2,800,000**	**9.5**	**100**	**100**

Table 4: Project Mineral Resource categorised by Project, JORC category, tonnes and contained graphite

The Project Mineral Resource (2.8Mt @ 9.5% TGC) represents 32.7% by tonnes and 34.6% by contained graphite of the total Eyre Peninsula Graphite Project Mineral Resource (8.55Mt @ 9.0% TGC).

[2] Being 10% of the total Inferred Mineral Resource for Wilclo South, which, for the purpose of the Scoping Study is included in Years 15 to 17 of the planned life of mine.

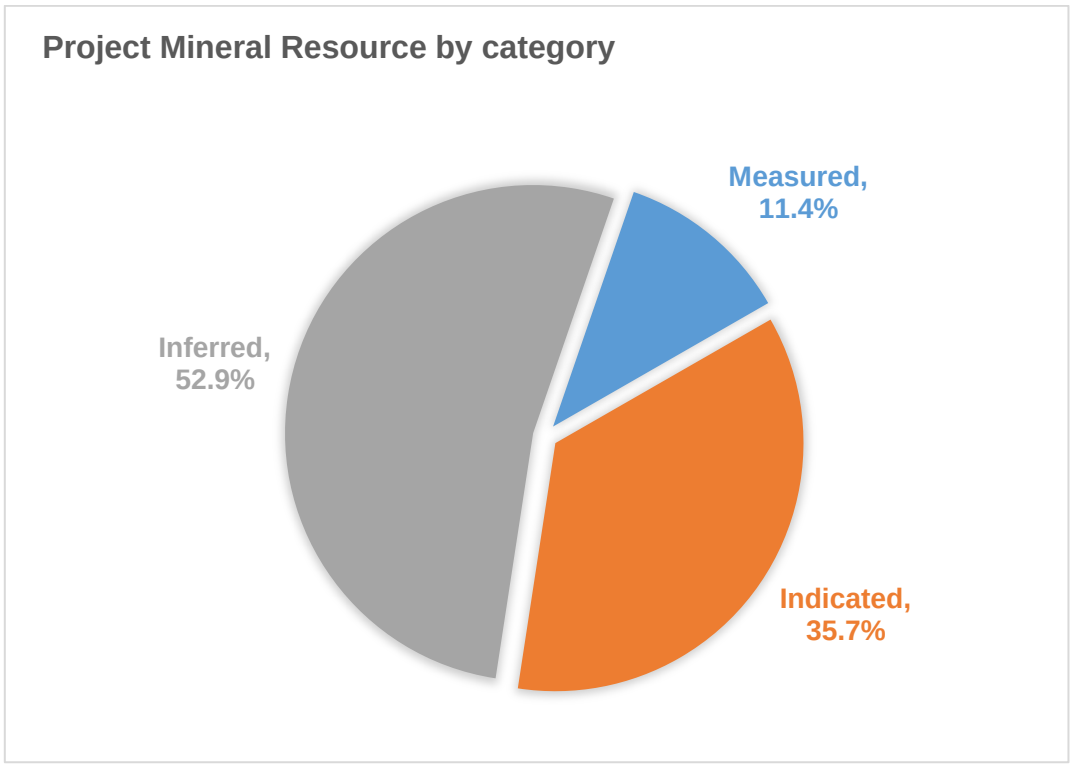

Figure 5: Total Project Mineral Resource by Mineral Resource category

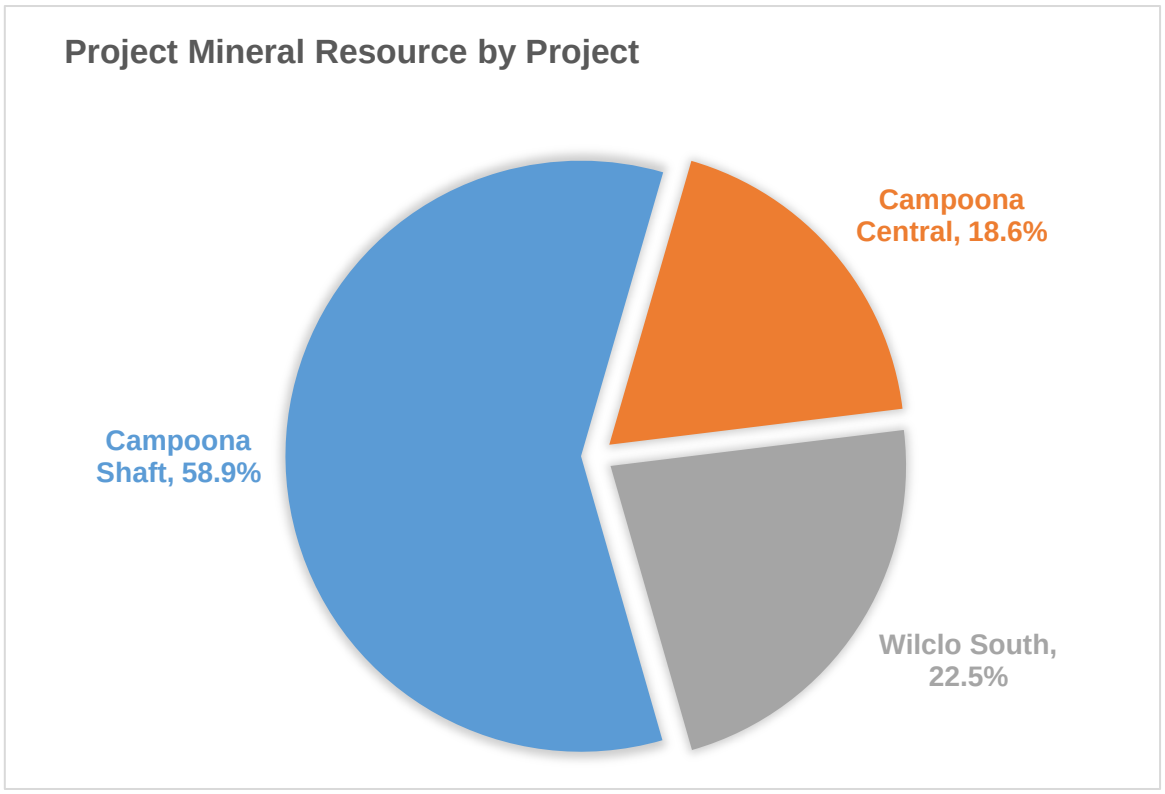

Figure 6: Project Mineral Resource categorised by Project

3. Mining and mine design

Mining will be by open-pit method using conventional truck and excavator operations. Due to the small scale of the project, the deposits will likely be mined in two mining campaigns per year, nominally during Spring and Autumn (March to May and September to November), avoiding the summer and winter seasons.

Mining trucks (most likely 40t class) will transport material from the pit to the run-of-mine (ROM) pad and waste rock storage facilities (WRSF) adjacent to the mine. The mine will commence as free dig operations.

Mineral processing will be carried out at the centralised on site Sugarloaf Processing Facility, located 22km by road from Campoona Shaft, 21km by road from Campoona Central and approximately 30km from Wilclo South.

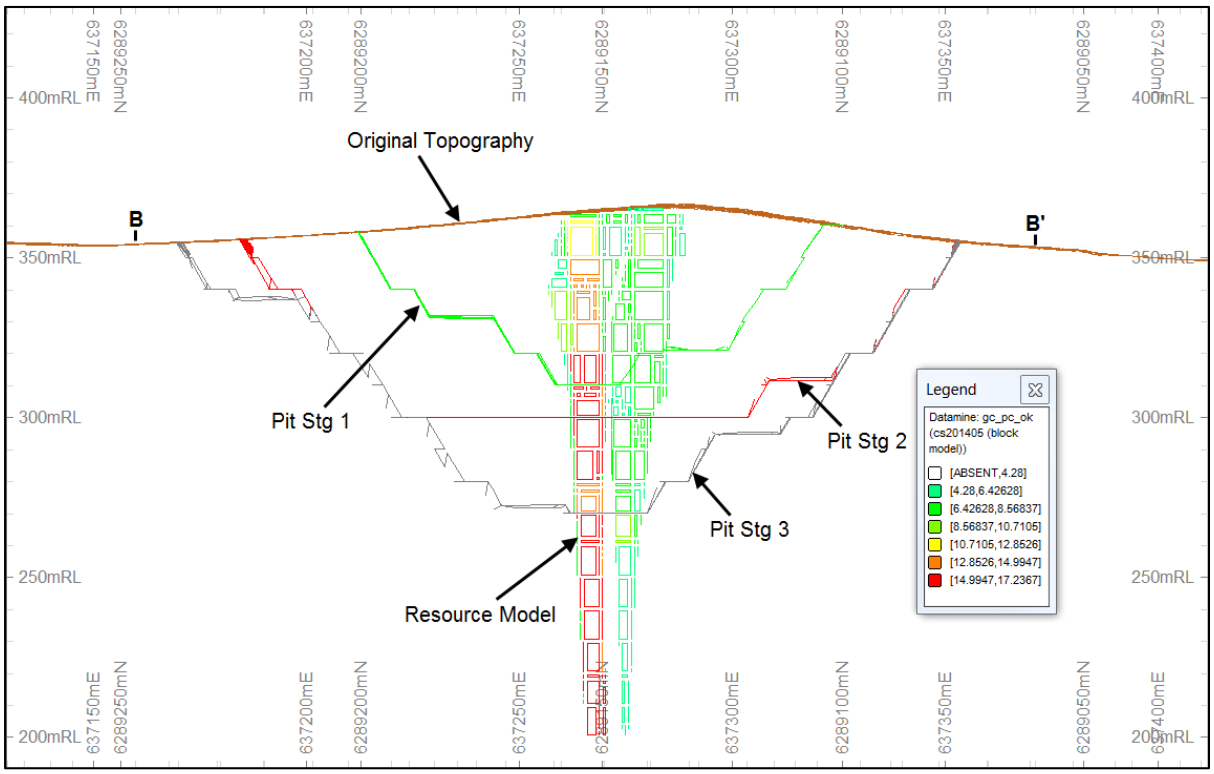

Figure 7: Cross-section view of Campoona Shaft pit designs (looking NE).

The transport of material from the respective ROM pads to Sugarloaf Processing Facility will be by B-double trucks with a nominal 40t capacity, and will happen throughout the year.

Given the small size of the selected equipment and the fact that the black graphite plant feed can be easily spotted and distinguished from the waste rock, mining dilution was set as 5%. A mining recovery factor of 95% was also applied as some of the plant feed may be lost when mining the edges of the mineralisation and during handling.

Due to the steeply dipping nature of the graphite deposits, it was assumed that mining would take place on a bench by bench basis with cut-backs to access the increasing depth of ore. As such, progressive rehabilitation of the pit will not be possible and it was assumed that the pits would not be progressively backfilled during mining operations.

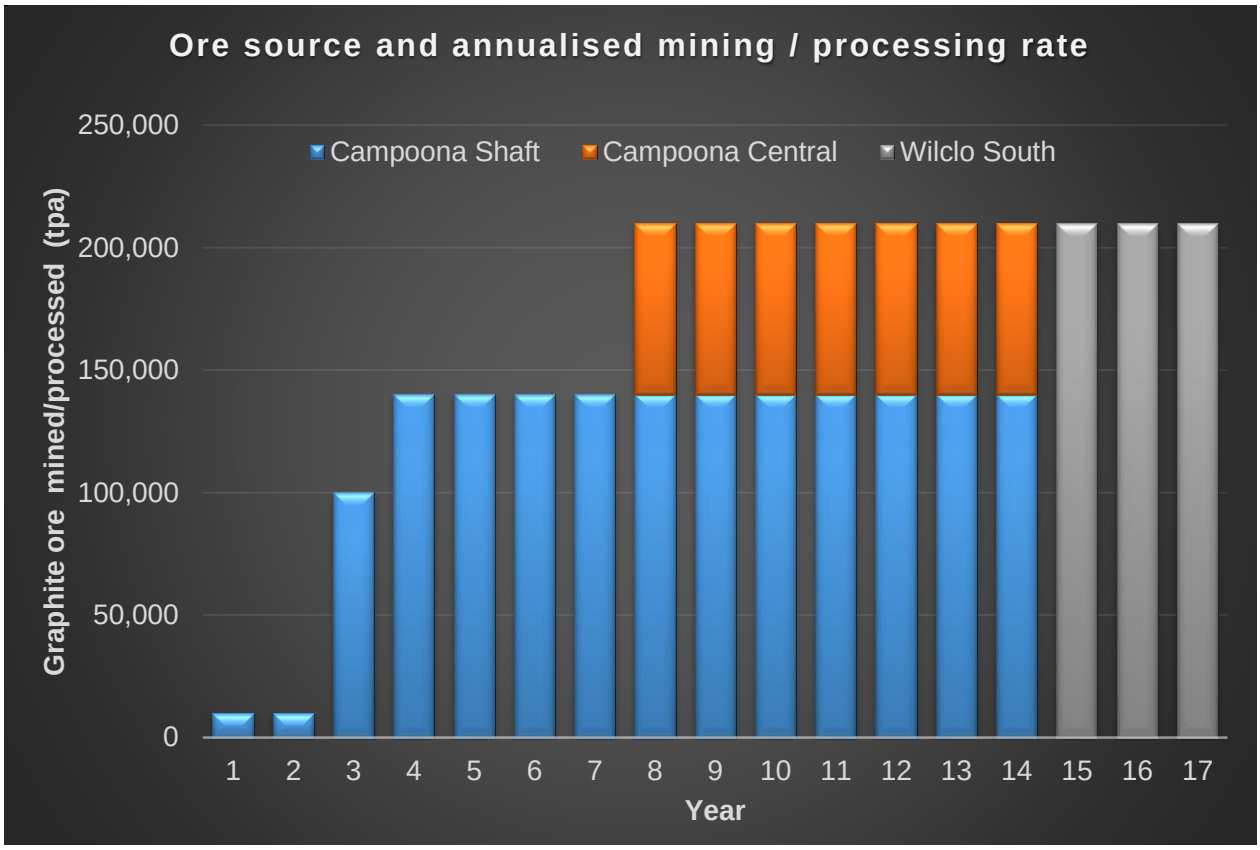

Figure 8: Annualised mining and mineral processing production rate, by ore source

4. Sugarloaf processing facility

The Study is based on the construction of a centralised graphite mineral processing plant at Sugarloaf.

The decision was made to build the processing facility at Sugarloaf as it is central to all of Archer's graphite projects. The Sugarloaf property is owned by Archer and contains a number of existing buildings and structures including a house, main shed, smaller sheds, water tanks and a silo.

The graphite mineral processing will comprise crushing, blunging, rougher flotation, concentrate milling, cleaner/recleaner flotation and chemical leaching.

The Scoping Study was based on a concentrate sizing of P_{80} 20 microns and overall recovery of 90%.

Figure 9: Sugarloaf property from the main site access road (looking south).

The graphite concentrate production process is summarised below:

- Plant feed is reclaimed from the blended ore stockpiled on the ROM stockpile and fed into the crushing circuit with tyred loader via a dump hopper. The double roller breaks the ore to (nominally) less than 32mm.
- Water is added to the crushed ore to produce a slurry as part of the crushing and washing circuit with the slurry then transferred to the flotation circuit.
- The first flotation stage is a flash float to produce a concentrate that is directed to the milling and then to cleaning cells. Roughing flotation units recover the majority of the graphite whilst scavenger flotation recovers further graphite from the rougher tailings.
- The combined and densified coarse concentrate from the flash, rougher and scavenger flotation cells are passed through the concentrate mill and then to the cleaning circuits.

- A multi-stage cleaning flotation process further removes gangue minerals from the concentrate. The tailings from the cleaners are redirected to the rougher feed.
- Concentrate and tailings are separately thickened to increase solid content. Sedimentation forms thick slurry, with recovered water flowing to the process water pond for recycling.
- The concentrate thickening process is followed by further densification and washing of the slurry in a centrifuge and then an acid leaching process to produce a greater purity graphite concentrate.
- The thickened concentrate is processed in a centrifuge to reduce the moisture content to around 30%. Multi-stage thickening or decantation may be an alternative route for concentrate washing.
- The solids are then repulped to achieve a solids content of around 22% using a leach liquor of weak hydrofluoric acid. The leachate train acid dosing will achieve a hydrofluoric acid concentration of around 8% prior to the reaction taking place. The acid increases recovery of graphite to produce a purer form.
- Thickened tails slurry and neutral leach discharge are mixed and directed to the TSF. The solids spread in thin layers within the TSF to form beaches, decant water is collected and the water is recycled to the process water pond.
- Following the leach process, the thickened concentrate is transferred to a centrifuge for washing and densification and then to dryers to remove the remaining water content.
- The graphite concentrate product is stored in silos for bagging and transport to market.

As mining will be undertaken on a campaign basis and not a continuous basis, the Scoping Study was based on the assumption that graphite ore would be processed in the same calendar year in which it was mined (Figure 8).

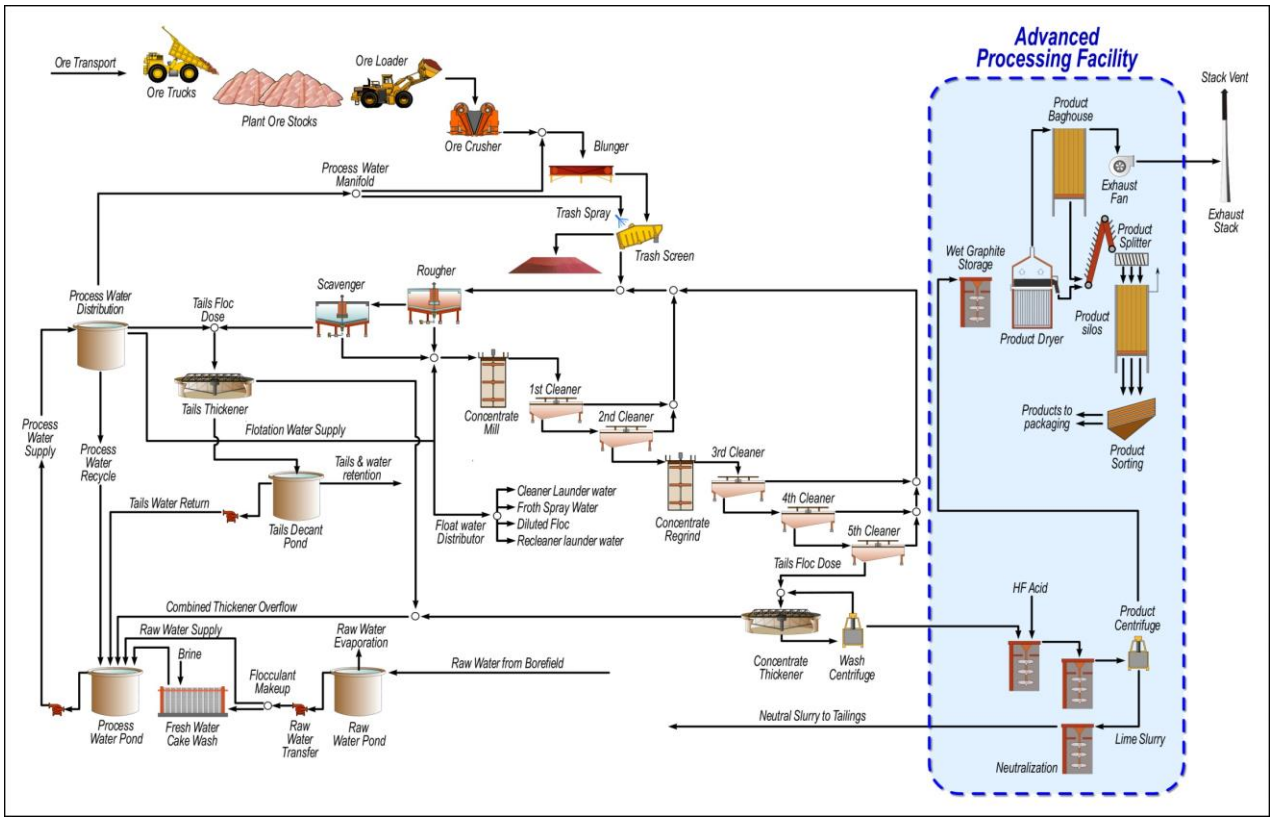

Figure 10: Sugarloaf Graphite Processing Flow Sheet.

5. Infrastructure and Transport

Campoona Shaft, Campoona Central, Wilclo South and the proposed site for the Sugarloaf Processing Facility are all located close to existing infrastructure.

Road haulage will be used to transport ore from the mine site to Sugarloaf. Graphite concentrate product from Sugarloaf will be trucked to Port Pirie.

General Access Vehicles (GAV) up to 19 metre long semi-trailers can legally use all of the roads in the surrounding area of the Sugarloaf and Campoona sites (subject to road conditions for actual use). Restricted Access Vehicles are those vehicles larger or wider than GAV, and include vehicles such as B-Doubles and Road Trains. RAV can operate on roads where routes have been approved by DPTI. In the vicinity of the proposed development, RAV have been approved for up to 53.5 metre road trains on the Kimba – Cleve Road.

The Cummins to Buckleboo railway line runs generally north-south, around 6km west of the proposed mining lease at Campoona Shaft. Rail is not currently considered as an option for product transportation due to the relatively small scale of the mine output and accessibility of cost effective road transport options.

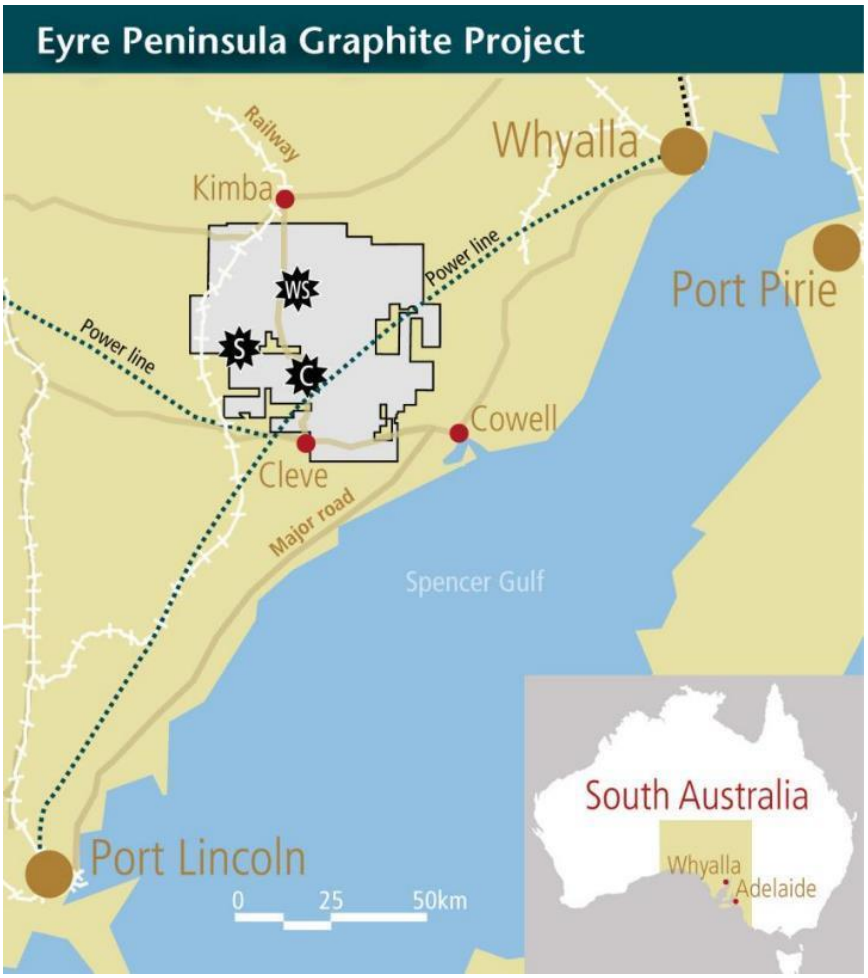

Figure 11: Eyre Peninsula Graphite Project location map.

Archer is anticipating employing locally based personnel rather than hosting a fly-in-fly-out (FIFO) workforce. However, there may be a need for specialist contractors and engineers potentially employed on a FIFO basis as required, in particular during mine construction. The closest commercial airports are at Whyalla and Port Lincoln. Cleve also has a small airport.

The electricity transmission network on Eyre Peninsula comprises a 132 kilovolt (kV) single circuit overhead line which runs between Whyalla and Port Lincoln and crosses the Kimba-Cleve Road approximately 20km from Sugarloaf. ElectraNet has instigated a project that will replicate the 132kV line with a new high capacity 275kV overhead line. The new line is tentatively scheduled for completion in 2018, although planning permission has yet to be granted.

For the small-scale start-up operation, electricity will be supplied to Sugarloaf via the existing mains infrastructure and if needed, augmented by a small diesel generator. For full scale production electricity will be supplied via the 11kV transmission line or as an alternative, two diesel generators with a generating voltage of 3.3 kV could also be used.

Process water requirements for the small-scale start-up phase are minimal (expected to be less than 10 megalitres (ML) of water each year) and will be sourced from an existing bore at Pindari Wellfield and trucked to site and stored in a process water pond. Full-scale production (Stage 1-3) process water requirements will be sourced from a combination of Pindari Wellfield, the recycling of decant water from the tailings storage facility and potable water from Jamieson Tank.

The proposed layout of the Campoona Project and Sugarloaf infrastructure is shown in Figure 13.

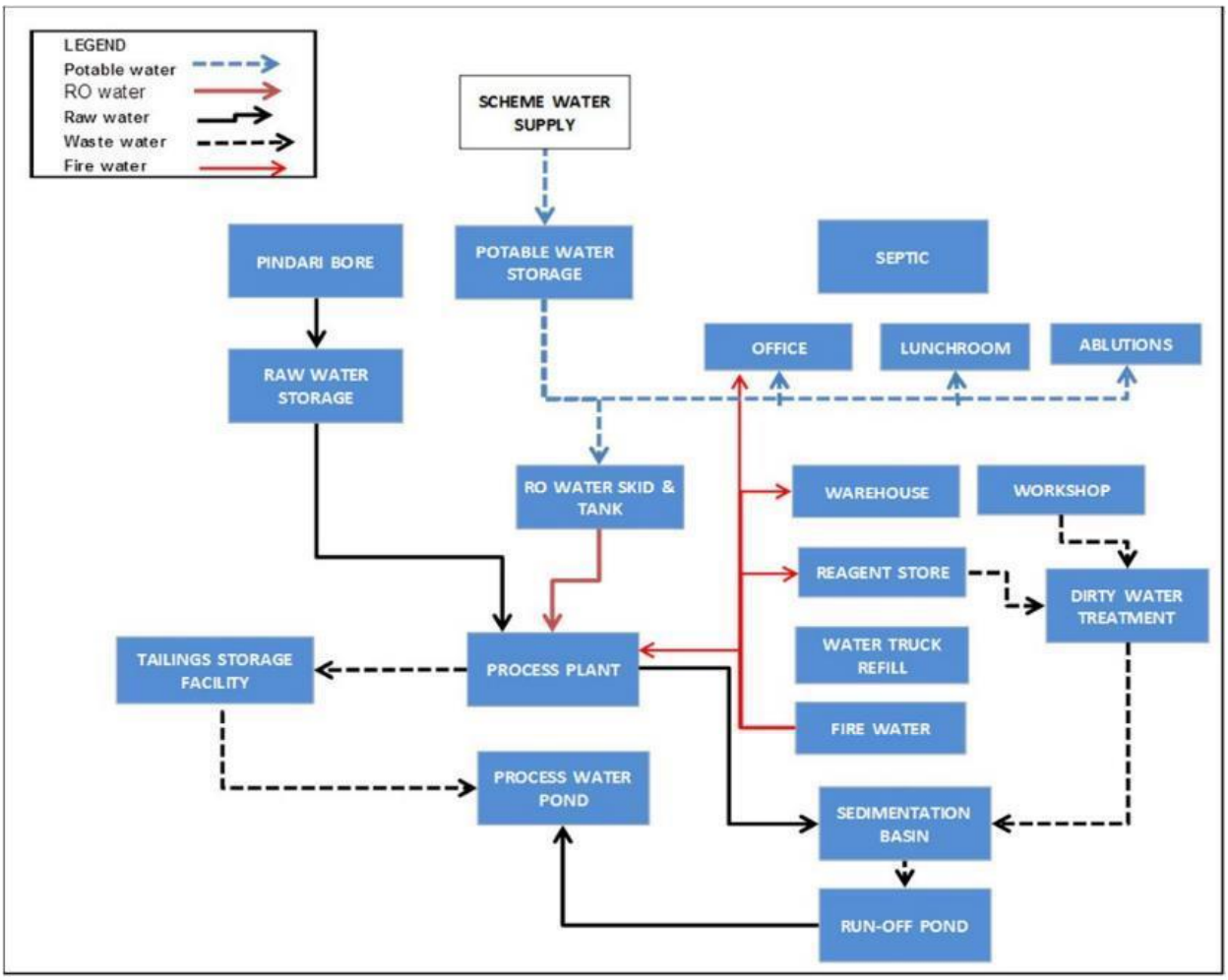

Figure 12: Block diagram - water at Sugarloaf Processing Facility

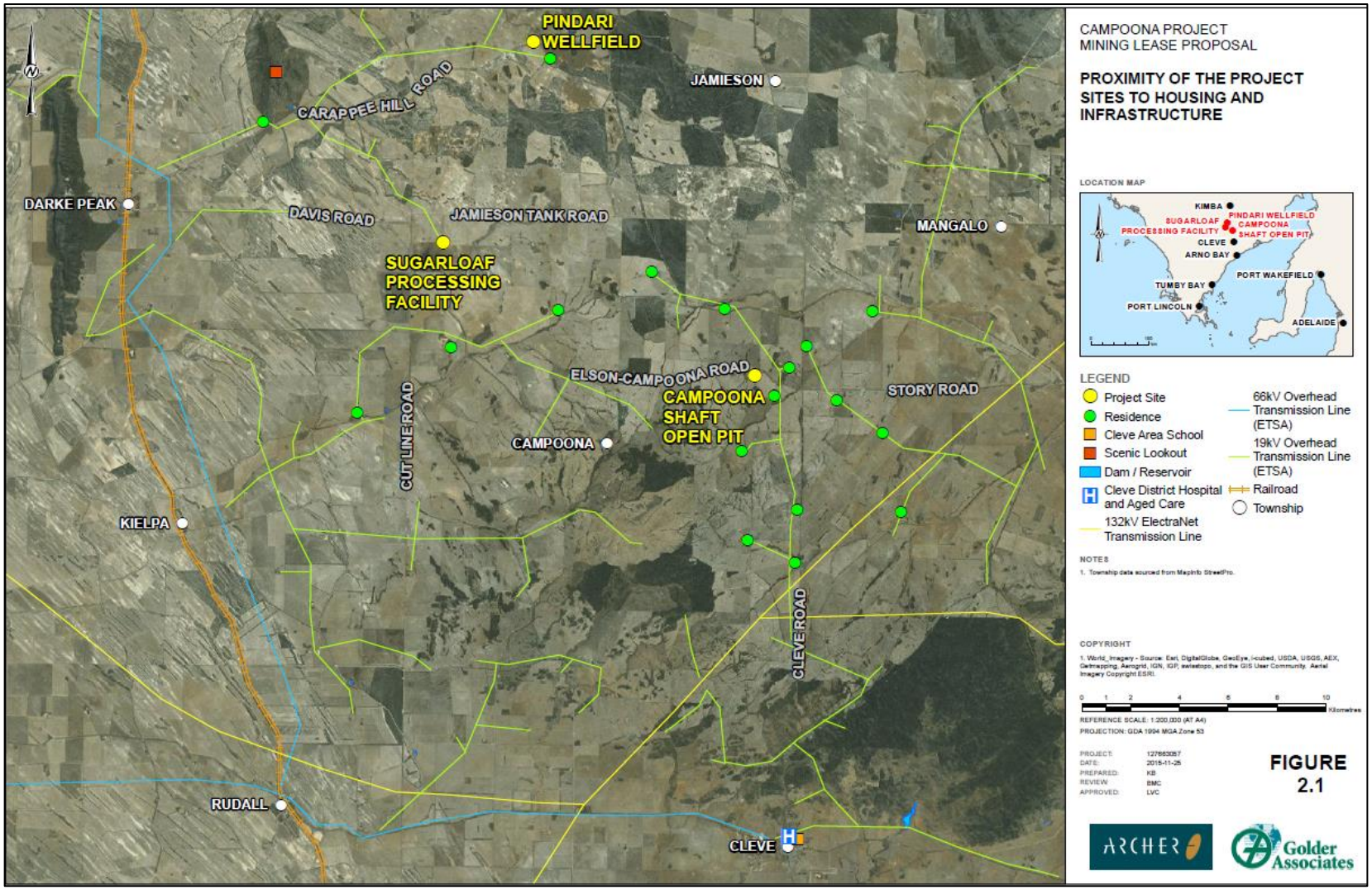

Figure 13: Eyre Peninsula Graphite Project location map showing proximity to existing infrastructure

6. Description of the environment

The Project is located within the District Council (DC) of Cleve and the local community has been identified as being Cleve, Darke Peak, Cowell and Arno Bay. The region encompasses the north-eastern section of the Eyre Peninsula.

The current land use of the area for the proposed ML (Campoona Shaft) and the MPLs (Sugarloaf and Water) is agriculture. The areas have been extensively cleared of native vegetation for cropping. The MPL (Water) also extends along the Jamieson Tank Road alignment through the road reserve until it reaches the north-east corner of the Sugarloaf.

Archer has a binding agreement to purchase the land at Campoona Shaft needed to mine the Campoona Shaft graphite resource.

Archer purchased the 568ha Sugarloaf property that will host the Sugarloaf processing facility. There is a known undeveloped road reserve (public road) within the Sugarloaf property. Archer has an agreement with the District Council of Cleve to purchase this road reserve.

Exempt land

The owners of land within the Project areas includes persons who hold a registered estate or interest in the land, a person who has by statute care, control or management of the land or a person who is lawfully in occupation of the land (such as cropping). In addition to the owner of the exempt land on which mining operations are being proposed, persons owning a building used as a place of residence within 400m or having a commercial or industrial structure valued at $200 or more within 150m of the proposed mining operation also have the benefit of exemption.

For mining and mineral processing operations to occur, the benefit of exemption needs to be waived. This can be through an agreement between the person(s) and the operator or through statutory forms 23A and 23B under the South Australian Mining Act.

A waiver of the exempt status of the land to undertake the mining operation impacting on that land is required before mining operations can commence. If the negotiations to waive the benefit of exemption fail, the matter may be taken to the Environment Resources and Development Court by the mining operator to determine if exemption should be waived and the amount of compensation payable.

7. Capital Costs

Mining and processing will be undertaken in three discrete stages:

Stage	Description	Ore source	Capital Cost estimate
1	Ramp up to full scale production, average of 140,000tpa	Campoona Shaft	$36,000,000
2	Increase production by average of 70,000tpa to 210,000tpa	Campoona Shaft + Campoona Central	$18,000,000
3	Average production of 210,000tpa	Transition from Campoona to Wilclo South ore	$7,000,000
Total			**$61,000,000**

Table 5: Total material mined from Campoona Project

The Stage 1 capital will be incurred during Years 1 and 2 (i.e. prior to commencement of full scale production), Stage 2 during Years 6 and 7 and Stage 3 during Year 14.

The capital cost estimate for the process plant and associated site infrastructure was developed based on an engineering, procurement and construction management (EPCM) contracting strategy.

The scope of work covered in the capital estimate includes contractor mining and owner infrastructure, crushing, grinding, flotation, tails handling and storage, plant infrastructure, site infrastructure, spares, commissioning and temporary facilities. This estimate also includes external roads, water pumping and ore storage pads.

Stages 2 and 3 include the mining and processing of ore from Campoona Central and Wilclo South. The costs associated with preparing and lodging a mining lease application and Program for Environment Protection and Rehabilitation (PEPR) (estimated at $2.0m per mine) have been capitalised.

8. Operating Costs

The average operating costs for the mining, mineral processing, graphite upgrading and transport of graphite product to port, based on steady state annualised production are:

Item	Operating cost per tonne of graphite concentrate	(%)
Total mining cost	$208	12.4
Mineral processing	$344	20.5
Advanced Mineral Processing	$848	50.5
Transport and port charges	$110	6.5
Contingency (10%)	$170	10.1
Total	$1,680	100

Table 6: Operating costs per tonne of graphite concentrate produced

Mining Costs

The total mining costs are estimated to be $208 per tonne of graphite product. The upper portion of the orebody is free dig which means that mining costs increase in the transition from oxide to fresh ore. The higher operating cost estimate of $208 per tonne was assumed for all ore (including oxide). The operating cost components are:

Item	Operating cost per tonne of graphite concentrate
Archer technical team	$10
Waste (load, haul & dump)	$70
Drill and blast	$38
Ore mining	$84
Transport ore to Sugarloaf	$6
Total	$208

Table 7: Total material mined from Campoona Project

Mineral Processing (excluding Advanced Mineral Processing)

Operating costs were calculated separately for Years 3 – 4 (at 45% availability) and Years 5 onwards. The operating cost estimate for the process plant at steady state full annualised production of 140,000 / 210,000tpa is $344 per tonne of graphite concentrate. During ramp up, the operating cost is $394 per tonne of product.

The main components of the plant operating costs at steady state are:

Item	Operating cost per tonne of graphite concentrate
Power (grid connected power)	$35
Operating labour	$108
Maintenance	$37
Other	$164
Total	$344

Table 8: Total material mined from Campoona Project

Advanced Mineral Processing

The operating cost components for the proposed Advanced Manufacturing Facility are estimated at $848 per tonne of final product. The main components of the Advanced Manufacturing Facility operating costs are:

Item	Operating cost per tonne of graphite concentrate
Reagents and consumables	$780
Power costs (electrical energy)	$11
Operating labour costs	$45
Maintenance costs	$12
Total	$848

Table 9: Total material mined from Campoona Project

Transport costs

The cost for transporting the graphite concentrate from Sugarloaf to Port Pirie and loading the bulk bags of concentrate into ships was estimated to be $110 per tonne of graphite concentrate.

State Royalty

In South Australia, new mines must pay a royalty of 2.0%, for a period of 5 years (commencing on the date the first royalty is due and payable) increasing to 3.5% after Year 5.

The royalty is calculated on the value of the graphite concentrate excluding costs genuinely incurred in transporting the minerals from the mine gate to point of sale (including, for example, packaging, storage, loading, permit, fees and insurance costs), costs incurred in shipping the minerals to a genuine purchaser in a sale at arm's length and any other costs determined by the Minister to be a cost of a prescribed kind for the purposes of that section.

9. Commodity Prices and Exchange Rates

A basket price for graphite of US$2,500 per tonne of concentrate has been calculated based on marketing studies conducted for Archer by independent experts, adjusted for Archer's forecast high purity graphite concentrate. The Eyre Peninsula Graphite Project graphite product is classified as high quality fine flake graphite (98.5% TGC and **100 to +200 Mesh**).

A long term AUD:USD exchange rate of $0.69 was used, based on publicly available forecasts. Therefore, the AUD graphite sales prices used in the Study was A$3,623.

Basket Price

The Basket Price was constructed using pricing from consultants engaged by Archer and from publicly available data and industry reports.

As demonstrated through metallurgical and end-user testing, the graphite concentrate produced from Campoona is unique due to its high purity and performance in high growth applications. The ability to achieve high purity with chemical treatment leads to a premium price product. These properties along with its crystalline nature make it a potentially viable mine.

The natural graphite market is relatively opaque as the majority of sales are through confidential offtake agreements, and for a wide range of individual product specifications. In determining the prices used for this Study, Archer has also undertaken a review of historical prices, forecasts by independent industrial mineral specialists, publicly reported offtake agreements and benchmarking comparable peer studies.

Graphite Market Outlook

The Company considers that it has natural flake graphite with a significant purity advantage over conventional flake sold out of China and plans to fully test a series of concentrates for its suitability to manufacture spherical graphite. Archer's graphite is also being tested for its suitability into mainstream graphite applications.

The lithium ion battery manufacturing business continues to grow strongly. The rapidly developing Electric Vehicle (EV) and Hybrid Electric Vehicle (HEV) market is demanding lighter batteries with increased energy density characteristics and the ability to recharge quickly and to have a >10 year life.

Lithium-ion batteries have been gaining market share from the lead-acid and nickel-based battery markets. This stems from its ability to typically hold twice the energy of nickel based batteries and and four times that of lead-acid. Lithium batteries have been gaining market share across many product segments, from primary batteries (non-rechargeable batteries, used in remote controls, toys, etc.), to secondary batteries (rechargeable, used in power tools, electric vehicles, etc.).

The portable electronics, EV and HEV producers are both driving lithium ion battery demand and funding massive research and development initiatives. Numerous lithium ion battery factories are operational with a number of “mega” factories under construction in the US and Asia with a forecast 70GWh of new annual production by 2020.

10. Project Economics

NPV (before tax)

A discount rate of 10% was used to calculate a total pre-tax Project NPV of A$126 million (after royalties and sustaining capital) based on a total mine life of 17 years (incorporating 3 years of ramp up and 14 years of steady state production).

The Project economics are viable based solely on the mining and processing of Campoona Shaft ore (refer to Figure 14). The Project is not reliant on the Wilclo South Inferred Mineral Resource to be viable, Wilclo South only contributes approximately 14% by NPV to the Project.

IRR

The overall project has an IRR of 62% and a pre-tax payback of 1.8 years of steady state production.

Archer will mine almost entirely Campoona Shaft Measured Resources during the first 4 years of mine life. Therefore the payback period of 1.8 years is supported almost entirely by Measured Mineral Resources and a small amount of Indicated Mineral Resources.

Sensitivity analysis

The Scoping Study was prepared to an accuracy of +/-30% to investigate the technical and economic parameters of graphite production on the Eyre Peninsula. The Company undertook sensitivity analysis (Figure 15) with the key findings being:

- The Project is particularly sensitive to changes in graphite sales prices with a 20% reduction in sales price resulting in a near **50% decrease** in pre-tax NPV from A$126m to A$61m.

- The Project is also sensitive to changes in AUD:USD exchange rate, with a 30% increase in exchange rate (from $0.69 to $0.90) resulting in a near **60% decrease** in NPV from A$126m to A$51m.

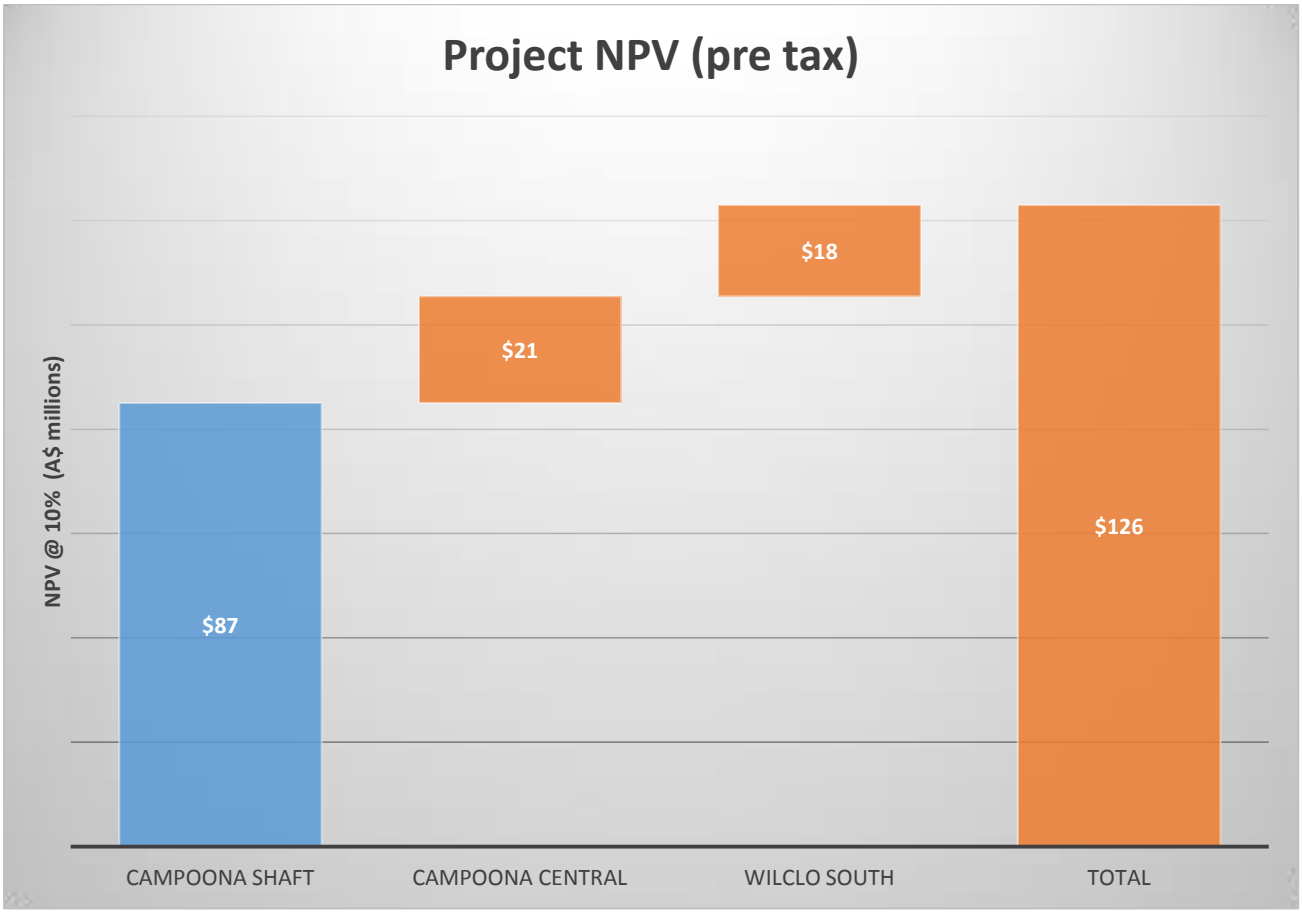

Figure 14: pre-tax Project NPV @ 10% discount rate (after royalties and sustaining capital)

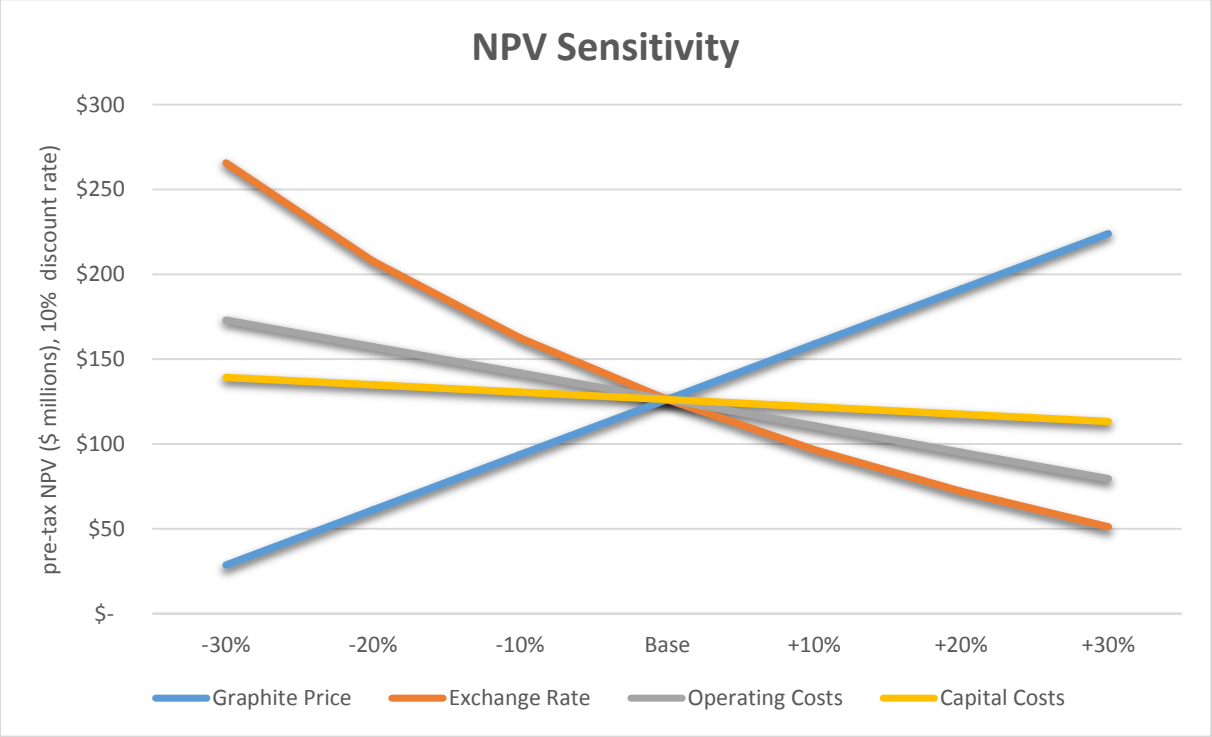

Figure 15: pre-tax Project NPV @ 10% discount rate sensitivity analysis

The sensitivity graph shown above shows how much the NPV changes with changes in graphite price, exchange rate, operating costs and capital costs. Changes in NPV are more pronounced when changes in more than one category are considered together. For example, if the graphite sales price decreases by 10% and the AUD exchange rate also changes from $0.69 to $0.76, then the NPV decreases to $67m. Therefore, changes in more than one category have a compounding effect on Project economics.

11. Project Funding

Archer does not have sufficient funds to develop the Project and **additional funding will be required** for the Project to bring it to the production stage.

A key dimension of the Company's future strategy is the staged development and funding of the Project. Successful delivery of key development milestones are expected to support ongoing convergence of the Company's market capitalisation with its future funding requirements.

The Company has been listed on the ASX since August 2007 and has a history of successfully raising capital and monetising and/or advancing its project portfolio through both farm-out arrangements and full or partial asset sales. The Project's

positive technical and economic fundamentals provide a platform for Archer to further advance its discussions with potential strategic partners and traditional financiers, including off-take partners. The strong financial projections and estimates derived from the Scoping Study combined with recent support from shareholders in the Company's Share Purchase Plan, current market conditions and an encouraging outlook for the global lithium-ion battery market enhance the Company's view of the potential fundability of the Project.

The Company has been in discussions with Australian banks to provide debt funding for the Project and will commence negotiations with other debt funding providers once the Campoona Mining Lease Proposal is lodged. In addition, the Company is considering other funding options for the Project, including potential to enter into a build own operate agreement with an established construction company. The preferred funding model will be selected once financial modelling is complete.

12. Risks

The following risks have been identified for the process flow sheet development:

- The advanced processing facility will use hydrofluoric acid to upgrade the graphite. There are potential environmental and health concerns associated with the transport, storage and use of hydrofluoric acid in Australia.
- Very few of the required processing plant design parameters used in the mineral processing plant design have been proven in pilot plant trials.
- Claystone components (including weathered kaolinite) may present a risk to economic treatment.
- Thickening and filtration characteristics of graphite concentrate and flotation tailings are unknown in Australia and will need further evaluation.
- Ability to upgrade all graphite from 95% to +98.5% using hydrofluoric acid on a commercial scale in Australia is unknown.
- Archer has so far been unable to secure offtake partners or sales of graphite products from the Project.
- Potential environmental concerns in mining and mineral processing (including dust, transportation of reagents, noise and other emissions). Archer has attempted to cover most of these risks in its Mining Lease Application to be submitted toward the end of 2016.
- There is no guarantee that Archer will be granted a Mining Lease or an environmental licence for any of its Projects.

13. Timeline to Production

Archer is nearing completion of a detailed Mining Lease Application that it hopes to lodge in Q4 of calendar 2016. It is anticipated that the mining lease could be granted by the middle of 2017, based on approval periods for similar projects in South Australia.

Once the mining lease is granted Archer will commence work on obtaining the mine operations PEPR (environmental licence) and finalise a detailed Feasibility Study.

Archer expects that it will have appropriate financing in place shortly before or after it has obtained approval to commence the construction of the project. The financing work will continue in parallel with the completion of the Feasibility Study and subsequent approval.

14. Expansion opportunities

The Study was based on the following conservative parameters:

- Gradual ramp up in production with steady state production not achieved until the start of Year 4.
- Mining of Campoona Shaft only for the first 7 years at a modest rate of 140,000tpa.
- Campoona Central mining commencing in Year 8 at a modest rate of 70,000tpa.
- Wilclo South commencing production at completion of mining at Campoona Central and Campoona Shaft to allow for any possible modifications to the plant to maximise Wilclo South large flake recovery.
- Zero graphene production, despite Archer being very advanced in graphene research and manufacture capability.

Modelling undertaken by Archer and not included in the Study or this document, shows that the Project economics can be greatly improved by increasing graphite production and including the manufacture of modest quantities of graphene.

The results of the Study and the large quantity of graphite resources and prospectivity not included in the Study gives Archer the confidence to proceed to permitting of the Project.

15. References

The following confidential documents were referenced by Archer during the Scoping Study:

Campoona Central Graphite Deposit, Mineral Resources Estimate – June 2014 (MCARCC03-REP-001) dated 15 July 2014 and prepared by Mining Plus for Archer.

Campoona Shaft Graphite Deposit, Mineral Resources Estimate – June 2014 (MCARCC02-REP-001) dated 15 July 2014 and prepared by Mining Plus for Archer.

Wilclo South Graphite Project (AMC 813008) dated 13 November 2013 and prepared by AMC Consultants for Monax Mining Ltd.

Draft Mining Lease Proposal and Management Plans, Campoona Graphite Project (127663057-054-R-Rev4) dated June 2016 prepared by Golder Associates for Pirie Resources Pty Ltd (Pirie Resources is a wholly owned subsidiary of Archer).

Campoona Shaft Mine Plan (AMC project 816003) dated 21 March 2016 prepared by AMC Consultants for Archer.

Campoona Graphite Project, Scoping Study for the Concentrate Upgrade Facility (201000-00957-PM-REP-001) dated 22 January 2015 prepared by Worley Parsons for Archer.

Campoona Graphite Project, Revised Process and Infrastructure Concept Study (13-0206-02-2185713B) dated September 2014 and prepared by Parsons Brinckerhoff for Archer.

Independent Price Analysis for Flake Graphite dated November 2014 prepared by Benchmark Market Intelligence for Archer.

Market Assessment Report, Campoona Graphite South Australia dated March 2013 prepared by Tech Minerals Consulting Group for Archer.

16. Competent Person Statement

The exploration results and exploration targets 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 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.

Campoona Shaft and Central Campoona

The information pertaining to the **Campoona Shaft Mineral Resource** estimate was detailed in an announcement entitled "*Archer Exploration announces Australia's largest JORC 2012 Graphite Resources*", lodged with ASX on 6 August 2014 and is available to view at www.arccherexploration.com.au. Archer confirms that it is not aware of any new information or data that materially affects the information included in that announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

The information pertaining to the **Campoona Central Mineral Resource** estimate was detailed in an announcement entitled "*Archer Exploration announces Australia's largest JORC 2012 Graphite Resources*", lodged with ASX on 6 August 2014 and is available to view at www.arccherexploration.com.au. Archer confirms that it is not aware of any new information or data that materially affects the information included in that announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

Wilclo South

The information pertaining to the **Wilclo South Mineral Resource** estimate was detailed in an announcement entitled "*Maiden Wilclo South Graphite Resource*", lodged with ASX on 26 August 2013 and is available to view on www.asx.com.au. The information was first disclosed by Monax Mining Ltd under the JORC Code 2012. Archer has not undertaken any work on the project that would impact this published resource estimate. Archer confirms that it is not aware of any new information or data that materially affects the information included in that announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

17. Forward looking statements

This document may include forward-looking statements.

Forward-looking statements include, but are not limited to statements concerning Archer's planned mining and exploration programs and other statements that are not historical facts. When used in this document, the words such as "could", "plan", "estimate", "expect", "intend", "may", "potential", "should" and similar expressions are forward-looking statements.

In addition, estimates of Mineral Resources could also be forward looking statements. Although Archer believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements.

Such risks include, but are not limited to resource risk, metals price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as governmental regulation and judicial outcomes.

For a more detailed discussion of such risks and other factors, see the Company's Annual Reports, as well as the Company's other filings. Readers should not place undue reliance on forward looking information. The Company does not undertake any obligation to release publicly any revisions to any "forward looking statement" to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

About Archer

Archer Exploration Limited is an Australian Stock Exchange listed company with 100% ownership of 16 tenements all in South Australia covering more than 4,900km^2.