



HazerGroup

PRELIMINARY GRAPHITE PRODUCTION UPDATE

- Hazer produces synthetic graphite of 99% purity under non-optimised conditions
- Initial non-optimised Hazer graphite characteristics show excellent characterisation comparison to high-end commercial forms of graphite such as synthetic spherical graphite used in lithium-ion batteries
- Hazer plans to implement a development and testing roadmap that initially focuses on the lithium ion battery market for its high-grade synthetic graphite
- Ongoing commercialisation and scale-up development is underway targeting ongoing improvement of the yield and quality of the hydrogen and graphite produced via the Hazer process

PERTH, AUSTRALIA; 2nd AUGUST 2016: Hazer Group Ltd (“Hazer” or “the Company”) (ASX:HZR, HZRO) is pleased to announce preliminary characterisation results for its initial synthetic graphite production from Hazer’s development work at the University of Sydney. These results are the first to be released since Hazer established its core development operations at the University of Sydney in February. This collaboration has given Hazer access to further expertise and allowed the company to significantly bring forward the commercialisation timeline for the Hazer Process.

In conjunction with making key advances in its underlying scale-up process, as announced to the market on the 23rd May 2016, the Company has undertaken these initial tests to demonstrate the purity and characteristics of Hazer’s graphite against that of industry grade graphite, including commercial battery grade graphite.

This characterisation and testing process is an important step before embarking on a graphite development program, as it provides the Company with critical benchmark data needed to further optimise the reaction conditions that will improve the yield and quality of the graphite.

HAZER GRAPHITE PURITY

Hazer is pleased to announce that it has produced graphite at 99% tgc (total graphite content), through initial methane decomposition and a single stage chemical purification. Importantly, the chemical purification can be undertaken without the use of hydrofluoric acid (HF). Prior to chemical purification, the graphite product harvested directly from the Hazer reactor under non-optimised conditions has tgc purity of 86%.

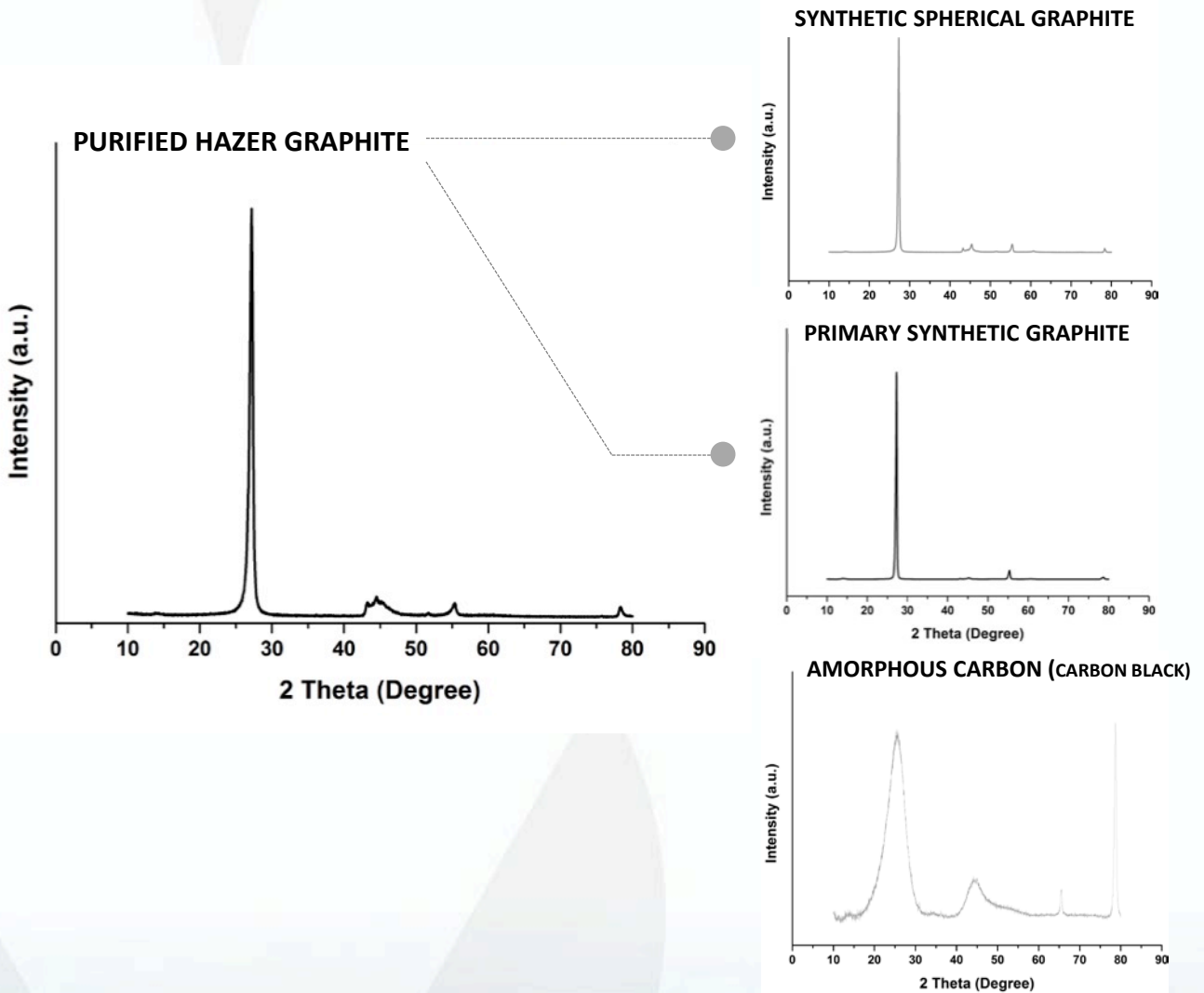
These results using large-scale laboratory reactors are extremely promising and provide a solid foundation for the ongoing optimisation of Hazer’s reaction conditions to enhance the yield and quality of the graphite produced.

BENCHMARKING AGAINST COMMERCIAL GRAPHITE

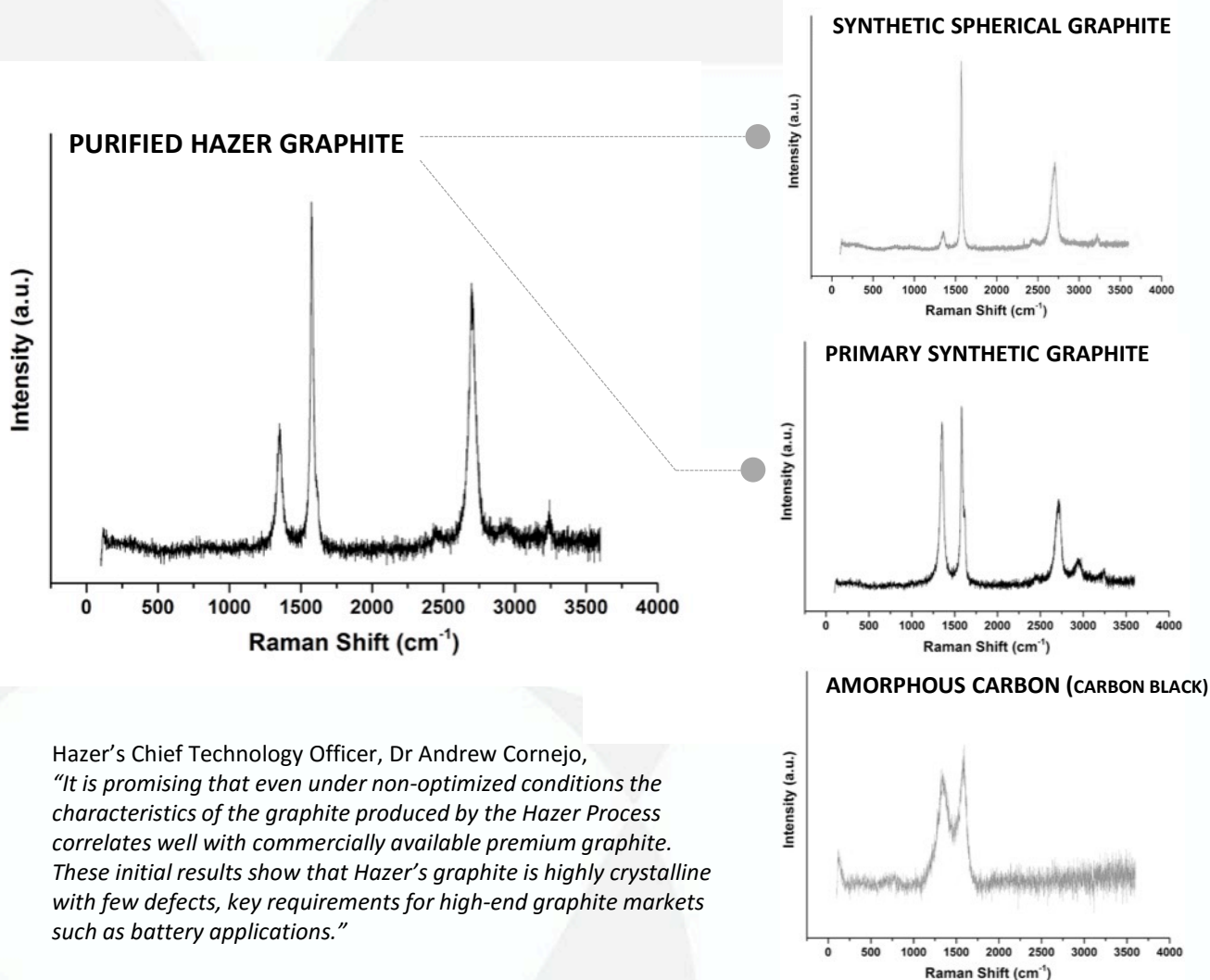
Hazer is pleased to announce that the general characteristics of Hazer graphite produced under non-optimised conditions show excellent comparison to high-end commercial forms of graphite, including primary synthetic graphite and synthetic spherical graphite SG, used for upper end lithium-ion batteries, and little resemblance to lower value amorphous carbon AC (Carbon Black).

A number of testing techniques show Hazer graphite to be highly crystalline (not amorphous) against industry benchmarks. Graphite is represented in XRD by a sharp peak at ~26 degrees as illustrated on the graphs below, which relate to the basal 002 plane of graphite layers. The steepness of this peak demonstrates the degree of crystallinity, and therefore how ordered the graphite layers are.

Both Hazer graphite and spherical graphite show very narrow peaks whereas the amorphous carbon (Carbon Black) shows a very broad peak.



Raman spectroscopy data also shows Hazer graphite to have a strong correlation to the primary synthetic and spherical graphite samples and little resemblance to amorphous carbon (Carbon Black). As the charts below highlight, both spherical graphite - like that used in lithium-ion batteries - and Hazer's graphite have a sharp peak at $\sim 1570\text{cm}^{-1}$ (known as the G peak for graphite) and a peak at $\sim 2700\text{cm}^{-1}$ (2D peak), which indicate the high graphitic nature of both samples. Conversely the amorphous carbon (Carbon Black) spectra has a very broad G and non-existent 2D peak.



HAZER'S COST ADVANTAGE

The synthetic graphite produced by the Hazer Process comes from natural gas using iron ore as a process catalyst. The use of low cost feedstocks, and the simple production of high grade graphite concentrates that can be purified to 99% tgc, gives Hazer the potential to become highly cost competitive in the premium graphite market.

SCALE-UP DEVELOPMENT UNDERWAY

These initial results are very promising and provide a solid foundation for the ongoing development within the Company's new scaled-up laboratory, based at the University of Sydney.

Since moving into these premises, the Company has constructed and commissioned a Static Bed Reactor, enabling Hazer to assess the effect of different iron ore types and sizes on the hydrogen and graphite product quality. In addition to this reactor, construction and commissioning of a Fluidised Bed Reactor has allowed for the further scale-up of Hazer's process. This new reactor is capable of generating up to one kilogram of graphite per day, over 3,000 times the amounts previously produced.

The Company has now set in place a development and testing roadmap that focuses on the lithium-ion battery vertical for its graphite product, as well as potential applications in other graphite markets. With additional characterisation testing currently underway, as well as further optimisation of reactor conditions, Hazer hopes to enhance the yield and quality of the graphite produced.

We look forward to updating the market with new results produced under optimised conditions and plan to send this graphite for independent testing at a globally recognised testing facility. Hazer also plans to develop and test small-scale lithium-ion batteries within its laboratory using synthetic graphite produced from the Hazer Process.

Work also continues towards the design and construction of a pilot plant that will be capable of producing hundreds of kilograms of combined hydrogen and graphite products per day, to be undertaken in 2017. In March Hazer signed an agreement with chemical engineering group Kemplant, who are assisting Hazer with its current scale up development and the design of this initial pilot plant to showcase the Hazer technology.

Hazer Managing Director Geoff Pocock

"Hazer is extremely pleased with these initial results and believes this will provide a strong platform for further growth, through both optimisation of the core reaction conditions and as we undertake further application testing of Hazer's graphite for batteries and other key graphite markets"

ABOUT HAZER GROUP:

Hazer Group Limited (“Hazer” or “the Company”) is an ASX listed technology development company undertaking the commercialisation of the Hazer Process, a low-emission hydrogen and graphite production process. The Hazer Process enables the effective conversion of natural gas and similar feedstocks, into hydrogen and high quality graphite, using iron ore as a process catalyst.

Hazer Group Limited - Social Media Policy

Hazer Group Limited is committed to communicating with the investment community through all available channels. Whilst ASX remains the prime channel for market sensitive news, investors and other interested parties are encouraged to follow Hazer on Twitter (@hazergroupltd), LinkedIn, Google+ and Youtube.