



ASX / MEDIA ANNOUNCEMENT

28 March 2019

Pilbara Declares Commercial Production at Pilgangoora

Achievement of sustained output and quality of concentrate from Stage 1 (2mtpa) operation supports declaration of commercial production

HIGHLIGHTS

- **Declaration of commercial production follows the achievement of sustained spodumene concentrate production during the first six months of operations.**
- **Production** – sustained delivery of spodumene concentrate:
 - Production in excess of **111,199 dry metric tonnes (dmt)**¹ of saleable product to date in FY19; and
 - March quarter production forecast between **47,000 – 52,000 dmt** of spodumene concentrate (December quarter: 47,859 dmt), despite the impact of Tropical Cyclone Veronica.
- **Feed-rate** – process plant feed-rate readily meeting design requirements of 270 tonnes of processed ore per operating hour.
- **Product Quality** – consistent production of spodumene concentrate meeting target SC6.0 (6% lithia content) and iron specifications:
 - Seven shipments completed totalling 95,270 wet metric tonnes (wmt) at 6.03% Li₂O in FY19.
- **Recovery** – average lithia recovery rates have been stable, albeit below the Company's planned recovery curve. Initiatives are in place to achieve design capacity by December 2019.

Australian lithium and tantalum producer, Pilbara Minerals Limited (ASX: PLS) ("Pilbara Minerals" or "the Company"), is pleased to declare commercial production at the Pilgangoora Lithium-Tantalum Project effective 1st April 2019, following the sustained delivery of spodumene concentrate at Pilgangoora over the December and March quarters of FY19.

Pilbara Minerals' Managing Director and CEO, Ken Brinsden, said:

"The declaration of commercial production after six months of material production and sales marks another important step in the development of the world-class lithium raw materials production centre at Pilgangoora and for the Pilbara Minerals team.

"The rapid delivery from first drill hole, through construction and now commercial production of the first large scale hard-rock lithium mine to be developed in WA after Greenbushes, with both coarse and fines production, is testament to the hard work and dedication of the team involved.

"While there are always challenges in any mine start-up, full credit is owed to the fantastic Pilbara Minerals team, our many contractor partners and our solid customer base, who backed us to deliver.

"The declaration of commercial production is based on the achievement of consistent, steady-state plant throughput and production of quality spodumene concentrate, with regular shipments to our customer base.

¹ Year to date reconciled production to 28th February and unreconciled March production (as at 24th March 2019).

“At the same time, we are continuing to work on fine-tuning and balancing a number of aspects of this large and complex plant to achieve design recovery levels of 75%, and we remain confident of achieving 100% of production design capacity during 2019.”

COMMERCIAL PRODUCTION AND RAMP-UP OVERVIEW

The Company is declaring commercial production due to sustained performance across the following key production criteria:

- **Production** – spodumene concentrate production has remained steady with production trending towards design capacity;
- **Feed-rate** – process plant feed-rates have achieved plant design requirements of 270 tonnes per operating hour and will continue to do so into the future;
- **Product Quality** – product quality has achieved, and will continue to achieve, customer specification requirements; and
- **Recovery** – average recovery rates achieved are stable, albeit below the planned recovery curve due to the longer commissioning period of the process plant, as well as specific process plant issues experienced during the March quarter which have now been largely rectified.

The Company expects further improvement to be made across all performance metrics as improvement projects are executed and further optimization of the process plant occurs. Of these performance metrics, improvement in the average lithia recovery is a key focus and the Company expects to deliver 100% of the designed product recovery level (of 75%) by the end of calendar year 2019. A more detailed explanation of these key performance criteria is provided below.

SPODUMENE CONCENTRATE PRODUCTION

The Pilgangoora operation has continued to mature with steady volumes of spodumene concentrate being produced by the process plant over multiple quarters.

The production journey for the Pilgangoora Project has comprised a commissioning period (Jul 18-Sep 18), followed by a production ramp-up period (Oct18 – Dec 18). As the operation entered the March 2019 quarter (Jan 19 – Mar 19), the focus has moved largely to optimisation of the plant and the remaining project works. Spodumene concentrate production volumes are outlined below (refer Figure 1), inclusive of the Company’s forecast for the remainder of March 2019.

Spodumene Concentrate Production (dmt)²

1 August 2018 to 22 March 2019 plotted by month

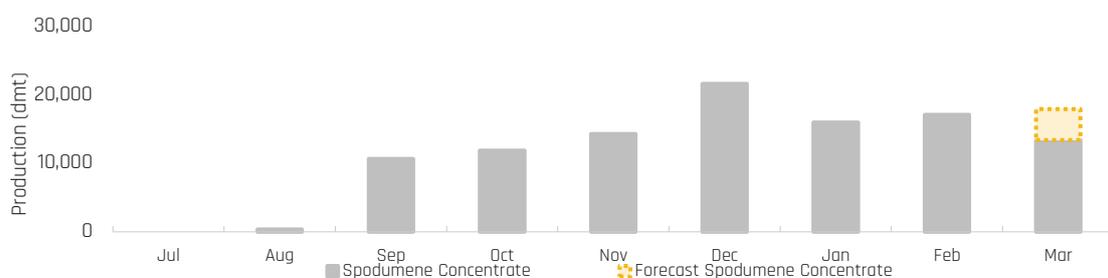


Figure 1 – Total monthly Spodumene concentrate production (6% Li, 1.8% Fe).

² Spodumene Concentrate Production is based on end-of-month reconciled data, except for the month-to-date March figures (1 to 22 March). March production data is unreconciled and includes an estimate through to 31 March. The March estimate is subject to any continued production impact due to Tropical Cyclone Veronica.

PROCESS PLANT FEED RATE

The Pilgangoora process plant demonstrated the ability to achieve its name-plate feed rate (270t/hr) capability early in the ramp-up period. Subsequently, the feed-rate has been varied depending on the feed or balancing requirements of the process plant overall (refer Figure 2).

Plant Feed Rate (dry tph)

1 August 2018 to 19 March 2019 plotted by 12hr shift at 3 week moving average

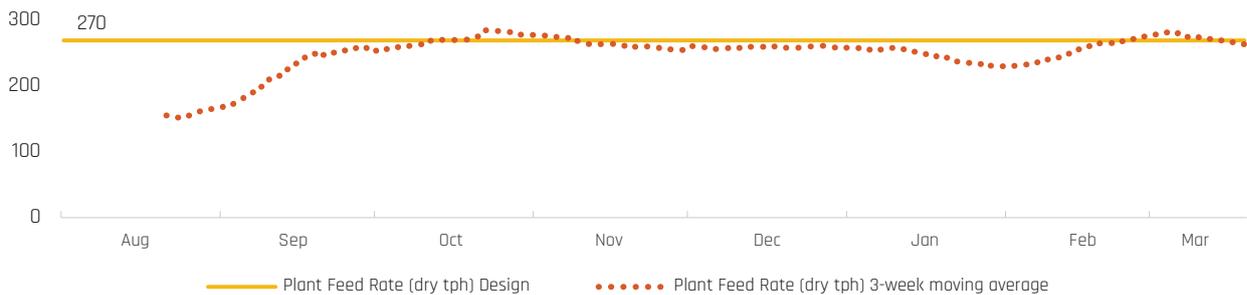


Figure 2 – Plant feed rate (moving average) compared with design feed rate (270t/hr).

PRODUCT QUALITY

Following the process plant ramp-up period, consistent delivery of concentrate lithia and iron content has been achieved from December onwards (refer Figure 3 below).

It should be noted that coarse and fines product from the plant are blended together to meet customer and grade specifications.

During the commissioning and ramp-up phase, small quantities of “off-specification” product (in terms of lithia and iron content) were generated as would be expected in any newly developed and commissioning facility. These small volumes will be blended with “in-specification” product to achieve a blended saleable product.

Concentrate Spec (Li₂O & Fe₂O₃%)

1 August 2018 to 19 March 2019 plotted by 12hr shift at 3 week moving average

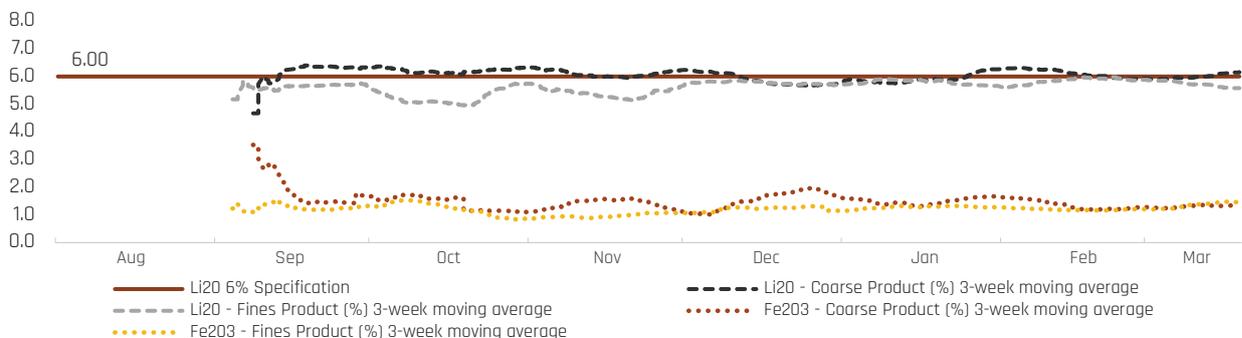


Figure 3 – Spodumene concentrate quality performance (moving average) for iron and lithia.

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RECOVERY

Steady improvements in lithia recovery achieved during the initial commissioning and ramp-up phases (Q3 and Q4 CY2018).

Recovery levels have been below plan due to the later commencement of commissioning than expected. Additionally, lower recovery levels occurred during the March 2019 quarter due to two equipment issues, being a conditioning tank liner failure (now resolved) and a dense media quality issue (now resolved).

Plant recovery performance to date is detailed below (refer Figure 4).

Plant Recovery (%)³

1 August 2018 to 19 March 2019 plotted by 12hr shift and 3 week moving average

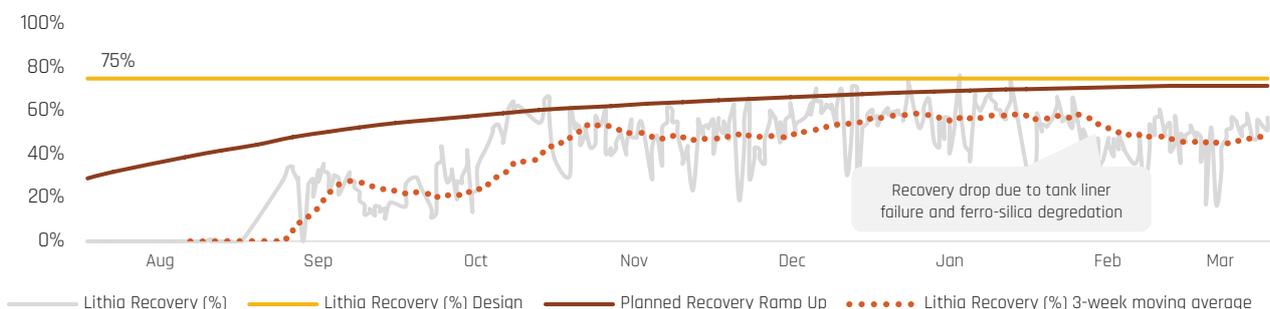


Figure 4 – Process plant recovery since production commencement.

CUSTOMER SHIPMENTS

Following the successful commissioning of the process plant, the Company completed its maiden shipment in October 2018. To date, seven shipments (including nine cargoes to customers) of spodumene concentrate have been completed in FY19, representing sales of 95,270 wet metric tonnes (wmt) at 6.03% Li₂O.

Prior to Cyclone Veronica impacting shipping activities, three shipments totalling 38,562dmt of spodumene concentrate were completed during the March 2019 quarter. One of these shipments allowed for the blending of some “off spec” concentrate produced early in the commissioning cycle, which resulted in 9,090dmt of product grading 5.81% lithia being sold.

Average price received for spodumene concentrate for the March quarter to date is in the range of approximately US\$660-\$710/dmt (SC6.0 basis) and in line with Pilbara Minerals’ offtake agreements with key customers. Under Pilbara’s offtake agreements, spodumene prices are determined in accordance with an agreed formula and are indicative of the market and pricing received by lithium chemical converters for lithium products in prior quarters, principally within the Chinese domestic market.

CONTINUED IMPROVEMENTS

A continuous focus of the Company will be the progressive increase in production levels to ensure nameplate capacity is achieved during the remainder of CY19, through the implementation of further projects (principally in the area of lithia recovery, being a key driver to overall concentrate production and cost).

³ - Plant Recovery depicted is based on unreconciled plant measurements and composite assays tracked per shift over the period 1 August 2018 to 19 March 2019

During this period whilst Pilbara Minerals continues to work towards nameplate capacity through production improvement initiatives, operating costs can be expected to be higher than once in steady-state operations. The trend should however be towards lower costs during calendar year 2019 as the Company continues to optimise production outcomes.

PROCESS PLANT IMPROVEMENTS

A series of defined improvement projects are being progressed that will further improve process plant performance. These are:

1. Fines Product Circuit – Grind Size Optimisation

The optimisation of grind size in relation to the fines flotation product circuit performance. Continued improvements in this area is expected to yield improvements in recovery, yield and quality.

2. Fines Product Circuit – Filter Press

The filter press is responsible for the de-watering of the fines product and is the last process step before stockpiling of the final product. Further optimisation of moisture content in fines will continue to lower the cost of logistics, assist customer handling and upgrade filter press capacity.

Further improvement works are in progress with expected completion by the end of the December 2019 quarter.

3. RCR (In Administration) – Step-in Works

Pilbara Minerals will shortly commence a series of modifications to the existing plant directly related to prior works performed by the EPC contractor RCR (in administration). The Company has elected to exercise its “step-in” rights under the EPC contract to undertake these works.

The works are expected to be completed by the December 2019 quarter and will contribute towards the continued improvement in the capacity of the Pilgangoora processing facility.

The estimated cost of these works is not expected to be material to the overall cost of the plant and is anticipated to be offset against the final progress payment and recovered against existing bank guarantees held by the Company pursuant to the terms of the EPC Contract.

RCR has denied responsibility for these modifications and the parties are now engaged in discussions to resolve this in accordance with the EPC contract. The Company does not consider the nature, nor the amount or cost of these works to be material to the ongoing operations at Pilgangoora.

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ABOUT PILBARA MINERALS

Pilbara Minerals Limited (Pilbara Minerals – ASX: PLS) is a mining and exploration company listed on the ASX, specialising in the exploration and development of the specialty metals lithium and tantalum. Pilbara Minerals owns 100% of the world class Pilgangoora Lithium-Tantalum project which is which is one of the world’s premier lithium development projects. Pilgangoora is also one



of the largest pegmatite hosted tantalite resources in the world and Pilbara Minerals proposes to produce tantalite as a by-product of its spodumene production.

ABOUT LITHIUM

Lithium is a soft silvery white metal which is highly reactive and does not occur in nature in its elemental form. It has the highest electrochemical potential of all metals, a key property in its role in lithium-ion batteries. In nature it occurs as compounds within hard rock deposits and salt brines. Lithium and its chemical compounds have a wide range of industrial applications resulting in numerous chemical and technical uses. A key growth area is its use in lithium batteries as a power source for a wide range of applications including consumer electronics, power station-domestic-industrial storage, electric vehicles, power tools and almost every application where electricity is currently supplied by fossil fuels.

ABOUT TANTALUM

The tantalum market is boutique in size with total global demand of approximately 1,700 tonnes of tantalum metal per year. Tantalum is primarily used in the electronics industry in the manufacture of capacitors for high-end applications like telecommunications and data storage. It is also used in semi-conductors, engine turbine blades and medical implants. As well as providing ductility, toughness, corrosion resistance, thermal conductivity and heat resistance to various other applications.

FORWARD LOOKING STATEMENTS AND IMPORTANT NOTICE

This announcement may contain some references to forecasts, estimates, assumptions and other forward-looking statements. Although the Company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions, it can give no assurance that they will be achieved. They may be affected by a variety of variables and changes in underlying assumptions that are subject to risk factors associated with the nature of the business, which could cause actual results to differ materially from those expressed herein. All references to dollars (\$) and cents in this announcement are to Australian currency, unless otherwise stated.

Investors should make and rely upon their own enquiries before deciding to acquire or deal in the Company's securities.

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