



ASX/Media Announcement

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OUTSTANDING RESULTS FROM 5MTPA STAGE 2 PFS PAVES WAY FOR MAJOR EXPANSION OF PILGANGOORA LITHIUM-TANTALUM PROJECT

Exceptional financial outcomes and robust economics demonstrate compelling case for expansion after first production from the Stage 1, 2Mtpa Pilgangoora Project in mid-2018

Highlights

- **Pre-Feasibility Study (“PFS”) completed assessing expansion to achieve 5Mtpa run-of-mine ore production and processing capacity.**
- **The Stage 2 PFS has delivered exceptional results, with headline outcomes including:**
 - **Outstanding project economics, Post-tax NPV¹_{10%} of A\$2.1Bn, rapid payback (3 years), and strong IRR (56%);**
 - Average annual production after Stage 1 and 2 production ramp-up of approximately **800ktpa** (over 100ktpa LCE) of 6% spodumene concentrate and **~780,000 lbs** per annum of tantalite;
 - Competitively low cash operating costs² of **US\$210/tonne CIF³ for first 5 years** and LOM cash operating costs² of **US\$225/tonne CIF³** attributable to the Pilgangoora Project’s Tier 1 scale, grade and product quality;
 - Forecast LOM project revenue of **A\$11.5Bn** (\$ real) and life of mine EBITDA of **A\$6.5Bn** (\$ real) over an estimated **17-year mine life** underpinned by existing reserves and based on a life-of-mine average spodumene concentrate price of **US\$594/tonne CIF**; and
 - Capital development estimate of **A\$207M** for the Stage 2 expansion to achieve 5Mtpa ore processing capacity.
- **Definitive Feasibility Study (“DFS”) on the Stage 2 expansion already well underway and on track for completion by mid-2018, paving the way for a Final Investment Decision in Q3 2018, start of construction by Q4 2018 and commissioning from Q4 2019.**
- **DFS diamond drilling complete and RC drilling underway targeting further Resource and Reserve growth.**
- **The expansion of Pilgangoora to 5Mtpa is strongly supported by its cornerstone customers and strategic partners including its previously announced strategic off-take and financing arrangements with Ganfeng and Great Wall Motor Company for the expansion of Stage 2.**

Australian lithium developer Pilbara Minerals Limited (ASX: PLS) (“Pilbara Minerals” or “the Company”) is pleased to advise that it has taken an important step towards its objective of unlocking further potential at its flagship 100%-owned Pilgangoora Lithium-Tantalum Project (“Pilgangoora Project” or “Project”) in WA with the delivery of a PFS which outlines a compelling business case for commencing the expansion of the Project to 5Mtpa of production and processing capacity within months of starting production of spodumene concentrate from the Stage 1, 2Mtpa operation in mid-2018.

The exceptional results of the Stage 2, 5Mtpa PFS clearly demonstrate the strong financial and technical merits of the expansion project, paving the way for further definitive assessment through an ongoing DFS, which is targeting completion mid CY 2018.

The PFS results re-affirm the Pilgangoora Project’s scale, globally competitive forecast cash operating costs, robust operating margins, long life and exceptional economic returns – highlighting its capacity to take full advantage of the current and future expected demand for lithium raw materials over the coming decades.

Pilbara Minerals Limited

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

"The compelling results of the Stage 2 PFS provided a clear pathway to unlock further value in the outstanding Pilgangoora lithium-tantalum resource and, in the process, cement its position as a globally significant, low-cost supplier of lithium raw materials for decades to come.

The exponential growth which is occurring across the lithium-ion supply chain as the industry in China and elsewhere gears up for transformational growth to meet demand from the automotive and energy storage sectors is now becoming better understood.

It was against this backdrop that we commenced the Stage 2 expansion studies at Pilgangoora last year in parallel with construction of the Stage 1, 2Mtpa project. The logic of this accelerated expansion strategy was underpinned both by the remarkable growth occurring in the market and the extraordinary success of our exploration team in growing the Pilgangoora Ore Reserve base to a level which underpinned a mine life of more than 40 years at the 2Mtpa production rate.

An expansion to 5Mtpa was deemed to be the optimal production rate to unlock further value in the deposit and maximise the financial returns to shareholders. This decision has been fully vindicated by the PFS results, which have shown a significant improvement in several key areas compared to the 2Mtpa operation currently being constructed.

Headline results include a significant increase in the Project's Net Present Value (NPV_{10%} post-tax) to over A\$2 billion, production of circa 800,000 tonnes per annum of high-quality spodumene concentrate once the plant has achieved its nameplate capacity of 5Mtpa, globally competitive cash operating costs and impressive financial metrics over a 17-year mine life.

Importantly, the Stage 2 expansion can be undertaken quickly, efficiently and cost effectively by leveraging off the existing Stage 1 operation – resulting in the development of a truly world-class mining and processing operation which will be capable of meeting the long-term requirements of our customers who have already committed to off-take agreements supporting 600,000tpa of spodumene concentrate production.

Additional RC drilling currently underway will no doubt further increase the overall Resource and Reserve, thereby extending mine life or further optimising future production scenarios. Together with confirmatory test work and DFS technical refinement to be undertaken over the next few months, we are confident this will provide further upside over and above these impressive results. However, the PFS results alone clearly justify a decision to complete the current Stage 2 DFS, which is well underway and on track for completion in the September Quarter of this year."



Figure 1 – Aerial photograph of current construction progress with Stage 2 3D model overlay (Stage 1 shown in orange, Stage 2 shown in blue)

SUMMARY OF KEY PFS OUTCOMES

Based on the proposed 5Mtpa stand-alone mining and processing operation, the PFS indicates that Pilgangoora will be a robust, high margin project with current forecast life-of-mine revenue of A\$11.5 billion (real) and life of mine Project EBITDA of A\$6.52 billion (real) over an estimated 17-year mine life.

For the first 5 years of operations, revenues are expected to be A\$3.12 billion generating Project EBITDA of A\$1.85 billion (real) inclusive of ramp up in both Stage 1 and Stage 2.

A summary of the key Stage 2 (5Mtpa) PFS financial outcomes is provided in **Table 1** below:

Table 1 – 5Mtpa PFS Key Financial Outcomes

Study Outcomes	PFS - 5Mtpa Base case
Reserve Estimate	80 Mt
Estimated Mine Life	17 years
LOM Project revenue (real)	A\$11.5 billion
LOM Project EBITDA (real)	A\$6.5 billion
Stage 2 Development Capital	A\$207 million
Post-tax NPV¹_{10%}	A\$2.1 billion
Internal Rate of Return (IRR)	56%
LOM cash operating costs² (real, net of Ta₂O₅ credits)	US\$225/tonne CIF³
Project payback	3 years
LOM Average Annual EBITDA (real)	A\$382 million per annum
LOM assumed spodumene concentrate price (real)	US\$594/tonne CIF ³
LOM assumed tantalite price (real)	US\$89/pound FOB
First 5 years cash operating costs² (real, net of Ta₂O₅ credits)	US\$210/tonne CIF³
First 5 years average annual EBITDA (real) including production ramp	A\$370 million per annum

¹ Valuation date of 1 January 2018 at after tax nominal discount of 10%.

² Cash operating costs include all mining, processing, transport, state and private royalties, native title costs, port, shipping/freight and site based general and administration costs, an allocation of corporate administration/overhead cost and are net of Ta₂O₅ by-product credits.

³ CIF (“Cost Insurance and Freight”) (Incoterm) is a trade term requiring the seller to deliver goods onboard at port of shipment, plus cover the cost of transport to the destination port.

DISCUSSION

Pilbara Minerals’ Pilgangoora preliminary feasibility work has been completed to a high standard with the assistance of a group of highly experienced independent consultants, including:

- Geology and Resources – Trepanier Pty Ltd;
- Mining, Mine Design – AMC Consultants;
- Process Plant Infrastructure (including estimates) – Minново Engineers;
- Tailings Management Facility and Geotechnical – ATC Williams; and
- Hydrogeology and Hydrology – Groundwater Resource Management.

Pilbara Minerals assumed overall responsibility for the PFS, completing key components including metallurgical test work, environmental and other approvals, tenure investigations and financial modelling.

The PFS was based on the processing of 5Mtpa ore feed to produce a chemical grade spodumene concentrate (SC6.0 specification) using an ore reserve of 80.3Mt grading 1.27% Li₂O, 123ppm Ta₂O₅ and 1.08% Fe₂O₃ (refer ASX

announcement dated 29 June 2017) and a life-of-mine average spodumene concentrate price of US\$594/tonne CIF, which is well below the current spot price of approximately US\$905/tonne FOB (SC6.0 basis).

The Company’s assumed spodumene concentrate pricing in its PFS has been based on price forecasts from leading independent commodity forecasters and leading investment banks and brokers including Roskill, Deutsche Bank, Canaccord and Benchmark Minerals to create a ‘consensus’ price forecast for both battery grade lithium carbonate (refer **Figure 2**) and spodumene concentrate pricing.

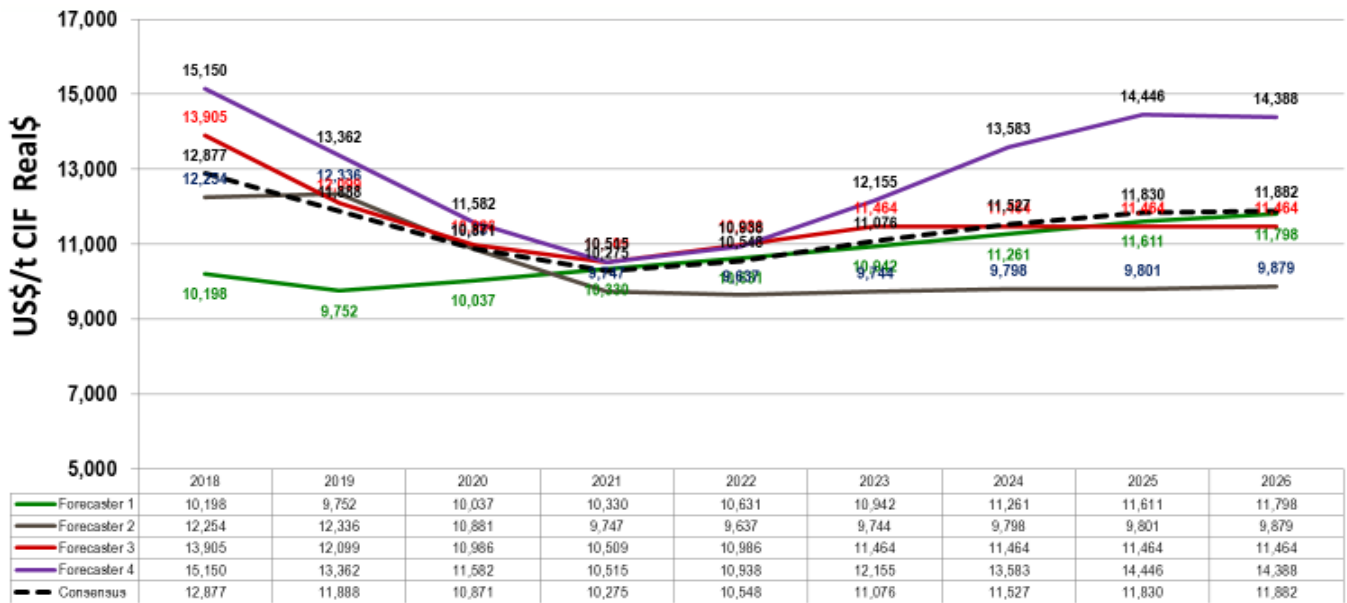


Figure 2 – Battery grade lithium carbonate price forecasts (fiscal year-end June)

Pricing under Pilbara Minerals’ off-take agreements for chemical grade spodumene concentrate are based on a formula that tracks both the Chinese domestic battery grade lithium carbonate prices and import battery grade carbonate prices and has been reflected in the PFS financial model for the off-take agreements with General Lithium, Ganfeng and Great Wall Motors. Uncontracted spodumene tonnes at the time of preparing the PFS have been priced against the consensus spodumene price forecast (refer **Figure 3**).

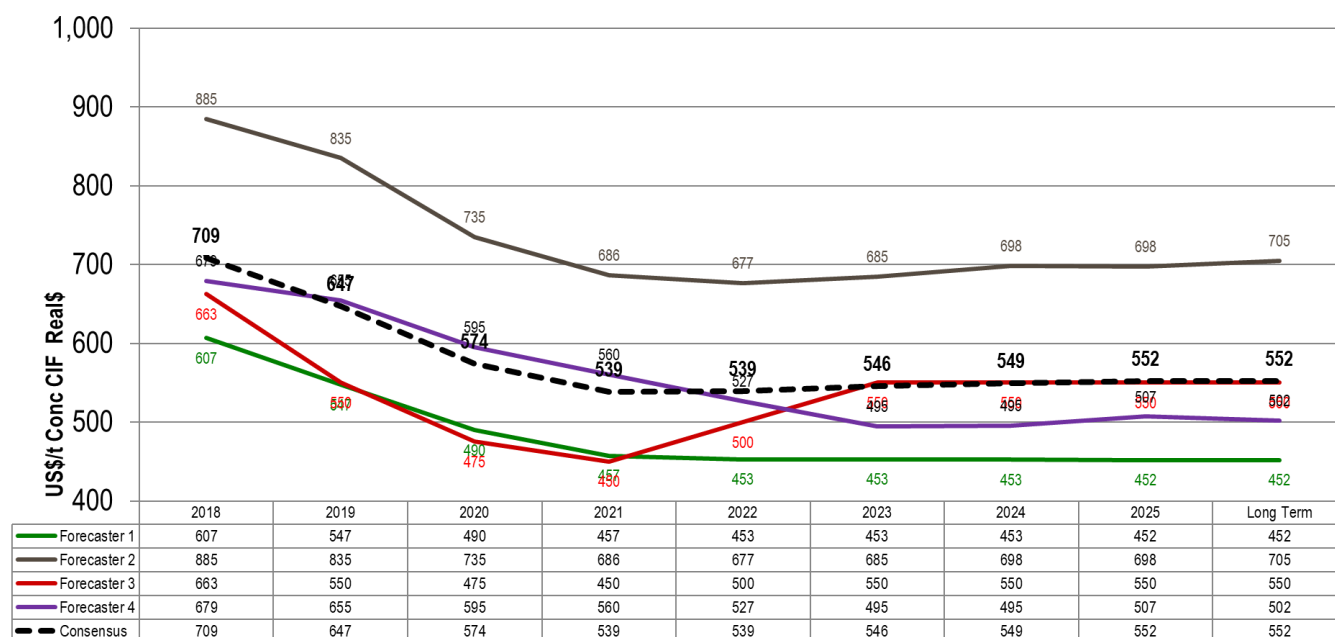


Figure 3 – Spodumene price forecasts (SC6.0, fiscal year-end June)

The technical grade product circuit has currently been excluded from the PFS for the Stage 2 plant whilst the Company continues to undertake process test work and design during the forthcoming DFS, to optimise the economics of the premium ‘technical grade’ (SC7.0) product stream.

Pilbara Minerals’ long-run tantalum price outlook is provided via independent industry researcher, Roskill. Life-of-mine (LOM) product pricing is US\$89/lb FOB, roughly approximating the current global spot price of approximately US\$90/lb.

PRE-FEASIBILITY STUDY OUTCOMES

Mining / Reserves

Pilbara Minerals engaged the services of AMC Consultants to complete a PFS-level Mining Study for the Stage 2 (5Mt/pta) Project. The PFS was based on an updated Mineral Resource geological model completed in January 2017 by Pilbara Minerals’ Competent Persons, Mr John Holmes (Geology Manager - Pilbara Minerals) and Mr Lauritz Barnes (Consultant with Trepanier Pty Ltd), and June 2017 Ore Reserve (refer **Table 2**).

The production targets and forecast financial information included in the PFS and this announcement are underpinned solely by Ore Reserves (refer **Table 2**). The estimated Ore Reserves underpinning the production targets included in the PFS have been prepared by a Competent Person in accordance with the JORC Code (2012 Edition) and were first released by the Company on 29 June 2017 (refer ASX announcement dated 29 June 2017).

Pilbara Minerals is not aware of any new information or data that would materially affect the Ore Reserves, subsequent to the June 2017 announcement.

Table 2 – Pilgangoora Reserve Estimate (June 2017)

JORC Reserve Category	Tonnage (Mt)	Li ₂ O (%)	Ta ₂ O ₅ (ppm)	Fe ₂ O ₃ (%)	Li ₂ O (T)	Ta ₂ O ₅ (Mlbs)
Proved	17.3	1.31	141	1.03	230,000	5.4
Probable	62.9	1.25	119	1.10	790,000	16.5
TOTAL	80.3	1.27	123	1.08	1,020,000	21.8

Based on conventional open pit mining using truck and excavator operations and nominal 5m benches, the mining study confirmed the viability of the expansion from 2Mt/pta to 5Mt/pta and a substantial increase in Project value.

Pit shells and waste dumps (refer **Figure 4**) are unchanged from the current Stage 1 Project. The Company continues both exploration and infill drilling at Pilgangoora with a view to increasing both the global resource and ultimately the development of further ore reserve estimates.

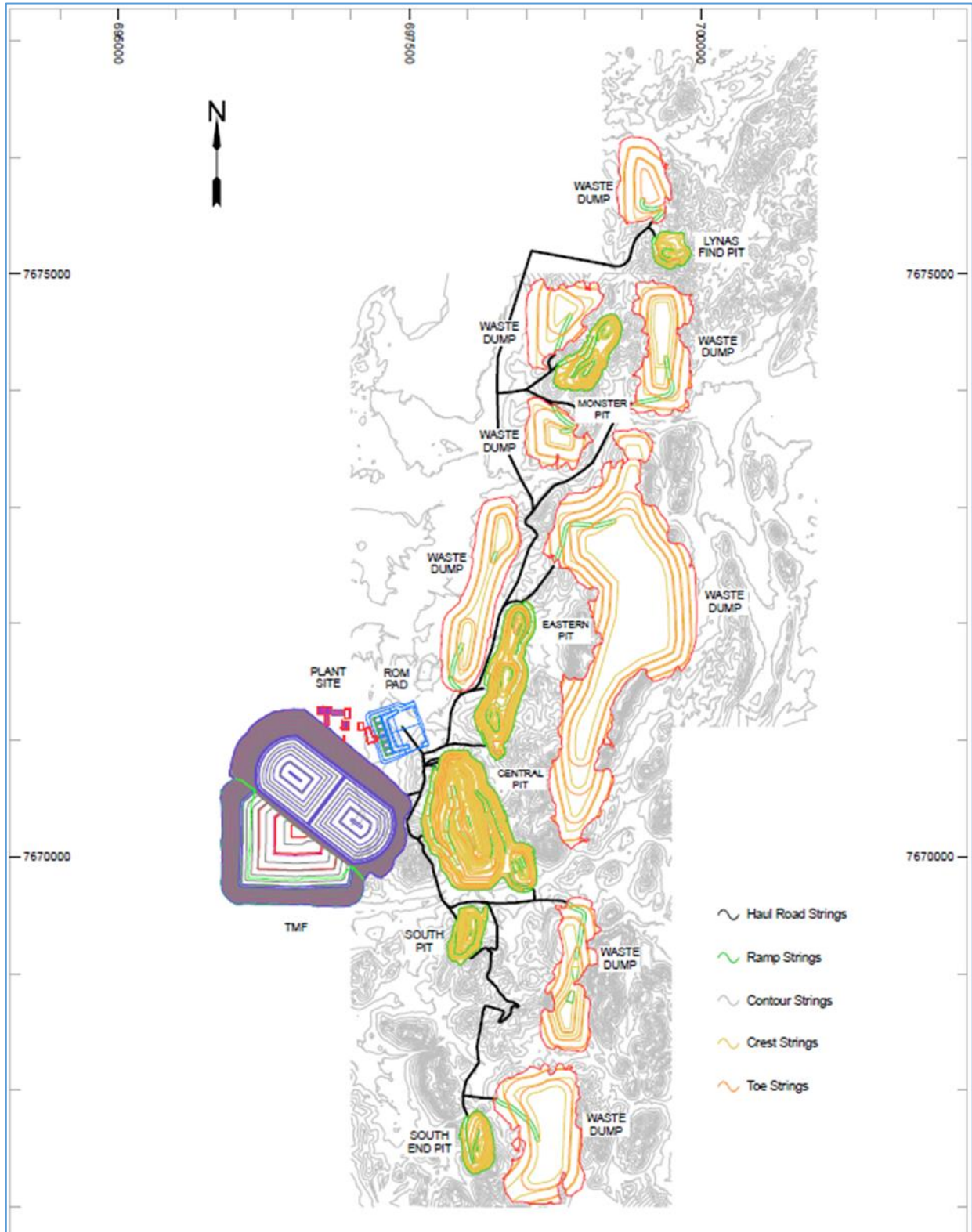


Figure 4 – Site layout showing pit and waste landform designs for the Stage 2 5Mt/pta operation

During the life of mine, approximately 310Mt of waste is expected to be mined, at an average strip ratio of 3.85:1 and although the increased production rate reduces the overall mine life from approximately 41 years to 17 years, additional mineral resources which are expected to be identified during the current RC drilling program will aim to further extend the mine life with those results to be included in the DFS.

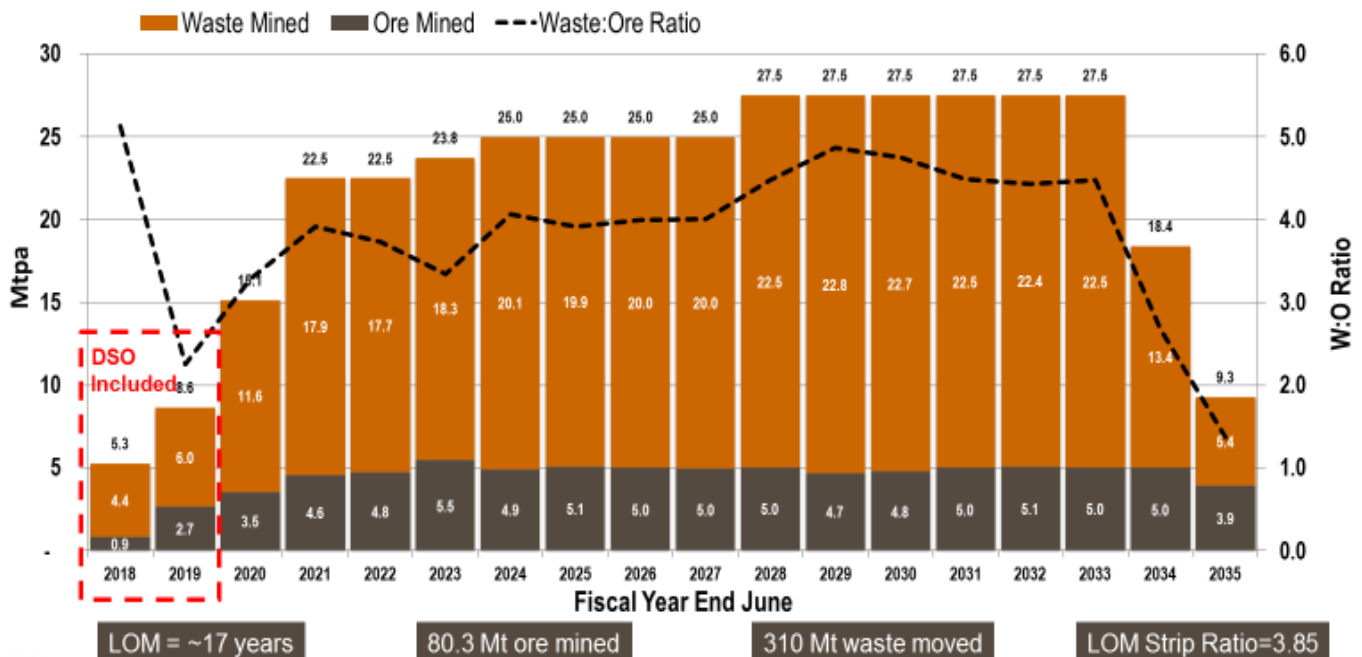


Figure 5 – Mine production profile

Processing Facilities

Further metallurgical test work and pilot scale test work has been undertaken after the completion of the previously announced 2Mtpa DFS in September 2016 (refer ASX announcement dated 20 September 2016). Focus for this work was particularly in the area of spodumene flotation, with the objectives of optimising flotation regimes and reagent use, which in turn could then optimise both the Stage 1 and expanded Stage 2 (5Mtpa) circuit design.

The test work outcomes resulted in a revised reagent scheme that allowed the use of a coarser grind size and shorter flotation times, which as part of the Stage 2 5Mtpa expansion will enable the initial 2Mtpa facility (Stage 1) to be expanded to 2.5Mtpa with relatively minor changes.

Process Design

The expanded concentrator plant for Stage 2 will be designed to process 5Mtpa of ore feed which is achieved via (2) parallel processing circuits each designed for 2.5Mtpa.

As such, the plant expansion will entail modifications to the existing Stage 1 (2Mtpa) circuit to facilitate 2.5Mtpa (Train 1), and then construct a similar 2.5Mtpa circuit (Train 2) to achieve a total nameplate capacity of 5Mtpa.

The updated feed capacity of the plant would be 670tph of ore at an average utilisation rate of 85%.

The flowsheet has been designed to target two product streams, namely:

- chemical grade spodumene at 6% Li₂O and low iron; and
- tantalite concentrate at 25-30% Ta₂O₅.

Provision for the additional equipment required to produce a technical grade spodumene at 7% Li₂O has been allowed for in the Stage 2 circuit design, however this is reserved for installation at a future date pending additional test work and process refinement as part of the 5Mtpa DFS. As such, the capital required for the additional equipment has not been provided within the current PFS estimate.

The key areas of the plant include crushing, feed preparation, dense media separation, gravity separation, grinding, flotation, magnetic separation and dewatering.

In addition to these areas, the expanded circuit will also include new process equipment such that final tantalite dressing can occur on site rather than off-site as is proposed for the Stage 1 development.

The current proposed plant layout is provided in **Figure 6** below, noting Stage 2 new equipment is highlighted green, with modifications to existing Stage 1 equipment shown in blue:

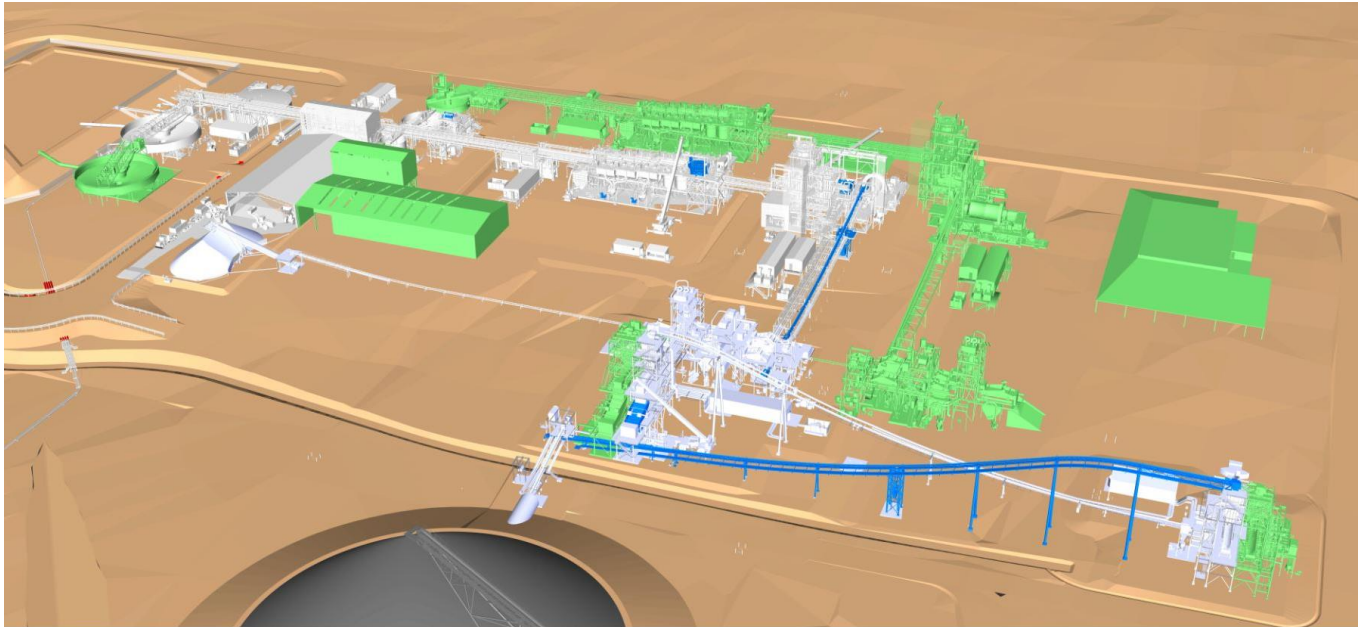


Figure 6 – Proposed Plant Layout for Stage 2 5Mtpa operation
(Stage 2 plant equipment shown in green, modified Stage 1 equipment shown in blue)

As a result of the PFS mine production scheduling, the run-of-mine ore grade and process plant concentrate production profile has been optimised (refer **Figure 7**), driving higher production during the earlier years of the Pilgangoora Project's life (refer **Figure 8**). Once the mine and processing capacity has been ramped-up to the revised nameplate capacity at 5Mtpa, spodumene production (SC6.0 basis) is expected to be approximately 800ktpa (circa 100ktpa LCE) as a result of the PFS mining and processing schedule.

Pilbara Minerals' envisaged direct shipping ore (DSO) program (refer ASX announcement dated 20 December 2017) has been included within the PFS mining schedules and associated financial modelling.

Current drill programs that will contribute to the upcoming DFS are targeting additional resource tonnes, plus infill drilling within the existing Resource with a view to increasing the Pilgangoora Project Reserve. Further optimisation and process design during the upcoming DFS will target backfilling production capacity from 2026 with a view to maintaining a minimum mine production of 800-840ktpa (SC6.0 basis).

The Pilgangoora Project mineral endowment, resource scale and expected Reserve growth provides further opportunity to consider additional mine and processing capacity optimisation over the coming years.

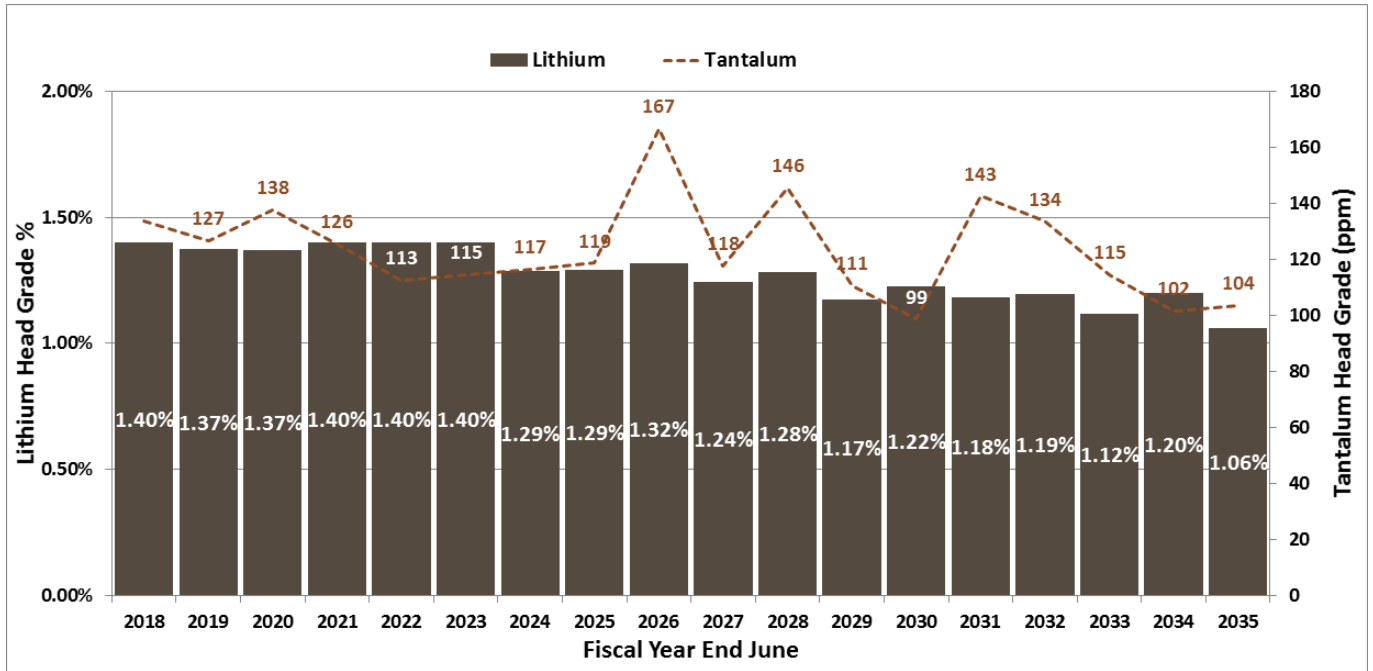


Figure 7 – LOM lithia and tantalite ROM grade profile

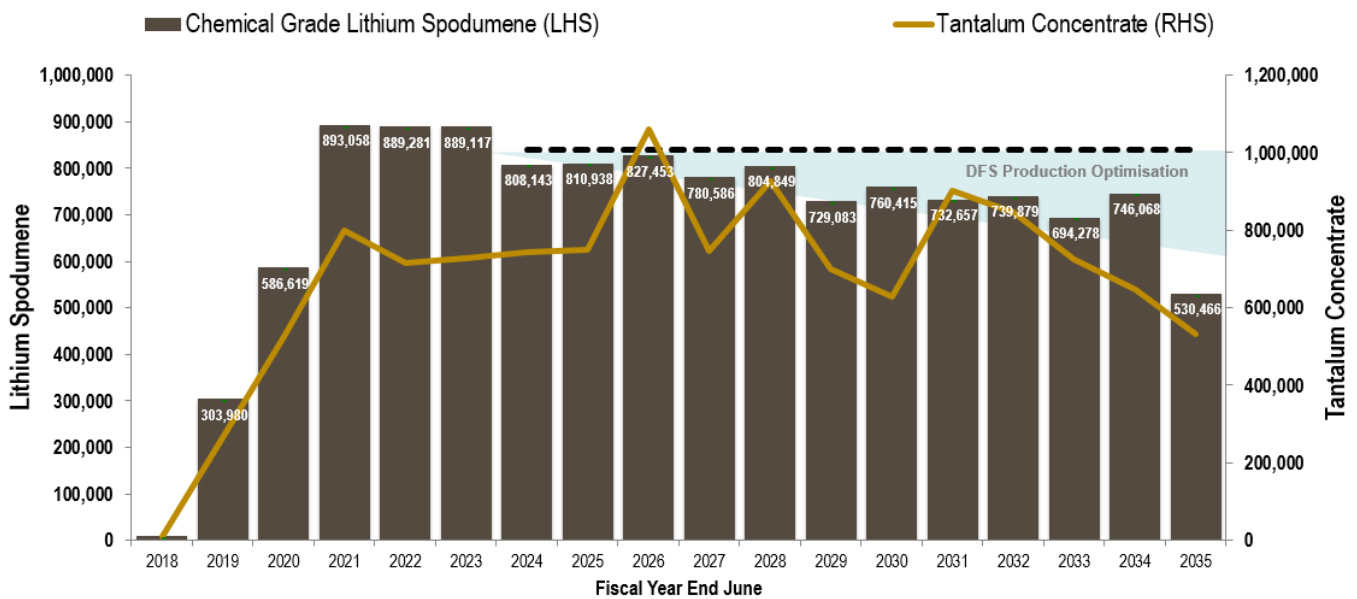


Figure 8 – LOM spodumene (SC6.0 basis) and tantalite production profile

Off-take Arrangements

The previously announced Great Wall and Ganfeng Lithium off-take agreements will underpin sales of product from the Stage 2 expansion of the Pilgangoora Project, while also providing off-take-linked debt financing solutions (upon finalising agreed commercial terms) for a significant proportion of the Stage 2 capital requirements (refer to ASX announcements dated 28 September 2017 and 2 May 2017 respectively). Of the total additional tonnage from Stage 2, 150,000tpa is committed under existing off-take agreements, with an additional 150,000tpa being subject to both Ganfeng and Great Wall providing cash prepayment or debt finance facilities totalling approximately US\$100M.

The balance of the currently expected production from the Stage 2 expansion of the Pilgangoora Project is currently subject to discussions with a number of interested parties (SC6.0 product, 'Technical Grade' spodumene (SC7.0)

and tantalite off-take), with the Company considering several strategic options, including its previously announced objective of participating in downstream chemical facilities.

Mining schedule and processing capacity optimisation during the current DFS (from 2024 and onwards) presents an opportunity for sales of a further approximately 200-240ktpa of spodumene concentrate (SC6.0 basis) in excess of existing off-take commitments.

Hydrology and Hydrogeology

Dewatering

Groundwater Resource Management Pty Ltd (“GRM”) has completed a dewatering assessment for the Stage 2 Project.

The initial 3D groundwater flow model for the deposits and surrounding groundwater system was updated in the PFS to accommodate the mining schedule for the expansion case. The modelling assumes that central pit will be dewatered using a combination of sump pumping together with two recently installed dewatering bores adjacent to the pit, whilst the remaining pits will be dewatered using sump pumping only.

The results of the modelling indicate that under baseline conditions the combined dewatering rates for all pits (which includes sump pumping and the two dewatering bores) ranges between 20L/s (post construction for the 1st five years), dropping to around 13L/s between years (6) and (15), after which there is an increase through to approximately 33L/s for the final (2) years for the life of the mine.

Water Supply

GRM have also completed a water supply assessment for the Stage 2 Project requirements, further assessing both on and current off-tenement supply.

The estimated total Project water demand is 2.67GL/annum (85L/s) of fresh to brackish quality groundwater. With at least 13L/s available on tenement from pit dewatering, the shortfall of 72L/s would be made up from the following sources of supply:

- Combination of dewatering supply and the on tenement borefield collectively yielding at least 28.7L/s;
- Additional bores (2 of) located approximately 8km to the south of the Project tenements with an interim license to extract 1,000,000 kL/annum (31.7L/s) which is expected to be granted following a 12 month monitoring period; and
- Agreement with a third party (which is subject to a final access agreement and tenure application) to extract water from bores located west of the Project tenements. An initial access of 1,500,000 kL/annum (47.5L/s) granted with capacity to increase to 2,500,000 kL/annum (79L/s) for Stage 2.

Collectively, the above supplies are expected to provide a water supply of at least 108L/s, providing sufficient supply and sufficient reserve contingency.

Tailings Management Facility (“TMF”)

Tailings are anticipated to be produced at approximately 65% to 68% solids concentration at 4.25Mtpa (Stage 2) for the life of mine with the total storage requirement increasing from 58.8Mt to 68.3Mt as a result of the increased mine reserve. The TMF storage capacity will be increased by increasing the height of Cells 1, 2 and 3 on the original Integrated Waste Landform design.

Construction of the TMF landform will be on a staged basis. A two-cell (Cell 1 and Cell 2) impoundment will be developed on the north side of Pilgangoora Creek which bisects the site of the TMF. This will provide storage for 42Mt of tailings and 29.4M cubic metres of waste rock (over a period of 9 years at 5Mtpa ore throughput). Cells 1 and 2 are utilised again for a period of 2 years at year 15 before reverting back to Cell 3 for the final 1.5 years of operation.

The maximum height of the Cell 1 and 2 facility is approximately 76 metres. Prior to completion of tailings deposition into the two-cell impoundment, Pilgangoora Creek will be diverted around the perimeter of the mining tenement and construction of a third TMF cell (Cell 3) will commence. Cell 3 provides storage for 27Mt of tailings and 9.7M cubic metres of waste rock with the maximum height of Cell 3 approximately 62 metres.

Geotechnical

ATC Williams were engaged by Pilbara Minerals to validate the previous works they had undertaken on behalf of the Company with respect to geotechnical assessments for maximum pit slope definition and to provide engineering design parameters for subsequent plant, infrastructure and TMF development.

The basis for the mine geotechnical assessment was utilising the data from the previous 13 HQ drill holes around the proposed pit boundaries undertaken as part of the 2Mtpa DFS, plus an additional 5 drill holes, 3 of which were located in the central pit, and 2 in the eastern pit.

Results from the subsequent analysis confirm that the optimum pit design will utilise maximum bench heights of 10m and maximum inter-ramp angles of 52° which are generally appropriate with the exception of the eastern wall of Eastern pit where the inter-ramp angle of 46° is considered appropriate.

Additional test pits excavated since the completion of the 2Mtpa DFS have identified several areas where materials can be used in construction, particularly in the case of the TMF, where parts of the alluvial waste dump have been confirmed to contain material suitable for structural fill, with areas to the north-east of the plant site containing surface clayey soils and gravelly based materials located at TMF cell 3 area.

Financial Evaluation

The key parameters and financial outcomes for the 5Mtpa Pre-Feasibility Study are set out below:

Table 3 – Summary of Key Parameters

Summary of Key Parameters from PFS Financial Model (5Mtpa)		
Reserve	Mt	80
Life of Mine (LOM)	Years	17
Plant Feed Rate (peak)	Mtpa	5.0
Average Lithium Head Grade	%	1.26
Average Lithium Recovery	%	75.0
Average LOM Spodumene Concentrate Production	ktpa	737
Average LOM Tantalite Production	k lbs pa	714
Average LOM Realised Lithium Price	US\$/t CFR Real	594
Average LOM Tantalite Forecast Price	US\$/lb FOB Real	89
Forecast FX Rate LOM	AUD:USD	0.75
Stage 2 Capital Development Expenditure (<i>including contingency</i>)	A\$M	207
Ave LOM Cash Operating Cost ¹	A\$/t product Real CIF	300 (US\$225)
Ave LOM Operating Cost less all royalty & native title costs	A\$/t product Real CIF	245 (US\$184)
Average Annual Project EBITDA (Real \$)	A\$M	383
NPV (10% Discount Rate, Post Tax)	A\$M	2,099
IRR	%	56%
Payback	Years	3

¹ Cash operating costs include all mining, processing, transport, state and private royalties, native title costs, port, shipping/freight and site based general and administration costs, an allocation of corporate administration/overhead cost and are net of Ta₂O₅ by-product credits.

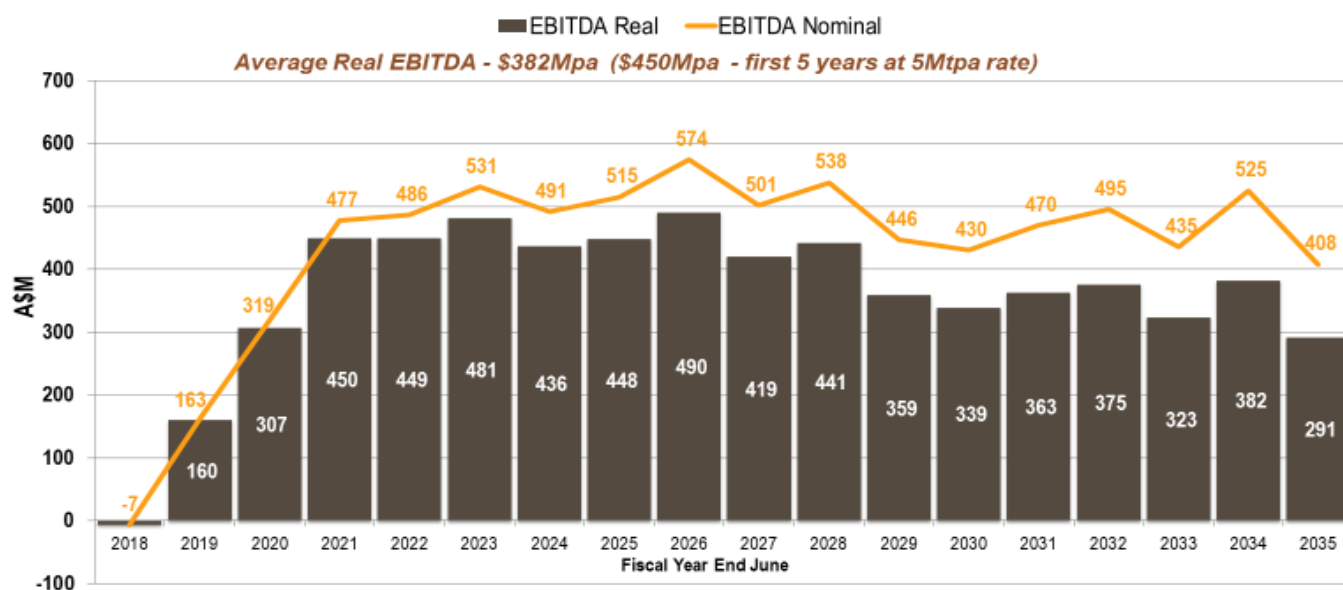


Figure 9 – EBITDA (5Mtpa case)

Capital Cost Estimates

The capital cost estimate to upgrade the existing 2Mtpa Stage 1 circuit to 2.5Mtpa (Train 1), plus provide an additional 2.5Mtpa circuit (Train 2), together with supporting infrastructure upgrades including all direct and indirect costs, are estimated to be approximately A\$207M (\pm 25% accuracy) inclusive of A\$15.9M contingency.

Table 4 – Stage 2 Capital Cost Estimate

Capital Item	Value (M)	Source/Comments
Process Plant and Infrastructure	\$145.3	Includes complete Stage 2 process circuit of 2.5Mtpa capacity (excluding primary & secondary crushing)
Owners Costs	\$35.2	Includes PLS management, spares, insurances etc
Other Costs	\$10.5	Includes modifications to Stage 1 circuit from 2.0 to 2.5Mtpa capacity
Contingency	\$15.9	
TOTAL	\$206.9	

Cash Operating Cost Estimates

The significant scale of the Pilgangoora Project, together with its location adjacent to existing infrastructure and relatively low strip ratio, contributes to very low forecast project cash operating costs. Spodumene cash operating costs are further enhanced with the by-product credits arising from tantalite (Ta_2O_5) concentrate sales.

The PFS LOM average cash operating cost per tonne of concentrate after tantalite credits is approximately US\$225/t concentrate (CIF, net of tantalite credits). Project costs at these levels indicate that the Pilgangoora Project will be one of the lowest cost hard rock lithium producers globally. Furthermore, additional operating cost reductions are anticipated through further studies such as alternate power supplies.

Importantly, the average cash operating cost for the first 5 years (inclusive of Stage 1 and Stage 2 production ramp ups) is expected to be a lower US\$210/t CIF (net of tantalite credits) thereby taking full advantage of the current buoyant prevailing market for quality hard rock spodumene concentrate products.

Table 5 – Stage 2 Cash Operating Cost Estimate on a cost per tonne of concentrate basis

Operating Cost Area	Operating Costs (LOM Average)	
	A\$/t	US\$/t
Mining	135	101
Processing	137	103
Transport and Loading	34	26
G&A and selling costs (including corporate allocation)	29	21
Ocean Freight	26	20
SUB-TOTAL CASH OPERATING COSTS CIF (before tantalite credit)	361	271
less tantalite credit	116	87
TOTAL CASH OPERATING COSTS CIF (after tantalite credit)	245	184
add Royalties (government and private royalty, Native Title)	55	41
TOTAL CASH OPERATING COSTS CIF (adjusted for royalties)	300	225

Financial Analysis – Sensitivities

As shown in **Table 3** above, the PFS for the Stage 2 Pilgangoora Project demonstrates robust financial outcomes with a post-tax NPV_{10%} of **A\$2.1Bn**, robust margins, a rapid payback (3 yrs) and a strong IRR (56%). The Project is most sensitive to changes in the AUD price received for spodumene concentrate. Set out in **Table 6** below are sensitivities in AUD demonstrating the impact of spodumene concentrate pricing and exchange rate changes on a NPV basis.

Table 6 – Price/Fx Sensitivities (NPV₁₀ A\$M Flat Real Price)

Price Scenario US\$/t CIF	400	500	600	700	800	900
FX Rate						
0.65 Flat	1,376	2,070	2,765	3,459		
0.70 Flat	1,141	1,786	2,431	3,075	3,720	
0.75 Flat		1,539	2,141	2,743	3,345	3,947
0.80 Flat		1,324	1,888	2,452	3,016	3,581
0.85 Flat			2,765	3,459	4,154	4,848

FINANCING

A number of funding sources are expected be available to Pilbara Minerals to finance the A\$207M capital development cost (plus any additional working capital requirements) required to implement the 5Mtpa Stage 2 expansion, including but not limited to:

- cashflow from Stage 1 production. It is anticipated that production from the 2Mtpa Stage 1 operation will start generating positive cashflows from Q4 2018;
- provision of cash prepayment or debt finance facilities totalling approximately US\$100M from Ganfeng and Great Wall pursuant to existing off-take agreements (refer to ASX announcements dated 2 May 2017 and 28 September 2017 respectively);
- funding attached to the balance of the currently uncommitted production from the Stage 2 expansion of the Pilgangoora Project (circa 200,000tpa of spodumene concentrate), currently the subject of discussions with a number of interested parties; and
- access to funding from capital markets, if required. Pilbara Minerals has a successful track record of accessing capital markets to fund the progress of the Company's activities.

Due to the strong economics of the 5Mtpa Stage 2 expansion, including rapid payback within 3 years and the generation of strong operating cashflows for 17 years, the Company believes there are reasonable grounds to expect that sufficient funding will be available to develop the 5Mtpa Stage 2 expansion.

TENURE, ENVIRONMENTAL ASSESSMENT & APPROVALS

Tenure

All mining and processing activities for Stage 2 will be contained on the mining tenure granted or under application as depicted in **Figure 10**.

The Stage 2 development at Pilgangoora will also require the grant of some additional miscellaneous licences and access agreements to be entered into for further services, infrastructure and water supply. These are expected to be secured during the course of 2018.

Environmental Impact Assessment

Assessments carried out for Stage 1 did not identify Environmentally Sensitive Areas (ESA), Threatened Ecological Communities (TEC), or Threatened Flora within the Project area. Waste rock and tailings material streams have been assessed to be largely geochemically benign, and the approved disturbance footprint will be largely unchanged from the Stage 1 Project.

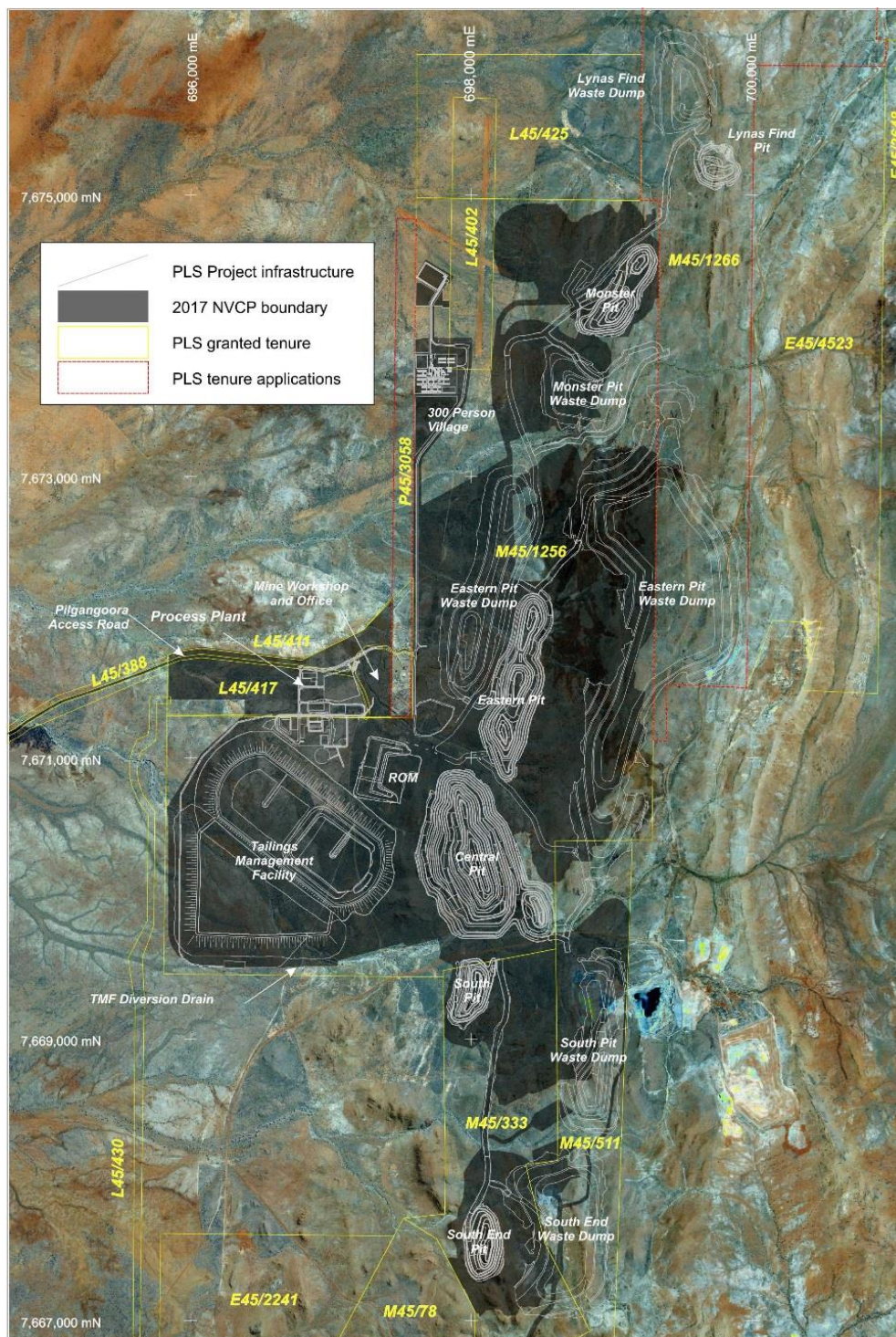


Figure 10 – Disturbance footprint

The proposed increase to 5Mtpa is not expected to alter the outcomes of the current Environmental Impact Assessment, however will modify the operating license, conditions and commitments by virtue of the increased mining and processing activities.

Environmental Approvals

Given the relative size and nature of the expanded Project, within the DFS studies investigation is underway into the potential referral of the Proposal to the Environmental Protection Authority under Part IV, as well as EPBC

(Federal Government) referral. It is anticipated that referrals (if lodged) would recommend non-assessment, and/or assessment under the bilateral agreement and would be undertaken once the detailed project description is finalised.

In addition to the above, the following approvals have been assessed as being required (likely as amendments to existing approvals already granted), including but not limited to:

- Department of Mines and Petroleum
 - Mining Proposal, including associated Mine Closure Plan
 - Native Vegetation Clearing Permit (in the event that additional disturbance is required)
- Department of Water
 - Groundwater Well Licence, including associated Operating Strategy
- Department of Environment Regulation
 - Works Approval and Operating Licence for prescribed premises.

PROJECT IMPLEMENTATION

Pilbara Minerals is currently targeting Q4 2019 for first production from the proposed Stage 2 expansion of the Project and, similar to Stage 1, Stage 2 will be delivered to an aggressive development schedule to take advantage of market demand.

An RC program is currently underway (targeted for completion March 2018) and is expected to provide further upside to the current 80Mt reserve base. Building off the outcomes and results from the PFS, a DFS will be undertaken and completed by mid-2018, with expectations to award detailed engineering and long-lead procurement for key plant equipment ahead of a Final Investment Decision expected by Q3 2018. An overall indicative timeline of delivery outlining key activities through to commissioning and production is provided in **Figure 11** below.

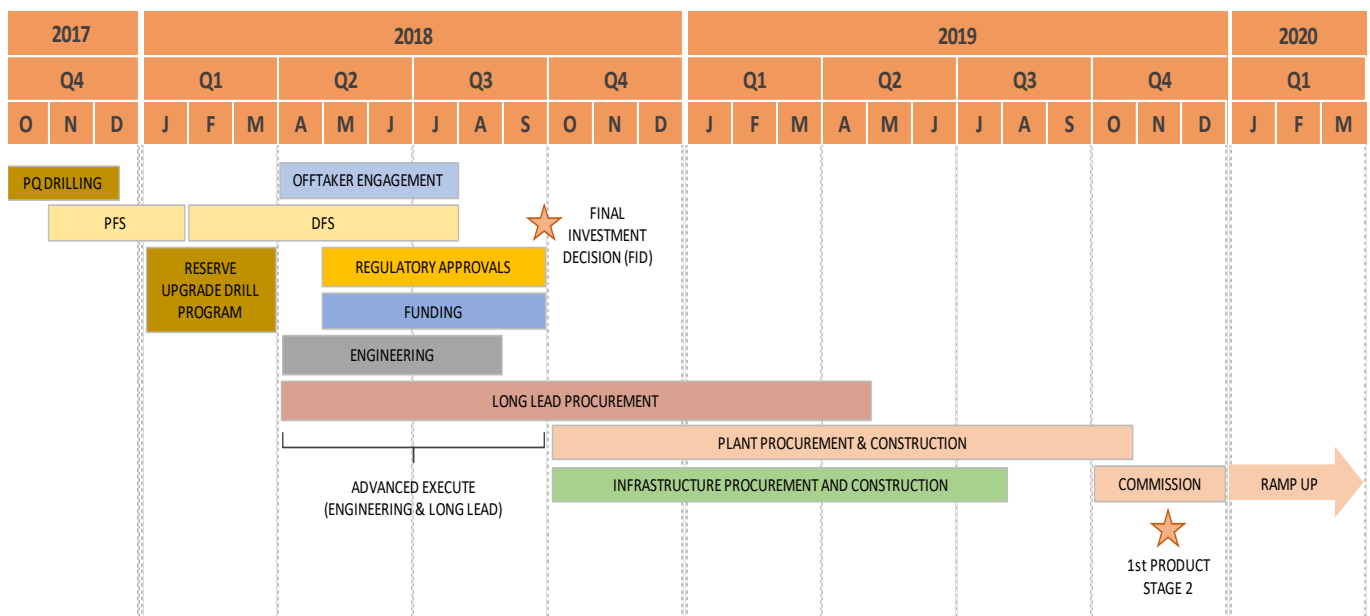


Figure 11 – Stage 2 Project delivery timeline

Project Scope

The expected scope of works for the Stage 2 Project will include:

- expansion of processing plant facility by modifying the existing 2Mtpa circuit where required to facilitate 2.5Mtpa of capacity and duplicating this for an additional 2.5Mtpa for a total throughput of 5Mtpa with the new processing facility also including on-site dressing of tantalum;
- 10MW expansion of power station to facilitate the expanded plant power demand requirements;
- additional process water supply from a third party borefield and reticulated along the main access road through to the existing process water storage pond on site; and
- further ancillary expansion items including expanded camp facilities and non-process infrastructure.

The PFS estimate specifically excludes the costs of equipment/installation for the proposed 'Technical Grade Spodumene' process facilities, which will be the subject of further work during the DFS. Preliminary capital estimates conducted during the PFS demonstrate capital of approximately A\$12M for installation of such facilities.

Execution Strategy

Having examined several delivery strategies through the PFS, the Company currently plans to utilise and build upon the existing in-house delivery capability established for the Stage 1 Project, with a clear benefit of retainment of historical project knowledge from Stage 1.

Detailed engineering is planned to be undertaken by an appointed owner engineer, managed by Pilbara Minerals, as well as building on the in-house skill base used for delivery of the Stage 1 Project. The Company will also look to self-perform more of the procurement supply function, with a current delivery preference to progress detailed engineering, and tender and award construction only orientated packages with the Company looking to "free issue" a significant amount of the equipment required for the incumbent contractors.

This strategy is to be refined during the subsequent DFS as part of the detailed execution plan.

Operational Philosophy

The proposed operational supply chain is expected to be consistent with Stage 1, that being largely contracted in nature, with the exception of the plant operation, which will be fully operated and maintained by Pilbara Minerals.

In summary:

- Mining – contractor operated;
- Processing – Pilbara Minerals operated;
- Haulage, Product Storage & Port Delivery – contractor operated;
- Camp Services – contractor operated;
- Power Station – contractor operated;
- Access Road Maintenance – contractor maintained; and
- Laboratory Services – contractor operated.

COMPETENT PERSONS STATEMENTS

The information in this announcement that relates to Ore Reserves is extracted from the Company's ASX announcement titled "Pilgangoora Ore Reserve Update" dated 29 June 2017. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original ASX announcement and, in the case of estimates of Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the original announcement continue to apply and have not materially

changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original announcement.

The information in this announcement that relates to Mineral Resources is extracted from the Company's ASX announcement titled "Pilgangoora Resource Update" dated 25 January 2017. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original ASX announcement and, in the case of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the original announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original announcement.

Additional Information:

ABOUT PILBARA MINERALS LIMITED

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 among the largest Spodumene (Lithium Aluminium Silicate) projects in the world. 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 around 1,300 tonnes required each year. Its primary use is in capacitors for consumer electronics, super alloys as in aircraft engines, flat panel displays, surgical instruments and particularly where high melting point, strength, ductility and anti-corrosive performance is required.

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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 are indicative and 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.