

DFS RESULTS AND CUSTOMER CONFIDENCE SUPPORT MAJOR EXPANSION OF PILGANGOORA

Exceptional financial outcomes and robust economics from the Definitive Feasibility Study (DFS) for the Stage 2, 5Mtpa Pilgangoora Lithium-Tantalum project outline a compelling case for the expansion to proceed following recent commissioning of the Stage 1, 2Mtpa facility.

The expansion has the strong support of Pilbara Minerals' offtake partners and will be further enhanced by the potential to significantly grow ore reserves following the recent resource upgrade.

HIGHLIGHTS

ECONOMICS

Outstanding project economics, post-tax **NPV_{10%} of A\$2.160B**; LOM project revenue of \$A12.2B (\$ real) and LOM EBITDA of \$A6.3B (\$ real)

PRODUCTION

Average annual production of approximately **800-850ktpa** of 6% spodumene concentrate and approximately 800,000lbs per annum of tantalite over estimated 17 year mine life

OPEX

Competitive cash operating costs of US\$233/t CIF for first 5 years following ramp up; LOM cash operating costs of US\$263/t CIF, reinforcing Pilgangoora's Tier 1 scale, grade and quality

FUNDING

Stage 2 funding supported by offtake customers with commitments for up to **US\$100M of debt and/or prepayments** (Ganfeng Lithium and Great Wall) and **equity of A\$80M from POSCO** received in April 2018

CAPEX

Capital development costs of A\$231M underpin new 3Mtpa processing train and tantalite dressing facility, together with upgrades to power station and water supply borefields to support expanded operation



Australian lithium developer Pilbara Minerals Limited (ASX: PLS) (**Pilbara Minerals or the Company**) is pleased to announce the results of the DFS for the Stage 2, 5Mtpa (**Stage 2, 5Mtpa DFS**) expansion of its 100%-owned Pilgangoora Lithium-Tantalum project (**Pilgangoora project**).

The completion of the Stage 2, 5Mtpa DFS is a major step forward in unlocking significant additional value from Pilbara Minerals' world-class Pilgangoora project in Western Australia, where commissioning of the Stage 1 project is underway.

The Stage 2, 5Mtpa DFS has delivered exceptional results and re-affirms the Pilgangoora project's scale, quality, competitive forecast cash operating costs, robust operating margins, long life and exceptional economic returns. These results, together with the significant potential for increased Ore Reserves, demonstrate Pilbara Minerals' ability to expand the Pilgangoora project to take full advantage of the growing lithium market.

While the DFS has delivered a slight increase in capital costs from A\$207M to A\$231M and LOM cash operating costs of US\$263/t (CIF), the engineering re-design introduces an additional 3Mtpa processing circuit, compared to the 2.5Mtpa contemplated by the PFS. This provides advantages such as additional flexibility in the operation of the plant and the potential for further expansion capacity of the plant over time. The Stage 2, 5Mtpa expansion will be a globally cost competitive operation producing between 800,000 – 850,000tpa of high-quality spodumene concentrate over its 17 year mine life.

Pilbara Minerals' Managing Director and CEO, Ken Brinsden, said *"We continue to be impressed by the quality and scale of the Pilgangoora project. The long life of the operation and its ability to deliver a high quality spodumene concentrate at a low cost to market is what sets us apart globally. This and our ability to rapidly scale-up spodumene concentrate production to over 800,000tpa plays perfectly into our downstream value adding strategy of continuing to grow with our customers, and supports the proposed joint venture with POSCO."*

The 5Mtpa Pilgangoora project expansion will position Pilbara Minerals to meet the surging demand for lithium raw materials globally, particularly through north Asia. It has the strong support of all four of Pilbara Minerals' cornerstone customers and strategic partners which provides a compelling case for the expansion.

"The encouragement from our partners, General Lithium, Ganfeng Lithium, Great Wall Motors and POSCO, to expand our operations has been outstanding. These highly experienced partners know the market and their ongoing support, particularly with Stage 2 financing, is a clear demonstration of the strong future demand for lithium and the high quality of the Pilgangoora project", said Mr Brinsden.

HIGH QUALITY,
SPODUMENE
PRODUCT

LOW COST, LONG
LIFE LITHIUM AND
TANTALUM
PRODUCER

HIGH QUALITY,
LEADING OFFTAKE
PARTNERS

STAGE 1
COMMISSIONING IN
UNDER 4 YEARS FROM
FIRST DRILL HOLE

SIGNIFICANT
POTENTIAL FOR
FURTHER
EXPANSION

Mr Brinsden thanked the team behind delivery of the Stage 2, 5Mtpa DFS, which was undertaken in parallel with the construction and now commissioning of Stage 1 of the Pilgangoora project.

“The Pilbara Minerals team is second to none. The team, along with our consultants, have done an exceptional job to deliver the DFS on time and to a very high standard. With Stage 1 of the Pilgangoora project developed and commissioning underway within four years from first drill hole, I am confident in our team’s ability to deliver the 5Mtpa expansion and continue to deliver a world class project.”



Figure 1: Aerial photograph of planned Stage 2, 5Mtpa project (3D model overlay)



Figure 2: Aerial photograph of Stage 1, 2Mtpa project construction

SUMMARY OF KEY DFS OUTCOMES

Based on a proposed 5Mtpa stand-alone mining and processing operation, the DFS indicates the Pilgangoora project will be a robust, high margin operation with current forecast life-of-mine revenue of A\$12.2B (real) and life of mine project EBITDA of A\$6.3B (real) over an estimated 17 year mine life.

A summary of the key Stage 2, 5Mtpa DFS financial outcomes is provided in Table 1 below:

Study outcomes	DFS - 5Mtpa base case
Estimated LOM	17 years
LOM project revenue (real)	A\$12.2B
LOM project EBITDA (real)	A\$6.3B
Stage 2 capital	A\$230.9M
Post-tax NPV ¹ _{10%}	A\$2,160M
First 5 years average annual EBITDA (real), post ramp up	A\$418M per annum
First 5 years cash operating costs ² (real, net Ta ₂ O ₅ credits), post ramp up	US\$233/t CIF ³ (A\$311/t CIF)
LOM cash operating costs ² (real, net of Ta ₂ O ₅ credits)	US\$263/t CIF ³ (A\$351/t CIF)
LOM average annual EBITDA (real)	A\$370M per annum
LOM forecast spodumene concentrate price (real)	US\$633/t CIF ³

Table 1: DFS key financial outcomes

1. Valuation date of 1 July 2018 at after tax nominal discount rate of 10%.
2. Cash operating costs include 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 discharge, plus cover the cost of transport and freight insurance to the destination port.

DELIVERY TEAM

The Stage 2, 5Mtpa DFS has been completed to an industry standard with the assistance of the following group of experienced independent consultants.

Area	Consultant
Geology and resources	Trepanier Pty Ltd
Mining and mine design	AMC Consultants
Process plant infrastructure (incl. plant capital and operating estimates)	Minnovo Engineers
Tailings management facility and geotechnical	ATC Williams
Hydrogeology and hydrology	Groundwater Resource Management

Table 2: DFS contributing consultants

The Stage 2, 5Mtpa DFS was project managed internally by Pilbara Minerals. While the above consultants were engaged to deliver specific work packages, key components such as mine reviews, environmental, approvals and tenure investigations, implementation and delivery strategy, and financial modelling were delivered in-house by the experienced and qualified Pilbara Minerals' team.

FORECAST PRICING

The Stage 2, 5Mtpa DFS 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 (spodumene), 123ppm Ta₂O₅ and 1.08% Fe₂O₃ (refer ASX Announcement dated 29 June 2017) and a life of mine average spodumene concentrate price of US\$633/t CIF, which is well below the current spot price of approximately US\$900-960/t CIF (SC6.0 basis).

Pilbara Minerals' lithium pricing deck has been based on price forecasts from leading independent commodity forecasters, leading investment banks and brokers to create a 'consensus' price forecast for battery grade lithium carbonate (Figure 3).

Pilbara Minerals' offtake agreements include a pricing mechanism for chemical grade spodumene based on formulae that track the battery grade lithium carbonate prices in the Chinese and South Korean markets. Customer pricing mechanisms have been reflected in the financial model over their respective contract terms for the offtake agreements with General Lithium, Ganfeng Lithium, Great Wall Motors and POSCO. The forecast spodumene prices applied in the financial model and the underlying consensus of the battery grade lithium carbonate forecasts used to derive these forecast prices are shown in Figure 3.

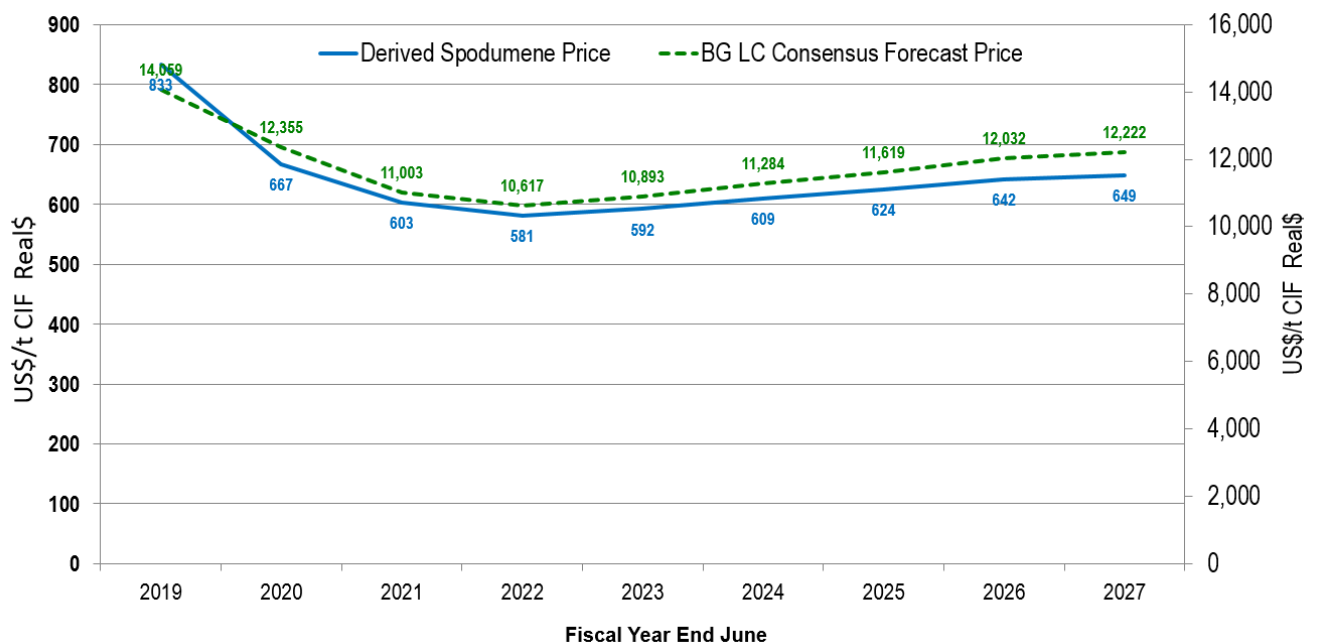


Figure 3: Battery grade lithium carbonate consensus price forecasts and derived spodumene price

Pilbara Minerals' Tantalite pricing deck has been based on price forecasts from leading independent commodity forecaster Roskill. The LOM Tantalite Forecast headline price used was US\$89/lb FOB real which has been adjusted for primary concentrate sold in earlier years under the GAM offtake agreement, versus 30% concentrate sold from the site-based spodumene dressing facilities for the remainder.

OFFTAKE

Long-term offtake agreements have been entered into by Pilbara Minerals with quality offtake partners underpinning 100% of the production for both Stage 1 and the Stage 2, 5Mtpa expansion. The ability to attract high quality and experienced global customers and offtake partners clearly demonstrates the value of the

Pilgangoora project and its ability to deliver a high quality, spodumene product to market at a low cost over a long life of mine.

Stage 1, 2Mtpa operation

Pilbara Minerals has committed a total of 300,000tpa of 6% chemical grade spodumene concentrate for Stage 1 of the Pilgangoora project under long-term offtake agreements with Ganfeng Lithium (160,000tpa) and General Lithium (140,000tpa) for 10 years and 6 years respectively, with options to extend by 10 years and 4 years respectively.

Stage 2, 5Mtpa operation

Offtake agreements have been signed by Great Wall Motors (up to 150,000tpa), Ganfeng Lithium (up to an additional 150,000tpa) and POSCO (up to 240,000tpa). These offtake arrangements will underpin the Stage 2, 5Mtpa expansion of the Pilgangoora project, with the Great Wall Motors and Ganfeng Lithium offtake agreements contemplating a combined ability to access 150,000tpa of product on the provision of up to US\$100M of pre-payment or debt financing, which will contribute towards funding Stage 2 capital costs.

Ganfeng Lithium Stage 2 Offtake Agreement

Like the Stage 1 offtake agreement, the Company has agreed to enter into a further 10 year offtake agreement for 75,000tpa, with an additional 75,000tpa subject to providing A\$65M in the form of either a cash pre-payment or debt finance facility. Ganfeng Lithium can extend the Agreement for a further 10 years through two five-year options.

The offtake pricing and other terms are determined on the same basis as the Stage 1 offtake.

Great Wall Motors Stage 2 Offtake Agreement

Pilbara Minerals has signed a five-year offtake agreement for 75,000tpa, with an additional 75,000tpa subject to providing US\$50M in the form of either a cash pre-payment or debt finance facility. Under the agreement, Great Wall Motors can extend for a further 10 years through two five-year options. Furthermore, Pilbara Minerals and Great Wall Motors have agreed to evaluate opportunities to establish downstream processing plants to produce lithium carbonate and/or lithium hydroxide.

POSCO Stage 2 Offtake Agreement

Pilbara Minerals has signed a life of mine offtake agreement for 80,000tpa, plus an additional 160,000tpa which is subject to parties entering into a joint venture agreement for Pilbara Minerals' 30% participation in a 30ktpa chemical conversion facility in South Korea. Upon Pilbara Minerals' agreement to participate in the downstream chemical conversion plant, POSCO will provide an A\$80M (approximately) convertible bond to Pilbara Minerals for which the terms have already been agreed.

The POSCO and Great Wall Motors offtake agreements are key components to Pilbara Minerals delivering on its downstream value adding strategy.

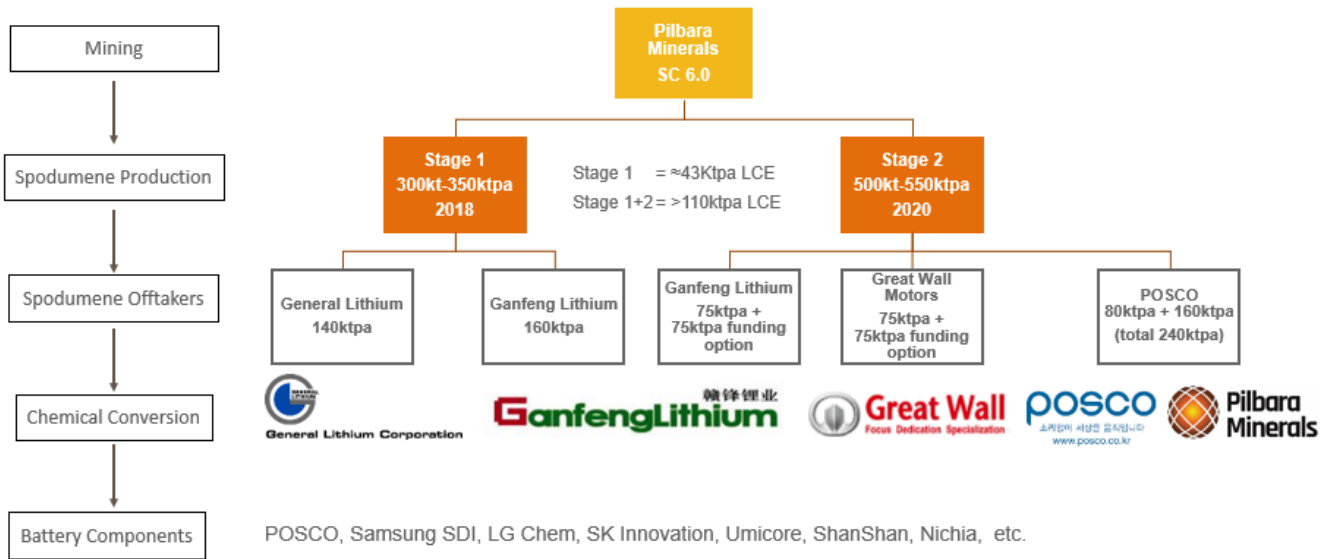


Figure 4: Pilgangoora project offtake

MINING OUTCOMES

Pilbara Minerals engaged the services of AMC Consultants to complete a DFS-level mining study for the Stage 2, 5Mtpa expansion.

The Stage 2, 5Mtpa DFS and all production targets and forecast financial information were based on the 80.3Mt Ore Reserve prepared by a Competent Person in accordance with the JORC Code 2012 Edition and reported in the Company's announcement dated 29 June 2017. The Company's Ore Reserves are reported against the 156Mt resource geological model completed in January 2017 by Pilbara Minerals' Competent Persons: Mr John Holmes (Exploration and Geology Manager – Pilbara Minerals) and Mr Lauritz Barnes (Consultant with Trepanier Pty Ltd). Pilbara Minerals has since upgraded its Mineral Resource to 213Mt (*refer ASX announcement dated 29 May 2018*) and the Company is now working to identify additional Ore Reserves at the Pilgangoora project. Pilbara Minerals is not aware of any new information or data that would materially affect the Ore Reserves the subject of the 29 June 2017 announcement.

The production rate is planned to expand from 2Mtpa ore processing plant feed in the first 18 months of operation to 5Mtpa of feed from Q4 2019. Mine life has reduced from approximately 41 years at a 2Mtpa rate to 17 years at 5Mtpa based on the June 2017 Ore Reserve of 80.3Mt, depleted for any direct shipping ore sales up to 30 June 2018.

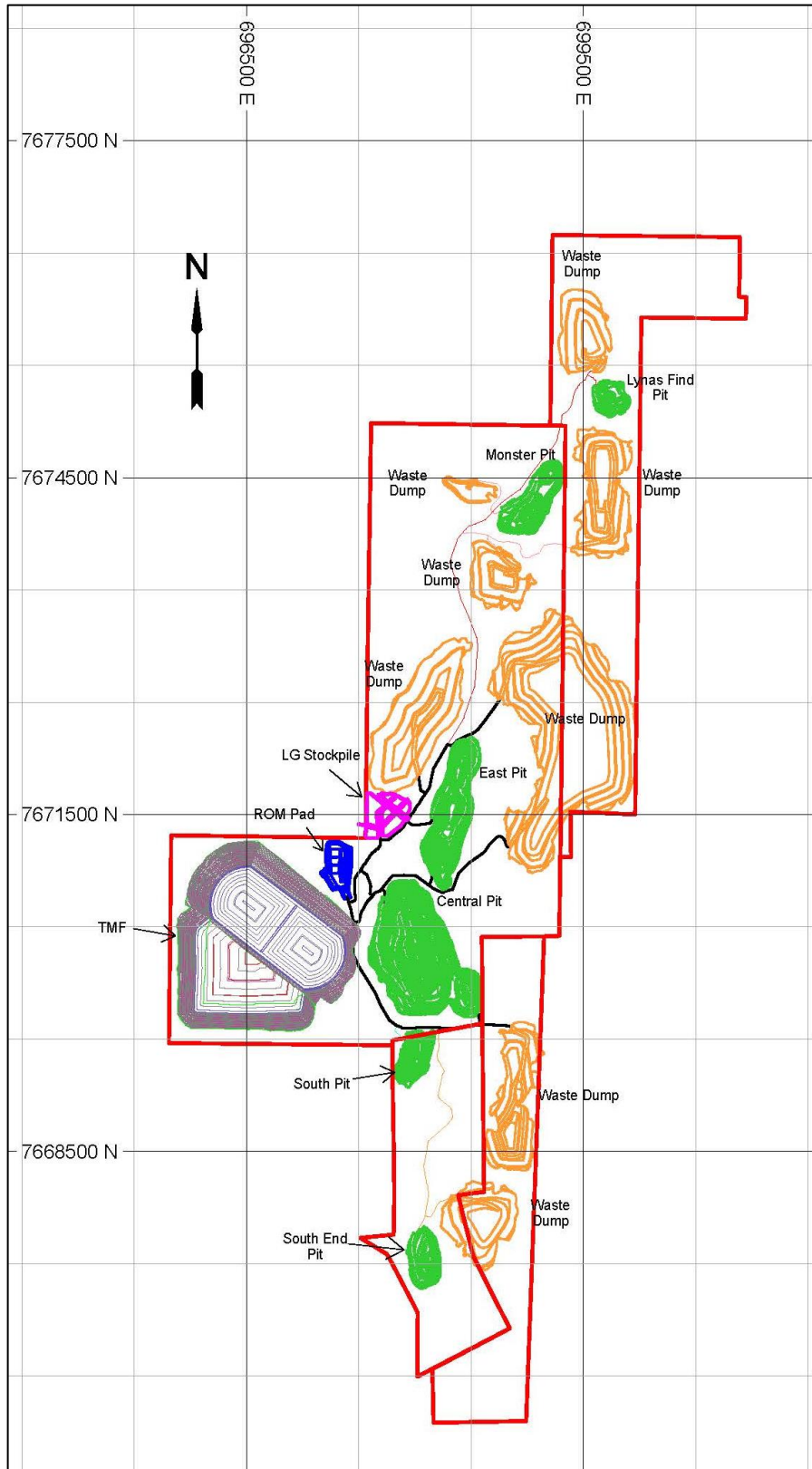


Figure 5: Site layout showing pit and waste landform designs

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 (M lbs)
Proved	17.3	1.30	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

Table 3: Pilgangoora current Ore Reserve estimate (June 2017)

Open pit mining will continue to be delivered by mining contractors using conventional drill and blast, load and haul operations. Drill and blast is undertaken on 5 metre benches in ore and ore/waste contact zone and mined in two 2.5 metre lifts.

Ore is hauled via a skyway arrangement to a grade-based finger on the ROM pad, and from there the ore will be blended and fed into the processing plant. Mine schedules and cost modelling assume 100% of the ore is re-handled to feed into the processing plant. Waste is hauled to either the Tailings Management Facility (TMF) as part of cell construction or ex-pit waste landforms.

The mining fleet size (in terms of volumetric capacity) will remain largely unchanged, however the number of drills, trucks and excavators needed during the mining operation will expand to accommodate the increased ore and waste mining to feed the 5Mtpa processing plant. Mine layouts and waste dump designs (refer Figure 5) remain largely unchanged from the PFS and pit optimisation work confirmed that no change was required to current pit designs.

During the life of mine, approximately 307Mt of waste is expected to be mined at an average life of mine strip ratio of 3.8:1. Although the increased production rate reduces the overall mine life from approximately 41 years to 17 years, Pilbara Minerals is confident the mine life will be extended through the conversion of Mineral Resource to Ore Reserves, based on the recent 35% increase in the total Measured and Indicated Resource to 129Mt, grading 1.35% Li₂O, 123ppm Ta₂O₅ and 0.61% Fe₂O₃ (refer ASX announcement dated 29 May 2018).

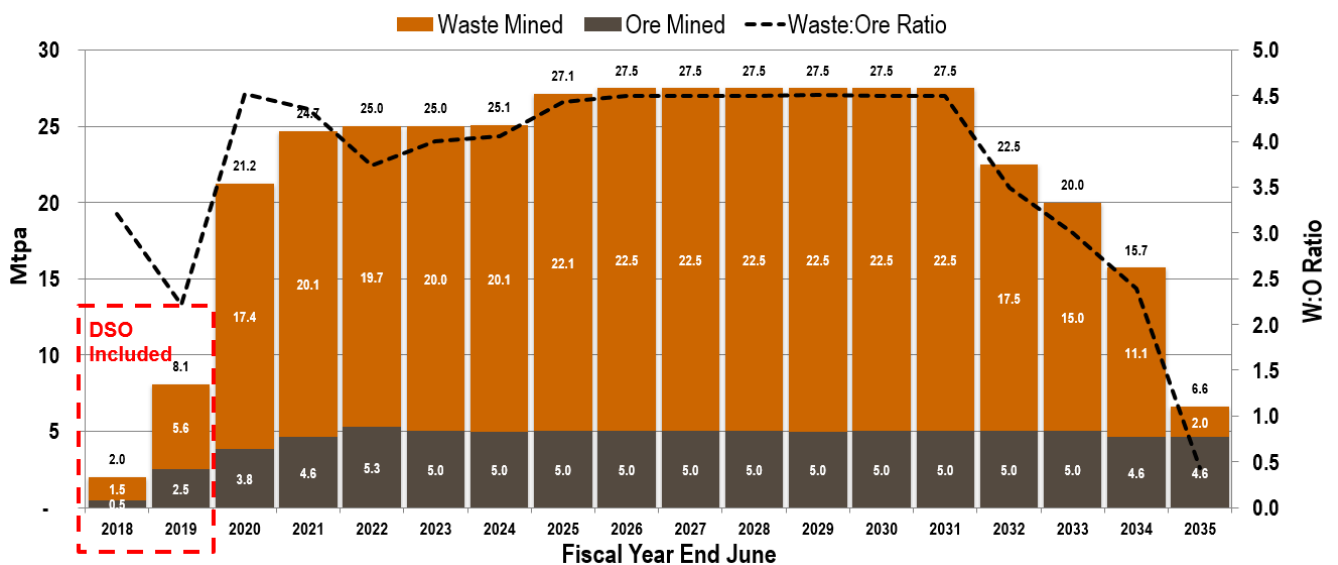


Figure 6: Waste and ore mining profile

PROCESSING FACILITY OUTCOMES

Process design

To maximise the upside potential of the processing plant to achieve higher than 5Mtpa feed capacity, the DFS confirmed the processing plant design will retain the current 2Mtpa (Train 1) circuit in its current form and introduce a second 3Mtpa processing circuit (Train 2) to operate in parallel with Train 1. Designing the circuit in this manner provides processing flexibility (upside) for the plant to achieve higher throughput capacity and/or processing a wider ore feed variation for nominal additional capital when compared to the previous PFS scenario of two 2.5Mtpa configurations.

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

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

The revised feed for the processing plant will be an average over the life of mine of 670tph of ore at an average utilisation rate of 85%. Average life of mine lithium recovery remains largely unchanged from the PFS at 75% based on current test work program results. The total processing plant installed power is expected to increase to circa 38MW largely driven by additional crushing and grinding requirements.

The combination of the mine production schedule, run-of-mine ore grade and process plant production profile, results in higher spodumene concentrate production during the earlier years of the Pilgangoora project (refer Figure 7).

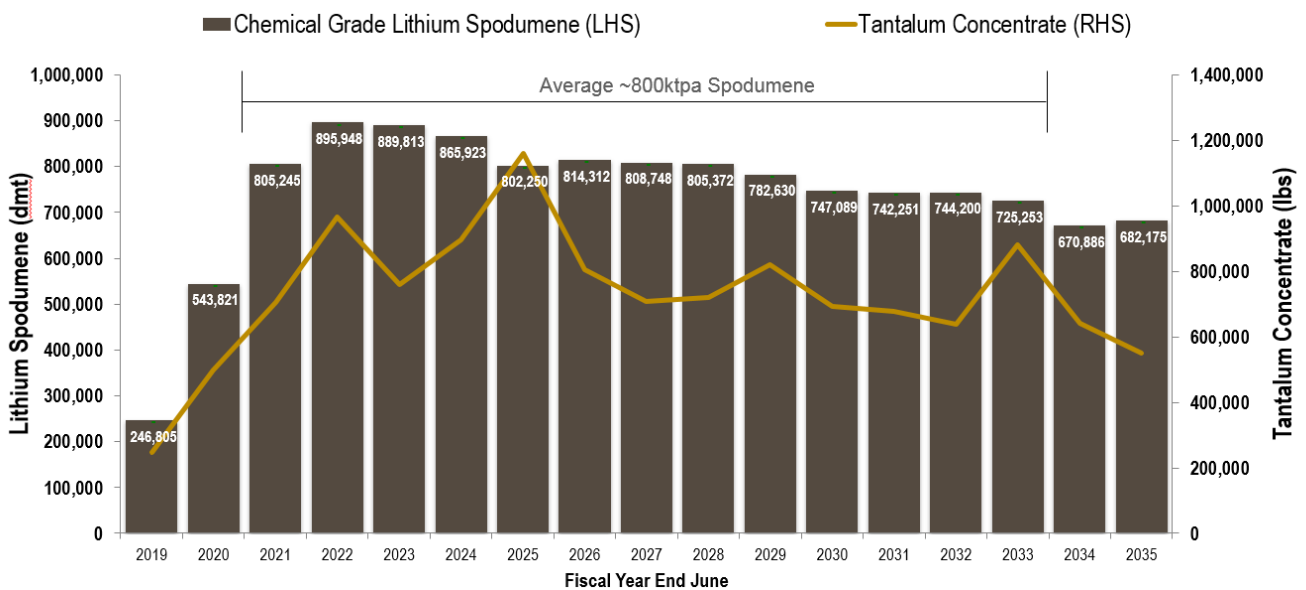


Figure 7: LOM spodumene (SC6.0 basis) and tantalite production profile

The key areas of the processing plant include crushing, feed preparation, dense media separation, gravity separation, grinding, flotation, magnetic separation and dewatering. In addition to the areas above, the expanded 3Mtpa processing circuit will also include an on-site tantalite dressing facility which will allow Pilbara Minerals to process tantalum on-site rather than the current practice of transporting tantalum off-site for processing, thus improving productivity and reducing the operating cost for tantalum processing. The proposed processing plant layout for the 5Mtpa operation is provided in Figure 8 below.

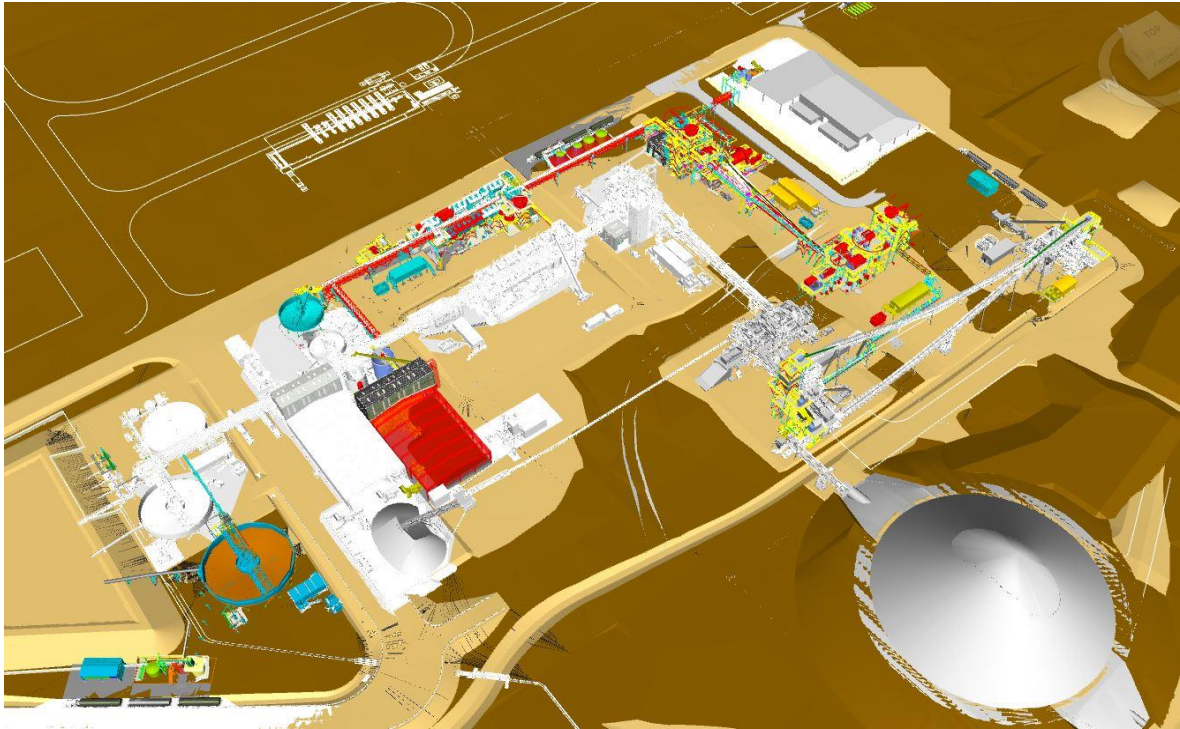


Figure 8: Proposed plant layout (Stage 2, 5Mtpa plant equipment shown in colour)

HYDROLOGY AND HYDROGEOLOGY

Dewatering

Groundwater Resource Management completed an updated dewatering assessment for the Stage 2, 5Mtpa DFS.

The PFS 3D groundwater flow model for the deposits and surrounding groundwater system has been updated to accommodate the mining schedule for the 5Mtpa processing plant. The Stage 2, 5Mtpa DFS modelling assumes the Central pit will be dewatered using a combination of sump pumping and two dewatering bores, while the remaining pits will be dewatered using sump pumping only.

The results of the modelling indicate under baseline conditions the combined dewatering rates for all pits (which includes sump pumping and the two dewatering bores) range from approximately 13L/s during years 6 to 10, increasing up to approximately 33L/sec during the final couple of years of mine life (Figure 9). The highest groundwater inflows recorded are from the Central pit which intercepts the fractured rock aquifer associated with the Pilgangoora Creek.

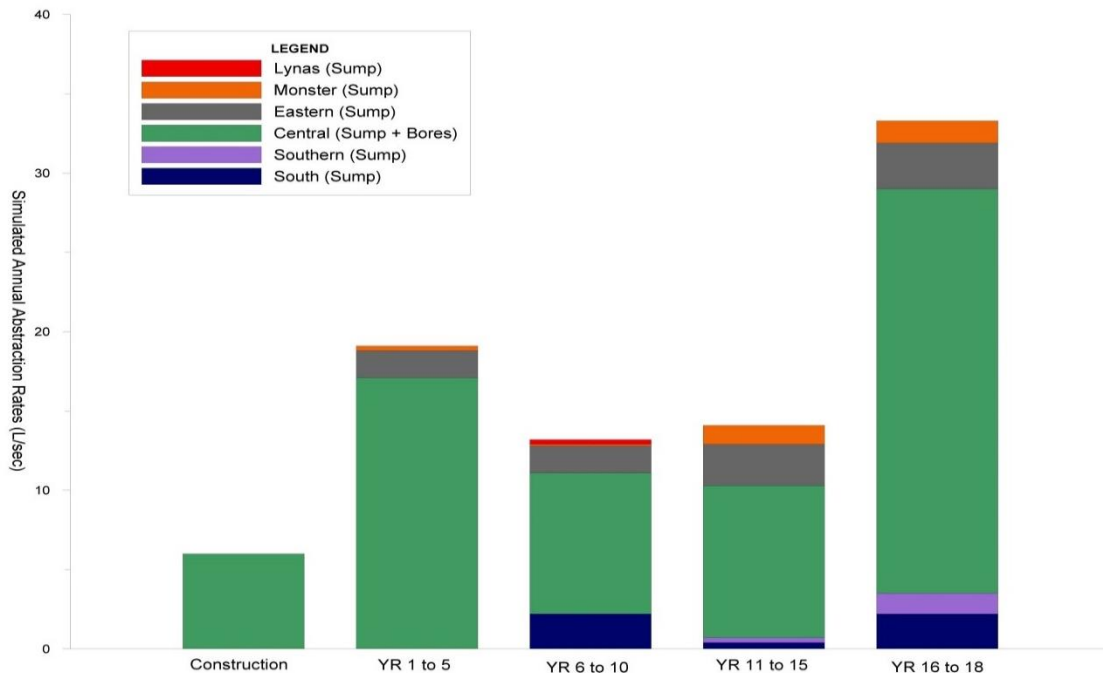


Figure 9: Model simulated dewatering rates

Water supply

Groundwater Resource Management Pty Ltd also completed a water supply assessment for the Stage 2, 5Mtpa DFS to understand on and off-tenement water supply.

The estimated total 5Mtpa project water demand for mineral processing, dust suppression and camp supplies (via reverse osmosis) is approximately 4.05GL/annum (128.4L/s) of fresh to brackish quality groundwater. The decant return is approximately 0.98GL/annum (31.1L/s), giving a net raw water demand for the 5Mtpa operation of 3.07GL/annum (97.3L/s).

With at least 13L/s available on current Pilbara Minerals' tenements from sump pumping and mine pit dewatering, the remaining 84.3L/s required would be made up from the following sources of supply:

- combination of current on-tenement bores collectively yielding at least 35.6L/s;
- construction of an additional two bores located approximately 8km to the south of the Pilgangoora project tenements with licence to extract 1GL/annum (31.7L/s) via an interim licence; and
- other sources from third parties to extract up to 1.5GL/annum (47.5L/s) water from bores located near Pilgangoora project tenements.

Pilbara Minerals is also in the process of planning an additional groundwater exploration program which is scheduled to commence in August 2018. This exploration drilling program, which comprises 23 groundwater targets, is aimed at identifying additional water supply sources for the Pilgangoora project to broaden the available water supply base with the aim of de-risking water supply requirements for Stage 2 and any future growth.

Tailings Management Facility (TMF)

The Stage 2, 5Mtpa DFS results indicate tailings will be produced at approximately 65% to 68% solids concentration at 4.25Mtpa for the life of mine with the total storage requirement increasing from 58.8Mt to 68.3Mt based on the current Ore Reserve (80.3Mt). The TMF storage capacity will be increased by raising the height of the current three cells in the integrated waste landform (IWL) design.

Construction of the TMF landform will be on a staged basis. A two-cell (cell one and cell two) impoundment will be developed on the north side of Pilgangoora Creek which bisects the site of the TMF. At a maximum height of approximately 76 metres these cells will provide storage for 42Mt of tailings and 29.4 million cubic metres of waste rock (over a period of nine years at a 5Mtpa ore throughput). Cells one and two will be utilised again for a period of two years during year 15 of operations before reverting to cell three for the final 1.5 years of operations.

Prior to completion of tailings deposition into the two-cell impoundment at year nine end, Pilgangoora Creek will be diverted around the perimeter of the mining tenement and construction of cell three will commence, abutting the southwest side of the two-cell landform.

Cell three provides storage for 27Mt of tailings and 9.7 million cubic metres of waste rock with the maximum height of cell three being approximately 63 metres.

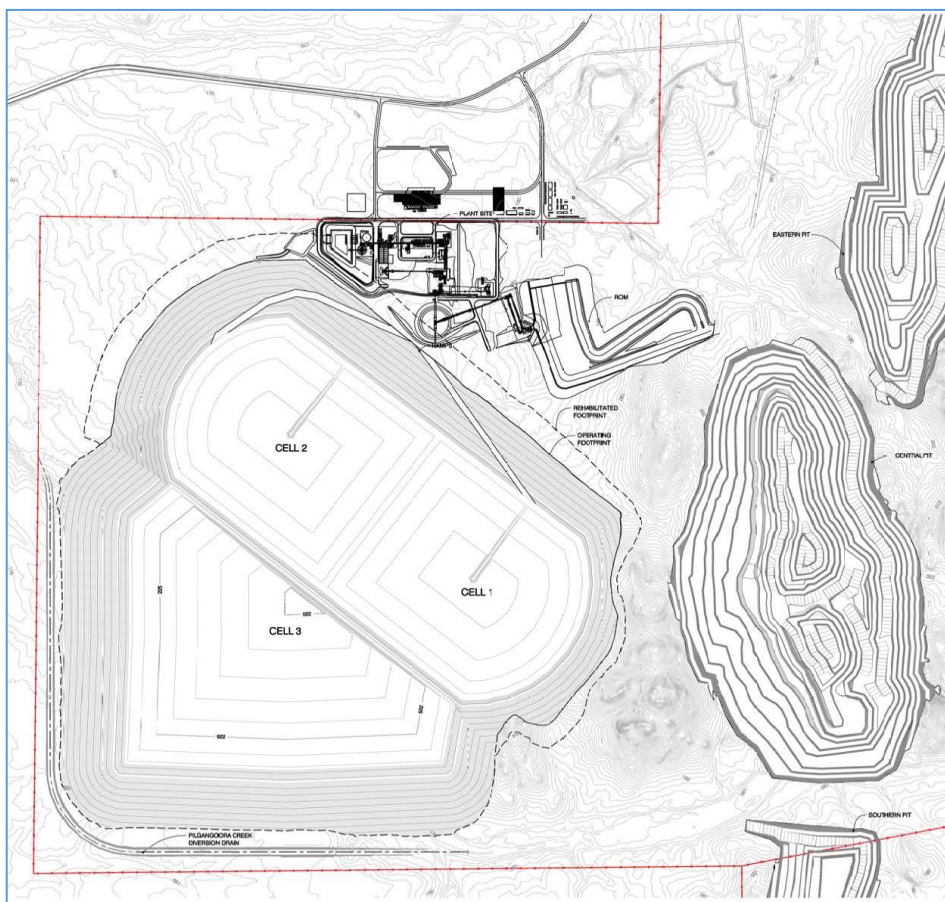


Figure 10: TMF general arrangement (life of mine)

GEOTECHNICAL

ATC Williams were engaged by Pilbara Minerals to re-validate the previous work it had undertaken with respect to geotechnical assessments to define the maximum pit slope and to provide engineering design parameters for subsequent processing plant infrastructure and TMF development.

The basis for the mine geotechnical assessment was to utilise the data from the previous (13) HQ drill holes around the proposed pit boundaries undertaken as part of the Stage 1, 2Mtpa DFS, plus an additional (five) drill holes, three of which are in the Central pit, and the remaining two in the Eastern pit.

Results from this analysis confirmed the optimum pit design will utilise minimum bench widths of 10 metres and maximum inter-ramp angles of 52° are appropriate except for the eastern wall of Eastern pit where the inter-ramp angle of 46° is considered appropriate.

Test pits excavated during Stage 1 project construction have continued to demonstrate several areas where materials can be used in Stage 2. This is particularly the case for the TMF where parts of the alluvial waste dump have been confirmed to contain material suitable for structural fill, and areas to the north-east of the processing plant which contain surface clayey soils and the TMF cell three area which hosts gravelly based materials.

INFRASTRUCTURE

Power station

To support the expanded 5Mtpa processing plant the DFS concluded the current power station's capacity be expanded with an average running load expected at circa 25MW. To increase capacity, Pilbara Minerals will introduce gas fueled generators to complement the existing Stage 1 diesel generators. In parallel, Pilbara Minerals will continue to investigate the opportunity to replace the diesel generators with gas fueled generators which it believes will result in a lower Levelised Cost of Energy (LCOE). Pilbara Minerals is continuing to evaluate options to incorporate renewable energy power generation into the Pilgangoora project.



Figure 11: Pilgangoora power station

Borefield

Additional borefield infrastructure will be constructed to access water from third parties that are expected to provide up to 1.5GL/annum (47.5L/s).

LOGISTICS AND TRANSPORT

Consistent with the approach for Stage 1, spodumene concentrates will be transported on road via heavy haul road trains from the mine site to the Wedgefield bulk storage facility in Port Hedland. The spodumene concentrate will then be transferred into half height containers and transported on a campaign basis to the Port Hedland public berth facility for ship loading.

Tantalum products are planned to be transported in sealed 200kg drums via shipping containers from the mine site as a ready for sale product to domestic and international markets.

FINANCIAL EVALUATION

The key parameters and financial outcomes for the Stage 2, 5Mtpa DFS are set out in Table 4 below:

Key parameters	Measurement	Outcome
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	Kt pa	800
Average LOM tantalite production	klbs pa	797
Average LOM realised lithium price	US\$/t CIF Real	633
Average LOM tantalite forecast price	US\$/lb FOB Real	89
Forecast FX rate	AUD:USD	0.75
Capital expenditure (including contingency)	A\$M	231
Avg LOM cash operating cost ¹	A\$/t product real CIF	351 (US\$263)
Avg LOM annual project EBITDA (real \$)	A\$M	370
NPV (10% discount rate, post tax)	A\$M	2,160

Table 4: Summary of key parameters from 5Mtpa DFS financial model

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

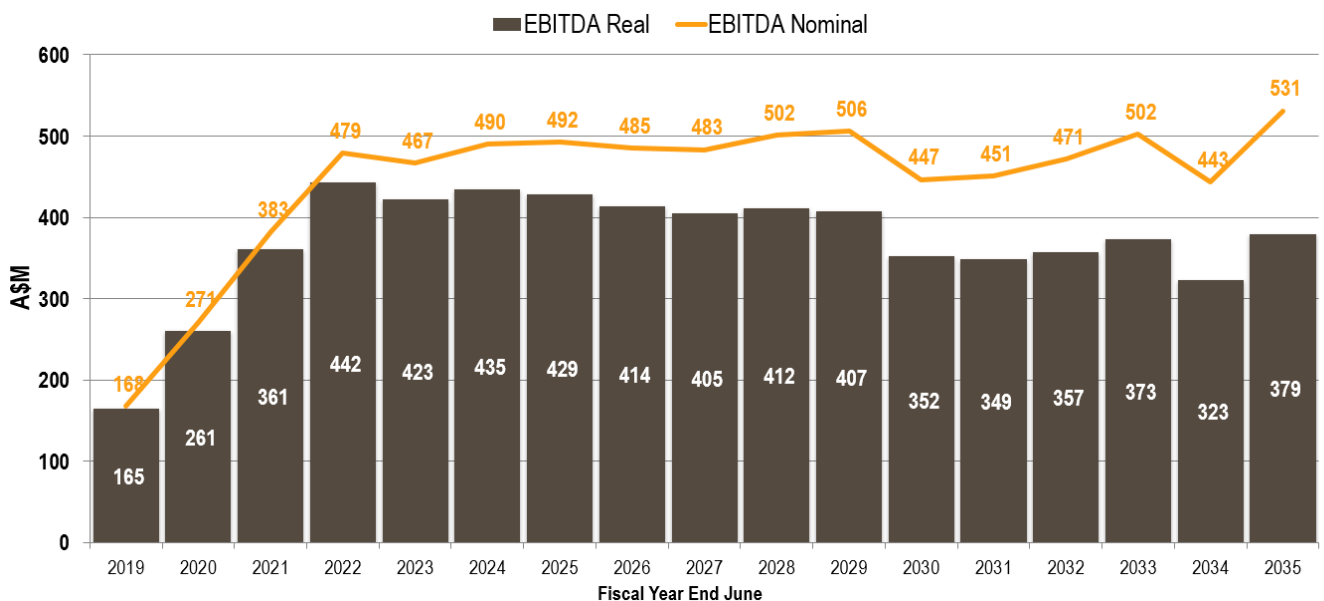


Figure 12: EBITDA (5Mtpa DFS)

Capital cost estimates

The capital cost estimate for an additional 3Mtpa processing circuit (Train 2), together with supporting infrastructure upgrades including all direct and indirect costs, is approximately A\$231M (\pm 15% accuracy) inclusive of A\$20.6M of contingency (Table 5).

Capital item	Value (M)	Source/comments
Process plant and Infrastructure	\$163.8	Stage 2 circuit of 3Mtpa capacity (excluding primary and secondary crushing); infrastructure upgrades (camp, borefield etc.)
Owners costs	\$46.5	Includes PLS supervision, contractor flights and accommodation, spares, insurances
Contingency	\$20.6	Includes growth provisions and risk
TOTAL	\$230.9	

Table 5: Capital cost estimate

Movements from the PFS are depicted in Figure 13 below.

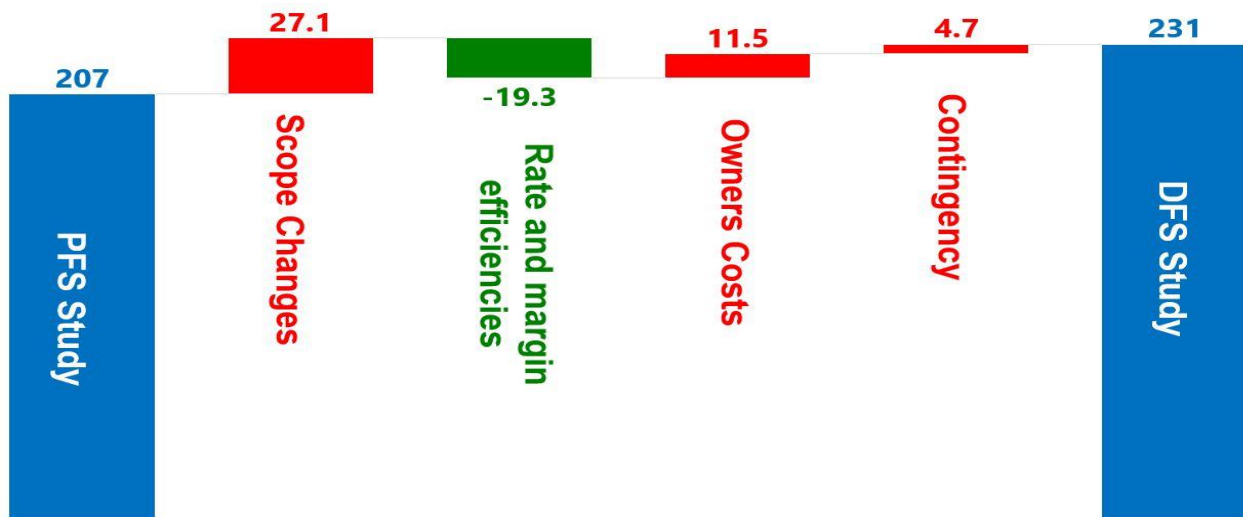


Figure 13: Capital costs variance (PFS to DFS)

To deliver the bigger 3Mtpa processing train, larger processing equipment is required, specifically in relation to grinding (HPGR) and milling (ball mill). Additionally, the larger plant will require other supporting equipment to facilitate bulk reagent handling, tantalite dressing and provisions for technical grade products, all of which have driven an increase to the scope of the processing plant, resulting in \$27.1M of additional costs compared to the PFS. The new production strategy provides further flexibility in operations and provision for further plant optimisation over time.

Following a change in the contracting and execution strategy compared to the PFS, cost estimates have been refined through the optimisation of rates and the reduction in contractor margins by splitting packages (Figure 17) is expected to result in capital savings of A\$19.3M.

The change in the contracting and execution strategy has also resulted in an A\$11.5M increase in owner's costs compared to the PFS. This is largely because in the Stage 2, 5Mtpa DFS these costs are reflected as owner's costs, whereas in the PFS these costs were recognised as contractor indirect costs (e.g. flights and accommodation).

Additional owner's costs have also been recognised to reflect an increase in supervision staff required to execute the revised contracting strategy.

Contingency has increased by \$4.7M to appropriately address growth provisions, and potential construction and delivery risks.

The DFS includes an allowance for sustaining capital, graduating from 3.0% to 4.0% of initial direct capital spend over the life of the project.

Cash operating cost estimates

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

Life of mine average cash operating costs per tonne of concentrate after tantalite credits are approximately A\$351/t (US\$263/t) making the Pilgangoora project one of the lowest cost hard rock lithium producers globally.

Operating cost area	Cash operating cost (LOM average)	
	A\$/t (Conc)	US\$/t (Conc)
Mining	139	104
Processing (incl contract crushing)	162	121
Transport and loading	37	28
G&A and selling costs (incl corporate allocation)	33	25
Ocean freight	37	28
Sub-total cash operating costs (before tantalite credit and royalty costs)	408	306
less tantalite credit	116	87
Total cash operating costs CIF (after tantalite credits; before royalty costs)	292	219
add royalties (gov't and private royalty, Native Title)	59	44
Total cash operating costs CIF	351	263

Table 6: Cash operating cost estimate on a cost per tonne of concentrate basis

The Stage 2, 5Mtpa DFS has seen an increase in cash operating costs compared to the PFS driven by higher maintenance cost allowances associated with the processing facility, increased manning, flight and accommodation costs and higher ocean freight costs in preparation for the International Maritime Organisation's proposed changes to global sulphur limits from 2020. If imposed, this will require the sulphur in fuel oil used on board ships to reduce from 3.50% m/m (mass by mass) to 0.05% m/m, potentially increasing the price of fuel and shipment costs.

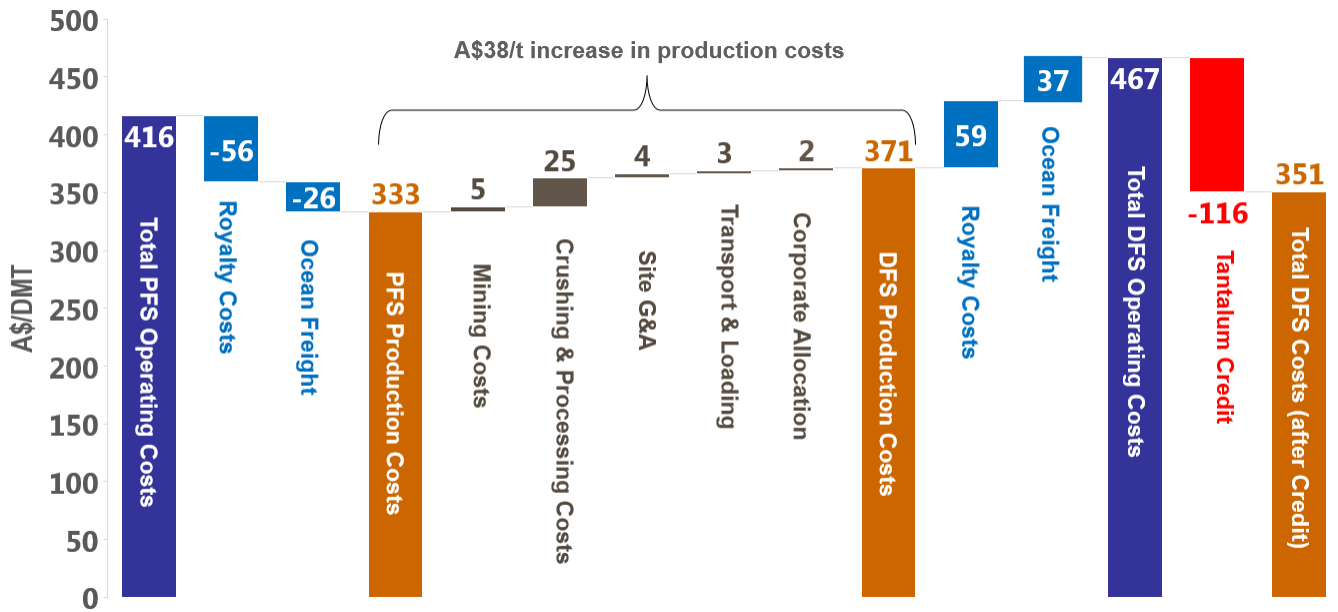


Figure 14: LOM average cash operating cost variance (PFS to DFS)

Financial analysis – sensitivities

As shown in Table 1, the Stage 2, 5Mtpa DFS for the Pilgangoora project demonstrates robust financial outcomes with a post-tax NPV_{10%} of A\$2,160M. The 5Mtpa DFS is most sensitive to changes in the USD price received for spodumene concentrate and the AUD:USD foreign exchange rate. Set out below are sensitivities in AUD demonstrating the impact of USD price and exchange rate changes on an NPV basis.

Price Scenario US\$/t CIF	400	500	600	700	800	900
FX rate						
0.65 flat	1,501	2,140	2,779	3,418	4,057	4,696
0.70 flat	1,245	1,838	2,431	3,024	3,618	4,211
0.75 flat	1,022	1,576	2,129	2,683	3,237	3,791
0.80 flat	827	1,346	1,865	2,385	2,904	3,423
0.85 flat	655	1,144	1,633	2,121	2,610	3,098

Table 7: Price/Fx sensitivities (NPV_{10%} A\$M flat real price)

FUNDING

Several funding sources are expected to be available for Pilbara Minerals to finance the A\$231M capital development cost (plus any additional working capital requirements) required to implement the Stage 2, 5Mtpa expansion, including but not limited to:

- existing cash reserves, inclusive of the A\$80M equity subscription by POSCO received in April 2018;
- cashflow from Stage 1 production;
- provision of cash pre-payment or debt finance facilities totaling up to US\$100M from Ganfeng Lithium and Great Wall Motors pursuant to existing offtake agreements (*refer to ASX announcements dated 2 May 2017 and 28 September 2017 respectively*); and
- access to funding from capital markets, including existing senior secured bond holders or alternative bond and debt markets.

ENVIRONMENTAL ASSESSMENT AND APPROVALS

Environmental impact assessment

Previous assessments carried out for Stage 1 of the Pilgangoora project 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 until around mid-2020 at which time additional tenure should be granted to facilitate mining (subject to relevant approval amendments) of Lynas Find and introduction of the Eastern pit and east waste dump.

The proposed increase to 5Mtpa operation does not alter the outcomes of the current Environmental Impact Assessment, however will modify the operating licence, conditions and commitments by virtue of the increased mining and processing activities, specifically in relation to mine pit and waste dump development over M45/1266 anticipated later in mining.

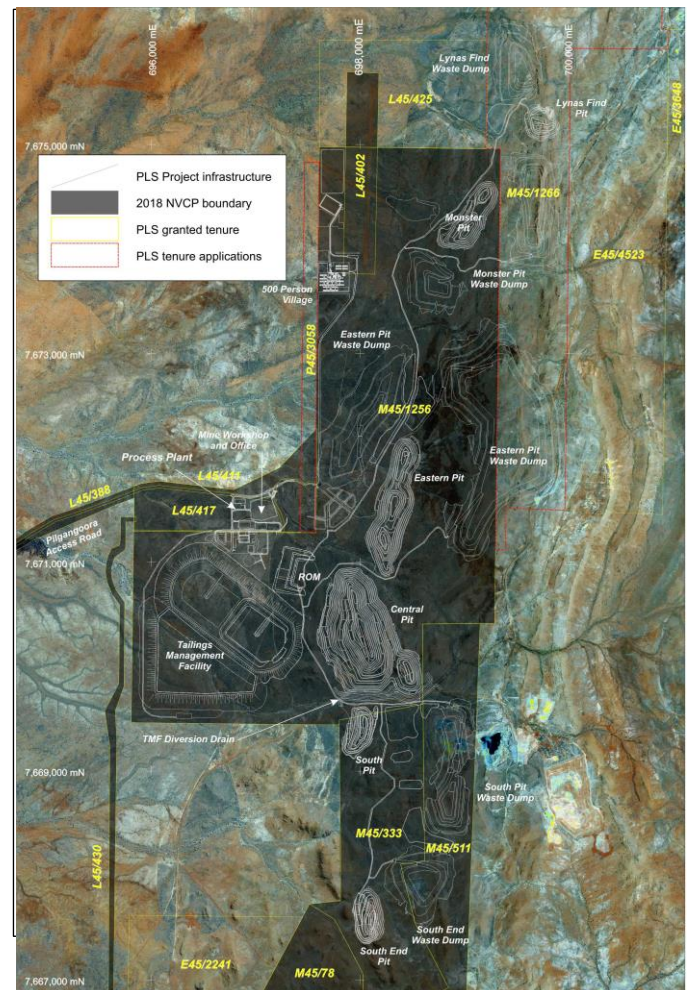


Figure 15: Approved disturbance footprint

Approvals and access

Based on the size and nature of the Stage 2, 5Mtpa project and independent advice, Pilbara Minerals has concluded that referral to the Environmental Protection Authority under Part IV, as well as an Environmental Protection and Biodiversity Conservation Act (Federal Government) referral, are not necessary. The Stage 2, 5Mtpa project will fall largely within the disturbance envelopes of the Stage 1 Pilgangoora project and only minor amendments (plant throughput, power and water consumption) are proposed.

Studies will be completed prior to submission of Mining Act and Environmental Protection Act approvals outside of existing footprints to confirm referral is not required under Environmental Protection Act and Environmental Protection and Biodiversity Conservation Act.

In addition to the above, the following approvals are required (as amendments to existing approvals already granted):

Department of Mines, Industry Regulation and Safety (DMIRS)

- Amended Mining Proposal, including associated Mine Closure Plan
- Native Vegetation Clearing Permit (in event that additional disturbance is required).

Department of Water and Environment Regulation (DWER)

- Groundwater Well Licence (GWL), including associated operating strategy
- Revised Works Approval and Operating Licence conditions for prescribed premises.

Project approvals will be sought and granted prior to Pilbara Minerals undertaking any associated work for the Stage 2, 5Mtpa project (Figure 16).

The expansion of Stage 2, 5Mtpa project will also be dependent on further tenure and access arrangements being granted to and/or entered into by the Company, specifically relating to water, power and other infrastructure.

PROJECT IMPLEMENTATION

In delivering Stage 2, Pilbara Minerals will build on the resources and capability it achieved during Stage 1, with a focus on “self-performing” for key roles and activities, and work in collaboration with an appointed consultant engineer who will be managed directly by Pilbara Minerals (owner’s engineer), moving away from an Engineering, Procurement and Construction (EPC) approach adopted in Stage 1. Pilbara Minerals will draw upon key resources who were directly involved with the development of Stage 1.

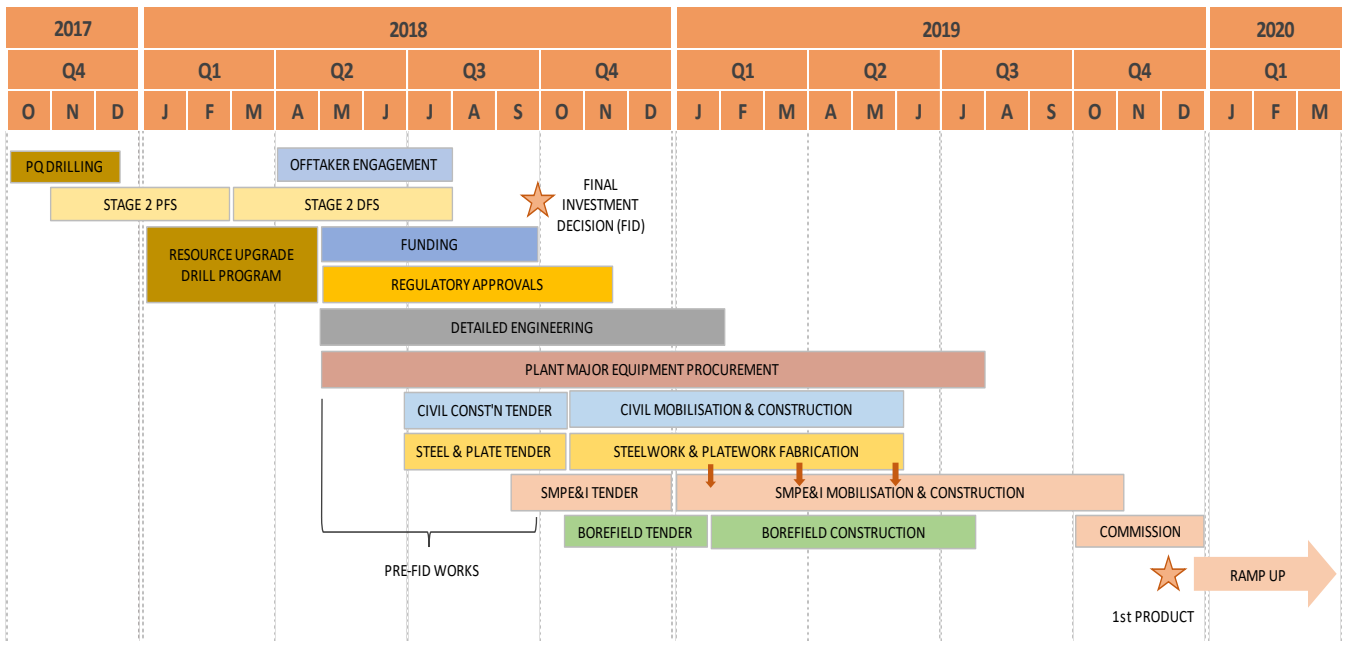


Figure 16: Stage 2 project delivery schedule

The owner's engineer will carry out the design for the Stage 2, 5Mtpa project. This engineering design will be managed by Pilbara Minerals' execution team. Similarly, the procurement of key equipment and long leads will be managed and executed by Pilbara Minerals with a view to expediting the project delivery schedule by placing long lead orders at the earliest opportunity.

Works have already commenced on the procurement of long lead items and following completion of the Stage 2, 5Mtpa DFS, a Final Investment Decision (FID) will be sought from the Pilbara Minerals' Board and is expected to be reached late in September 2018. It is expected construction would commence around mid-November 2018 with commissioning and first product currently targeting late Q4 2019.

PROJECT SCOPE

The Stage 2, 5Mtpa project scope at a facility level includes the following capital expenditure:

- New 3Mtpa processing circuit (Train 2) to complement the Stage 1 (Train 1) 2Mtpa circuit.
- A new facility to allow for on-site dressing of tantalum.
- Improvements in bulk reagent handling via materials handling equipment.
- Expansion of existing power station (via gas generation) to facilitate increased plant power demand.
- 200 room expansion of existing accommodation camp (for a total capacity of 500 rooms).
- Additional process water supply from a third party borefield and reticulated through to the existing process water storage pond on site.

EXECUTION STRATEGY

Detailed engineering is planned to be undertaken by the owner’s engineer and utilising the in-house skill base used for delivery of the Stage 1 project. Pilbara Minerals will also look to self-perform more of the procurement supply function with a current delivery preference being to progress detailed engineering, and tender and award construction only orientated packages. A horizontal and vertical package delivery model will be used to deliver contracts across the 5Mtpa project (Figure 17). Where possible, the Company will novate a significant amount of the equipment required to the executing construction contractors.

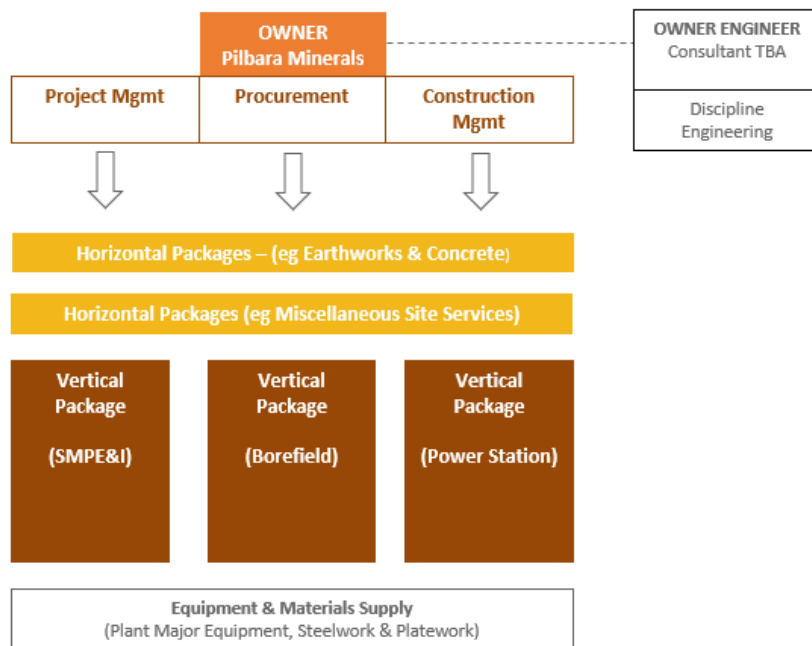


Figure 17: Proposed delivery model

OPERATIONAL PHILOSOPHY

The proposed operation is planned to remain unchanged and as adopted for the Stage 1 project, being largely contracted in nature, except for the processing plant operation, mine geology and planning along with overall responsibility for site management as shown in Table 8.

As highlighted previously, tantalite dressing is proposed to be handled on-site in Stage 2, with a new dressing facility to be constructed as part of the Stage 2, 5Mtpa scope.

Pilbara Minerals operated	Contractor operated
Site management/registered manager	Mining
Processing	Crushing
Mine geology and planning	Haulage, product storage and port delivery
Mine planning	Camp services
	Power station
	Access road maintenance
	Laboratory services

Table 8: Areas and operational responsibility

MORE INFORMATION

About Pilbara Minerals

Pilbara Minerals (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 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 around 1,300 tonnes required each year. Its primary use is in capacitors for consumer electronics, particularly where long battery life and high performance is required such as smart phones, tablets and laptops.

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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 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.

Competent Person Statements

The Company confirms it is not aware of any new information or data that materially affects the information included in the 29 May 2018 Pilgangoora Mineral Resource Estimate and that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed when referring to its resource announcement made on 29 May 2018.

The Company confirms it is not aware of any new information or data that materially affects the information included in the 29 June 2017 Pilgangoora Ore Reserve Estimate and that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed when referring to its resource announcement made on 29 June 2017.