ASX / MEDIA ANNOUNCEMENT Wednesday 6 October 2021

Material increase in Pilgangoora Ore Reserve to 162Mt

Ore Reserve now contains 1.9 Mt of contained lithium oxide, an increase of 47% from the 2020 Pilgangoora Ore Reserve.

KEY POINTS

- Discovery of new pegmatite domains, together with integration of the Ngungaju Resource, leads to a 54% increase in total Proved and Probable Ore Reserve Tonnes and a 47% increase in the contained lithium oxide at Pilbara's 100%-owned Pilgangoora Lithium-Tantalum Project to 162 Mt grading 1.2% Li_2O, 100 ppm Ta_2O_5 and 1.0% Fe_2O_3.
- The Ore Reserve is based on a revised Mineral Resource estimate (as at 30 June 2021) of 308.9 Mt grading 1.14% Li_2O (as spodumene), 105 ppm Ta_2O_5 and 0.59% Fe_2O_3 at a cut-off grade of 0.2% Li_2O, as announced 6 September 2021 and reported in accordance with the JORC[1] 2012 Code.
- The Pilgangoora Ore Reserve (as at 30 June 2021) contains an estimated 1.9 million tonnes of contained Li_2O and 36 million pounds of Ta_2O_5, extending the mine life to approximately 26 years based on the combined 6.3 Mtpa operations (consisting of the 1.3 Mtpa Ngungaju process plant and the proposed Pilgan 5 Mtpa expanded process plant).
- The updated Ore Reserve is based on a pit shell selected at a flat forward commodity price of US$588 per tonne of spodumene concentrate (SC6.0 basis) for Central, East and South pits and a long-term price projection of US$700 per tonne for smaller pits (comprising 6% of Ore Reserve) scheduled for later in the mine life.
- Significant opportunities exist to further expand the Mineral Resources and Ore Reserves, with further drilling campaigns expected during FY22.

Australian lithium producer Pilbara Minerals Limited (**Pilbara Minerals** – ASX: PLS) is pleased to announce a significant increase in the Ore Reserve at its flagship 100%-owned Pilgangoora Lithium-Tantalum Project in WA's Pilbara region. The restated and combined Ore Reserve (inclusive of the former Altura Lithium Operations) reinforces the Pilgangoora Projects' position as one of the world's premier hard rock lithium operations.

Pilbara Minerals' Managing Director and CEO, Ken Brinsden, said: *"The continued growth in Ore Reserves reflected the successful integration of the Ngungaju project area and the highly successful development drilling program undertaken this year. The quality and scale of the Pilgangoora project confirms Pilbara Minerals as a leading hard rock lithium producer and truly sets the scene for our expansion to 6.3 Mtpa and continued growth beyond that."*

AMC Consultants Pty Ltd (AMC) were commissioned by Pilbara Minerals to assist in the development of the 30 June 2021 Ore Reserve Estimate for the Company's 100% owned Pilgangoora Tantalum-Lithium Project

[1] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, The JORC Code 2012 Edition. Prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australasian Institute of Geoscientists and Minerals Council of Australia (JORC).

The Ore Reserves are based on an updated Mineral Resource of 308.9 million tonnes @ 1.14% Li_2O, by Pilbara Minerals, Competent Persons: (Mr Lauritz Barnes - Consultant with Trepanier Pty Ltd and Mr John Holmes - Exploration Manager with Pilbara Minerals).

The Mineral Resource as at 30 June 2021 at a 0.2% Li_2O cut-off grade reported with all domains is shown in Table 1.

Table 1 – JORC Mineral Resource estimate as at 30 June 2021 at 0.2% Li_2O cut-off grade

Category	Mt	Li_2O (%)	Ta_2O_5 (ppm)	Li_2O (T)	Ta_2O_5 (Mlb)	Factored Fe_2O_3 (%)
Measured	21.5	1.35	133	291,000	6.3	0.50
Indicated	188.7	1.15	100	2,172,000	41.4	0.56
Inferred	98.8	1.06	110	1,046,000	24.0	0.67
TOTAL	**308.9**	**1.14**	**105**	**3,509,000**	**71.7**	**0.59**

Notes:
1. Mineral Resource reported above 0.2 Li_2O% cut-off.
2. Appropriate rounding applied.
3. Refer to ASX announcement dated 6 September 2021.

For further information on the Company's current Mineral Resource estimate, refer to ASX Announcement dated 6 September 2021.

ORE RESERVE ESTIMATE AS AT 30 JUNE 2021 - DETAIL

Key parameters used as part of the Pilgangoora 2021 Ore Reserve estimation process included (but were not limited to):

- An average throughput of 6.3 Mtpa of ore processed after a ramp up period based on a combined operation consisting of a 1.3 Mtpa Ngungaju process plant and a proposed expansion of the Pilgan process plant to 5 Mtpa;
- Sales price of US$588/t FOB for battery grade concentrate (6% Li_2O at the Pilgan plant, 5.7% Li_2O at the Ngungaju plant) for Central, East and South pits and a long-term price projection of US$700 per tonne for smaller pits (comprising 6% of Ore Reserves) scheduled for later in the mine life;
- Sales price of US$39.50/lb was applied for a 5 to 10% Ta2O5 concentrate (produced only at the Pilgan plant);
- A fixed recovery of 74.6% for Li_2O and 50% for Ta_2O_5 at the Pilgan plant and 67.7% for Li_2O at the Ngungaju plant;
- Pilgan Plant will utilise an ore sorting circuit to process pegmatite ore at the contact with basalt, comprising approximately 15% of the Ore Reserve;
- Mining costs derived from current mining costs and first principles;
- Total selling costs of A$135 – 182/dmt Lithium concentrate including concentrate handling and transport, shipping, state, third party and native title royalties, insurances and corporate head office costs;
- Processing costs consistent with current outcomes and first principles estimates for the Ngungaju restart and Pilgan expanded facilities.; and
- No allowance was considered necessary for deleterious elements.

The Ore Reserve has been completed with a relative accuracy and confidence level consistent with a minimum of a PFS level of engineering and economic assessment, and a higher level of assessment in most areas.

The updated 30 June 2021 Ore Reserve is shown below in Table 2 with the JORC Code 2012 Table 1 in Appendix 1.

Table 2 – Ore Reserves estimate as at 30 June 2021

Source	Ore Reserve Classification	Ore Tonnes (Mt)	Lithium Grade (% Li_2O)	Tantalum Grade (ppm Ta_2O_5)	Iron Grade (% Fe_2O_3)	Contained Metal	
						Lithium (Mt)	Tantalum (Mlb)
Open pit	Proved	19.9	1.29	120	1.11	0.3	5.5
	Probable	139.3	1.17	97	1.02	1.6	29.8
	Sub-Total	*159.2*	*1.18*	*100*	*1.03*	*1.9*	*35.2*
Stockpile Li_2O/Ta_2O_5 ore	Proved	0.1	1.31	112	0.97	0.0	0.0
	Probable	1.6	1.14	112	1.24	0.0	0.4
	Sub-Total	*1.7*	*1.15*	*112*	*1.22*	*0.0*	*0.4*
Stockpile Li_2O ore	Proved	0.2	0.65	-	1.21	0.0	0.0
	Probable	0.7	1.12	-	1.19	0.0	0.0
	Sub-Total	*0.9*	*1.02*	-	*1.19*	*0.0*	*0.0*
Total	Proved	20.3	1.29	120	1.11	0.3	5.5
	Probable	141.6	1.17	97	1.02	1.7	30.2
	Total	**161.9**	**1.18**	**100**	**1.03**	**1.9**	**35.7**

Notes:

1. Totals may not add up due to rounding.
2. All open pit Ore Tonnes north of the Pilgangoora Creek are defined using Li_2O and Ta_2O_5. All ore south of the Pilgangoora Creek are defined using Li_2O only. Ta_2O_5 grades for south of the creek have been added to the weight average grades in the table but will not be recovered in the processing plant. Ta_2O_5 contributes 3% to the revenue stream.
3. Ore Reserves are based on an expected value calculation to report material above a zero $/t net expected value, excluding mining cost. The cut-off to define ore is, therefore, variable by metal grades, but equates to an average cut-off grade of approximately 0.30 % Li_2O equivalent taking the contributing Ta_2O_5 grades into account for the Pilgan plant and up to 0.38 % Li_2O for the Ngungaju plant (depending on royalties attributed to the tenement the ore is extracted from).
4. The Ngungaju Process Plant has an average recovery of 67.7%. The Pilgan Process Plant has average recoveries of 74.6% for Li_2O and 50% for Ta_2O_5. Only the Pilgan plant will utilise an ore sorting circuit to process pegmatite ore at the contact with basalt, comprising approximately 15% of the Ore Reserve.
5. Ore Reserves were estimated using projected 6% Li_2O concentrate prices of US$588/dmt (FOB price) for Central, East and South pits and US$700/dmt for smaller pits (6% of Ore Reserves) scheduled for later in the mine life. US$39.50/lb was applied for a 5 to 10% Ta_2O_5 concentrate (priced at the mine gate).
6. The Ore Reserve includes allowance for ore losses and dilution during mining and incorporates inclusion of an additional 5% global ore loss based on operations reconciliation data.

Approximately 790 Mt of associated waste material will be mined including mineralized waste, resulting in a waste material to economic Ore Reserves ratio of 5.1 to 1 (tonnes:tonnes).

The Ore Reserve is the economically mineable part of the Measured and Indicated Resource. It includes allowances for mining dilution and ore losses in mining. Appropriate assessments and studies have been carried out and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified.

Near surface oxidized material above the cut-off grade was treated as waste for the purposes of the Ore Reserve estimate but has potential to be added to the mining inventory with further metallurgical testing.

Pilbara Minerals ensures that the Mineral Resource and Ore Reserve estimates quoted are subject to governance arrangements and internal controls at both a site level and at the corporate level. Mineral Resources and Ore Reserves are reported in compliance with the JORC Code 2012, using industry standard techniques and internal guidelines for the estimation and reporting of Ore Reserves and Mineral Resources. The Mineral Resources and Ore Reserve statements included in the Company's ASX releases were reviewed by the Competent Persons prior to inclusion.

The Mineral Resource model was converted to a mining model by applying skin dilution to the mineralization at the lode boundaries. The diluted mining model was subsequently used for the generation of optimized pit shells, defining economic mining envelopes, based on various inputs, including geotechnical domains, costs and sales price. The optimized pit shells were used as the basis for detailed open pit designs.

The Pilgan processing plant has a designed nameplate capacity of 2 Mtpa ore throughput. The plant is currently undergoing incremental improvements which will see its capacity increase to 2.3 Mtpa of ore throughput by late CY 2021. The acquisition of Altura Lithium Operations (Altura) in January 2021, resulted in the Company acquiring a further 1.3 Mtpa of ore throughput capacity. The renamed Ngungaju processing plant is currently the subject of a planned staged re-start and will contribute to a combined Pilgangoora processing throughput capacity of 3.6 Mtpa from CY 2022. The Ngungaju plant is planned to be restarted and operating at nameplate capacity by approximately mid next year.

In respect of the Pilgan Plant, a Definitive Feasibility Study (DFS) was conducted on a 5 Mtpa Pilgan plant expansion in 2018, which included a mine plan that was technically achievable and economically viable. In addition a pre-feasibility study (PFS) level of assessment was conducted to evaluate the inclusion of ore sorting technology into the front end of the Pilgan ore processing plant, to assist in maximising ore recovery and concentrate quality when processing ore at the contact with basalt.

Mining operations at the Pilgangoora project commenced in October 2017. Drilling and blasting will continue using track mounted rigs with sufficient mobility to access the pit from surface contour to pit bottom. Mining extraction will continue using hydraulic excavators, trucks and suitably sized ancillary equipment. It is assumed that mining will predominantly continue on 5m benches, using 2 x 2.5m flitches in ore zones.

The selective excavation techniques deployed enable waste rock to be separated from the mineralized pegmatite at lode boundaries, to minimize mining dilution. Ore at the contact with basalt waste rock is stockpiled (with existing contaminated ore stocks) for later processing through the proposed ore sorting facility. The ore loss and mining dilution within the Pilgangoora mining envelope was estimated to be 6% and 6% respectively. A further ore loss of 5% was applied globally to represent the ability to fully recover the contact material, in particular the thinner ore lodes, which is considered by the Competent Person to be reflective of the selective excavation techniques used on site at the boundaries of the mineralized zones.

The Fe_2O_3 grade of waste dilutant was derived from local estimates of a waste model generated using ordinary kriging.

Geotechnical assessment of the weathered and fresh rock domains determined stable walls will be achievable using the following:

- 45 to 55 degree batters in oxide with berms of 10 m width every 20 m vertical;
- 65 to 75 degree batters in fresh and transitional rock with berms of 7.2 to 15 m width every 20 m vertical.

The Pilgangoora Ore Reserve reported as at 30 June 2020 totalled 105 Mt grading 1.3 % Li_2O and 120 ppm Ta_2O_5 and containing 1.3 Mt of Lithium and 28 Mlb Tantalum.

The net increase in the 2021 Pilgangoora Ore Reserve of 53 Mt is due to:

- Continuous drilling program resulting in new geological resource model and accompanying new mining study.
- Integration of the Ngungaju project (formally Altura Lithium Operations).
- Depletion from mining,
- Changes to stockpile inventories due to mining and processing.
- Inclusion of an additional 5% global ore loss based on operations reconciliation data.

Life of mine ("LOM") pit crests based on the June 2021 Ore Reserves as compared to the June 2018 LOM mine pit crests are shown in Figure 2. As illustrated in Figure 4, a significant proportion of the net increase in the 2021 Pilgangoora Ore Reserve can be attributed to the integration of the Ngungaju project and the 2021 exploration drilling along the historical tenement boundary.

Table 3 – Changes from 30 June 2020 to 30 June 2021 open pit Ore Reserves

Description	Total Ore Reserves (Mt)	Proved Ore Reserves (Mt)	Probable Ore Reserves (Mt)	Contained Li_2O (Mt)	Contained Ta_2O_5 (Mlb)
30 June 2020 Ore Reserves	104.6	18.1	86.5	1.3	27.6
30 June 2021 Ore Reserves	161.9	20.3	141.6	1.9	35.7
Total change from 30 June 2020 to 30 June 2021	**57.3**	**2.1**	**55.1**	**0.6**	**8.0**

Notes:

1. Totals may not equal the sum of the component parts due to rounding adjustments.

All Proved Ore Reserves were derived from Measured Mineral Resources only. All Probable Ore Reserves were derived from Indicated Mineral Resources only. All long-term stockpile material (contact ore, scheduled for later processing through the ore sorting facility) is classified as Indicated Resource and Probable Reserve to reflect the lower certainty resulting from long-term storage of this material.

As illustrated in Figure 1, over 230,000 metres of RC and diamond drilling has been completed within the integrated resource area since 2008 with approximately 1,300 resource tonnes added for every metre drilled. The Company remains confident that the mineral resource and ore reserve can be further expanded with ongoing drilling.

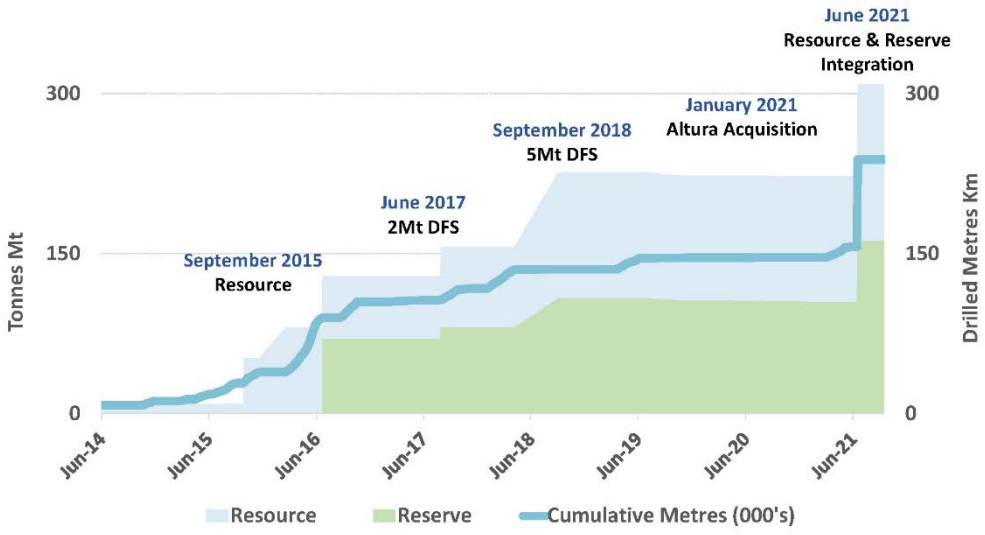

Figure 1 - Resource and Reserve growth verses drilled metres

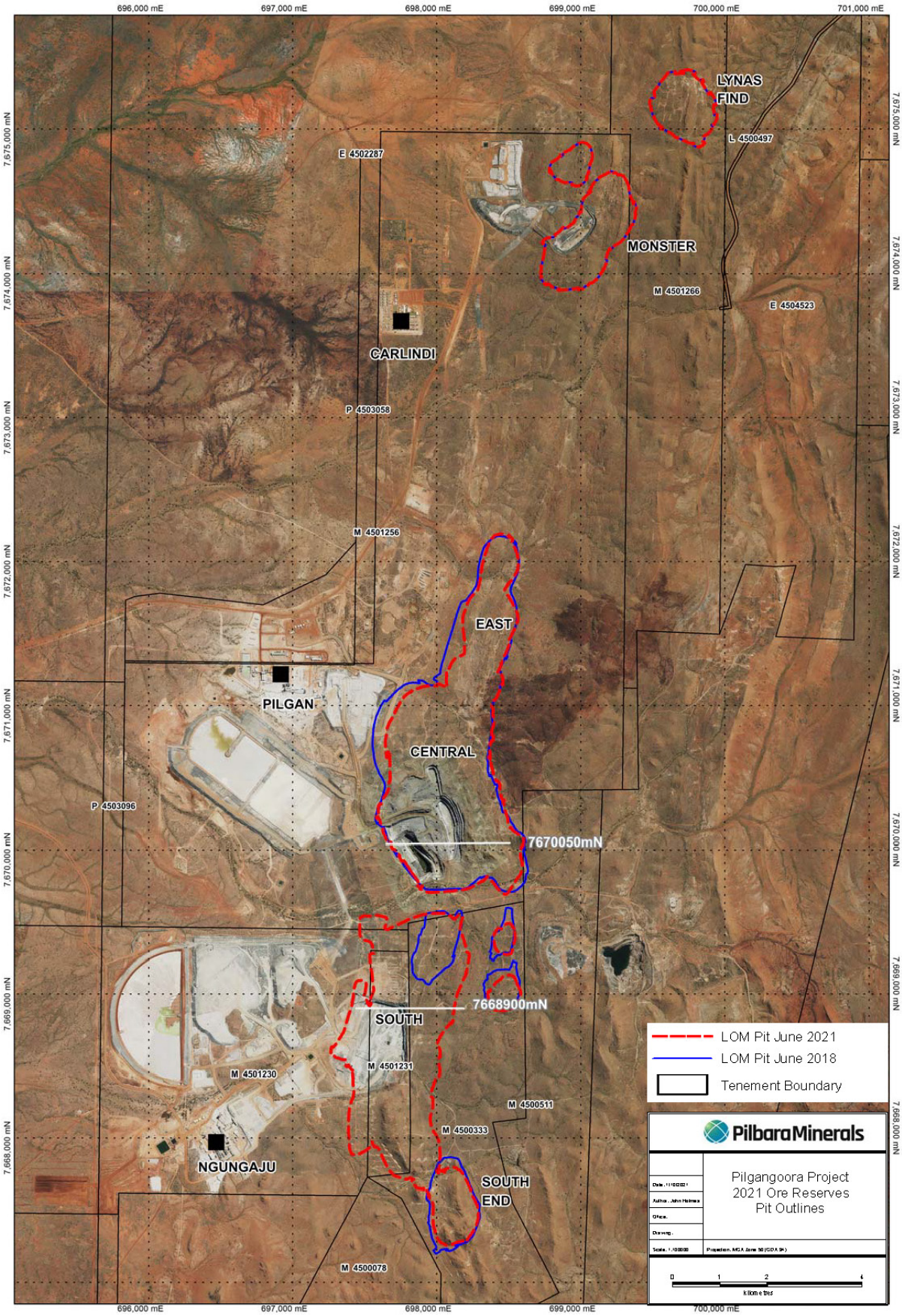

Figure 2 - Pilgangoora Project. Life of mine pit outlines, June 2021

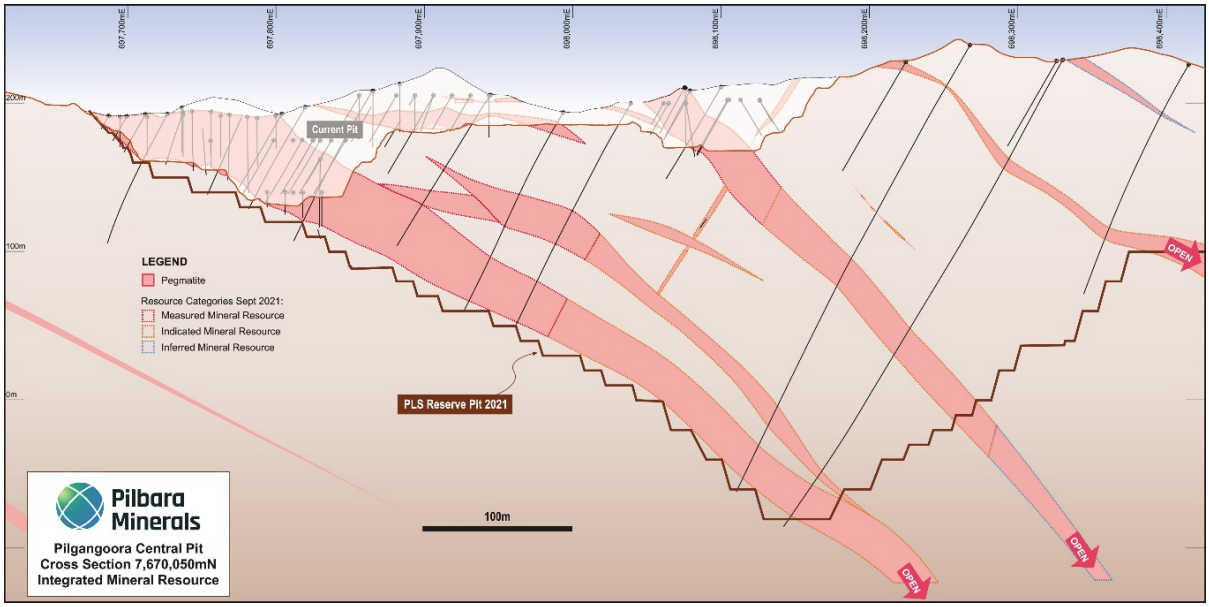

Figure 3 - Central Pit Cross Section - 7,670,050mN

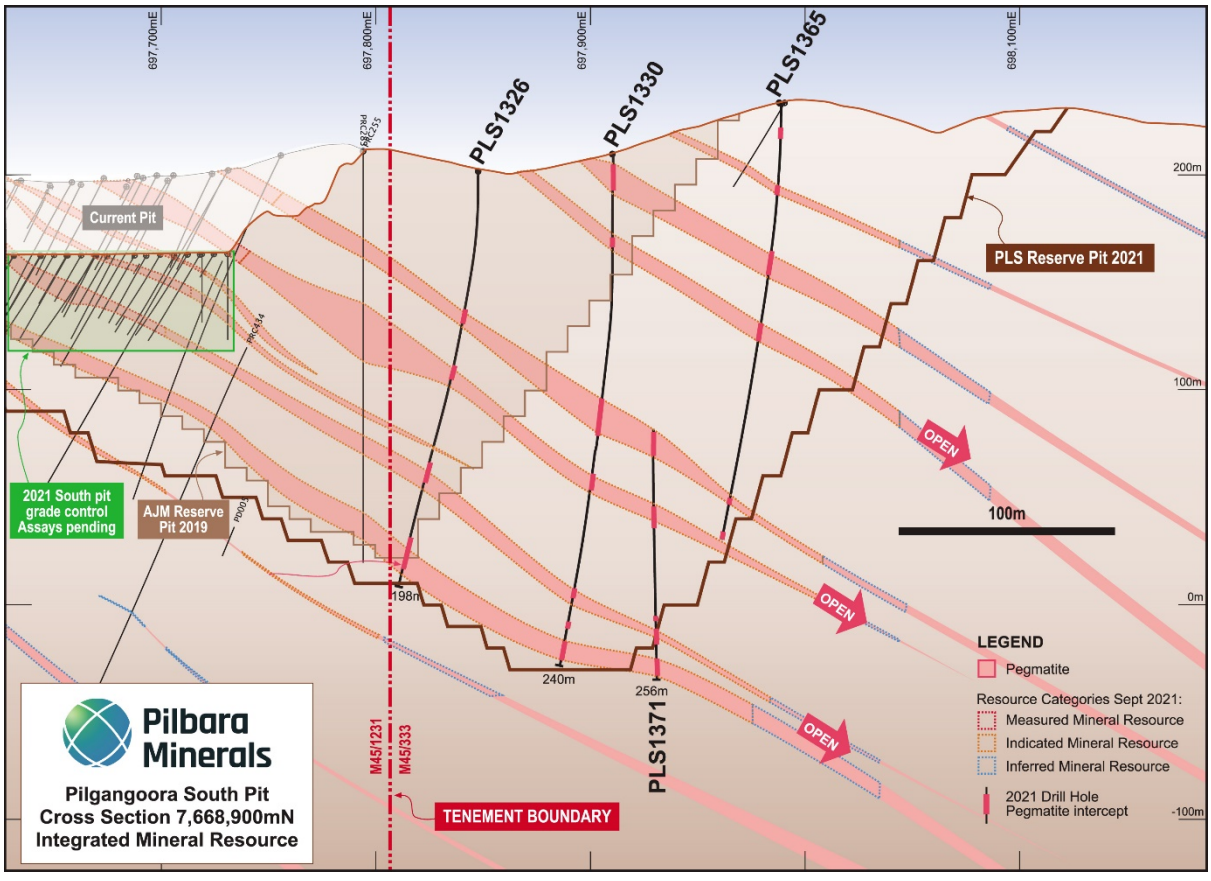

Figure 4 - South Pit Cross Section - 7,668,900mN

COMPETENT PERSON'S STATEMENT

The information in this report that relates to Ore Reserves is based upon information and supporting documentation prepared by and mine planning work supervised by Mr John Paul Colliton (Senior Mining Engineer of Pilbara Minerals Limited). Mr Colliton is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience relevant to the style of mineralization and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Colliton consents to the inclusion in this report of the matters based on their information in the form and context in which they appear.

FORWARD LOOKING STATEMENTS

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.

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ABOUT PILBARA MINERALS

Pilbara Minerals is the leading ASX-listed pure-play lithium company, owning 100% of the world's largest, independent hard-rock lithium operation. Located in Western Australia's resource-rich Pilbara region, the Pilgangoora Project and Operation produces a spodumene and tantalite concentrate. The significant scale and quality of the operation has attracted a consortium of high quality, global partners including Ganfeng Lithium, General Lithium, Great Wall Motor Company, POSCO, CATL and Yibin Tianyi.

While it continues to deliver a low-cost, quality spodumene to market, Pilbara Minerals is pursuing a growth and diversification strategy to become a sustainable, low-cost lithium producer and fully integrated lithium raw materials and chemicals supplier in the years to come.

Through execution of this strategy, Pilbara Minerals is positioned to become a major player in the rapidly growing lithium supply chain, underpinned by increasing demand for clean energy technologies such as electric vehicles and energy storage as the world pursues a sustainable energy future.

APPENDIX 1

JORC Code, 2012 Edition – Table 1 report

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*	• The deposit has been sampled using a series of reverse circulation ("RC") holes and selected diamond holes for metallurgical sampling and checking of existing RC holes by drilling "twins". • Talison Minerals Pty Ltd ("Talison") conducted a 54 drill hole RC program in 2008 totaling 3,198m and 29 drill holes for a total of 2,783m in 2010. • Between 2010 and 2012, Talison changed its name to Global Advanced Metals ("GAM"). GAM completed 17 RC holes for 1,776m in 2012. • PLS have completed a total of 2,434 holes for 214,157 metres since acquiring the Pilgangoora Project. This includes 145.637m of exploration RC drilling, 43,145m infill RC grade control drilling, 16,109m of RC water exploration and development drilling and 9,563 metres of diamond drill core. This includes 11,608m of RC exploration drilling in 2021. • A total of 79,377m of RC drilling were completed at the former Altura Lithium Operations
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• Talison/GAM RC holes were all sampled every metre, with samples split on the rig using a cyclone splitter. The sampling system consisted of a trailer mounted cyclone with cone splitter and

Criteria	JORC Code explanation	Commentary
		dust suppression system. The cyclone splitter was configured to split the cuttings at 85% to waste (to be captured in 600mm x 900mm green plastic mining bags) and 15% to the sample port in pre-numbered, draw-string calico sample bags (12-inch by 18-inch). • In subsequent RC drilling completed by PLS during 2015 & 2016 samples were collected every metre in pegmatite zones and a combination of 2 to 6 metres into footwall & hanging wall country rock for waste rock characterisation studies. • PLS diamond core (PQ and HQ) was sampled by taking a 15-20mm fillet at 1m intervals within the pegmatite zones. NQ was cut and sampled as half-core. • Dakota RC samples were sampled every metre and collected using a rig-mounted cyclone splitter including a dust suppression system. Approximately 85% of the RC chips were split to 600mm x 900mm green plastic mining bags for storage and logging and 15% was captured at the sample port in draw-string calico sample bags. Diamond holes were PQ core and were twins of RC holes drilled for metallurgical purposes. Half core was used for metallurgical testwork, whilst quarter core was used for assaying. • PLS RC holes were sampled every metre, with samples split on the rig using a cyclone splitter. The sampling system consisted of a rig mounted cyclone with cone splitter and dust suppression

Criteria	JORC Code explanation	Commentary
		system. The cyclone splitter was configured to split the cuttings at 85% to waste (to be captured in 600mm x 900mm green plastic mining bags) and 15% to the sample port in draw-string calico sample bags (10-inch by 14-inch). • Altura Drilling sampled RC holes on 1m intervals from the beginning to end of each hole. Each 1m sample was split directly using a rig-mounted riffle splitter and then collected into a uniquely numbered calico bag. The remaining material for each 1m interval was collected directly off the cyclone into a numbered plastic bag and kept near the drill site for geological logging.
	Aspects of the determination of mineralisation that are Material to the Public Report. *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• Talison/GAM holes are all RC, with samples split at the rig sent to the Wodgina site laboratory and analysed by XRF for a suite of 36 elements. • Selected pulps from the 2008 and 2010 drilling plus all pegmatite pulps from the 2012 drilling were collected and sent to SGS Laboratories in Perth for analysis of their lithium content. Lithium analysis was conducted by Atomic Absorption Spectroscopy (AAS). • PLS RC samples were split at the rig and sent to the Nagrom laboratory in Perth and analysed by XRF and ICP. • PLS Diamond core was cut at Nagrom (2015) and IMO (2016), and then crushed and pulverised in preparation for analysis by XRF and ICP. • All Dakota RC 1m split samples were sent to

Criteria	JORC Code explanation	Commentary
		Nagrom laboratory in Perth and analysed using ICP for 5 elements (Li2O, Cs, Be, Fe and Ta) Quarter core samples were sent to SGS in Perth for analysis using XRF and ICP techniques for a suite of elements. • Exploration drill holes in 2021 were all RC, with samples split at the rig, samples are then sent to Nagrom laboratory in Perth and analysed for a suite of multi-elements. Analysis was completed by XRF and ICP techniques. • Exploration RC samples on 1m intervals from Altura were split at the rig and then sent to either LabWest or SGS laboratories for analysis by XRF and ICP techniques. • Diamond core from Altura was cut, sample lengths were determined by mineralisation logged in the core. Half core samples through mineralised zones were sent to the laboratory for analysis.
Drilling techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• The drilling rig used in 2008 is not noted in any reports. • The 2010 drilling was completed by Australian Drilling Solutions using an Atlas Copco Explorac 220 RC truck mounted drill rig with a compressor rated to 350psi / 1200cfm and a booster rated to 800psi, with an expected 600psi down-hole. An auxiliary booster/compressor was not required at any point during the drilling. • The 2012 drilling was completed by McKay Drilling using an 8x8 Mercedes Truck-mounted Schramm

Criteria	JORC Code explanation	Commentary
		T685WS rig with a Foremost automated rod-handler system and on-board compressor rated to 1,350cfm/500psi with an auxiliary booster mounted on a further 8x8 Mercedes truck and rated at 900cfm/350psi. Drilling used a reverse circulation face sampling hammer. The sampling system consisted of a trailer mounted cyclone with cone splitter and dust suppression system. • The PLS 2014 drilling was completed by Quality Drilling Services (QDS Kalgoorlie) using a track mounted Schramm T450 RC rig with a 6x6 truck mounted auxiliary booster & compressor. Drilling used a reverse circulation face sampling hammer with nominal 51/4" bit. The system delivered approximately 1800cfm @ 650- 700psi down hole whilst drilling. • The 2015 RC drilling was undertaken by Orbit Drilling (200 holes), Mt Magnet Drilling (44 holes) and Strike Drilling (11 holes). Orbit used two track mounted rigs; a Schramm T450 RC Rig, and a bigger Hydco 350 RC Rig. Mt Magnet also used a track mounted Schramm T450 RC Rig; Strike drilling used an Atlas Copco X350 RC Rig mounted on a VD3000 Morooka rubber track base with additional track mounted booster & auxiliary compressor. • Diamond drilling during 2015 was completed by Orbit Drilling, using a truck mounted Hydco 1200H rig, drilling HQ sized core. • The 2016 resource RC drilling was completed by 4

Criteria	JORC Code explanation	Commentary
		track mounted RC rigs & 2 diamond rigs. 2 Atlas Copco X350 RC rigs mounted on a rubber track mounted Morooka base were used by Strike drilling together with track mounted booster & auxiliary compressor. 2 track mounted RC rigs were also used by Mt Magnet Drilling, a Schramm T450 rig and a UDR250 rig. • Diamond drilling during 2016 was completed by 2 Mt Magnet Drilling rigs drilling a combination of PQ, HQ & NQ size core. A truck mounted Hydco 650 rig and support truck and a TR1000 track mounted rig & track mounted support vehicle was used. • Dakota RC Drilling was predominantly reverse circulation drilling with 2 diamond drillholes. Holes range in dip from approximately 60^{o} to vertical. Average depth of drilling is 85 m and ranging from 16 to 206 m. RC drilling was undertaken by two drilling companies; • Mount Magnet Drilling using a track-mounted rig (Schramm T450) and compressor (rated 1,350 cfm/800 psi) and 6WD support truck. The drill rig utilised a reverse circulation face sampling hammer, with 138mm bit. The sampling was conducted using a rig-mounted cyclone with cone splitter and dust suppression system. • Strike Drilling, using a truck-mounted KWL700 RC rig, which used a rig-mounted cyclone and cone splitter, and dust suppression system. • RC Drilling in 2018 was completed by Strike Drilling

Criteria	JORC Code explanation	Commentary
		Pty Ltd using a KWL1000 truck mounted rig and Mt Magnet Drilling Pty Ltd using an RC300 track mounted Schramm drill rig. Drilling used a reverse circulation face sampling hammer. The sampling system consisted of a rig mounted cyclone with cone splitter and dust suppression system. • Exploration RC Drilling in 2021 was completed by Mt Magnet Drilling utilising an RCD300-2 track mounted drilling rig with a truck mounted booster & auxiliary compressor (900cfm/350psi) coupled to a V8 booster up to 1000psi. Drilling used a reverse circulation face sampling hammer. The sampling system consisted of a rig mounted cyclone with cone splitter and dust suppression system. • Altura drilling between 2010 and 2013 included both RC and diamond holes. Drilling was completed using a PRD2000 multipurpose rig rated at 1120 cfm @350 psi. In 2016 9 diamond holes were drilled to twin RC holes. This was undertaken by DDH1 using a Sandvik UDR 1200 (PQ3 size core), truck mounted rig. RC drilling in 2016 was undertaken by Strike Drilling using a truck mounted rig SD02/KWL700, and Mount Magnet Drilling with a RC450 Hydco track mounted rig as well as a MP1300 multipurpose truck mounted rig.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	• Recoveries for the majority of the historical holes are not known, while recoveries for 2012 GAM holes were overwhelmingly logged as "good." • Recoveries for PLS RC and diamond holes were virtually all dry and overwhelmingly logged as "good." • Recoveries for Dakota RC and diamond holes were recorded as "good" by the geologist. • Altura RC Holes were mostly recorded as "Dry" by the geologist. • Sample recovery in 2021 was recorded as good for all RC holes.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	• Whilst drilling through the pegmatite, rods were flushed with air after each metre drilled for GAM and PLS holes; and after every 6m for Dakota holes. In addition, moist or wet ground conditions resulted in the cyclone being washed out between each sample run. • Loss of fines as dust was reduced by injecting water into the sample pipe before it reached the cyclone. This minimises the possibility of a positive bias whereby fines are lost, and heavier, tantalum bearing material, is retained.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	• No material bias has been identified. • The assay results of duplicate RC and paired DD hole samples do not show sample bias caused by a significant loss of/gain in lithium values caused by loss of fines.

Criteria	JORC Code explanation	Commentary
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	• 1m samples were laid out in lines of 20 or 30 samples with cuttings collected and geologically logged for each interval and stored in 20 compartment plastic rock-chip trays with hole numbers and depth intervals marked (one compartment per 1m). Geological logging information was recorded directly onto digital logging system and information validated and transferred electronically to Database administrators in Perth. The rock-chip trays are stored on site at Pilgangoora in a secured containerised racking library.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	• 1m samples were laid out in lines of 20 or 30 samples with cuttings collected and geologically logged for each interval and stored in 20 compartment plastic rock-chip trays with hole numbers and depth intervals marked (one compartment per 1m). Geological logging information was recorded directly onto digital logging system (OCRIS) and information validated and transferred electronically to Database administrators in Perth. The rock-chip trays are stored on site at Pilgangoora in a shelved 40 ft sea container. • PLS Diamond core was transported to Nagrom laboratories for cutting, sampling and detailed logging in 2015. • During the 2016 drilling program diamond core was logged in detail on site & dispatched to ALS laboratories in Perth for cutting, sampling &

Criteria	JORC Code explanation	Commentary
		assaying. • During the 2017 PQ drilling program diamond core was logged in detail and cut on site & the filleted samples were sent to Nagrom in Perth for analysis. Some of remnant core is also stored at Nagrom, the remainder on site at Pilgangoora. • All remnant drill core (excluding 2019 PQ core) is currently stored on pallets at Pilgangoora and is in the process of being transferred into a covered storage facility.
	The total length and percentage of the relevant intersections logged.	• The database contains lithological data for all holes in the database.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.* *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• RC samples collected by Talison/GAM were generally dry and split at the rig using a cyclone splitter. • RC samples collected by PLS, Dakota and Altura were virtually all dry and split at the rig using a cone splitter mounted directly beneath the cyclone. • A 15 to 20mm fillet of core was taken every metre of PQ or HQ core. NQ core was halved. • Dakota drilled PQ sized diamond holes, and cut and sampled half core for metallurgical tests, and quarter core for assaying. • All 2017-2019 drill core was cut and sampled at the core logging facility at Pilgangoora. • RC samples in 2021 were generally dry and split at the rig using a cyclone splitter, which is appropriate and industry standard.

Criteria	JORC Code explanation	Commentary
		• Altura HQ sized diamond holes, and cut and sampled half core for assaying
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	• Talison/GAM/PLS samples have field duplicates as well as laboratory splits and repeats. • Similarly, 238 sample pulps were collected to check ALS Laboratory results by Nagrom in 2016. • 55 Dakota GAM Wodgina laboratory splits of the samples were taken at twenty metre intervals with a repeat/duplicate analysis also occurring every 20m and offset to the lab splits by 10 samples. In total one field duplicate series, one splits series and one lab duplicate/repeat series were used for quality control purposes assessing different stages in the sampling process. This methodology was used for the samples from the 2010 and 2012 drilling programs. Comparison of these splits and duplicates by using a scatter chart to compare results show the expected strong linear relationship reflecting the strong repeatability of the analysis process. • The GAM and PLS RC drilling contains QC samples (field duplicates and laboratory pulp splits, GAM internal standard, selected CRM's for PLS), and have produced results deemed acceptable. • 110 sample pulps (10% of the June 2015 resource composite samples) were selected from across the pegmatite zones for umpire checks with ALS Laboratory Perth. 238 sample pulps from the 2016 drilling were selected from across the pegmatite zones for umpire checks with Nagrom. All closely

Criteria	JORC Code explanation	Commentary
		correlated with the original assays. • Dakota field RC duplicates, pulp duplicates and coarse diamond field duplicates generally indicate good repeatability of samples. • Samples were selected from pegmatite pulps for re-assaying by ALS (original lab was Nagrom), and were also resampled and sent to ALS for analysis. • QAQC has been maintained regularly on the Nagrom results from the 2017-2021 drilling, with duplicates and standards showing consistent precision and accuracy. • The majority of the Altura exploration drilling was undertaken at LabWest. 153 samples from 7 holes were submitted to Ultratrace for umpire checks. Results were comparable, with a slight bias towards the Ultratrace results. • Altura P17 and P18 series holes were sent to SGS for analysis. QC of standards and field duplicates returned results within acceptable ranges. 774 samples were sent to Intertek for umpire checks, with good correlation noted for Li_2O and Fe_2O_3.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	• For the Talison/GAM/PLS RC drilling, field duplicates were collected every 20m, and splits were undertaken at the sample prep stage on every other 20m. • Talison/GAM/PLS RC samples have field duplicates as well as laboratory splits and repeats. • PLS diamond holes have laboratory splits and repeats. • Duplicates submitted by Dakota included field RC

Criteria	JORC Code explanation	Commentary
		duplicates, pulp duplicates from diamond core, and coarse crushed diamond core duplicates. • For all PLS holes from 2016 to 2021 field duplicates were taken approximately every 20m, and standards and blanks every 50 samples. • Altura submitted duplicates approximately every 15m, and standards every 50m.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	• Drilling sample sizes are considered to be appropriate to correctly represent the tantalum and lithium mineralization at Pilgangoora based on the style of mineralization (pegmatite) and the thickness and consistency of mineralization.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	• The Talison/GAM samples were assayed by the Wodgina Laboratory, for a 36 element suite using XRF on fused beads. • During late 2014 &2015 the PLS samples were assayed at the Nagrom Perth laboratory, using XRF on fused beads plus ICP to determine Li2O, ThO2 and U3O8. • All the 2016 the PLS samples were assayed by ALS laboratories in Perth using a Sodium Peroxide fusion with ICPMS finish. • Dakota RC samples were assayed at Nagrom's laboratory in Perth, for a 5 element suite using XRF with a sodium peroxide fusion, and total acid digestion with an ICP-MS finish. Diamond drill samples were assayed at SGS's laboratory in Perth, for a 19 element suite using XRF with a sodium peroxide fusion, and total acid digestion with an

Criteria	JORC Code explanation	Commentary
		ICP-MS finish. • Since 2017, PLS samples were assayed by Nagrom Perth laboratory and analysed for a suite of 9 elements via ME-MS91 Sodium Peroxide for ICPMS finish and Peroxide fusion with an ME-ICP89 ICPAES finish. • In 2021, samples were submitted to Nagrom Laboratories in Perth and analysed for a suite of 25 elements. Samples were subject to a sodium peroxide fusion and analysed using ICPOES and ICPMS techniques. • Altura PRC prefix holes were submitted to LabWest, and analysed by total acid digestion with an ICP-MS finish. • Altura 17P and 18P series holes were submitted to SGS and analysed for a suite of 9 elements by Borate Fusion with XRF, and Sodium Peroxide Fusion with ICP-AES finish.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	• No geophysical tools were used to determine any element concentrations used in this resource estimate.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	• Duplicates of the samples were taken at twenty metre intervals with blanks and standards inserted every 50m. Comparison of duplicates by using a scatter chart to compare results show the expected strong linear relationship reflecting the strong repeatability of the sampling and analysis process.

Criteria	JORC Code explanation	Commentary
		• Drilling contains QC samples (field duplicates, blanks and standards plus laboratory pulp splits, and laboratory internal standards), and have produced results deemed acceptable.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.*	• Infill drilling completed by GAM in 2012 and PLS in 2014 to 2016 confirmed the approximate width and grade of previous drilling. • Eight of the diamond holes were drilled as twins to RC holes, and compared to verify assays and lithology during 2015. • An additional 8 diamond holes were drilled as twins to RC holes to verify assays & lithology during 2016. The remainder were drilled for metallurgical or geotechnical testwork. • Dakota drilled two twin RC/DDH holes which show good constancy of mineralisation. • A number of the 2017 PQ diamond core holes were also drilled as twin holes to verify results from RC drilling. Results compare favorably. • Additional PQ drilling was undertaken in 2019, with some holes drilled as twins. Results compare favorably.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• An electronic relational database containing collars, surveys, assays and geology is maintained by Trepanier Pty Ltd, an Independent Geological consultancy.
	Discuss any adjustment to assay data.	• Tantalum was reported as Ta_2O_5 % and converted to ppm for the estimation process. • A two-step adjustment has been applied to the

Criteria	JORC Code explanation	Commentary
		Fe_2O_3 assays to account for (i) contamination of pulps by the steel bowl at the grinding stage, and (ii) contamination of RC chips with the drill bit and tube wear with increasing hole depth. Step one is to subtract 0.33% from all Nagrom Fe_2O_3 assays and 0.47% from all ALS Fe_2O_3 assays, step 2 is to subtract a regressed factor by depth from all PLS Minerals, Altura and historic RC samples. No second factor has been applied to the PLS or Altura diamond core Fe_2O_3 assays. • For Dakota assays Li_2O was used for the purposes of reporting, as reported by NAGROM and SGS. Ta was adjusted to Ta_2O_5 by multiplying by 1.2211. Fe was adjusted to Fe_2O_3 by multiplying by 1.4297. Fe_2O_3 values were adjusted by subtracting 0.52% Fe_2O_3 from all RC samples, which is the total correction factor for contamination caused by steel RC drill bits and pulverising the samples in steel bowls.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	• Talison/GAM holes were surveyed using a DGPS with sub one metre accuracy by the GAM survey department. • PLS drill hole collar locations were surveyed at the end of the program using a dual channel DGPS with +/- 10cm accuracy on northing, easting & RL by PLS personnel. • No down hole surveys were completed for PLC001-039 (Talison). • Gyro surveys were completed every 5m down hole for PLC040-068 (Talison).

Criteria	JORC Code explanation	Commentary
		• Eastman Single Shot surveys were completed in a stainless steel starter rod approximately every 30m for PLC069-076 & PLRC001-009 (GAM). • Reflex EZ-shot, electronic single shot camera surveys were completed in a stainless steel starter rod for each hole for the PLS November-December 2014 RC drilling completed by QDS Drilling. Reflex instruments were also used by Mt Magnet Drilling for the PLS RC and diamond drilling completed in 2015 and 2016. Measurements were recorded at 10m, 40m, 70m and 100m (or EOH) for each hole. • Camteq Proshot, electronic single shot cameras were completed in a stainless steel starter rod for each hole from the PLS 2015 RC and diamond drilling campaigns completed by Orbit drilling. Camteq down hole survey equipment was also used for each hole for the PLS RC drilling by Strike. Measurements were recorded at 10m, 40m, 70m and 100m (or EOH) for each hole. • Downhole survey information was also collected using a KEEPER High-Speed Gyro Survey/Steering System Gyro instrument for selected RC and diamond holes completed in 2016. This included surveying a number of holes as an audit on the single shot surveys which compared well. • For the Dakota drilling, the drill-hole locations were located using a Navcom 3040 Real time GPS, with an accuracy of +/- 10 cm vertical and +/-5 cm horizontal. Down hole surveying of drill holes was conducted roughly every 30m using a Reflex multi-

Criteria	JORC Code explanation	Commentary
		shot camera to determine the true dip and azimuth of each hole. Subsequently, more detailed down hole surveying was conducted to verify this data, using a High Speed True North Seeking Keeper Gyroscope. • All 2021 RC holes were surveyed using DGPS in GDA94, Zone 50. Down hole surveying of drill holes was conducted using a Gyro tool. Measurements were recorded at the bottom of each hole and every 10m up hole for vertical holes and continuous readings for angle holes. • Drill hole collar locations were surveyed at the end of each program by a differential GPS (DGPS).
	Specification of the grid system used.	• The grid used was MGA (GDA94, Zone 50)
	Quality and adequacy of topographic control.	• The topographic surface used was supplied by Pilbara Minerals. Drone surveys are undertaken on a monthly basis in the active mining area and this information is merged into a master topographic surface.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	• Drilling spacings within the resource area vary between 12.5m to 200m apart. • Drilling spacings for the 2021 exploration RC holes varied between 50m to 75m apart.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	• The interpretation of the mineralised domains are supported by a moderate drill spacing, plus both geological zones and assay grades can be interpreted with confidence.

Criteria	JORC Code explanation	Commentary
	Whether sample compositing has been applied.	• No compositing was necessary, as all samples were taken at 1m intervals.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	• The mineralisation dips between 20 and 60 degrees at a dip direction between 050 and 115 degrees for the majority of the domains. The Monster zone strikes 040 to 045 degrees and dips moderately to the south-east. In the Lynas area the pegmatite varies between horizontal and 50-degree dip towards the south and south-east. • The drilling orientation and the intersection angles are deemed appropriate.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	• No orientation-based sampling bias has been identified.
Sample security	*The measures taken to ensure sample security.*	• Chain of custody for PLS holes were managed by PLS personnel.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	• The collar and assay data have been reviewed by compiling a SQL relational database. This allowed some minor sample numbering discrepancies to be identified and amended. • Drilling locations and survey orientations have been checked visually in 3 dimensions and found to be consistent. • All GAM assays were sourced directly from the laboratory (Wodgina laboratory). It has not been possible to check these original digital assay files. • Sampling techniques for historical assays including Altura Lithium Operations Limited have not been audited.

Criteria	JORC Code explanation	Commentary
		• The collar and assay data have been reviewed by checking all of the data in the digital database against hard copy logs. • All PLS assays were sourced directly from Nagrom laboratory.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites*	• PLS owns 100% of mining tenements M45/1256, M45/333, M45/511, M45/1266, M45/1230 and M45/1231. • The Pilgangoora resource (including former Altura Lithium Operations) is located within M45/1256, M45/333, M45/1230 and M45/1231 which are 100% owned by PLS Minerals Limited. • The Lynas Find resource is located within M45/1266.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	• No known impediments.

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	• Talison completed RC holes in 2008 • GAM completed RC holes between 2010 and 2012. • Dakota Minerals Ltd completed diamond and RC holes in 2016. • Altura completed Diamond and RC holes between 2010 and 2018. Altura completed two phases of diamond drilling (phase 1 2011-2013 & phase 2 2016) with a total of 18 holes drilled
Geology	*Deposit type, geological setting and style of mineralisation.*	• The Pilgangoora pegmatites are part of the later stages of intrusion of Archaean granitic batholiths into Archaean metagabbros and metavolcanics. Tantalum mineralisation occurs in zoned pegmatites that have intruded a sheared metagabbro.
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes, including easting and northing of the drill hole collar, elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar, dip and azimuth of the hole, down hole length and interception depth plus hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• RC drilling undertaken in 2021 has been previously reported in ASX announcements on 10 May 2021, 23 June 2021 and 28 July 2021. All PLS drill hole information pre 2021 has been previously reported.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Length weighted averages used for exploration results. Cutting of high grades was not applied in the reporting of intercepts in Appendix 2. • No metal equivalent values are used.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• Down hole intercepts have been reported and are tabled in APPENDIX 2. Reported intercepts are not true width. Cross sections illustrate the modelled pegmatite domains and intersections.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• See Figures 2 to 4. Cross sections showing selected holes from the program are presented as Figures 3 to 4.

Criteria	JORC Code explanation	Commentary
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Comprehensive reporting of 2021 drill hole details have been previously reported in ASX announcements on 10 May 2021, 23 June 2021 and 28 July 2021. All other PLS results have been previously reported.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• All meaningful & material exploration data has been reported.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further planned drilling aims to test extensions to the currently modelled pegmatites zones and to infill where required to convert Mineral Resources to high confidence classification (i.e. Inferred to Indicated and Indicated to Measured).

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*	• The original database was compiled by GAM and supplied as a Microsoft Access database. • Since 2013, the data have then been imported into a relational SQL Server database using DataShed™ (industry standard drill hole database management software). • Initially drilling data was supplied in Excel templates, using drop down lists to verify codes. PLS then implemented the OCRIS data logging software system which validates the data before it is imported to the SQL database. • Altura data has been supplied both as an Access and SQL database, and was cross checked against the Company SQL Database. • The data are constantly audited and any discrepancies checked by PLS personnel before being updated in the database.
	• *Data validation procedures used.*	• Normal data validation checks were completed on import to the SQL database. • Historical data have not been checked back to hard copy results, but have been checked against previous databases supplied by GAM. • All logs are supplied as Excel spreadsheets/OCRIS files and any discrepancies checked and corrected by field personnel.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	• John Holmes (Exploration and Geology Manager PLS Minerals and a Competent Person) has been actively involved in the exploration programs with multiple site visits undertaken. Lauritz Barnes (Competent Person) has also completed multiple site visits, with the most recent in January 2021.

Criteria	JORC Code explanation	Commentary
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The confidence in the geological interpretation is considered robust. Lithium (occurring as spodumene) and tantalum (occurring as tantalite) is hosted within pegmatite dykes intruded into basalts & sediments of the East Strelley greenstone belt. The area of the Pilgangoora pegmatite field within M45/1256, M45/333, M45/1230 and M45/1231 comprises a series of extremely fractionated dykes, sills and veins up to 65m thick within the immediate drilling area. These dykes and veins dip to the east at 20-60° and are parallel to sub-parallel to the main schistose fabric within the greenstones. • The geological interpretation is supported by drill hole logging, assays, mineralogical studies and surface mapping completed by GAM (previously Talison), Altura Mining Limited and PLS Minerals. • No alternative interpretations have been considered at this stage. • Grade wireframes were created in Leapfrog™ Geo software and correlate extremely well with the logged pegmatite veins. • The key factor affecting continuity is the presence of pegmatite.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The main modelled mineralized domains have a total dimension of 5,800m (north-south), ranging between 50-1,500m (east-west) in multiple veins and ranging between -370m and 220m RL (AMSL). The Monster and Southern areas each have a modelled strike of approximately 700m and Lynas Find 500m.

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.*	• Grade estimation using Ordinary Kriging (OK) was completed using Geovia Surpac™ software for Li_2O, Ta_2O_5 and Fe_2O_3. • Drill spacing typically ranges from 25m to 50m with some limited zones to 100m. Drill spacing at Central and Monster has been reduced to 12.5 x 12.5m in areas designated for Stage 1 mining operations. Drilling spacing undertaken by Altura at the South pit ranges between 20 and 40m. • Drill hole samples were flagged with wire framed domain codes. Sample data was composited for Li_2O, Ta_2O_5 and Fe_2O_3 to 1m using a best fit method. Since all holes were typically sampled on 1m intervals, there were only a very small number of residuals in the diamond core holes that were sampled to geological contacts. • Influences of extreme sample distribution outliers were reduced by top-cutting on a domain basis. Top-cuts were decided by using a combination of methods including grade histograms, log probability plots and statistical tools. Based on this statistical analysis of the data population, no top-cuts were applied for Li_2O, and only one domain for Ta_2O_5. For Fe_2O_3, they typically were around 6.5%. Some domains did not require top-cutting. • Directional variograms were modelled by domain using traditional variograms. Nugget values are moderate to low (between 15% and 30%) and structure ranges up to 500m. Domains with more limited samples used variography of geologically similar, adjacent domains. • Block model was constructed with parent blocks of 6m (E) by 20m (N) by 5m (RL) and sub-blocked to 3.0m (E) by 5.0m (N) by 2.5m (RL). For Lynas Find, it was

Criteria	JORC Code explanation	Commentary
	• *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	constructed with parent blocks of 10m (E) by 10m (N) by 5m (RL) and sub-blocked to 5m (E) by5m (N) by 2.5m (RL). All estimation was completed to the parent cell size. Discretisation was set to 5 by 5 by 2 for all domains. • Three estimation passes were used. The first pass had a limit of 75m, the second pass 150m and the third pass searching a large distance to fill the blocks within the wire framed zones. Each pass used a maximum of 12 samples, a minimum of 6 samples and maximum per hole of 4 samples. The exceptions to this were domains with less than 20 samples, which used a maximum of 10 samples, a minimum of 4 samples and maximum per hole of 3 samples for the second pass. • As a potential deleterious element, Fe2O3 has been estimated for this resource, both as raw and factored Fe2O3. Identification of contamination during both the sample collection (steel from drill bit and rod wear) and assay phases (wear in the steel pulverisation containers) has resulted in a detailed statistical analysis and co-located data comparison between diamond core and RC twin hole assays. Factors have been applied to the raw Fe2O3 assays in two steps. Step one is to subtract 0.33% from all Nagrom Fe2O3 assays, 0.47% from all ALS Fe2O3 assays, 0.2% from all historic GAM Fe2O3 assays and 0.4% from all Altura Fe2O3 assays. Step two is to subtract a regressed factor by depth from all PLS Minerals, Altura and historic RC samples. No second factor has been applied to the PLS or Altura diamond core Fe2O3 assays. No second factor has been applied to the PLS diamond core Fe2O3 assays.

Criteria	JORC Code explanation	Commentary
		• Search ellipse sizes were based primarily on a combination of the variography and the trends of the wire framed mineralized zones. Hard boundaries were applied between all estimation domains. • Validation of the block model included a volumetric comparison of the resource wireframes to the block model volumes. Validation of the grade estimate included comparison of block model grades to the declustered input composite grades plus swath plot comparison by easting, northing and elevation. Visual comparisons of input composite grades vs. block model grades were also completed.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnes have been estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Pegmatite boundaries typically coincide with anomalous Li_2O and Ta_2O_5 which allows for geological continuity of the mineralised zones. A significant increase in Fe_2O_3 at the contacts between the elevated iron mafic country rock and the iron poor pegmatites further refines the position of this contact in additional to the geological logs. At Lynas Find and a number of the main domains at Pilgangoora, internal zonation domains and/or grade shells were used to model mineralogical zonation. The pegmatite vein (and grade) contact models were built in Leapfrog™ Geo software and exported for use as domain boundaries for the block model.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining*	• As expected, based on the orientations, thickness's and depths to which the pegmatite veins have been modelled, plus their estimated grades for Li_2O and Ta_2O_5, the current mining method is open pit mining.

Criteria	JORC Code explanation	Commentary
	reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• Mining and processing operations at Pilgan and Ngungaju (former Altura) have successfully been commissioned and in operation since 2018 • Multiple phases of advanced metallurgical test work have been undertaken as part of the definitive feasibility study and continues to be undertaken on a regular basis as part of a continuous improvement process to maximise the recovery of lithia ore.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• Appropriate environmental studies and sterilisation drilling have been completed for the locations of any waste rock dump (WRD) facilities.

Criteria	JORC Code explanation	Commentary
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• PLS initially completed specific gravity test work on nine samples across the deposit using both Hydrostatic Weighing (uncoated) on surface grab samples and Gas Pycnometry on RC chips which produces consistent results. Geological mapping and rock chip/grab sampling has not observed any potential porosity in the pegmatite. • PLS conducted hydrostatic weighing tests on uncoated HQ core samples to determine bulk density factors. A total of 600 core samples were tested. Measurements included both pegmatite ore and waste rock. • The bulk density factors applied to the current resource estimate are 2.53 g/cm3 in the (minimal) oxide, and 2.72 g/cm3 in fresh/transition zone material. • Additional samples have been collected on a regular basis through the mining operations to increase the amount of available data.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The Mineral Resource has been classified on the basis of confidence in the geological model, continuity of mineralized zones, drilling density, confidence in the underlying database and the available bulk density information. • All factors considered, the resource estimate has in part been assigned to Measured and Indicated resources with the remainder to the Inferred category.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• As part of the DFS study completed in 2016, and subsequent to multiple phases of technical due diligence as part of financing, along with audits/reviews have been completed on the Pilgangoora Mineral Resource with no material flaws identified

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code. • The statement relates to global estimates of tonnes and grade.

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in section 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• The Pilbara Minerals Limited (Pilbara Minerals) Pilgangoora Operations open pit Ore Reserve estimate is based on the Mineral Resource released on 6 September 2021, by Pilbara Minerals Competent Persons for Mineral Resources: Mr John Holmes (Exploration and Geology Manager of Pilbara Minerals) and Mr Lauritz Barnes (Consultant with Trepanier Pty Ltd). The Mineral Resource models were established within wireframes of pegmatite based largely on

Criteria	JORC Code explanation	Commentary
		geological logging, with estimates developed using ordinary kriging and one-metre composites. The Mineral Resource model for Main zone was created on 26 August 2021. The Mineral Resource model for Lynas Find remains unchanged since the 2020 Ore Reserve estimate. • The Mineral Resource is reported inclusive of the Ore Reserves. The Ore Reserve considered only the Measured and Indicated Resource portion of the Mineral Resource published on 6 September 2021.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• Mr Colliton is a regular visitor to the site and last visited the site in August 2021. An AMC geotechnical engineer visited the site in 2019 to inspect pit wall exposures. Metallurgical specialists are employed by Pilbara Minerals and work on site. In the course of preparing this estimate the Competent Person ensured the data and analysis used in this estimate is appropriate for the proposed operating conditions for the project.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	• Pilgangoora is an operating mine site. The Pilgan processing plant has a nameplate 2 Mtpa ore throughput. The plant is currently undergoing incremental improvements which will see its capacity increase to 2.3 Mtpa ore throughput by late CY 2021. • The acquisition of Altura Lithium Operations (Altura) in January 2021, resulted in a further 1.3 Mtpa ore throughput capacity, although currently not operating, via the renamed Ngungaju processing plant for a combined Pilgangoora processing throughput capacity of 3.6 Mtpa from CY 2022. The Ngungaju plant is to be restarted in late CY 2021. • A Definitive Feasibility Study (DFS) was conducted on the 5 Mtpa Pilgan plant expansion in 2018, which included a mine plan that was technically achievable and economically viable. This mine plan considered

Criteria	JORC Code explanation	Commentary
		material Modifying Factors such as dilution and ore loss, various boundary constraints, processing recoveries and all costs associated with mining, processing, transporting and selling product. The 5 Mtpa Pilgan plant expansion will result in a combined Pilgangoora plant throughput of 6.3 Mtpa. • As part of the Pilgangoora 2020 Ore Reserve Estimate, a pre-feasibility study (PFS) level of assessment was conducted to evaluate the inclusion of ore sorting technology into the front end of the Pilgan ore processing plant to rectify recovery and concentrate quality issues from processing ore contaminated with basalt. The assessment included operating cost data for a contract ore-sorting facility to be included into the flowsheet to pre-treat contaminated ore plant feed. The assessment included technical flowsheet viability and operational cost modelling of the contract ore-sorting facility in parallel to the existing crushing circuit. This project is currently in detailed design and is planned to be operational by mid CY 2022. • Modifying Factors for both processing facilities incorporate current plant operational data in addition to DFS estimates for the 5 Mtpa Pilgan plant expansion and PFS estimates for inclusion of ore sorting. The Competent Person considers that the level of detail for Modifying Factors used in the preparation of this Ore Reserve estimate is at DFS level of assessment for most areas, and overall is consistent with a minimum of a PFS level of assessment.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	• Ore Reserves are based on an expected value calculation to report material above a zero $/t net expected value, excluding mining cost. The cut-off to define ore is, therefore, variable by metal grades, but equates to an average cut-off grade of approximately

Criteria	JORC Code explanation	Commentary
		0.30 % Li2O equivalent taking the contributing Ta2O5 grades into account for the Pilgan plant and up to 0.38 % Li2O for the Ngungaju plant (depending on royalties attributed to the tenement the ore is extracted from). The cut-off grade includes all pre-tax costs associated with processing and selling lithium and tantalum concentrates. Provision was made in the cut-off grade estimate for the following costs: • Incremental ore haulage to the process plant run-of-mine (ROM) ore pad at the Pilgan plant (for deposits north of Pilgangoora Creek) or Ngungaju plant (for deposits south of Pilgangoora Creek). • Stockpile re-handle into the processing plant, • Crushing and processing ore to produce concentrate and tailings management, • Ore sorting at the Pilgan plant, • Off-site processing of the Pilgan plant Ta2O5 concentrate, • Road transport to port and ship loading, • Selling costs, Government royalties and third-party royalties, • General overhead and administration costs. • Revenue was determined using a flat forward free-on-board (FOB) price for lithium concentrate of US$588/t for Central, East and South pits and a long-term projection of US$700 per tonne for smaller pits (6% of Ore Reserves) scheduled for later in the mine life. US$39.50/lb was applied for a 5 to 10% Ta2O5 concentrate (priced at the mine gate). A flat forward exchange rate of 0.75 A$:US$ was applied. No provision was made for penalties associated with deleterious elements. • Process recoveries were applied as outlined below under “Metallurgical factors or assumptions”.

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	• Ore Reserves were estimated using industry standard Whittle pit optimization software with the Lerchs-Grossmann algorithm to define pit limits from the resource model after application of loss and dilution, ore processing and selling costs, metallurgical recoveries and product grades, revenue, geotechnical inputs, and boundary constraints for lease boundaries, diversion channels, mine abandonment bunds and significant sites, to generate a series of economic pit shells. Selected pit shells were used to develop detailed final pit designs using geotechnical, geometric, access constraints and exclusion zones. • Ore north of the Pilgangoora Creek is scheduled for delivery to the Pilgan processing plant. Ore south of the Pilgangoora Creek is scheduled for delivery to the Ngungaju processing plant. • The mining method used on site and proposed for future operations at 6.3 Mtpa is selective open pit excavation using drill and blast on 5.0 m high benches and load and haul on 2.5 m lifts. Hydraulic excavators (150-t) loading into 90-t rear dump haul trucks are used to separate waste rock (basalt and ultramafic) from mineralized pegmatite to minimize mining dilution. Ore contaminated with basalt is stockpiled for later processing through the ore sorting facility. Drilling uses track mounted rigs, with sufficient mobility to access the pit from surface contour to pit bottom. The mining method is considered appropriate for the deposit geometry and production rates and has been in use since 2018. Access is easily available to all designed pits, waste dumps and stockpiles. A minimum mining width for pushbacks of 40m has been considered. • Geotechnical assessment of the weathered and fresh rock domains determined stable walls will be

Criteria	JORC Code explanation	Commentary
		achievable: • For the Central / Eastern deposit using 55˚batters in the weathered domain and 75˚batters in the transitional and fresh rock domains. Benches will be established every 20 m maximum with a minimum berm width of 10 m. • For the Monster deposit the weathered rock batter is 55˚ and the fresh rock better angle is 70˚. Benches will be established every 20 m maximum with a minimum berm width of 10 m. • For the Lynas Find deposit, the weathered rock batter is 45˚ and the fresh rock better angle is 65˚. Benches will be established every 20 m maximum with a minimum berm width of 15 m. • For South deposit, the weathered rock batter is 55˚ and 75˚batters in the transitional and fresh rock domains. Benches will be established every 20 m maximum with a minimum berm width of 7.2 m. The South pit has geotechnical berms of 15m every 100 m vertical height. Final pit designs require a final geotechnical assessment. • The same Mineral Resource model used for the Mineral Resource estimate (published 6 September 2021) was used as an input to the Ore Reserve estimate. Dilution was modelled to reflect the selective mining approach by applying skin dilution at boundaries of mineralized zones using a mathematical method. Wireframes were used to create a proportional estimate of pegmatite, which is used to estimate mineralized tonnes and grade from mixing of waste and pegmatite. The Mineral Resource model dilution resulted in an average of approximately 6% dilution and 6% ore-loss across site. A further ore loss of 5% was applied globally to

Criteria	JORC Code explanation	Commentary
		represent the ability to fully recover the contact material, in particular the thin lodes, which is considered by the Competent Person to be reflective of the selective excavation techniques used on site at the boundaries of the mineralized zones. The diluent material is assumed to contain zero Li2O and Ta2O5 grade, with Fe2O3 contamination coming from the modelled Fe2O3 waste grades. The Fe2O3 grade was derived from local estimates of a waste model, generated using ordinary kriging. • Inferred Mineral Resources were treated as waste rock in pit optimization, mine design and mine scheduling. • Infrastructure to support a combined 3.6 Mtpa operations is in place, including haul routes, crushing and processing, maintenance, explosive storage, fuel storage, wash-down facilities, water, power, accommodation, offices and port storage facilities. There are ongoing requirements for construction of diversion channels and haulage roads. • Additional processing facilities planned to extract the Ore Reserve are discussed under metallurgical factors or assumptions.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.*	• The Pilgan 2 Mtpa Stage 1 processing plant has been commercially operational since April 2019. The existing Pilgan plant will be expanded during Stage 2 development to a production capacity of 5 Mtpa as offtake demand requires. The Pilgan plant currently processes uncontaminated pegmatite ore only, with any ore diluted with basalt (up to 22% basalt) currently stockpiled for later processing. An ore sorting facility is to be added to the front end of both the 2 Mtpa and expanded 5 Mtpa Pilgan plant to enable processing of this contaminated ore, and a contract ore sorting proposal is currently being evaluated. The Ngungaju

Criteria	JORC Code explanation	Commentary
	• *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	plant capacity is 1.3 Mtpa and currently processes uncontaminated pegmatite ore only. There are no current plans for further expansion of the Ngungaju plant. • The current 2 Mtpa and the proposed 5 Mtpa Pilgan processing plant contains three-stage crushing, ball mills, hydrocyclone classifiers, heavy media separation, flotation, magnetic separation, spirals, and filtration to produce a 6% Li2O concentrate and a 5 to 10% Ta2O5 concentrate. • The 1.3 Mtpa Ngungaju processing plant contains three-stage crushing, heavy media separation, ball milling, cyclone classification, flotation, magnetic separation and filtration to produce a 5.7% Li2O concentrate only. No Ta2O5 concentrate is produced at Ngungaju. • The Pilgangoora 30 June 2021 Ore Reserve Estimate incorporates the treatment of the ore contaminated with basalt at the Pilgan plant with the flowsheet addition of ore sorting at the primary and secondary crushed size fraction. This technology has recently been implemented in other hard rock spodumene operations and Pilbara Minerals testwork (XRT and optical) on existing Pilgangoora contaminated ore stocks confirm that the technology is technically and economically viability in allowing processing of contaminated ore, which represents approximately 15% of the Ore Reserve. • The current 2 Mtpa Pilgan plant, the proposed 5 Mtpa Pilgan processing plant, the 1.3 Mtpa Ngungaju processing plant and the proposed optical sorting facility for the front end of the Pilgan plant all utilize conventional and well-tested metallurgical techniques common in the industry and is considered by the

Criteria	JORC Code explanation	Commentary
		Competent Person to be appropriate for the deposit. • Only fresh and transitional materials are processed, with mineralized oxide considered to be waste. Mineralization analysis and liberation estimates of the concentrates and tailings have been completed to support the design and the process flow with mass balances. Ore sorting testwork shows that 99.4% of Li2O can be recovered. • The essential elements of the process plant design utilize a combination of heavy media separation and flotation, to produce a 6% Li2O concentrate at the Pilgan plant and 5.7% Li2O concentrate at the Ngungaju plant. Pilbara Minerals, in conjunction with processing metallurgical consultants, have conducted sufficient test work, including pilot plant test work to indicate that battery grade lithium concentrates can be produced at these concentrate grades with a suitable Fe2O3 quality for sale in this market. No allowance was considered necessary for deleterious elements. • A life of mine average fixed recovery of 74.6% for Li2O and 50% for Ta2O5 at the Pilgan processing plant was applied in the estimate. A life of mine average fixed recovery of 67.7% for Li2O at the Ngungaju processing plant was applied in the estimate. The Ngungaju plant does not produce a Ta2O5 concentrate. • The Modifying Factors relating to the Pilgan processing plant were informed by production data from Pilgan ore processing plant operations over the last 12 months, which show that saleable grades for Li2O and Ta2O5 concentrates are achievable and recovery estimates for concentrate are reasonable. The Modifying Factors relating to the Ngungaju processing plant were informed by past-production data from

Criteria	JORC Code explanation	Commentary
		Altura ore processing plant operations, pilot trials at the Pilgan plant, and planned recovery improvements based on budgeted capital expenditure in FY 2022, which show that saleable grades for Li2O concentrate are achievable and recovery estimates for concentrate are reasonable. • Tailings are managed with above ground tailings management facilities (TMF) on the mining lease. The Pilgan and Ngungaju processing plants have separate TMFs. The TMFs are subdivided into cells and a construction programme developed with mine waste to ensure that TMF walls keep in front of tailings storage requirements. The current TMF capacity is sufficient for scheduled mine production until approximately 2035, with options being evaluated for a further TMF on the current mine leases or backfilling Monster pit void to enable sufficient storage for the remainder of the Ore Reserve.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	• Two Mining Proposals have been approved by the Department of Mines, Industry Regulation and Safety covering the first 17 years (at 2 Mtpa) of operations of the Pilgan Project and the first 25 years of operations of the Ngungaju Project. • Appropriate environmental studies were completed over the project areas and no issues were identified that would materially impact the proposed location of pits, infrastructure or waste rock dumps (WRDs) for the first 17 and 25 years of operations respectively. Further environmental approvals will be required for the Pilgan Stage 2 life of mine footprint including full development of South and Lynas Find pits. • Management of topsoil material including pre-stripping prior to mining and storage for future incremental rehabilitation was allowed for in this

Criteria	JORC Code explanation	Commentary
		estimate. Soil characterization reviews and reports were completed by environmental consultants, which will facilitate further detailed work regarding topsoil management. • Sterilization drilling of some WRD footprints has been undertaken with further programmes proposed and to be completed prior to dumping at the proposed locations. To date, no issues have been identified that would materially impact on the proposed locations. • The WRDs designs allow for the encapsulation and storage of potential acid-forming (PAF) material and waste rock characterization studies have been completed to a sufficient level of confidence. • A 2016 drilling campaign recorded intermittent intersections of fibrous material in South Pit. The Perth laboratory of SGS Environmental were provided with a sample of the fibrous material and it was identified as Chrysotile. • Pilbara Minerals has entered into two Native Title Agreements with the Njamal people to cover the Pilgangoora operations. All Pilgan plant Stage 2 project areas fall within the existing Native Title Agreements. Heritage surveys of the Lynas Find area have been undertaken and no issues were identified that would impact upon the Pilgan plant Stage 2 design. Further, more detailed heritage surveys will be undertaken to ensure any additional operational requirements are within completed survey boundaries. • Hydrological and hydrogeological studies have been completed over the Pilgangoora operations to assess the impact on surface and ground water flows. No significant impacts were identified or expected for the proposed mining operations. • The diversion of Pilgangoora Creek around the Central

Criteria	JORC Code explanation	Commentary
		Pit has been approved under the existing Mining Proposal (MP85615). An extension to the diversion has been approved within the Pilgan Stage 2 Mining Proposal. An additional diversion will be required south of Pilgan TMF Cells 1 and 2 before approximately 2028. • All tailings will be stored in an above ground purpose built TMF until approximately 2035, at which time it is proposed that the Monster Pit will be used for tailings storage, if no other suitable surface storage facilities are identified. No approvals have been sought for in-pit tailings deposition as part of the Pilgan plant Stage 2 approvals. Alternative tailings deposition areas are currently under review. The Pilgan plant's TMF and the Ngungaju plant's TMF have both been completed and are receiving tailings. Storing tailings in the Monster Pit or at an alternative location beyond the already approved lifts will require future approval by the regulators. • Backfilling the East Pit with mine waste rock from approximately 2035 will require approval. The mine has been developed under the Mining Act 1978.
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• The Pilgangoora operation is currently accessed via the Wodgina East road, off the Great Northern Highway. Concentrate is hauled approximately 120 km by road using purpose-built heavy haulage road trains for export via a Port Hedland storage facility. • Sufficient land exists to locate proposed infrastructure, TMF and WRDs required for the Ore Reserve. Current designs for WRDs and TMFs allow for operations until approximately 2035. Studies are in progress to seek approval for the Lynas Find and South open pits, along with storage facilities for waste rock and tailings for the remainder of the mine life. If suitable surface sites can't

Criteria	JORC Code explanation	Commentary
		be identified, it is proposed that the additional tailings be deposited in the Monster Pit void, while mine waste rock will be deposited in the East Pit void. • Power is currently generated on site via an independent power provider to meet the needs of the process plant and supporting infrastructure. • A water balance assessment by independent consultant has determined that the water resources already secured by Pilbara Minerals will be sufficient to meet the needs of the Pilgan plant Stage 1 operation, on the basis that the bores perform as expected from the modelling undertaken. Ngungaju plant water requirements can be serviced from the water resources within the mine area. • Pilgangoora Creek will need to be diverted from its current alignment. The original diversion channel proposed during the Pilgan plant Stage 1 DFS was approved under the Mining Proposal. Extension to the Pilgangoora Creek diversion channels as a result of a modified site layout will require approval. The extended design is consistent with the approved design, and as such, there are reasonable expectations the extensions will also be granted. Costs for these diversions were allowed for in financial analyses. • The workforce required for the operation is engaged on a fly-in-fly-out (FIFO) basis. FIFO operations are well established within Western Australia. FIFO workers will generally commute between Perth and Port Hedland and be accommodated using the existing fully catered facilities established on site.

Criteria	JORC Code explanation	Commentary
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	• Capital and operating costs for Pilgan plant are based on a high level of certainty through work completed at a PFS level of assessment for the addition of ore sorting and known operational updates and DFS level for to the Pilgan plant Stage 2 DFS. Capital and operating costs for Ngungaju are based on past operating costs and production information. Mining, processing and general costs were adjusted where appropriate, including expanded mining maintenance facilities. Exchange rates were based on Pilbara Minerals forward projections and transportation charges were based on current contracts. Costs include all appropriate government and third-party royalties. • No allowances were made for deleterious elements, as Pilbara Minerals has shown in metallurgical test work and current plant performance that they are unlikely to exist in the concentrate in any material quantities. Concentrate quality is sensitive to Fe2O3 levels in the feed, but the proposed ore sorting technology for the front end of the plant is effective in removing basalt contamination and therefore Fe2O3 contamination. • Royalties are based on prices on a Cost, Insurance and Freight (CIF) basis and include state, native title and third party.

Criteria	JORC Code explanation	Commentary
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s), exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	• Spodumene (Li2O) price was determined by Pilbara Minerals based on recent consensus broker and independent lithium industry commodity forecasters long term spodumene price forecast. • The Ta2O5 price was determined using leading independent commodity forecaster Roskill. • Prices, exchange rates, transportation and treatment charges have all been included in revenue and processing costs as described in 'Mining factors or assumptions'.
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	• Pilbara Minerals have entered into offtake agreements for the sale of up to 100% of spodumene concentrate production from the Pilgan Plant. Agreements are in place with various parties with a minimum duration remaining of between four to eight years with options to extend. Product to be produced from the Ngungaju plant is currently uncontracted with plans to sell all of this product on Pilbara's BMX trading platform to maximise spot pricing in current market conditions. The lithium market has now moved into a supply deficit which is reflected in the significant price increases being realised during 2021. The outlook for lithium continues to be positive with most industry forecasters and brokers forecasting significant demand growth with lithium supply deficits to widen through to 2030. • The sale of Ta2O5 concentrates to Global Advanced Metals is on a gate sale basis with pricing linked to a market reference price. Ta2O5 concentrates are subject to a Right of First Refusal agreement with Global Advanced Metals.

Criteria	JORC Code explanation	Commentary
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• Open pit final designs were determined using industry standard Whittle pit optimization software to define open pit economic limits. Pilgan operating costs were derived from the Pilgan plant Stage 2 DFS and updated, where appropriate, based on current Pilgan Stage 1 operational performance, while the revenue assumptions were applied as outlined under 'Cut-off parameters'. Ngungaju operating costs were derived from past operating costs and production information including plant upgrades. • The economic analysis for the Ore Reserve estimate shows a significantly positive net present value in Whittle applying a 10% discount rate and remains significantly positive when considering all predicted capital costs for the life of mine. • Mining cost, revenue and other sensitivities were undertaken within Whittle software, to check pit optimizations as part of this Ore Reserve estimate and net present values remain significantly positive.
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• Pilbara Minerals has secured two Native Title Agreements with the registered Native title claimant party (Njamal) over the Pilgangoora operations project areas. The Native Title Agreements provide direct and indirect benefits to the Njamal people, including fixed payments, royalty payments, employment and business opportunities. • The Pilgangoora operations are located approximately 120 km south of Port Hedland, and Pilbara Minerals is an active sponsor of community events in this regional centre.

Criteria	JORC Code explanation	Commentary
		• In recognition of the placement of the Pilgan processing plant on the Wallareenya pastoral lease, Pilbara Minerals has entered into an Agreement with the holders of the pastoral lease that allows for ongoing consultation and contracting opportunities. Pilbara Minerals also maintain active consultation with neighbouring Indigenous communities, pastoral station holders, local governments and mining companies. • The projects are also located in the Pilbara region of Western Australia, one of the most significant mining regions of the globe. Pilbara Minerals have not identified or encountered any obstruction to gaining a social license to operate.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study.* • *Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	• The project area is located inside tenements either granted to or under application by Pilbara Minerals via Pilgangoora Operations Pty Ltd (M45/78, M45/333, M45/511, M45/1256 and M45/1266) or acquired by Pilbara Minerals via the Altura acquisition (M45/1230, M45/1231 and M45/1260) in 2021. No objections to the Pilgan plant Stage 1 or Stage 2 proposed infrastructure have been received. • No material naturally occurring risks have been identified. • The Pilgan plant Stage 1 and Stage 2 Projects are currently operating under Mining Proposal 85615, approved by DMIRS on 28_April 2020. Future applications for the Pilgan Stage 2 life of mine footprint including development of South and Lynas Find pits, extra TMFs and WRDs will be submitted following completion of required environmental surveys. • The Ngungaju processing plant and associated area is currently operating under Mining Proposal 86477, approved by DMIRS on 25 May 2020.

Criteria	JORC Code explanation	Commentary
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	• Only Measured and Indicated Mineral Resource was considered and converted by application of Modifying Factors to generate the Ore Reserve. Diluting material was unclassified and assigned a diluting grade of zero for Li2O and Ta2O5. The grade of Fe2O3 was determined in the manner described under "Mining factors or assumptions". • The Ore Reserves consist of 13% Proved Reserves and 87% Probable Reserves. • The Competent Persons are satisfied that the stated Ore Reserve classification reflects the outcome of technical and economic studies. • All Proved Ore Reserves were derived from Measured Mineral Resources only. All Probable Ore Reserves were derived from Indicated Mineral Resources only. All long-term stockpile material (contaminated ore, scheduled for later processing through the ore sorting facility) is classified as Probable Reserve to reflect the lower certainty resulting from long term storage of this material.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• The key metallurgical inputs for the Ore Reserve were derived from the Pilbara Minerals 2020 PFS level of assessment on the addition of ore sorting to the Pilgan plant Stage 2 DFS, which was reviewed by AMC Consultants Pty Ltd (AMC) and an independent metallurgical consultant. The key metallurgical inputs for the Ngungaju processing plant are based on historical data. • The 2021 Ore Reserve estimate was prepared by Pilbara Minerals and AMC. Both parties conducted their own internal peer reviews.

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The Ore Reserve has been completed with a relative accuracy and confidence level consistent with a minimum of a PFS level of assessment, and a higher level of assessment in most areas. Reconciliation data between the ore processing plant and grade control estimates support the introduction of a further global 5% loss of ore. The resource modelling, ore loss and dilution modelling methods and additional ore loss observed from operations reconciliation are considered to be reflective of global estimates. • All Pilgan cost inputs are based on the PFS level of assessment on the addition of ore sorting to the Pilgan Stage 2 DFS and operating experience over the last 12 months. All Ngungaju cost inputs are based on past operating costs and production information including all plant upgrades. • Mining operations at the Pilgangoora project commenced in October 2017. • The following further work is recommended: o optimization of WRDs to maximize project value, while satisfying TMF and PAF management requirements. o optimization and approvals of further TMF sites including, if necessary, depositing tailings into the Monster Pit void after approximately 2035. o approvals for backfilling the East Pit with mine waste rock from approximately 2035. • The Pilgan Stage 1 operation has been in commercial operation since April 2019. Subsequent improving technical performance of the processing facility grants high confidence of the flowsheet to deliver the outcomes provided in this Ore Reserve.

Criteria	JORC Code explanation	Commentary
		• The Pilgan plant Stage 2 DFS demonstrated the technical and economic viability of expanding the process plant to 5 Mtpa. The Ore Reserve estimate has been largely based on the same parameters used for the Pilgan plant Stage 2 DFS, updated as appropriate from Pilbara Minerals operating experience over the last 12 months. • The Ngungaju plant has been in commercial operation since July 2018 but was not operating for a period of time due to corporate issues of the owner at the time. Pilbara Minerals expect to have the plant operational by early CY 2022, ending an approximate 1.5 year break in operations. • In the opinion of the Competent Person, the material costs and modifying factors used in the generation of the Ore Reserves are reasonable.