Pilbara Minerals

...Powering a Sustainable Energy Future

ASX / MEDIA ANNOUNCEMENT

Monday 17 September 2018

35% JUMP IN ORE RESERVES TO OVER 108 MT FURTHER UNDERLINES PILGANGOORA'S GROWTH POTENTIAL

ORE RESERVE NOW CONTAINS OVER 1.36MT OF CONTAINED LITHIUM OXIDE, EXTENDING THE PLANNED MINE LIFE TO 23 YEARS AT 5MTPA WITH FURTHER SCOPE TO INCREASE THE MINE PRODUCTION RATE

Highlights:

- **35% increase in total Proved and Probable Ore Reserves at the 100%-owned Pilgangoora Lithium-Tantalum Project in WA's Pilbara to 108.2 million tonnes grading 1.25% Li_2O, 120ppm Ta_2O_5 and 1.17% Fe_2O_3.**
- **The Ore Reserve is based on a revised JORC Mineral Resource estimate of 226.0 million tonnes grading 1.27% Li_2O (spodumene) and 116ppm Ta_2O_5 and 0.60% Fe_2O_3.**
- **The updated Ore Reserve contains an estimated 1.36 million tonnes of contained Li_2O and 28.5 million pounds of Ta_2O_5, extending the mine life to ≈ 23 years based on the proposed Stage 2, 5Mtpa operation.**
- **The upgraded Ore Reserve is based on a flat forward commodity price of US$633 per tonne of spodumene concentrate (SC6.0 basis).**
- **Continued Ore Reserve growth and customer demand conditions provide the opportunity for the Company to consider further expansion of the project beyond Stage 2.**
- **Significant opportunities exist to further expand Mineral Resources and Ore Reserves, with further drilling campaigns to commence in the March Quarter 2019.**

Australian lithium producer, Pilbara Minerals Limited (ASX: PLS) ("Pilbara Minerals" or "Company") is pleased to announce a 35% increase in the JORC Ore Reserve estimate for its 100%-owned Pilgangoora Lithium-Tantalum Project in Western Australia (Figure 1), supporting both the Stage 2, 5Mtpa expansion as well as the scope for further growth in the project.

The expanded Ore Reserve of **108.2 Mt grading 1.25% Li_2O, 120 ppm Ta_2O_5 and 1.17% Fe_2O_3** has been estimated from an upgraded JORC Mineral Resource of **226.0 Mt @ 1.27% Li_2O** containing an estimated 2.86 Mt of Li_2O.

There is significant potential for further increases in both the global Mineral Resource and Ore Reserve inventory, with customer demand supporting the opportunity for further growth beyond Stage 2.

Pilbara Minerals' Managing Director, Ken Brinsden, said "*The continued growth in Ore Reserves reflected the quality and scale of the Pilgangoora project and truly sets the scene for our Stage 2, 5Mtpa expansion*". Mr Brinsden added. "*Given the rapid escalation in customer demand, the robust outlook for the lithium market and continued increases in the Resource and Ore Reserve, we have every reason to believe that Pilgangoora's production can continue to grow over time, subject of course to completing the appropriate studies*."

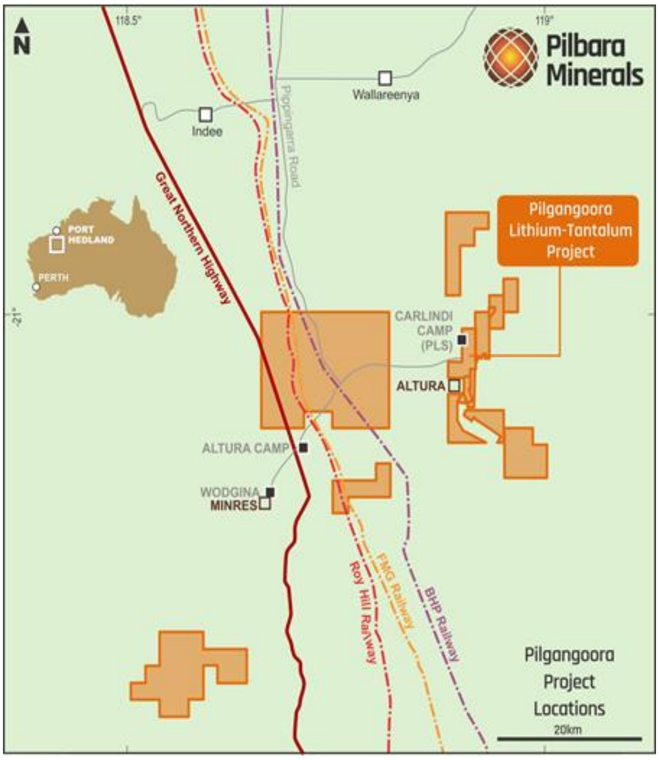

Figure 1 - Pilgangoora Project Location

2012 JORC Resource Estimation

Prior to undertaking the Ore Reserve estimate, the Mineral Resource announced on 29th May 2018 has been revised and updated to a 0.2% Li_2O cut-off grade for consistency with the cut-off grade currently applied at the Pilgangoora Mining Operation. The updated 2012 JORC compliant Mineral Resource for the Project incorporates all historical data, as well as all drilling data acquired through a number of exploration campaigns completed by Pilbara Minerals from 2014 to April 2018.

Previous extensive studies on twin diamond holes paralleling Reverse Circulation (RC) drill holes, has demonstrated that iron is introduced in the samples through RC drilling and therefore reports higher Fe_2O_3 than is actually the case in the ground (as per the diamond core sample). Further analysis of the drill samples (as part of this September 2018 Mineral Resource update) has shown that there has been a further increase in the artificial elevation of Fe_2O_3 assays in the deeper RC drill holes, as a result of the highly abrasive nature of the mineralised pegmatite on the RC drilling bits and rods. As such, Pilbara Minerals has completed a revised statistical analysis of the abovementioned issue resulting in the factoring of the raw Fe_2O_3 grade to account for the contamination.

It should be noted that apart from the reporting of the Mineral Resource at a lower cut-off grade and revising the factors applied to the Fe_2O_3 assays, no other changes have been made to the Mineral Resource since the ASX announcement dated 29 May 2018.

The updated September Mineral Resource 2018 estimation was carried out by independent resource consultancy, Trepanier Pty Ltd, resulting in the estimation of Measured, Indicated and Inferred Resources. The reporting of all domains (using a cut-off of 0.2% Li_2O) results in a Measured, Indicated and Inferred Mineral Resource estimate (Table 1) totalling:

226.0 million tonnes @ 1.27% Li_2O containing 2.86 million tonnes of Li_2O.

Table 1: Pilgangoora Lithium-Tantalum Geological Mineral Resource Estimate (using 0.2% Li_2O cut-off)

Category	Tonnage (Mt)	Li_2O (%)	Ta_2O_5 (ppm)	Li_2O (T)	Ta_2O_5 (Mlbs)	Factored Fe_2O_3 (%)
Measured	22.8	1.38	145	314,000	7.3	0.44
Indicated	112.8	1.29	119	1,456,000	29.5	0.57
Inferred	90.4	1.21	105	1,094,000	20.8	0.67
TOTAL	**226.0**	**1.27**	**116**	**2,864,000**	**57.7**	**0.60**

Notes:
1. Mineral Resource reported above 0.2 Li_2O% cut-off.
2. Appropriate rounding applied.
3. Refer to ASX announcement dated 29 May 2018.

The envelope was wire-framed using both geological logging information (in particular logging of zoning within the pegmatite) and assay data for Li_2O, Ta_2O_5 and Fe_2O_3. Table 2 below illustrates the breakdown of the resource by area.

If a lower lithium cut-off of >1% is used in global resource reporting, this results in a reduction in tonnage but provides a significantly higher grade resource (see Figure 2 below: Grade vs. tonnage curves for the total lithium resource):

160.8 million tonnes @ 1.50% Li_2O containing 2.41 million tonnes of Li_2O.

Details of the drilling data used for the estimation, site inspection information and the quality control checks completed on the data are documented both in the ASX announcement dated 29 May 2018 and the JORC Table 1, Sections 1 to 3 attached to this announcement. As outlined above, no new drilling or assay data has been used in the revised Mineral Resource estimate.

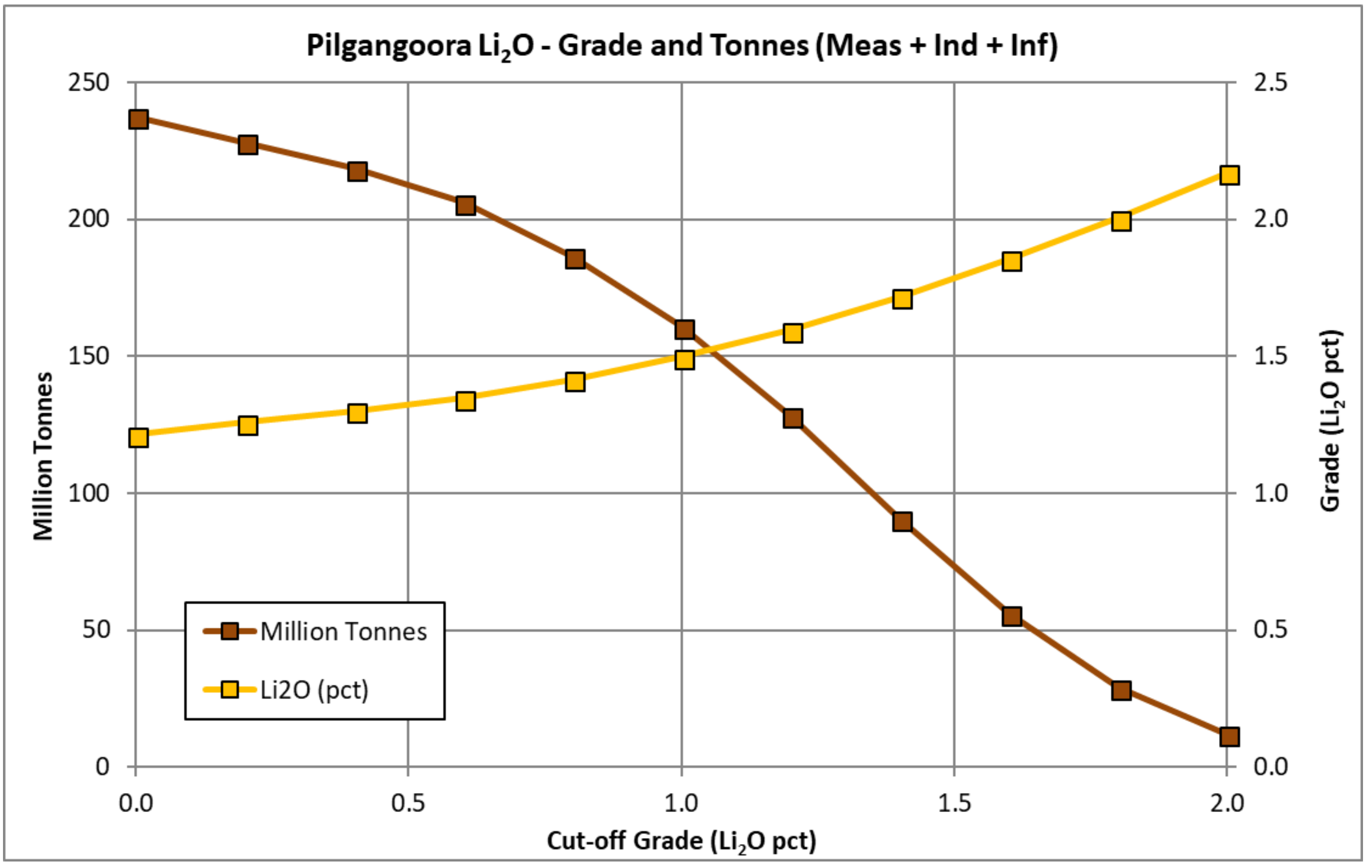

Figure 2 – Grade vs. Tonnage curves for the total lithium resource

Table 2: Pilgangoora Lithium-Tantalum Geological Mineral Resource Estimate by Area (using 0.2% Li_2O cut-off)

Area	Category	Mt	Li_2O (%)	Ta_2O_5 (ppm)	Li_2O (T)	Ta_2O_5 (M lb)	Fe_2O_3 (%)
Central	Measured	15.2	1.37	114	209,000	3.8	0.41
	Indicated	72.3	1.31	109	950,000	17.4	0.53
	Inferred	44.7	1.30	79	581,000	7.7	0.62
	Combined	132.2	1.32	99	1,741,000	28.9	0.55
Eastern	Measured	4.8	1.36	247	65,000	2.6	0.57
	Indicated	11.5	1.19	245	137,000	6.2	0.70
	Inferred	11.1	1.17	263	129,000	6.4	0.75
	Combined	27.4	1.21	253	331,000	15.2	0.70
Far East	Measured	-	-	-	-	-	-
	Indicated	7.2	1.28	93	92,000	1.5	0.60
	Inferred	1.8	1.50	70	27,000	0.3	0.83
	Combined	9.0	1.33	89	119,000	1.8	0.65
South	Measured	-	-	-	-	-	-
	Indicated	10.5	1.15	68	120,000	1.6	0.63
	Inferred	20.6	1.07	69	220,000	3.1	0.71
	Combined	31.0	1.10	69	340,000	4.7	0.68
South End	Measured	-	-	-	-	-	-
	Indicated	0.6	0.92	77	6,000	0.1	0.81
	Inferred	1.4	0.59	71	8,000	0.2	0.47
	Combined	2.0	0.69	73	14,000	0.3	0.58
West	Measured	-	-	-	-	-	-
	Indicated	-	-	-	-	-	-
	Inferred	5.5	0.98	127	54,000	1.5	0.79
	Combined	5.5	0.98	127	54,000	1.5	0.79
Monster	Measured	2.8	1.44	141	40,000	0.9	0.40
	Indicated	6.6	1.33	136	88,000	2.0	0.53
	Inferred	4.0	1.33	133	53,000	1.2	0.61
	Combined	13.3	1.35	136	180,000	4.0	0.53
Pilgangoora Sub-Total	Measured	**22.8**	**1.38**	**145**	**314,000**	**7.3**	**0.44**
	Indicated	**108.7**	**1.28**	**120**	**1,393,000**	**28.7**	**0.57**
	Inferred	**89.0**	**1.21**	**105**	**1,073,000**	**20.5**	**0.67**
	Combined	**220.5**	**1.26**	**116**	**2,780,000**	**56.5**	**0.59**
Lynas Find	Measured	-	-	-	-	-	-
	Indicated	4.1	1.55	89	64,000	0.8	0.66
	Inferred	1.4	1.48	104	21,000	0.3	0.94
	Combined	5.5	1.53	93	84,000	1.1	0.73
TOTAL	Measured	**22.8**	**1.38**	**145**	**314,000**	**7.3**	**0.44**
	Indicated	**112.8**	**1.29**	**119**	**1,456,000**	**29.5**	**0.57**
	Inferred	**90.4**	**1.21**	**105**	**1,094,000**	**20.8**	**0.67**
	Combined	**226.0**	**1.27**	**116**	**2,864,000**	**57.7**	**0.60**

2012 JORC Reserve Estimation

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

The Ore Reserves are based on an updated Mineral Resource of 226.0 million tonnes @ 1.27% 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 reported with all domains is outlined above in Tables 1 and 2.

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 mine schedule was generated using optimization scheduling software, to maximize NPV. The schedule was used in conjunction with costs, built up from existing mining contractor costs and first principles, to determine the Ore Reserve mining costs. The schedule and mining costs were then evaluated in the financial model, which provides various financial metrics and sensitivity analysis.

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. While mining extraction will continue using hydraulic excavators, trucks and suitably sized ancillary equipment. It is assumed that mining will continue on 5m benches, using 2 x 2.5m flitches in ore zones. The selective excavation techniques enable waste rock to be separated from the mineralized pegmatite at lode boundaries to minimize mining dilution. The ore loss and mining dilution within the Pilgangoora mining envelope was estimated to be 10% and 6% respectively. The Fe_2O_3 grade of waste mining dilution 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 50 degree batters in the weathered domain and 75 degree batters in the fresh rock domain. Benches will be established every 20m maximum with a minimum berm width of 10m.

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

- An average of 5Mtpa ore processed after a ramp up period from the Stage 1 2Mtpa;
- Sales price of US$633/t for battery grade concentrate (6% Li_2O);
- Sales price of US$89/lb for Ta_2O_5;
- A fixed recovery of 75.0% for Li_2O and 57.4% for Ta_2O_5;
- Mining costs derived from current mining costs and first principles; and
- Processing costs as per the Stage 2 DFS (August 2018).

The updated September 2018 Ore Reserve is shown below in Table 3. The life-of-mine strip ratio was estimated to be 5.0 (tw/to).

Table 3: Pilgangoora Tantalum-Lithium Project JORC Ore Reserve Estimate (September 2018)

Category	Tonnage (Mt)	Li_2O (%)	Ta_2O_5 (ppm)	Fe_2O_3 (%)	Li_2O (Mt)	Ta_2O_5 (Mlbs)
Proved	22.1	1.30	135	1.11	0.29	6.6
Probable	86.1	1.24	116	1.19	1.07	21.9
TOTAL	**108.2**	**1.25**	**120**	**1.17**	**1.36**	**28.5**

Notes:

1. Ore loss was estimated to be 10% of the convertible Measured and Indicated Mineral Resource.
2. The Ore Reserve estimate includes 6% of diluting material at zero grade for Li_2O and Ta_2O_5.
3. The grade of Fe_2O_3 associated with waste rock dilution was estimated into a waste model using ordinary kriging and applied locally.
4. All Inferred Mineral Resource and unclassified mineral inventories within the mining envelope were treated as waste.
5. Oxidized mineralization was treated as waste.
6. The Lynas Find Pit and associated waste land forms are located on M45/1266, which is currently under application and expected to be granted in the near term. All other pits and landforms are located within existing granted mining leases held by Pilbara Minerals Ltd
7. Totals may not add up due to rounding.
8. The Ore Reserve was estimated using the Net Smelter Return (NSR) method. The marginal economic cut-offs were estimated to be between $25-30 per tonne, depending on the distance from the process plant.

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 and 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.

An additional 3.9Mt of Inferred Resource above the cut-off grade is recoverable within the pit design, which has the potential to be added to the mining inventory with further drilling.

Mining cost inputs are based on current mining contract and first principles. The costs include owners costs, contractor management, drill and blast, load and haul, maintenance, infrastructure, ore re-handle, clear and grub, top soil management, rehabilitation and mine closure.

The process plant assumptions and costs developed for the Stage 2 DFS (August 2018) were used for this Ore Reserve estimate.

The essential elements of the process plant design utilise a combination of heavy media separation and flotation, to produce a 6% Li_2O concentrate.

Pilbara Minerals, in conjunction with processing metallurgical consultants, has conducted sufficient test work, including Pilot Plant test work to indicate that battery grade lithium concentrates can be produced at 6% Li_2O with a suitable Fe_2O_3 quality for sale in this market. Similarly, preliminary tantalum concentrate products have been produced for third party sale.

A life of mine fixed recovery rate for Li_2O of 75.0% was applied based on metallurgical tests conducted by external metallurgical consultants, while a fixed life of mine average of 57.4% was applied for Ta_2O_5.

Mineralization analysis and liberation estimates of the product and tails have been completed to support the design and the process flow with mass balances. Metallurgical test work has shown that Fe_2O_3 and deleterious elements are within acceptable range within the concentrate.

The Pilgangoora pits and extent of defined mineralized zones can be seen with reference to Figure 3, where Measured and Indicated Resource categories are shown in blue and green respectively. Inferred Resource is shown in yellow and Unclassified red. The Central Pit now extends to a depth of 320 metres, over a strike length of approximately 1.5 km. The East Pit has now merged with the Central Pit over a combined strike length of 2.7 km.

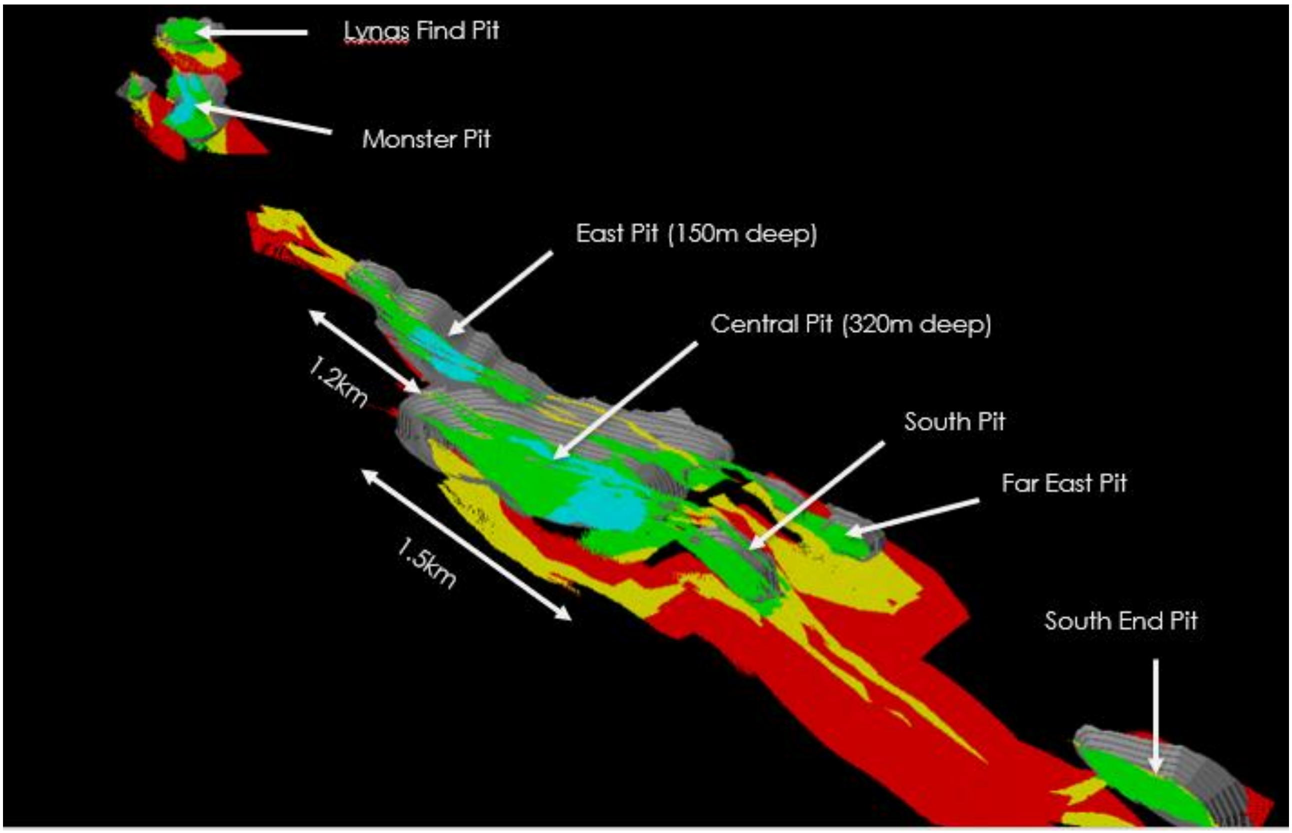

Figure 3 – Pilgangoora pits and extent of defined mineralised zones

Fe_2O_3 within resource

In addition to Li_2O and Ta_2O_5, Pilbara Minerals has also estimated the Fe_2O_3 for the Mineral Resource as a potential deleterious element in the production of spodumene concentrates for the glass and ceramics industry.

In May 2015, Pilbara Minerals announced (see ASX announcement dated 25 May 2015) that high-quality spodumene concentrate was successfully produced from a 100kg bulk sample by German industrial minerals specialists ANZAPLAN. Using simple flotation and magnetic separation, specifications met that of typical glass-grade spodumene products, which require low iron oxide content, typically in the range of 0.06 – 0.17% Fe_2O_3. Subsequent pilot scale process testwork conducted (for both Chemical and Technical Grade products) during and after the September 2016 Definitive Feasibility Study also successfully produced Technical Grade spodumene products from multiple samples. Please see ASX announcements dated 12 May 2017 and 31 July 2017. A further 6.5 tonnes of the bulk Eastern sample was processed to produce an additional technical grade product sample of approximately 1 tonne, for distribution to potential customers. The technical grade concentrate produced as sampled from the pilot plant and after iron removal assayed between 6.8 to 7.1% Li_2O and 0.11 to 0.13% Fe_2O_3.

Therefore, Fe_2O_3 is not considered to be a deleterious element as testwork demonstrates most Fe_2O_3 can be removed through a standard metallurgical process.

During the process of drilling, sampling and assaying, Pilbara Minerals identified two key issues causing contamination and, hence, artificial elevation of the Fe_2O_3 assays for the drill samples. Firstly, the highly abrasive nature of the Li_2O/Ta_2O_5 mineralised pegmatite on the RC drilling bits and rods has resulted in iron contamination of the drill samples in the field. Secondly, when the drill samples were pulverised in laboratory in steel containers, the highly abrasive nature resulted in further iron contamination. As such, Pilbara Minerals completed a statistical analysis into both of the abovementioned issues which then allowed for factoring of the Fe_2O_3 assays to account for the contamination.

The iron contamination introduced when the drill samples were pulverised in laboratory was investigated initially by pulverising 56 duplicate samples at Nagrom (in 2014 and 2015) of crushed and homogenised core in both LM5 and LM2 steel vs. LM2 tungsten carbide containers. A further 59 samples were analysed in the same way by ALS in 2016. The results showed Li_2O and Ta_2O_5 repeating consistently, but with a significant increase in Fe_2O_3 in the samples pulverised in the steel containers, with results shown in Table 4.

The difference in the factors between Nagrom and ALS is in part due to differing residence times of the samples in the pulverising bowls (Nagrom less than ALS). Initial LM5 steel bowl factors of -0.33% (Nagrom analyses) and -0.47% (ALS analyses) have been applied to all the raw Fe_2O_3 assays in the database. A revised factor of 0.2% has been applied to all the historical GAM raw Fe_2O_3 assays in the database.

Table 4: Steel vs. tungsten carbide pulverising difference for Li_2O (%), Ta_2O_5 (%) & Fe_2O_3 (%)

Laboratory	Difference	Li_2O (%)	Ta_2O_5 (%)	Fe_2O_3 (%)
Nagrom (2014/2015	90% Confidence Average	-0.05	0.000	-0.33
	Standard Deviation	0.41	0.017	0.11
ALS (2016)	90% Confidence Average	-0.05	0.001	-0.47
	Standard Deviation	0.11	0.003	0.10

The iron contamination introduced into the RC drill samples by the highly abrasive nature of the mineralised pegmatite on the RC drilling bits and rods was investigated by comparing Fe_2O_3 assays from 15 sets of twin diamond core and RC holes. The twin hole sets were spread over a strike length of 2km and the separation distance between holes varied between <1m to 15m. Statistical analysis of the spatial co-located data for the Pilbara diamond core, Pilbara RC and historic RC drilling confirmed a significant difference in the Fe_2O_3 assays between the Pilbara diamond core and Pilbara RC – and to a lesser extent between the Pilbara diamond core and the historic RC results.

With more recent drilling programs testing the deeper parts of the Pilgangoora resource, it has also been observed that the iron contamination increases with deeper RC drill holes and is directly related to wear on drilling equipment (i.e. drill bit and skirt, sample tube in the hammer and drill rod inner tubes) that the sample passes through in the increasing length of the drill string. In addition, for deeper holes, a booster and auxiliary compressor system (i.e. increased air pressure and volume) was utilized to maintain sample recovery and drill production.

Detailed statistical analysis of the core vs. RC samples assays by population and depth downhole clearly showed the linear relationship of increasing contamination with depth in the RC samples. Factors have been revised and applied to the raw Fe_2O_3 assays and used to estimated Fe_2O_3 for the Mineral Resource.

In order to determine the extent of iron contamination of the Dakota RC samples, the diamond core samples were crushed in tungsten carbide bowls instead of steel bowls and compared with their twin RC drill holes. The comparison, which accounts for both of the iron contamination issues, indicates that the iron content of the RC samples is elevated by 0.52% Fe_2O_3. Based on these results, an iron factor of - 0.52% Fe_2O_3 was applied to the RC samples only.

The two step Fe_2O_3 adjustment factors are summarised in Table 5 and the factored Fe_2O_3 resource grades are shown in Table 2. It should be noted this process has been used to understand the potential Fe_2O_3 grades in the resource attempting to remove the Fe_2O_3 present from drilling and/or sample preparation contamination. The Fe_2O_3 grades are an estimate only, however consistent with the broad estimation techniques applied for the estimate of the global resource.

Table 5: Pilgangoora Project – Fe_2O_3 adjustment factors

Drill hole assay sub-set	Laboratory	Fe_2O_3 (%) Factor 1	Fe_2O_3 (%) Factor 2
Pilbara Diamond Core Samples	Nagrom	-0.33%	N/A
	ALS	-0.47%	N/A
Pilbara Resource RC Samples	Nagrom	-0.33%	<285m: -((0.00155 x depth) + 0.19)
	ALS	-0.47%	>285m: -0.63
Pilbara Grade Control RC Samples	Nagrom	-0.33%	-0.24
Altura Diamond Core Samples	Labwest/BV	-0.40%	N/A
Altura RC Samples	Labwest/BV	-0.40%	<150m: -((0.001195 x depth) + 0.25) >150m: -0.43
Dakota Diamond Core Samples	SGS	Core Fe_2O_3 sample prep not by steel bowl – N/A	
Dakota RC Samples	Nagrom	Combined -0.52%	
Historic RC Samples	GAM	-0.20%	-((0.00195 x depth) + 0.024)

For clarity, there is no direct comparison between iron in Resource, Reserve, nor final products produced. Each is subject to various modifying factors. As outlined in this release, the Reserve is subject to dilution modelling which includes the influence of iron in host/waste rocks.

Final products produced from the mined ore (as a subset of the Reserve) result from the ore being concentrated to produce final products. As such, minerals contained within the ore will behave differently as a result of the various plant processes including gravity separation, flotation and iron removal. This may result in iron content levels that are either higher or lower than both the Resource or Reserve estimates.

In any case, Pilbara Minerals and its key technical experts have determined through drilling, testwork, feasibility, engineering studies and now production from the Pilgangoora concentrator that its final products will achieve benchmark quality standards.

SUMMARY OF RESOURCE ESTIMATE AND REPORTING CRITERIA

As per ASX Listing Rule 5.8 and the 2012 JORC reporting guidelines, a summary of the material information used to estimate the Mineral Resource is detailed below (for more detail please refer to JORC Table 1, Sections 1 to 3 included below).

It is noted that for the reported Mineral Resource in this September 2018 announcement, there has since been no changes to the interpretation of the pegmatites, to the estimation of Li_2O and Ta_2O_5 or to the classification from the Mineral Resource announced 29 May 2018. The only changes have been to adjust the methods for the Fe_2O_3 factors and subsequently re-estimate the Fe_2O_3, plus to report the entire Mineral Resource at a lower cut-off grade of 0.2% Li_2O to reflect the revised cut-offs determined during the updated work completed during the Ore Reserve estimate.

Geology and geological interpretation

The Pilgangoora pegmatites are hosted in the East Strelley greenstone belt, which is a series of steeply dipping, mafic meta volcanic rocks and amphibolites. At Pilgangoora, the greenstones have been intruded by a swarm of north-trending, east-dipping pegmatites extending from Mount York in the south northwards for about 11km to McPhees Mining Centre. Many of the pegmatites are very large, reaching over 1000m in length and 200–300m in width. Despite their large size, mineralisation within these zoned pegmatites appears to be restricted to alteration zones, mainly along vein margins containing quartz, albite, muscovite, and spessartine garnet. These mineralised zones contain varying amounts of lepidolite, spodumene, tantalite, cassiterite, and minor microlite, tapiolite, and beryl.

The area of the Pilgangoora pegmatite field within M45/1256, M45/333 and M45/1266 comprises a series of extremely fractionated dykes and veins up to 50m thick within the immediate drilling area. These dykes and veins dip to the east at 20-60°, are strike parallel to sub-parallel to the main schistose fabric within the greenstones (Figures 3 to 8).

Drilling techniques and hole spacing

Talison Minerals Pty Ltd ("Talison") conducted a 54 drill hole RC program in 2008 totalling 3,198m and 29 drill holes for a total of 2,783m in 2010. Talison changed its name to Global Advanced Metals ("GAM") and completed 17 RC holes for 1,776m in 2012. Since acquiring the Pilgangoora Project, Pilbara Minerals has completed 145,189 metres of RC drilling (114,360m exploration, 19,808m infill RC grade control, 5.745 RC water exploration and 5,276m Lynas Find-Dakota Minerals) and 6,483m of diamond drill core.

Sampling and sub-sampling techniques

Sample information used in resource estimation was derived from both RC and diamond core drilling. The drill samples have been geologically logged and sampled for lab analysis. Two programs of diamond core holes (primarily drilled to collect metallurgical sample material) in 2015 and 2017 twinned existing RC holes and when compared, strongly confirmed the RC results.

Sample analysis method

The Talison and GAM samples were assayed by GAM's Wodgina Site Laboratory for a 36 element suite using XRF on fused beads. 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). The Pilbara Minerals drill hole samples from 2014 and 2015 were analysed by the Nagrom Laboratory in Perth by both fused bead XRF and ICP. The Pilbara Minerals drill hole samples from 2016 were analysed by the ALS Global Laboratory in Perth using a Sodium Peroxide fusion with ICPMS finish. Dakota diamond holes were analysed by SGS using fused beads ICP and XRF for 22 elements. Dakota RC holes were analysed by Nagrom for Li_2O, Cs and Ta using a Sodium Peroxide fusion with ICP finish. No geophysical tools were used to determine any element concentrations used in the resource estimate.

Cut-off grades

Pegmatite boundaries typically coincide with anomalous Li_2O and Ta_2O_5which 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. Interpretation work also focused on the internal mineralogical zonation (spodumene rich vs poor) within the pegmatite veins. All pegmatite vein (and grade) contact models were built in Leapfrog™ Geo software and exported for use as domain boundaries for the block model.

Estimation Methodology

Grade estimation was by Ordinary Kriging for Li_2O, Ta_2O_5 and Fe_2O_3 (factored) using GEOVIA Surpac™ software. The estimate was resolved into 5m (E) x 25m (N) x 5m (RL) parent cells that had been sub-celled at the domain boundaries for accurate domain volume representation. Estimation parameters were based on the variogram models, data geometry and kriging estimation statistics. Top-cuts were decided by completing an outlier analysis using a combination of methods including grade histograms, log probability plots and other 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 varied between 1.0% and 9.0%. Some domains did not require top-cutting.

Classification criteria

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. The Pilgangoora Mineral Resource in part has been classified as Measured and Indicated with the remainder as Inferred according to JORC 2012.

Mining and metallurgical methods and parameters

Based on the orientations, thicknesses and depths to which the pegmatite veins have been modelled, plus their estimated grades for Ta_2O_5 and Li_2O, the potential mining method is considered to be open pit mining.

Nagrom Pty Ltd and Anzaplan have both completed scoping metallurgical testwork and have recovered both Ta_2O_5 and Li_2O of marketable qualities. (see ASX announcements ''Pilbara Testwork Confirms Potential" dated 25 May 2015 and "Quarterly Activities and Appendix 5B" dated 24 April 2015).

Pilbara Minerals has released a Pre-Feasibility study (see ASX announcement dated 10 March 2016) and a Definitive Feasibility study (see ASX announcement dated 20 September 2016) that included information on mining parameters by consultants Mining Plus Pty Ltd and definitive metallurgical testwork completed by ALS and Como Engineering Pty Ltd.

Pilot plant metallurgical testwork was also undertaken post completion of DFS (see ASX announcement "Quarterly Activities Report" dated 31 July 2017). Advanced metallurgical testwork utilising over 6 tonnes of pegmatite taken from drill core is currently in progress.

Competent Persons' Statements

The information in this report that relates to Exploration Results and Exploration Targets is based on and fairly represents information and supporting documentation prepared by Mr John Holmes (Exploration Manager of Pilbara Minerals Limited). Mr Holmes is a shareholder of Pilbara Minerals. Mr Holmes is a member of the Australasian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration and to the activities undertaken 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. Specifically, Mr Holmes consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

The information in this report that relates to Mineral Resources is based on and fairly represents information compiled by Mr Lauritz Barnes, (Consultant with Trepanier Pty Ltd) and Mr John Holmes (Exploration and Geology Manager of Pilbara Minerals Limited). Mr Holmes is a shareholder of Pilbara Minerals. Mr Barnes is a member of the Australasian Institute of Mining and Metallurgy and Mr Holmes is a member of the Australasian Institute of Geoscientists and both have sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons 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 Barnes and Mr Holmes consent to the inclusion in this report of the matters based on their information in the form and context in which they appear.

The information in this report that relates to Ore Reserves is based upon information and supporting documentation prepared by Mr Kim Russell (Technical Manager – Mining of Pilbara Minerals Limited) and mine planning work compiled by Mr Glen Williamson (Principal Consultant of AMC). Mr Russell 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 Williamson is a Fellow 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 Russell and Mr Williamson consent to the inclusion in this report of the matters based on their information in the form and context in which they appear.

More Information:

ABOUT PILBARA MINERALS

Pilbara Minerals ("Pilbara" – ASX: PLS) is a mining and exploration company listed on the ASX, specialising in the exploration and development of the specialty metals Lithium and Tantalum. Pilbara owns 100% of the world class Pilgangoora Lithium-Tantalum project which is one of the world's premier lithium development projects. Pilgangoora is also one of the largest pegmatite hosted Tantalite resources in the world and Pilbara proposes to produce Tantalite as a by-product of its Spodumene production.

ABOUT LITHIUM

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

ABOUT TANTALUM

The Tantalum market is boutique in size with around 1,300 tonnes required each year. Its primary use is in capacitors for consumer electronics, particularly where long battery life and high performance is required such in electronics, automotive, aerospace, chemical manufacturing and other industries.

Pilbara Minerals
...Powering a Sustainable Energy Future

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 totalling 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 1,703 holes for 152,031 since acquiring the Pilgangoora Project. This includes 119,636m of exploration RC drilling, 19,808m infill RC grade control drilling, 5,475m of RC water exploration and 5,276m RC (Lynas Find-Dakota Minerals) and 6,843m of diamond drill core
	• *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 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). • PLS RC holes were all sampled every metre within pegmatite zones and one metre into footwall & hanging wall country rock for the 2015 drilling. Samples were collected using a cyclone and cone splitter attached to the rig with a steel brace. 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 (12-inch by 14-inch). • In subsequent RC drilling completed by PLS during 2015 - 2018 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

Criteria	JORC Code explanation	Commentary
		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 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).
	• *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 Nagrom laboratory in Perth and analysed using ICP for 5 elements (Li_2O, 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. • PLS RC holes drilled in 2017 and 2018 were sampled and split at the rig, samples are then sent to NAGROM Perth laboratory and analysed for a suite of 18 elements. Analysis was completed by XRF and ICP techniques. • PLS Diamond core drilled in 2017 was cut at Pilgangoora and the fillets were sent to Nagrom Laboratory in Perth and then crushed and pulverised in preparation for analysis by XRF and ICP.
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

Criteria	JORC Code explanation	Commentary
		Schramm 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 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° 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

Criteria	JORC Code explanation	Commentary
		and cone splitter, and dust suppression system. • RC Drilling in 2018 was completed by Strike Drilling 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.
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. • Sample recovery for PLS 2017 and 2018 holes were recorded as good for 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.
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 RC chips collected and geologically logged for each interval, and stored in 20 compartment plastic rock-chip trays annotated with hole numbers and depth intervals (one compartment per 1m composite). Geological logging information from GAM was recorded directly into an Excel spreadsheet using a Panasonic Toughbook laptop computer. For PLS and Dakota data were recorded directly onto hard copy sheets which were then transferred to an Excel spreadsheet.

Criteria	JORC Code explanation	Commentary
		• For all PLS logging post Q2 2016, data was directly entered into the OCRIS data logging system to streamline data entry to the DataShed database management system. • The GAM rock-chip trays were later stored onsite at Wodgina in one of the exploration department sea containers. • The PLS rock-chip trays are all stored in racks in a secure sea container at Pilgangoora. • Dakota rock-chip trays are also stored at Pilgangoora. • 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 & 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. The remnant core is also stored at NAGROM for advanced metallurgical testwork. • All remnant drill core (excluding 2017 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 and Dakota 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 2017-2018 drill core was cut and sampled at the core logging facility at Pilgangoora.
	• *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. • 110 sample pulps were selected from across the pegmatite zones for umpire checks of results from the Nagrom Lab by ALS Laboratory Perth in 2015. • 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

Criteria	JORC Code explanation	Commentary
		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 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 2017-2018 drilling, with duplicates and standards showing consistent precision and accuracy
	• *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 duplicates, pulp duplicates from diamond core, and coarse crushed diamond core duplicates.
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• The Talison/GAM/PLS/Dakota drilling sample sizes are considered to be appropriate to correctly represent the tantalum mineralisation at Pilgangoora, based on the style of mineralisation (pegmatite), and the thickness and consistency of mineralisation.
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 Li_2O, 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 five element

Criteria	JORC Code explanation	Commentary
		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 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.
	• *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 (ie lack of bias) and precision have been established.*	• 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 correlated with the original assays. • Dakota field RC duplicates, pulp duplicates and coarse diamond field duplicates generally indicate good repeatability of samples.
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

Criteria	JORC Code explanation	Commentary
		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.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• An electronic database containing collars, surveys, assays and geology was provided by GAM. • All GAM assays were sourced directly from Wodgina internal laboratory files. • All PLS assays were sourced directly from NAGROM as certified laboratory files during late 2014 and 2015. • All PLS assays were sourced directly from ALS as certified laboratory files in 2016. • Dakota drilling data was supplied as Excel spreadsheets, and assays were supplied in original laboratory format. • All PLS assays were sourced directly from NAGROM as certified laboratory files in 2017 and 2018.
	• *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 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 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-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.
	• *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 a 50cm resolution Digital Surface Model (DSM) derived by stereoscopic photogrammetric processes from 5cm resolution imagery. • Surveyed DGPS drill hole collar elevation data was then compared to this surface, and found to have an average difference of -0.7m. The differences in RL has been attributed to pad preparation which was done post generation of the DSM.
	• *Data spacing for reporting of Exploration Results*	• Drilling spacings vary between 12.5m to 200m apart.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	• *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 continuity of the mineralization can confidently be interpreted from the geology of the pegmatite sheets, which can be mapped on surface as extending over several hundred metres in strike length.
	• *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.*	• Talison sampling security measures are unknown, but assumed to be equal to industry standards since the drilling is as recent as 2008. • Chain of custody for GAM holes were managed by GAM personnel. Samples were delivered to the Wodgina laboratory by GAM personnel where samples were analysed. • Chain of custody for PLS holes were managed by PLS personnel. Samples for analysis were delivered to the Regal Transport Depot in Port Hedland by PLS personnel. Samples were delivered from the Regal Transport Depot in Perth to the Nagrom laboratory in Kelmscott by Regal Transport courier truck during late 2014 and 2015. • Samples were delivered from the Regal Transport Depot in Perth to the ALS laboratory sites Perth by Regal Transport courier truck during 2016. • Samples for the 2017 and 2018 programs were transported using an independent contractor directly from Pilgangoora to Nagrom Laboratory. • Dakota samples were then delivered via road freight to Nagrom and SGS laboratories in Perth.

Criteria	JORC Code explanation	Commentary
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.

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 tenements M45/1256, M45/333, M45/511, An application is current for M45/1266 (overlying E45/4523). • The Pilgangoora resource is located within M45/1256 and M45/333 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.
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 63 holes for 5,276 metres and 2 diamond PQ holes for 99.7 metres in 2016. • Altura Mining drilling database subset (102 holes for 18,805m) as part of the PLS-Altura data sharing agreement signed in August 2016.
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.*	• Refer to Appendix 1 of the Mineral Resource announcement dated 29 May 2018. It is noted that for the reported Mineral Resource in this September 2018 announcement, there has since been no change to the interpretation of the pegmatites or to the estimation of Li_2O and Ta_2O_5 from the Mineral Resource announced 29 May 2018. The only changes have been to adjust the methods for the Fe_2O_3 factors and subsequently re-estimate the Fe_2O_3, plus to report the entire Mineral Resource at a lower cut-off grade of 0.2% Li_2O to reflect the revised cut-offs determined during the updated work completed during the Ore Reserve estimate. • Refer to previously reported PLS March 2018 ASX Quarterly Activities report.

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 weighed averages used for exploration results. Cutting of high grades was not applied in the reporting of intercepts. • 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').*	• Downhole lengths are reported in Appendix 1 of of the Mineral Resource announcement dated 29 May 2018. • It is noted that not all GAM samples analysed for Ta_2O_5 were also been analysed for Li_2O. All pegmatite pulps from the 2012 drilling were analysed for Li_2O but only selected pulps from the 2008 and 2010 drilling were. There are 7 intervals reported for Ta_2O_5 that were only partial analysed for Li_2O. This is no longer an issue with the significant additional PLS drilling and sampling.
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 6 of the Mineral Resource announcement dated 29 May 2018. It is noted that for the reported Mineral Resource in this September 2018 announcement, there has since been no change to the interpretation of the pegmatites or to the estimation of Li_2O and Ta_2O_5 from the Mineral Resource announced 29 May 2018. The only changes have been to adjust the methods for the Fe_2O_3 factors and subsequently re-estimate the Fe_2O_3, plus to report the entire Mineral Resource at a lower cut-off grade of 0.2% Li_2O to reflect the revised cut-offs determined during the updated work completed during the Ore Reserve estimate.
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 drilling details of all holes post the January 2017 resource announcement has been provided in Appendix 1 of the Mineral Resource announcement dated 29 May 2018. It is noted that for the reported Mineral Resource in this September 2018 announcement, there has since been no change to the interpretation of the pegmatites or to the estimation of Li_2O and Ta_2O_5 from the Mineral Resource announced 29 May 2018. The only changes have been to adjust the methods for the Fe_2O_3 factors and subsequently re-estimate the Fe_2O_3, plus to report the entire Mineral Resource at a lower cut-off grade of 0.2% Li_2O to reflect the revised cut-offs determined during the updated work completed during the Ore Reserve

Criteria	JORC Code explanation	Commentary
		estimate. • Comprehensive reporting of drill details for the 2018 drilling has been previously reported in the PLS March 2018 quarterly activities report. Appendix 2. All other 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).

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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. • The data have then been imported into a relational SQL Server database using DataShed™ (industry standard drill hole database management software). • Subsequent drilling data has been supplied in Excel templates, using drop down lists to verify codes and, more recently, PLS has used the OCRIS data logging software system which validates the data before it is imported to the SQL database. • The data are constantly audited and any discrepancies checked by PLS Minerals 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 two site visits.
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. Tantalum (occurring as tantalite) and lithium (occurring as spodumene) 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 and M45/333 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 and mineralogical studies completed by GAM (previously Talison) and PLS Minerals. • No alternative interpretations have been considered at this stage. • Grade wireframes correlate extremely well with the logged pegmatite veins. • The key factor affecting continuity is the presence of pegmatite.

Criteria	JORC Code explanation	Commentary
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 50-1,200m (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.
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.* • *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.*	• 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. • 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 varied between 1.0% and 9.0%. 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 5m (E) by 25m (N) by 5m (RL) and sub-blocked to 2.5m (E) by 12.5m (N) by 2.5m (RL). For Lynas Find, it was 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.

Criteria	JORC Code explanation	Commentary
		• As a potential deleterious element, Fe_2O_3 has been estimated for this resource, both as raw and factored Fe_2O_3. 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 Fe_2O_3 assays in two steps. Step one is to subtract 0.33% from all Nagrom Fe_2O_3 assays, 0.47% from all ALS Fe_2O_3 assays and 0.2% from all historic GAM Fe_2O_3 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 Fe_2O_3 assays. No second factor has been applied to the PLS diamond core Fe_2O_3 assays. • 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 reasonable prospects for eventual economic extraction*	• Based on the orientations, thicknesses and depths to which the pegmatite veins have been modelled, plus their estimated grades for Ta_2O_5 and Li_2O, the expected mining method is open pit mining.

Criteria	JORC Code explanation	Commentary
	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.*	• Historical mining operations and the presence of a tin-tantalum separation plant adjacent to a large tailings dump indicates that the assumption for potential successful processing of Pilgangoora ore is reasonable. • Nagrom Pty Ltd and Anzaplan have both completed scoping metallurgical testwork and have recovered both Ta_2O_5 and Li_2O of marketable qualities (see ASX announcements ''PLS Testwork Confirms Potential" dated 25 May 2015 and "Quarterly Activities and Appendix 5B" dated 24 April 2015). • PLS released a Pre-Feasibility study (see ASX announcement dated 10 March 2016) which included information on mining parameters by consultants Mining Plus Pty Ltd and metallurgical testwork completed by ALS and Como Engineering Pty Ltd. • PLS more recently released a Definitive Feasibility study (see ASX announcement 20 September 2016) which included information on mining parameters by consultants Mining Plus Pty Ltd and further metallurgical testwork completed by ALS and Como Engineering Pty Ltd. • Pilot plant metallurgical testwork was also undertaken post completion of DFS. • Advanced metallurgical testwork utilising over 6 tonnes of pegmatite taken from drill core is currently in progress.
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 are in progress for the confirmation of the locations of any waste rock dump (WRD) facilities.
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.*	• Previously bulk density has been assigned on the basis of weathering state, based on a specific gravity study carried out in 2006 by the project holders at the time, Sons of Gwalia. Previous consultants as well as GAM personnel have referred to this study and used these figures for the previous resource estimations which were carried out in-

Criteria	JORC Code explanation	Commentary
	• *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.*	house. • PLS 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 419 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. • With mining recently initiated, further bulk density is planned.
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. • It should also be noted that for the reported Mineral Resource in this September 2018 announcement, there has been no change to the interpretation of the pegmatites or to the estimation of Li_2O and Ta_2O_5. The only changes have been to adjust the methods for the Fe_2O_3 factors and re-estimate the Fe_2O_3 plus to report the entire Mineral Resource at a lower cut-off grade of 0.2% Li_2O to reflect the revised cut-offs calculated during the updated work completed during the Ore Reserve estimate.
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 project financing technical due diligence, multiple audits/reviews have been completed on the Pilgangoora Mineral Resource with no material flaws identified
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*	• 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.

Criteria	JORC Code explanation	Commentary
	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.*	

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Section 4 Estimation and Reporting of Ore Reserves for the Pilgangoora Lithium-Tantalum Project

(Criteria listed in section 1, and where relevant in sections 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 Ore Reserve estimate is based on the Mineral Resource released on the 17th September 2018, by Pilbara Minerals' competent persons: Mr John Holmes (Exploration and Geology Manager of Pilbara Minerals Limited) and Mr Lauritz Barnes (Consultant with Trepanier Pty Ltd). • The Mineral Resource is reported inclusive of the Ore Reserves. • Mr Kim Russell and Mr Glen Williamson have relied on the integrity and accuracy of the Mineral Resource for this Ore Reserve estimate. An independent review of the Mineral Resource estimate was conducted by AMC Consultants Pty Ltd (AMC) in August 2018.
Site visit	• *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.*	• The Competent Person and Competent Persons representative visited the Pilgangoora mine site in September 2018. In the course of preparing this estimate the Competent Persons 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, with a 2 Mtpa ore processing plant recently commissioned and sales contracts in place. The level of detail used in the preparation of this Ore Reserve estimate is consistent with that of a Feasibility Study. The Ore Reserve considered only the Measured and Indicated Resource portion of the Mineral Resource published on the 17th September 2018. • As part of the Pilgangoora 30th June 2018 Ore Reserve estimate, a mine plan was developed that was technically achievable and economically viable. This mine plan considered 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.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	• The Mineral Resource provided was a geologically domained resource model that was modified for ore loss and dilution and evaluated to determine which mineralized blocks produced a cash surplus when treated as ore. • The Ore Reserve was estimated using the Net Smelter Return (NSR) method. The marginal economic cut-offs were estimated to be between $25-30 per tonne, depending on the haul distance from the process plant. The cut-off grade contemplates all pre-tax costs associated with the processing and selling of lithium and tantalum concentrate. Provision was made in the NSR estimate for the

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Criteria	JORC Code explanation	Commentary
		following costs: o Incremental ore haulage to the process plant RoM, o Stockpile re-handle, o Crushing and Processing, o Road transport, o Ship loading, o Royalties, o General overhead and administration costs. • The revenue was determined using a flat forward price for lithium concentrate of US$633 per tonne and US$ 89 per lb for tantalum. A flat forward exchange rate of 0.75 AUD:USD was applied. No provision was made for penalties associated with deleterious elements. • Process recoveries were applied as outlined below under "Metallurgical factors or assumptions".
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.*	• The mining method considered selective open pit excavation techniques to, as far as practicable, separate waste rock (basalt and ultramafic) from the mineralised pegmatite, thereby minimising mining dilution. Dilution was modelled to reflect this approach, by applying skin dilution at the boundaries of the mineralised zones, using a mathematical method. Wireframes were used to create a proportional estimate of pegmatite, which is used in the estimation of mineralised tonnes and grade from the mixing of waste with the pegmatite. The Mineral Resource model was diluted, resulting in 6% dilution and 10% ore-loss over the whole site. This is considered by the Competent Persons to be reflective of the selective excavation techniques utilized on site at the boundaries of the mineralized zones. The diluent material is assumed to contain zero Li_2O and Ta_2O_5 grade, with Fe_2O_3 contamination coming from the resource modelled Fe_2O_3 waste grades. The Fe_2O_3 grade was derived from local estimates of a waste model, generated using ordinary kriging. • Only fresh and transitional materials are processed, with mineralised oxide considered to be waste. • Pit optimizations utilising the Lerchs-Grossmann algorithm were undertaken with industry standard Whittle software. The optimizations utilized the Mineral Resource model after application of Modifying Factors, and applied ore processing cost, selling costs, revenue, and geotechnical inputs to generate economic pit shells.

Criteria	JORC Code explanation	Commentary
		• Boundary constraints were applied in the pit optimisations to account for lease boundaries, diversion channels, mine abandonment bunds and significant sites. • Metallurgical recoveries and product grades were applied to the diluted model in order to determine product yields. • Geotechnical assessment of the weathered and fresh rock domains determined stable walls will be achievable using 50 degree batters in the weathered domain and 75 batters in the fresh rock domain. For the Lynas Find deposit, the fresh rock better angle is 65 degrees. Benches will be established every 20m maximum with a minimum berm width of 10m and a geotechnical berm of 20m in the Central Pit where walls are higher than 100m. • The economic pit shells were used to develop detailed final pit designs, with due consideration of geotechnical, geometric, access constraints and other exclusion zones. These pit designs were used as the basis for production scheduling and economic evaluation. • Drilling and blasting is assumed to continue using track mounted rigs, with sufficient mobility to access the pit from surface contour to pit bottom. • The existing mining methods are assumed to continue on 5m benches, with 2.5m fitches in ore, using 90t trucks, 150t excavators and associated ancillary fleet. • Mining costs are based on contract mining, include clearing, topsoil removal, drill, blast, load, haul, dewatering and rehabilitation. • Inferred Resource inside the pit boundaries is treated as waste and only the Measured and Indicated Mineral Resource converted into Ore Reserve. • Infrastructure has already been established for a 2Mtpa operation, including access haulage routes, crushing and processing, maintenance, explosive storage, fuel storage, wash-down facilities, water, power, accommodation, offices and port storage facilities. The infrastructure upgrade to 5Mtpa is consistent with the recently completed Stage 2 DFS (August 2018) and has been included in the financial model.
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.*	• The Pilgangoora site has recently completed construction of the Stage 1 2 Mtpa processing plant, which is currently undergoing plant commissioning. The existing plant will be expanded during Stage 2 development to a production capacity of 5.0 Mtpa during FY2020. • The processing plant utilizes conventional and well-tested metallurgical techniques common in the industry and is considered by the Competent Persons to be

Criteria	JORC Code explanation	Commentary
	• *Any assumptions or allowances made for deleterious elements.* • *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?*	appropriate for the deposit. • Mineralisation analysis and liberation estimates of the concentrates and tailings have been completed to support the design and the process flow with mass balances. • The essential elements of the process plant design utilise a combination of heavy media separation and flotation, to produce a 6% Li_2O concentrates. 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 6% Li_2O with a suitable Fe_2O_3 quality for sale in this market. No allowance was considered necessary for deleterious elements. • A life of mine average fixed recovery of 75% for Li_2O and 57.4% for Ta_2O_5 was applied in the estimate, as determined for the Stage 2 DFS (August 2018).
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.*	• A Mining Proposal has been approved by the Department of Mines and Industry Regulation (DMIRS) based on the Stage 1 DFS. An amendment to the Mining Proposal will be submitted to DMIRS seeking approval for the Stage 2 design. There are reasonable expectations that that the Stage 2 proposal will be approved to account for the design changes resulting from the Stage 2 DFS (August 2018). • Appropriate environmental studies have been completed over the project area and no issues have been identified that would materially impact the proposed location of pits, infrastructure or waste rock dumps (WRDs). • Management of top soil material including pre-stripping prior to mining and storage for future incremental rehabilitation was allowed for in this estimate. A Soil Characterisation review and report has been completed by environmental consultants, which will facilitate further detailed work regarding top soil management. • Sterilization drilling of some WRD footprints has been undertaken with further programs proposed and to be completed prior to the confirmation of the proposed locations. To date, no issues have been identified that would materially impact on the proposed locations. • The WRD designs allow for the encapsulation and storage of potential acid forming material (PAF) and waste rock characterisation studies have been completed to a sufficient level of confidence. • Pilbara Minerals has entered into a Native Title Agreement with the Njamal people

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		for the Pilgangoora Project. This Agreement has been transferred to Pilgangoora Operations Pty Ltd under a Deed of Assumption. All Stage 2 project areas fall within the existing Native Title Agreement. Heritage surveys of the Lynas Find area have been undertaken and no issue were identified that would impact upon the 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 were updated during the Stage 2 DFS (August 2018) to assess the impact on surface and ground water flows. No significant impacts were identified or expected for the proposed mining operation. • The diversion of Pilgangoora Creek around the Central Pit has been approved under the existing Mining Proposal. An extension to the diversion has been sought within the Stage 2 Mining Proposal and an additional diversion required around TMF Cell 3 before approximately 2028. • All tailings will be stored in an above ground purpose built Integrated Waste Landform 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 Stage 2 approvals. Alternative tailings deposition areas are currently under review. The first TMF cell has been completed and is receiving tailings. The second cell is under construction. Storing tailings in the Monster Pit or at some location beyond Cells 1, 2 and 3 will require future approval by the regulators. • Backfilling the East Pit with mine waste rock from approximately 2035 has not been granted approval. • The mine has been developed under the Mines 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 site 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 all proposed infrastructure, tailings management facilities (TMF) and waste rock dumps required for the project. Current designs for waste rock and tailings storage facilities allow for operations over the next 17 years. Studies are in progress to develop storage facilities for waste rock and tailings for the remainder of the mine life. If suitable surface sites cannot be identified, it is proposed that the additional tailings be deposited in the Monster pit, while mine

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		waste rock will be deposited in the East Pit. • 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 the water resources already secured by Pilbara Minerals will be sufficient to meet the needs of the operation, on the basis that the bores perform as expected from the modelling undertaken. • During operations, the Pilgangoora creek will need to be diverted from its current alignment. The original diversion channel proposed during the Stage 1 DFS have been approved under the Mining Proposal. Extension to the Pilgangoora Creek diversion channels as a result of the modified site layout will also require approval. The extended design is consistent with the existing approved design, and as such, there are reasonable expectations the extensions will also be granted. Costs for these diversions were allowed for in the financial analysis. • The workforce required for the operation will be 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.
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 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 are based on work completed during the Stage 2 DFS (August 2018). 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 that they are unlikely to exist in any material quantities.
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 (Li_2O) price was determined by Pilbara Minerals from consensus battery grade lithium carbonate forecasts, utilizing existing offtake formulas. • The Ta_2O_5 price was determined using leading independent commodity forecaster Roskill.

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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 has entered into offtake agreements for the sale of up to 100% of battery grade Li_2O concentrate production. Agreements are in place with various parties for minimum duration of six to ten years with options to extend. • The sale of Ta_2O_5 concentrates is subject to a Right of First Refusal agreement with Global Advanced Metals over the first two years of production. Longer term offtake agreements are expected to be developed but are yet to be finalised. • Market demand and supply trends, and price and volume forecasts, were completed as part of a detailed analysis in the Stage 2 DFS (August 2018). Roskill's outlook for lithium demand is strong with its base case estimate of compound annual growth in lithium demand of 17.7% per annum resulting in global lithium consumption to over 1 Mt of Lithium Carbonate Equivalent in 2026 (5 time the total consumption in 2016). • Price forecasts for the key commodities are detailed in the "Cut- off parameters" section.
Economics	• *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.*	• The pits were determined using industry standard Whittle software, which utilizes Lerchs-Grossman analysis to define the economic bounds of the deposit. The costs derived from the Stage 2 DFS (August 2018) were used as inputs, while the revenue assumptions were applied as outlined under 'Cut-off parameters'. • The production schedule derived from the pit designs and the mining cost estimate was analysed using the Pilbara Minerals financial model. The financial model uses post tax nominal cashflow with a 10% discount rate. The economic analysis for the Ore Reserve estimate shows an NPV of A$2.315B. • Mining cost sensitivities were undertaken within Whittle during the Stage 2 DFS (August 2018) and revenue sensitivities within the financial model.
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• Pilbara Minerals has secured a Native Title Agreement with the registered Native title claimant party (Njamal) over the project area. The Native Title Agreement provides direct and indirect benefits to the Njamal people, including fixed payments, royalty payments, employment and business opportunities. • The Pilgangoora Project is located approximately 120 km south of Port Hedland, and Pilbara Minerals is an active sponsor of community events in this regional centre, including the South Hedland Swans football club and the Pilbara Mud Run. • In recognition of the placement of the Pilgangoora Project 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

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		opportunities. Pilbara Minerals also maintain active consultation with neighbouring Indigenous communities, pastoral station holders, local governments and mining companies. • The project is also located in the Pilbara region of Western Australia, one of the most significant mining regions of the globe. Pilbara Minerals has 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. The Lynas Find Pit and infrastructure is located on M45/1266, which is expected to be granted in the near term. Pilbara Minerals are seeking to include Lynas Find in future amendments to the Mining Proposal following completion of necessary environmental studies. No objections to the proposed infrastructure have been received or are being resolved. • The Pilgangoora Stage 1 Project is currently operating under a Mining Proposal, with the current revision approved by DMIRS on 28 February 2018. An application to amend the mining proposal to include Stage 2 process and non-process infrastructure will be submitted for assessment in September 2018. Future applications to include the Lynas Find Pit will be required for the Ore Reserve and will be submitted following completion of necessary environmental surveys.
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 Li_2O and Ta_2O_5. The grade of Fe_2O_3 was determined in the manner described under "Mining factors or assumptions". • The Ore Reserves consist of 20% Proved Reserves and 80% Probable Reserves. • The Competent Persons are satisfied that the stated Ore Reserve classification reflects the outcome of technical and economic studies. • All Probable Ore Reserves were derived from Indicated Mineral Resources only. No downgrading of reserve classifications was deemed warranted in the estimation of the Ore Reserve.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• The key inputs for the Ore Reserve were derived from the Stage 2 DFS (August 2018), which was audited by independent consultants. • The Ore Reserve estimate was prepared jointly by Pilbara Minerals and AMC Consultants. Both parties conducted their own internal peer reviews.

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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 Feasibility Study.
		• All cost inputs are based on the Stage 2 DFS (August 2018).
		• Mining operations at the Pilgangoora project commenced in October 2017. Nothing to date has suggested that a change to the assumed Modifying Factors is warranted at the time of preparing this Ore Reserve estimate.
		• The following further work is recommended:
		  ○ optimization of waste rock landforms to maximize project value, while satisfying TMF and PAF management requirements;
		  ○ approvals for depositing tailings into the Monster Pit after approximately 2035; and
		  ○ approvals for backfilling the East Pit with mine waste rock from approximately 2035.
		• The Stage 1, 2 Mtpa process plant is currently undergoing commission testing, with first concentrate produced in July 2018 and saleable concentrate shipment expected in the near term.
		• The Stage 2 DFS (August 2018) demonstrated the viability of expanding the process plant to 5 Mtpa. The Ore Reserve estimate has been largely based on the same parameters used for the Stage 2 DFS (August 2018).