ASX / MEDIA ANNOUNCEMENT

Monday, 6 September 2021

Substantial increase in Pilgangoora Resource to 309Mt confirms its status as the world's premier hard rock lithium project

LANDMARK 39% INCREASE FOLLOWS INTEGRATION OF THE NGUNGAJU RESOURCE AND HIGHLY SUCCESSFUL DEVELOPMENT DRILLING PROGRAMS

KEY POINTS

- Discovery of new pegmatite domains, together with integration of the Ngungaju Resource, leads to a substantial increase in the JORC 2012 Mineral Resource for Pilbara's 100%-owned Pilgangoora Tantalum-Lithium Project in WA, including:
  - **39% increase** in the total Measured, Indicated and Inferred Resource to **308.9 million tonnes grading 1.14% Li_2O, 105ppm Ta_2O_5 and 0.59% Fe_2O_3,** containing **3.5 million tonnes of lithium oxide and 71.7 million pounds of Ta_2O_5;**
  - **59% increase** in the total Measured and Indicated Resource to **210.2 million tonnes grading 1.17% Li_2O, 103ppm Ta_2O_5 and 0.56% Fe_2O_3,** containing **2.46 million tonnes of lithium oxide and 47.7 million pounds of Ta_2O_5;** and
  - with an increased cut-off grade of 0.5% Li_2O, the total Measured, Indicated and Inferred Lithium Resource amounts to 277.2 million tonnes @ 1.22% Li_2O containing 3.4Mt of lithium oxide, highlighting the exceptional nature of the resource before tantalum by-product credits.
- The upgraded Mineral Resource includes all of the results from the 2021 exploration and development drilling campaign adjacent to the historical Altura tenement boundary, together with the integration of the Mineral Resource for the former Altura Lithium Operations acquired earlier this year.
- Additional resources defined from the 2021 exploration program will lead to an expansion in the mining envelope and pit inventory of the combined South Pit areas, with outstanding potential for further growth with ongoing drilling.
- The new integrated Mineral Resource will underpin a new Ore Reserve estimate for Pilgangoora, scheduled for completion by October 2021.

Australian lithium producer, Pilbara Minerals Limited (**Pilbara Minerals –** ASX: PLS) is pleased to announce a further substantial increase in the Mineral Resource at its flagship 100%-owned Pilgangoora Lithium-Tantalum Project in WA's Pilbara region to 308.9 million tonnes, reinforcing its position as the world's premier hard rock lithium operation.

The updated Mineral Resource, which represents a 39% increase in total resource tonnage compared with the depleted resource statement as at 30 June 2020, now comprises a total

Level 2, 88 Colin Street,
West Perth WA 6872

T: +61 8 6266 6266
F: +61 8 6266 6288

ASX CODE: PLS
ACN: 112 425 788

pilbaraminerals.com.au

of 308.9 million tonnes grading 1.14% Li_2O and 105 ppm Ta_2O_5, containing 3.5 million tonnes of lithium oxide and 71.7 million pounds of Ta_2O_5.

Pilbara Minerals' Managing Director and CEO, Ken Brinsden, said: "*This landmark Resource upgrade is another clear indication of Pilgangoora's position as the world's premier hard-rock lithium asset. The scale of the endowment is quite remarkable, with the integration of the adjoining Ngungaju Resource, combined with highly successful development and drilling programs, taking our Resource inventory well and truly to the next level.*

"We are looking forward to completing an updated Ore Reserve next month that will underpin operations for many decades to come. Against the backdrop of surging global demand for lithium raw materials, Pilgangoora is incredibly well positioned to play a pivotal role in the accelerating global energy transformation."

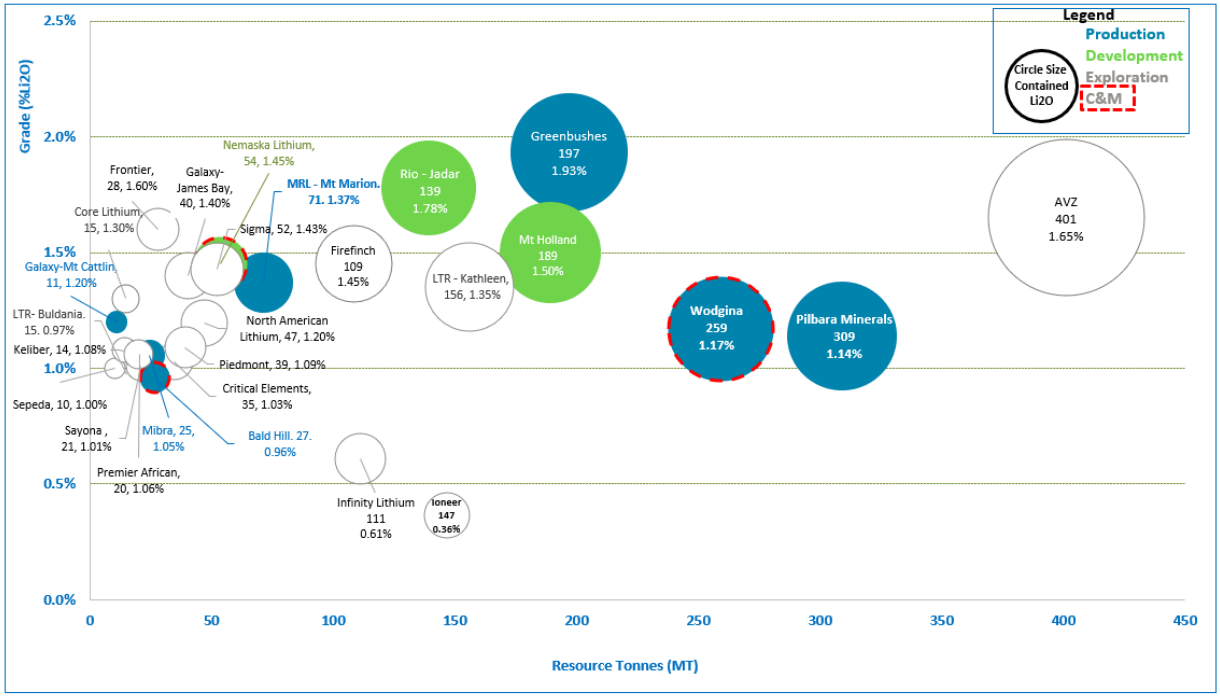

Figure 1 – Pilgangoora – A globally significant hard rock resource

Sources: Published resource estimates by project owners. Note that resource estimates for projects other than Pilgangoora may have been prepared under different estimation and reporting regimes and may not be directly comparable. Pilbara has not verified, and accepts no responsibility for, the accuracy of resources estimates other than its own. Readers should use appropriate caution in relying on this information.

JORC 2012 MINERAL RESOURCE UPDATE

The updated JORC 2012 compliant Mineral Resource incorporates all historical data including drilling data acquired through a number of exploration campaigns completed by Pilbara Minerals between November 2014 and June 2021. The update also includes the integration of the former Altura Lithium Operations Mineral Resource.

The 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 and depleted to end of June 2021) results in a Measured, Indicated and Inferred Mineral Resource estimate (Table 1) totaling:

- **308.9 million tonnes grading 1.14% Li_2O containing 3.5 million tonnes of Li_2O**

Table 1 – Pilgangoora Project – Depleted Mineral Resource (using 0.2% Li_2O cut-off)

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

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, and **Figure 4** below shows a typical cross-section through the northern end of the Central Pit (pit surface, July 2021) showing the typical distribution of Measured, Indicated and Inferred categories.

If a lithium cut-off of >0.5% is used in global resource reporting, this results in a reduction in tonnage but provides a significantly higher-grade resource (**Figure 2**):

- **277.2 million tonnes @ 1.22 Li_2O, containing 3.4 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 in **Appendices 1 and 2 (JORC Tables 1 to 3). Figure 3** below illustrates the distribution of the pegmatites and their domains.

Significant exploration upside remains within the project area, with mineralisation remaining open at depth within all the defined pit areas and other potential exploration targets particularly to the east of the newly acquired Ngungaju deposit.

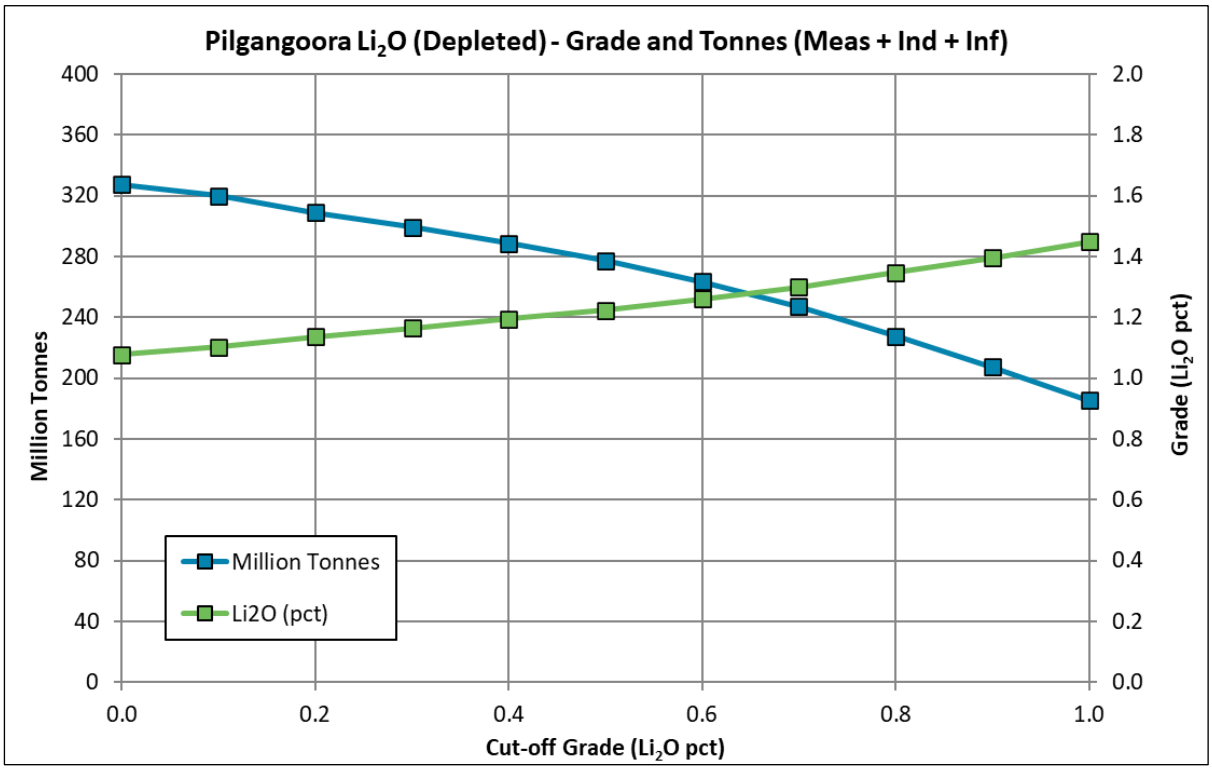

Figure 2 – Pilgangoora – Grade vs. Tonnage curves for the total lithium resource

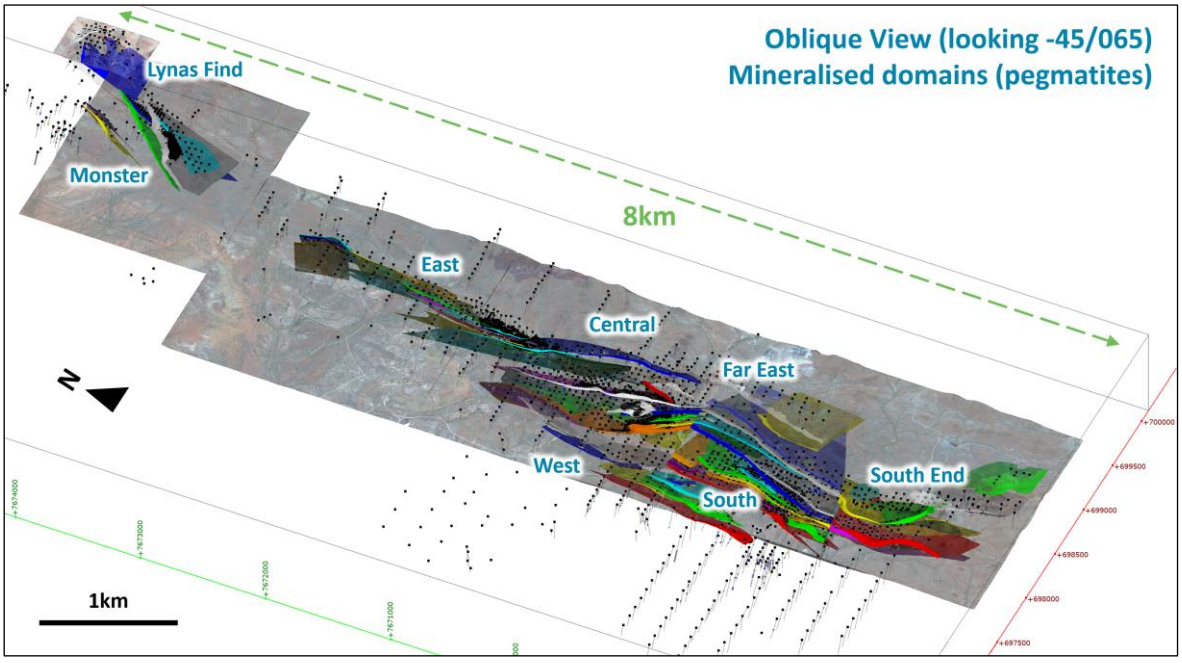

Figure 3 – Oblique View (looking -45/065) of the mineralised domains (pegmatites) modelled in Leapfrog™

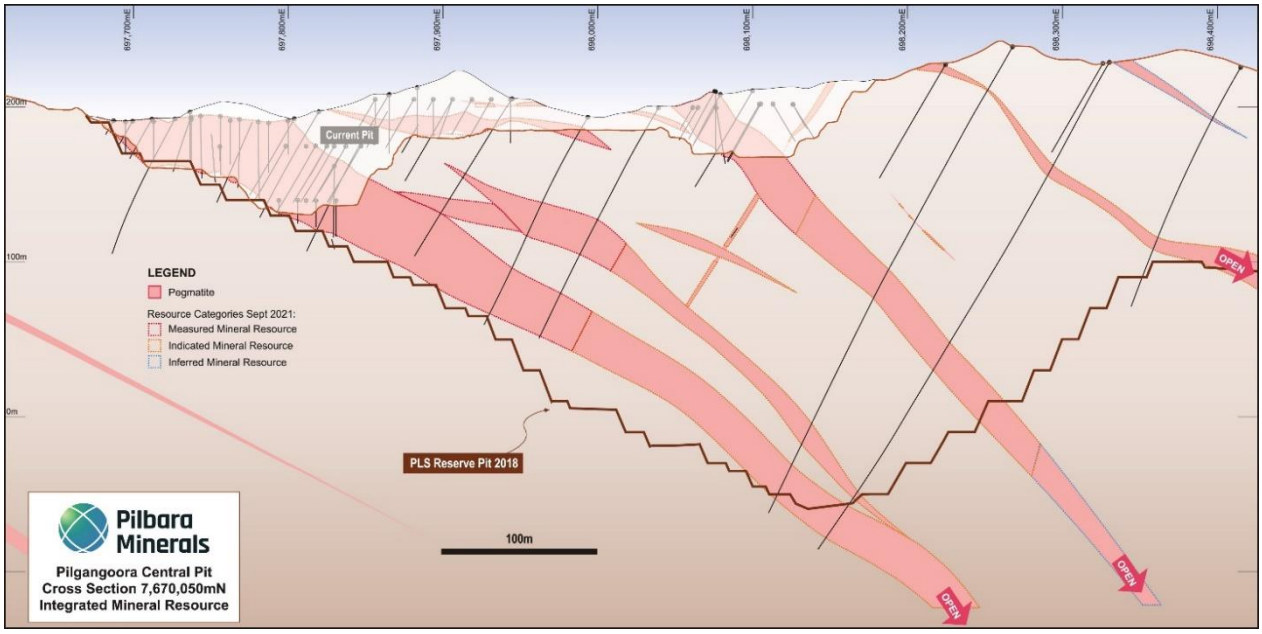

Figure 4 – *Cross Section 7670050mN- Central Pit Area*

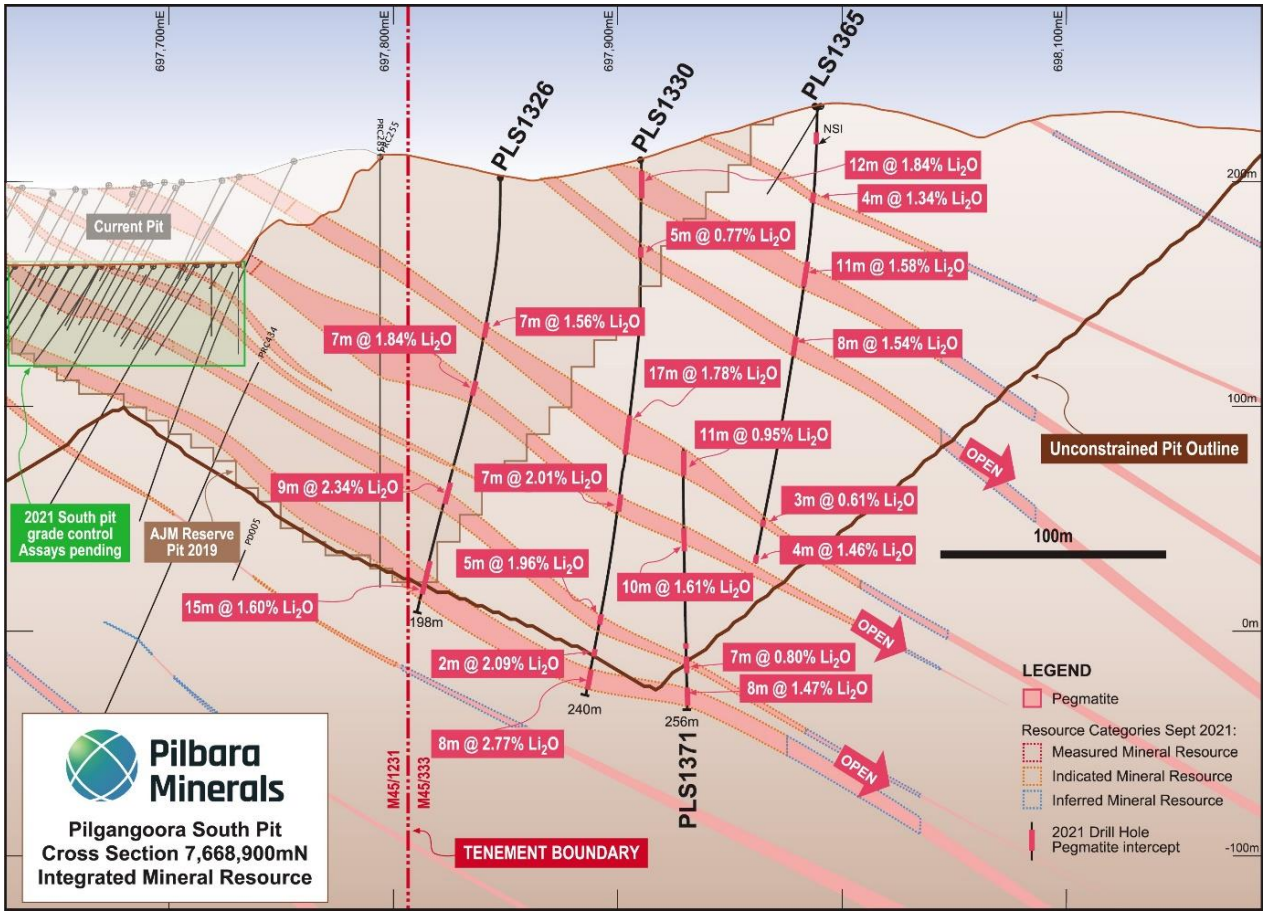

Figure 5 – *Cross Section 7668900mN- showing 2021 Resource development drilling to the east of the Former Altura Lithium Operations tenement boundary*

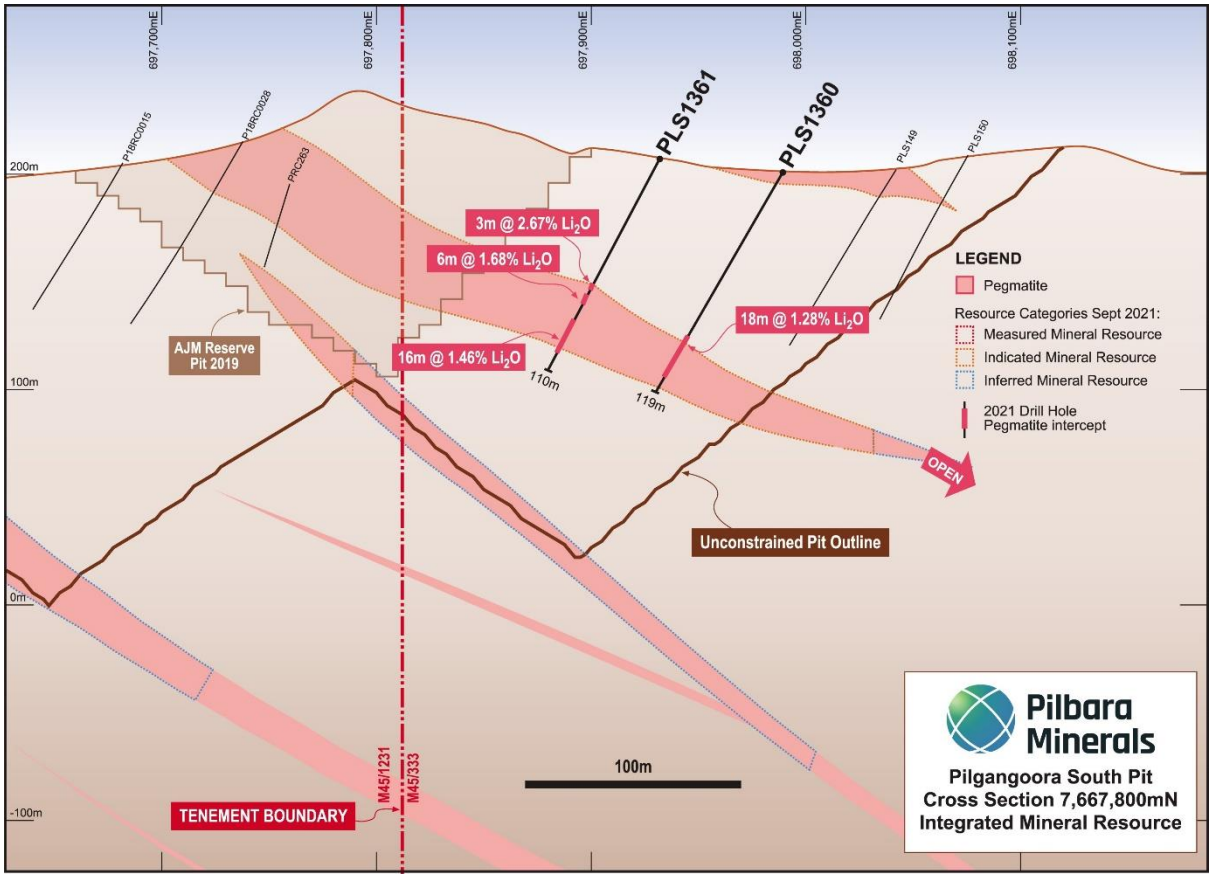

Figure 6 – *Cross Section 7667800mN- showing 2021 Resource development drilling to the east of the Former Altura Lithium Operations tenement boundary*

Figure 7 – View from Southern Ridge over- looking South Pit and expanded resource area to east of the former Altura tenement boundary.

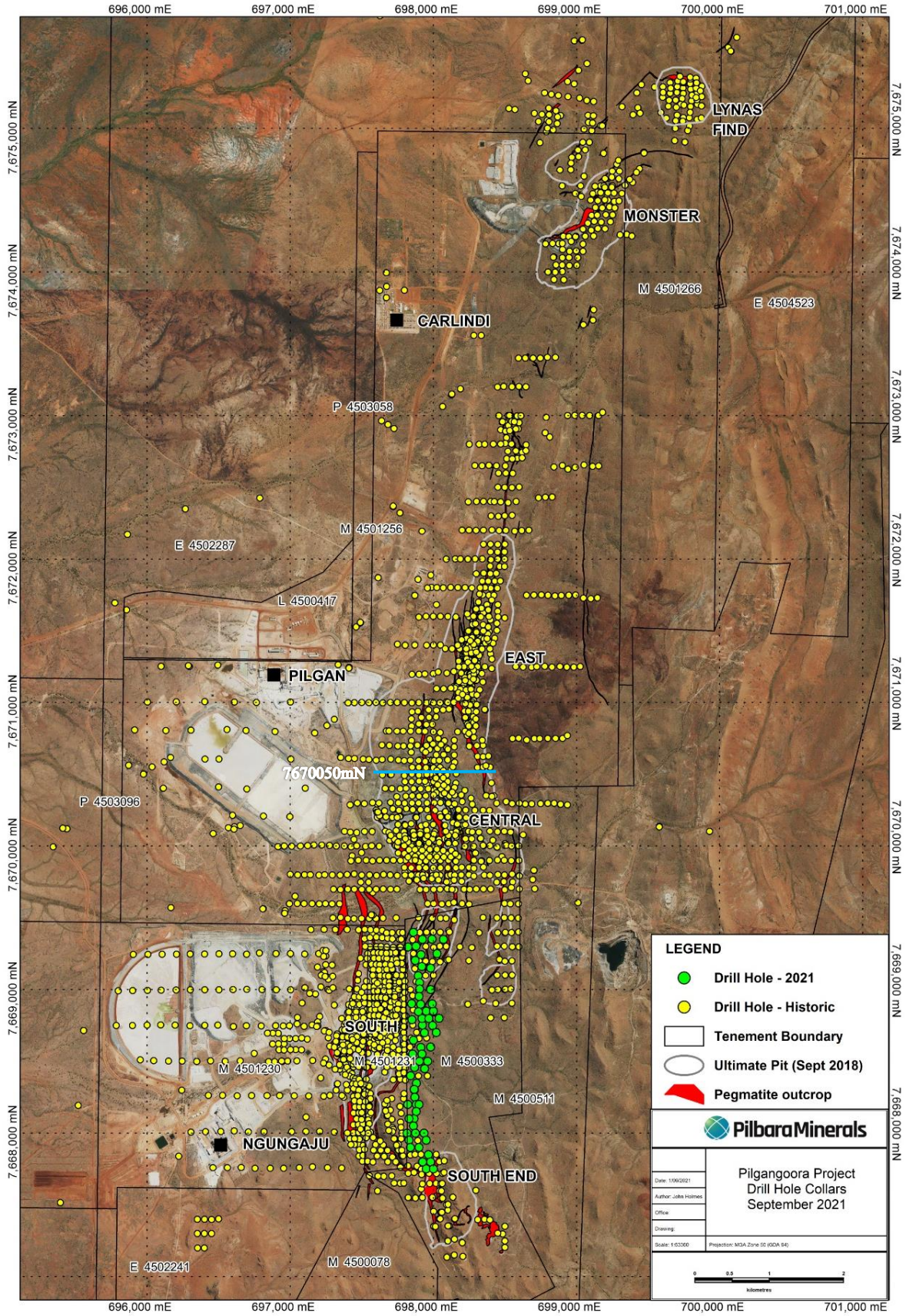

Figure 8 – *Drill Hole Location Plan – Pilgangoora Project Area*

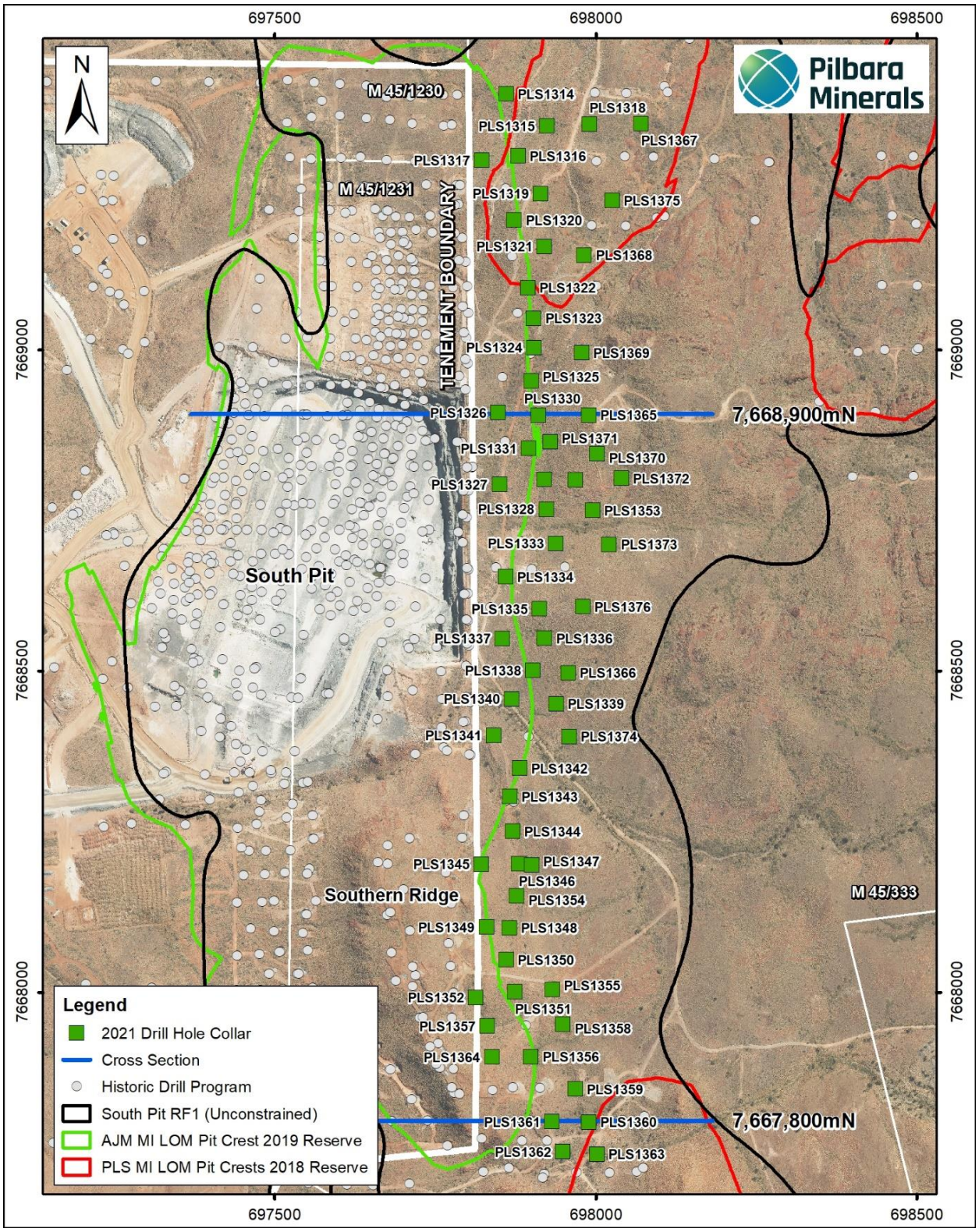

Figure 9 – *2021 RC Drill Hole Location – South Pit*

Table 2 – Pilgangoora Project – Mineral Resource Breakdown by Area

Area	Category	Mt	Li_2O (%)	Ta_2O_5 (ppm)	Li_2O (T)	Ta2O5 (M lb)	Factored Fe_2O_3 (%)
Central	**Measured**	9.5	1.38	111	130,000	2.3	0.44
	Indicated	72.9	1.28	110	936,000	17.6	0.55
	Inferred	38.4	1.28	92	490,000	7.8	0.60
	Combined	**120.8**	**1.29**	**104**	**1,557,000**	**27.7**	**0.56**
Eastern	**Measured**	4.9	1.47	232	72,000	2.5	0.52
	Indicated	10.2	1.18	251	120,000	5.6	0.73
	Inferred	13.6	1.11	261	151,000	7.8	0.81
	Combined	**28.7**	**1.20**	**253**	**343,000**	**16.0**	**0.73**
Far East	**Measured**	-			-	-	
	Indicated	7.2	1.27	94	91,000	1.5	0.63
	Inferred	4.3	1.17	75	50,000	0.7	0.90
	Combined	**11.5**	**1.23**	**87**	**141,000**	**2.2**	**0.73**
South	**Measured**	5.4	1.21	82	65,000	1.0	0.61
	Indicated	80.0	1.01	71	810,000	12.6	0.54
	Inferred	24.6	0.80	62	198,000	3.3	0.63
	Combined	**110.1**	**0.98**	**70**	**1,073,000**	**16.9**	**0.57**
South End	**Measured**	-			-	-	
	Indicated	6.4	1.06	73	68,000	1.0	0.56
	Inferred	3.1	0.76	67	23,000	0.5	0.61
	Combined	**9.5**	**0.96**	**71**	**91,000**	**1.5**	**0.58**
West	**Measured**	-			-	-	
	Indicated	0.2	0.79	82	1,000	0.0	0.45
	Inferred	8.4	0.80	114	67,000	2.1	0.82
	Combined	**8.6**	**0.80**	**114**	**69,000**	**2.1**	**0.81**
Monster	**Measured**	1.7	1.37	140	24,000	0.5	0.45
	Indicated	6.7	1.18	140	79,000	2.1	0.54
	Inferred	4.0	1.06	134	42,000	1.2	0.60
	Combined	**12.4**	**1.17**	**138**	**145,000**	**3.8**	**0.54**
Lynas Find	**Measured**	-			-	-	
	Indicated	5.1	1.31	89	67,000	1.0	0.61
	Inferred	2.4	0.98	100	23,000	0.5	0.74
	Combined	**7.5**	**1.21**	**93**	**91,000**	**1.5**	**0.65**
TOTAL	**Measured**	**21.5**	**1.35**	**133**	**291,000**	**6.3**	**0.50**
	Indicated	**188.7**	**1.15**	**100**	**2,172,000**	**41.4**	**0.56**
	Inferred	**98.8**	**1.06**	**110**	**1,046,000**	**24.0**	**0.67**
	Combined	**308.9**	**1.14**	**105**	**3,509,000**	**71.7**	**0.59**

Note: Appropriate rounding applied

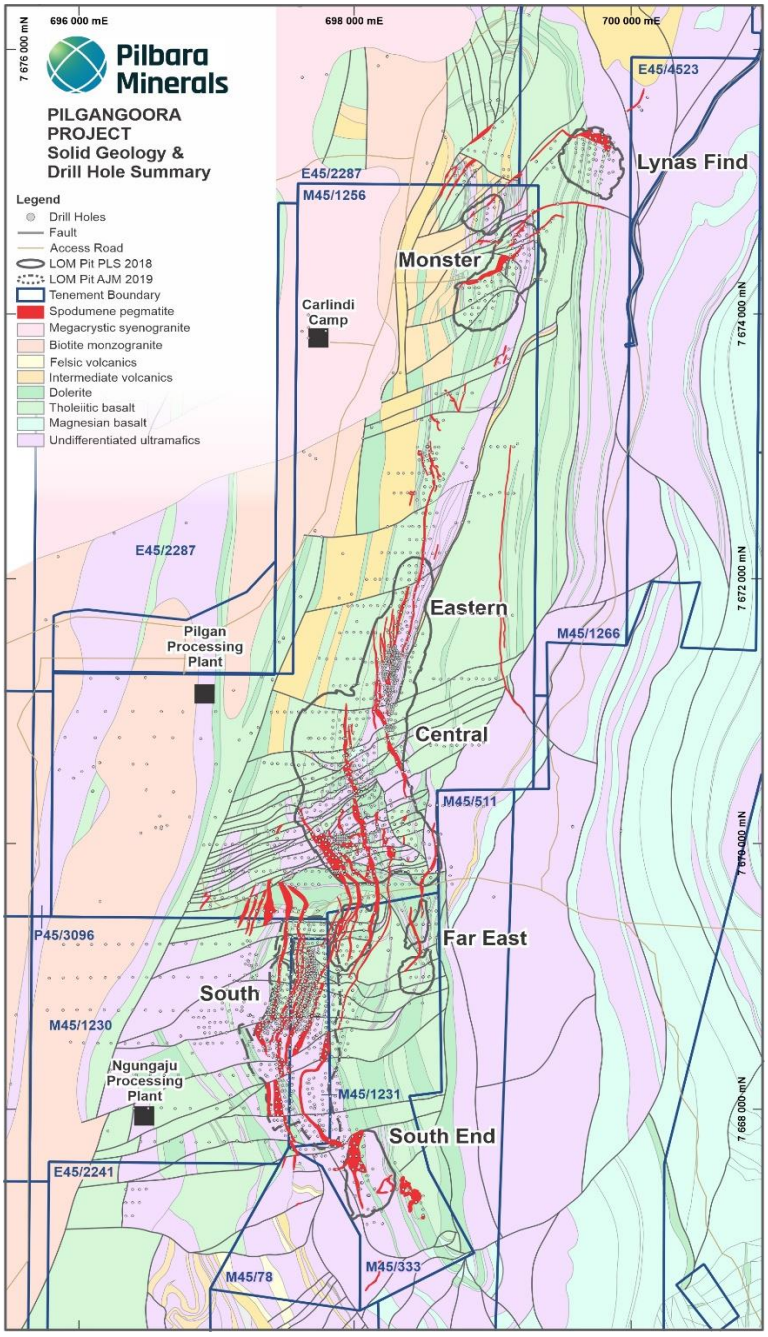

Figure 10 – *Solid Geology and drill hole summary*

GEOLOGYThe Pilgangoora Lithium-Tantalum deposit is located on the western flank of the East Strelley greenstone belt, in a sequence of highly deformed, fault bounded mafic dominated supracrustal rocks, which protrude into the Carlindi Batholith. Lithologies within the project area are dominantly tholeiitic metabasalts with thin interflow metasedimentary units.

The metabasalts may contain abundant fine to coarse grained actinolite, possibly of hydrothermal origin, within the centre of the project area is an intrusive sequence of layered meta-ultramafic sills, with subordinate metamafic units, are up to 500m thick. This ultramafic sequence is comprised of peridotite, pyroxenite and Mg- and Fe-rich varieties of dolerite, with gradational contacts between units.

Four phases of deformation have been recognised in the project area. The first phase (D1) produced the steeply inclined attitude of the supracrustal rock sequence by the development of a fold and thrust belt. A regional strike slip fault system developed across the greenstone belt in D2, as an interconnected network of layer parallel strike slip faults with discordant cross faults **(Figure 10)**.

This faulting pattern is particularly strongly developed in the vicinity of the Central pegmatite domains. The D3 event is related to the pegmatite emplacement – these breach the D2 structures and have a local preference for exploitation of the Ultramafic rock package.

Three principal pegmatite groups or domains are identified in the centre of the project area – Eastern, Central and South. In addition, there are three outlying pegmatite groups, Lynas Find, Monster and South End. Pegmatites of the three principal domains have a strike length of up to 1.4km, and mostly range in thickness from 1-30 metres, although pegmatites of the Central domains may be up to 70m thick.

The distribution of the Pilgangoora pegmatites is shown in **Figure 10.** Drilling has shown that the pegmatites occur as dykes dipping to the east at 20-60° (see **Figures 4 to 6**), striking parallel to sub-parallel to the dominant NNW trending schistose (D3) fabric within the greenstones. Pegmatites of the three principal pegmatite groups typically breach D2 faults. The Central pegmatites generally occur within dip-slip (D3) shear zones, and the Eastern pegmatites within strike slip (D3) shear zones.

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 **Table 1, Sections 1 to 3** included below in **Appendix 2**).

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 20 to 70 metres in thickness. 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 are dominated by lithium bearing mineral spodumene with minor amounts of lepidolite. Tantalite, cassiterite, and minor microlite, tapiolite, and beryl also occur within or associated with the pegmatite intrusives.

The Pilgangoora pegmatite field is largely confined to the area within tenements M45/1230, M45/1231, M45/1256, M45/333 and M45/1266. Three principal pegmatite groups or domains are identified in the centre of the project area – Eastern, Central and South. Pegmatites range in strike length up to 1.4 km, and mostly range in thickness from 1-30 metres, although pegmatites of the Central domains may be up to 70 metres thick.

The distribution of the Pilgangoora pegmatites is shown in **Figure 10.** Drilling has shown that the pegmatites occur as dykes dipping to the east at 20-60° (see **Figures 4 to 6**), striking parallel to sub-parallel to the dominant NNW trending schistose (D3) fabric within the greenstones. Pegmatites of the three principal pegmatite groups typically breach D2 faults. The Central pegmatites generally occur within dip-slip (D3) shear zones, and the Eastern pegmatites within strike slip (D3) shear zones.

Drilling techniques and hole spacing

Talison Minerals Pty Ltd ("Talison") conducted a 54 hole RC drilling program in 2008 totaling 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. Pilbara Minerals acquired Altura Lithium operations on 20th January 2021. Pilbara Minerals and the former Altura Lithium Operations have completed 267,889 metres of RC drilling (224,744m exploration, 143,145m infill RC grade control, 16,109m RC water exploration and development drilling and 9,536m of diamond drill core. This included 63 RC holes for 11,608m that were drilled in 2021 along the former Altura Lithium Operations tenement boundary.

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, 2017 and 2019 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 Mineral drill hole samples from 2014 and 2015 were analysed by the Nagrom Laboratory in Perth by both fused bead XRF and ICP. The Pilbara Mineral 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. The Pilbara Mineral drill hole samples from 2017 to 2021 were analysed by the Nagrom Laboratory in Perth. No geophysical tools were used to determine any element concentrations used in the resource estimate. Altura samples were analysed at numerous laboratories. Prior to June 2011, samples were analysed by Ultra Trace Laboratories. From 2011 to 2016 samples were sent to Labwest in Perth. Post 2016 samples were analysed at both Intertek and SGS Laboratories in Perth.

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. 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 above-mentioned issues which then allowed for factoring of the Fe_2O_3 assays to account for the contamination. The two step Fe_2O_3 adjustment factors are summarised in the previous resource announcement dated 17 September 2018. 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.

Cut-off grades

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. Interpretation work also focussed 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 6m (E) x 20m (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 averaged around 6.5%. Some domains did not require top-cutting.

It is noted that the former Altura Lithium Operations Mineral Resource was completed using both Ordinary Kriging (OK) and Localised Uniform Conditioning (LUC), with LUC being reported as the Mineral Resource. At this stage, for this new September 2021 Mineral Resource, Pilbara Minerals has decided not to utilise LUC and has estimated and reported using only Ordinary Kriging (OK).

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. It is also depleted to end of June 2021.

Mining and metallurgical methods and parameters

Geological modelling of the pegmatite domains including orientations, thicknesses and depths, plus their estimated grades for Ta_2O5 and Li_2O have been modified where

applicable based on detailed geological mapping and observations made from exposure within the current open pit mining areas. Mining at Pilgangoora is via conventional open pit mining techniques and has been ongoing since 2018.

Pilbara Minerals successfully commissioned the Pilgangoora processing facility in April 2018 and continues to undertake routine metallurgical testwork as part of normal operating procedure. The Pilgangoora processing facility is running at or above design capacity. Pilbara Minerals is scheduled to recommence processing at the Ngungaju processing facility (former Altura Lithium Operations Limited) in the December quarter 2021.

Release authorised by Ken Brinsden, Pilbara Minerals Limited's Managing Director.

CONTACTS

Investors / shareholders
Ken Brinsden
Managing Director and CEO
Ph. +61 (0)8 6266 6266

Media
Nicholas Read
Read Corporate
Ph. +61 (0)8 9388 1474

MORE INFORMATION

ABOUT PILBARA MINERALS

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

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

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

COMPETENT PERSON'S STATEMENT

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. 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 both the Australasian Institute of Geoscientists and the Australasian Institute of Mining and Metallurgy, Mr Holmes is a member of the Australasian Institute of Geoscientists and each has 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.

APPENDIX 1 – DRILL HOLE INTERCEPTS (0.5% Li2O lower cut-off grade)

Hole ID	From (m)	To (m)	Thickness (m)	Li_2O %	Ta_2O_5 (ppm)
PLS1369	23	36	13	1.36	44
PLS1369	77	96	19	1.57	46
PLS1369	143	154	11	1.44	87
PLS1365	188	191	3	0.61	7
PLS1365	204	208	4	1.46	41
PLS1369	172	175	3	1.94	36
PLS1369	231	236	5	1.00	63
PLS1370	0	3	3	1.59	71
PLS1370	51	54	3	1.32	64
PLS1370	77	82	5	2.31	62
PLS1370	110	116	6	0.98	55
PLS1371	2	6	4	1.44	48
PLS1371	34	44	10	1.94	59
PLS1371	59	68	9	1.42	53
PLS1371	139	150	11	0.95	97
PLS1371	174	184	10	1.61	53
PLS1371	232	239	7	0.80	20
PLS1371	246	254	8	1.47	64
PLS1373	82	83	1	1.21	47
PLS1373	137	141	4	1.12	72
PLS1373	146	148	2	1.16	75
PLS1374	28	34	6	1.24	102
PLS1374	133	134	1	1.10	69
PLS1374	138	140	2	1.06	66
PLS1375	38	42	4	1.08	116
PLS1375	69	70	1	2.09	71
PLS1375	100	117	17	1.50	85
PLS1375	170	172	2	0.61	84
PLS1375	211	231	20	1.84	57
PLS1375	234	244	10	1.34	52
PLS1376	20	21	1	1.48	79
PLS1376	75	76	1	0.52	59
PLS1376	139	147	8	1.03	84

Note: Drill hole intercepts from the 2021 RC drilling programs have progressively been released in ASX announcements on 10 May 2021, 23 June 2021 and 28 July 2021. The results in this table represent the remaining results from this drilling campaign.

Appendix 2 - 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 2,434 holes for 214,157 metres since acquiring the Pilgangoora Project. This includes 145,637m of exploration RC drilling, 43,145m infill RC grade control drilling, 16,109m of RC water exploration and development drilling and 9,563 metres of diamond drill core. This includes 11,608m of RC exploration drilling in 2021. • A total of 79,377m of RC drilling were completed at the former Altura Lithium Operations
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• Talison/GAM RC holes were all sampled every metre, with samples split on the rig using a cyclone splitter. The sampling system consisted of a trailer mounted cyclone with cone splitter and dust suppression system. The cyclone splitter was configured to split

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

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

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

Criteria	JORC Code explanation	Commentary
		T685WS rig with a Foremost automated rod-handler system and on-board compressor rated to 1,350cfm/500psi with an auxiliary booster mounted on a further 8x8 Mercedes truck and rated at 900cfm/350psi. Drilling used a reverse circulation face sampling hammer. The sampling system consisted of a trailer mounted cyclone with cone splitter and dust suppression system. • The PLS 2014 drilling was completed by Quality Drilling Services (QDS Kalgoorlie) using a track mounted Schramm T450 RC rig with a 6x6 truck mounted auxiliary booster & compressor. Drilling used a reverse circulation face sampling hammer with nominal 51/4" bit. The system delivered approximately 1800cfm @ 650- 700psi down hole whilst drilling. • The 2015 RC drilling was undertaken by Orbit Drilling (200 holes), Mt Magnet Drilling (44 holes) and Strike Drilling (11 holes). Orbit used two track mounted rigs; a Schramm T450 RC Rig, and a bigger Hydco 350 RC Rig. Mt Magnet also used a track mounted Schramm T450 RC Rig; Strike drilling used an Atlas Copco X350 RC Rig mounted on a VD3000 Morooka rubber track base with additional track mounted booster & auxiliary compressor. • Diamond drilling during 2015 was completed by Orbit Drilling, using a truck mounted Hydco 1200H rig, drilling HQ sized core. • The 2016 resource RC drilling was completed by 4 track mounted RC rigs & 2 diamond rigs. 2 Atlas

Criteria	JORC Code explanation	Commentary
		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^{0} to vertical. Average depth of drilling is 85 m and ranging from 16 to 206 m. RC drilling was undertaken by two drilling companies; • Mount Magnet Drilling using a track-mounted rig (Schramm T450) and compressor (rated 1,350 cfm/800 psi) and 6WD support truck. The drill rig utilised a reverse circulation face sampling hammer, with 138mm bit. The sampling was conducted using a rig-mounted cyclone with cone splitter and dust suppression system. • Strike Drilling, using a truck-mounted KWL700 RC rig, which used a rig-mounted cyclone and cone splitter, and dust suppression system. • RC Drilling in 2018 was completed by Strike Drilling Pty Ltd using a KWL1000 truck mounted rig and Mt Magnet Drilling Pty Ltd using an RC300 track

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

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

Criteria	JORC Code explanation	Commentary
		Geological logging information was recorded directly onto digital logging system and information validated and transferred electronically to Database administrators in Perth. The rock-chip trays are stored on site at Pilgangoora in a secured containerised racking library.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	• 1m samples were laid out in lines of 20 or 30 samples with cuttings collected and geologically logged for each interval and stored in 20 compartment plastic rock-chip trays with hole numbers and depth intervals marked (one compartment per 1m). Geological logging information was recorded directly onto digital logging system (OCRIS) and information validated and transferred electronically to Database administrators in Perth. The rock-chip trays are stored on site at Pilgangoora in a shelved 40 ft sea container. • PLS Diamond core was transported to Nagrom laboratories for cutting, sampling and detailed logging in 2015. • During the 2016 drilling program diamond core was logged in detail on site & dispatched to ALS laboratories in Perth for cutting, sampling & assaying. • During the 2017 PQ drilling program diamond core was logged in detail and cut on site & the filleted samples were sent to Nagrom in Perth for analysis. Some of remnant core is also stored at Nagrom, the remainder on site at Pilgangoora. • All remnant drill core (excluding 2019 PQ core) is currently stored on pallets at Pilgangoora and is in

Criteria	JORC Code explanation	Commentary
		the process of being transferred into a covered storage facility.
	The total length and percentage of the relevant intersections logged.	• The database contains lithological data for all holes in the database.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.* *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• RC samples collected by Talison/GAM were generally dry and split at the rig using a cyclone splitter. • RC samples collected by PLS, Dakota and Altura were virtually all dry and split at the rig using a cone splitter mounted directly beneath the cyclone. • A 15 to 20mm fillet of core was taken every metre of PQ or HQ core. NQ core was halved. • Dakota drilled PQ sized diamond holes, and cut and sampled half core for metallurgical tests, and quarter core for assaying. • All 2017-2019 drill core was cut and sampled at the core logging facility at Pilgangoora. • RC samples in 2021 were generally dry and split at the rig using a cyclone splitter, which is appropriate and industry standard. • Altura HQ sized diamond holes, and cut and sampled half core for assaying
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	• Talison/GAM/PLS samples have field duplicates as well as laboratory splits and repeats. • Similarly, 238 sample pulps were collected to check ALS Laboratory results by Nagrom in 2016. • 55 Dakota GAM Wodgina laboratory splits of the samples were taken at twenty metre intervals with a

Criteria	JORC Code explanation	Commentary
		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. • Samples were selected from pegmatite pulps for re-assaying by ALS (original lab was Nagrom), and were also resampled and sent to ALS for analysis. • QAQC has been maintained regularly on the Nagrom results from the 2017-2021 drilling, with duplicates

Criteria	JORC Code explanation	Commentary
		and standards showing consistent precision and accuracy. • The majority of the Altura exploration drilling was undertaken at LabWest. 153 samples from 7 holes were submitted to Ultratrace for umpire checks. Results were comparable, with a slight bias towards the Ultratrace results. • Altura P17 and P18 series holes were sent to SGS for analysis. QC of standards and field duplicates returned results within acceptable ranges. 774 samples were sent to Intertek for umpire checks, with good correlation noted for Li_2O and Fe_2O_3.
	Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.	• For the Talison / GAM / PLS RC drilling, field duplicates were collected every 20m, and splits were undertaken at the sample prep stage on every other 20m. • Talison / GAM / PLS RC samples have field duplicates as well as laboratory splits and repeats. • PLS diamond holes have laboratory splits and repeats. • Duplicates submitted by Dakota included field RC duplicates, pulp duplicates from diamond core, and coarse crushed diamond core duplicates. • For all PLS holes from 2016 to 2021 field duplicates were taken approximately every 20m, and standards and blanks every 50 samples. • Altura submitted duplicates approximately every 15m, and standards every 50m.

Criteria	JORC Code explanation	Commentary
	Whether sample sizes are appropriate to the grain size of the material being sampled.	• Drilling sample sizes are considered to be appropriate to correctly represent the tantalum and lithium mineralization at Pilgangoora based on the style of mineralization (pegmatite) and the thickness and consistency of mineralization.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	• The Talison / GAM samples were assayed by the Wodgina Laboratory, for a 36 element suite using XRF on fused beads. • During late 2014 &2015 the PLS samples were assayed at the Nagrom Perth laboratory, using XRF on fused beads plus ICP to determine Li_2O, ThO_2 and U_3O_8. • All the 2016 the PLS samples were assayed by ALS laboratories in Perth using a Sodium Peroxide fusion with ICPMS finish. • Dakota RC samples were assayed at Nagrom's laboratory in Perth, for a 5 element suite using XRF with a sodium peroxide fusion, and total acid digestion with an ICP-MS finish. Diamond drill samples were assayed at SGS's laboratory in Perth, for a 19 element suite using XRF with a sodium peroxide fusion, and total acid digestion with an ICP-MS finish. • Since 2017, PLS samples were assayed by Nagrom Perth laboratory and analysed for a suite of 9 elements via ME-MS91 Sodium Peroxide for ICPMS finish and Peroxide fusion with an ME-ICP89 ICPAES finish. • In 2021, samples were submitted to Nagrom

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

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

Criteria	JORC Code explanation	Commentary
		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). • 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

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

Criteria	JORC Code explanation	Commentary
		• All 2021 RC holes were surveyed using DGPS in GDA94, Zone 50. Down hole surveying of drill holes was conducted using a Gyro tool. Measurements were recorded at the bottom of each hole and every 10m up hole for vertical holes and continuous readings for angle holes. • Drill hole collar locations were surveyed at the end of each program by a differential GPS (DGPS).
	Specification of the grid system used.	• The grid used was MGA (GDA94, Zone 50)
	Quality and adequacy of topographic control.	• The topographic surface used was supplied by Pilbara Minerals. Drone surveys are undertaken on a monthly basis in the active mining area and this information is merged into a master topographic surface.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	• Drilling spacings within the resource area vary between 12.5m to 200m apart. • Drilling spacings for the 2021 exploration RC holes varied between 50m to 75m apart.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	• The interpretation of the mineralised domains are supported by a moderate drill spacing, plus both geological zones and assay grades can be interpreted with confidence.
	Whether sample compositing has been applied.	• No compositing was necessary, as all samples were taken at 1m intervals.

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

Criteria	JORC Code explanation	Commentary
		checking all of the data in the digital database against hard copy logs. • All PLS assays were sourced directly from Nagrom laboratory.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites*	• PLS owns 100% of mining tenements M45/1256, M45/333, M45/511, M45/1266, M45/1230 and M45/1231. • The Pilgangoora resource (including former Altura Lithium Operations) is located within M45/1256, M45/333, M45/1230 and M45/1231 which are 100% owned by PLS Minerals Limited. • The Lynas Find resource is located within M45/1266.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	• No known impediments.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	• Talison completed RC holes in 2008 • GAM completed RC holes between 2010 and 2012. • Dakota Minerals Ltd completed diamond and RC holes in 2016. • Altura completed Diamond and RC holes between 2010 and 2018. Altura completed two phases of diamond drilling (phase 1 2011-2013 & phase 2 2016) with a total of 18 holes drilled

Criteria	JORC Code explanation	Commentary
Geology	*Deposit type, geological setting and style of mineralisation.*	• The Pilgangoora pegmatites are part of the later stages of intrusion of Archaean granitic batholiths into Archaean metagabbros and metavolcanics. Tantalum mineralisation occurs in zoned pegmatites that have intruded a sheared metagabbro.
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes, including easting and northing of the drill hole collar, elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar, dip and azimuth of the hole, down hole length and interception depth plus hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• RC drilling undertaken in 2021 has been previously reported in ASX announcements on 10 May 2021, 23 June 2021 and 28 July 2021. All PLS drill hole information pre 2021 has been previously reported.
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.*	• Length weighted averages used for exploration results. Cutting of high grades was not applied in the reporting of intercepts in Appendix 2. • No metal equivalent values are used.

Criteria	JORC Code explanation	Commentary
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• Down hole intercepts have been reported and are tabled in APPENDIX 2. Reported intercepts are not true width. Cross sections illustrate the modelled pegmatite domains and intersections.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• See Figures 4 to 9. Cross sections showing selected holes from the program are presented as Figures 4 to 6
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Comprehensive reporting of 2021 drill hole details have been previously reported in ASX announcements on 10 May 2021, 23 June 2021 and 28 July 2021. All other PLS results have been previously reported.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• All meaningful & material exploration data has been reported.

Criteria	JORC Code explanation	Commentary
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further planned drilling aims to test extensions to the currently modelled pegmatites zones and to infill where required to convert Mineral Resources to high confidence classification (i.e. Inferred to Indicated and Indicated to Measured).

Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*	• The original database was compiled by GAM and supplied as a Microsoft Access database. • Since 2013, the data has then been imported into a relational SQL Server database using DataShed™ (industry standard drill hole database management software). • Initially drilling data was supplied in Excel templates, using drop down lists to verify codes. PLS then implemented the OCRIS data logging software system which validates the data before it is imported to the SQL database. • Altura data has been supplied both as an Access and SQL database and was cross checked against the Company SQL Database. • The data is constantly audited and any discrepancies checked by PLS personnel before being updated in the database.
	• *Data validation procedures used.*	• Normal data validation checks were completed on import to the SQL database. • Historical data have not been checked back to hard copy results, but have been checked against previous databases supplied by GAM. • All logs are supplied as Excel spreadsheets/OCRIS files and any discrepancies checked and corrected by field personnel.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	• John Holmes (Exploration and Geology Manager PLS Minerals and a Competent Person) has been actively involved in the exploration programs with multiple site visits undertaken. Lauritz Barnes (Competent Person) has also completed multiple site visits, with the most recent in January 2021.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	• The confidence in the geological interpretation is considered robust. Lithium (occurring as spodumene) and tantalum (occurring as tantalite) is hosted within pegmatite dykes intruded into basalts & sediments of the East Strelley greenstone belt. The area of the Pilgangoora pegmatite field within M45/1256, M45/333, M45/1230 and M45/1231 comprises a series of extremely fractionated dykes, sills and veins up to 65m thick

Criteria	JORC Code explanation	Commentary
	• *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.*	within the immediate drilling area. These dykes and veins dip to the east at 20-60° and are parallel to sub-parallel to the main schistose fabric within the greenstones. • The geological interpretation is supported by drill hole logging, assays, mineralogical studies and surface mapping completed by GAM (previously Talison), Altura Mining Limited and PLS Minerals. • No alternative interpretations have been considered at this stage. • Grade wireframes were created in Leapfrog™ Geo software and correlate extremely well with the logged pegmatite veins. • The key factor affecting continuity is the presence of pegmatite.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The main modelled mineralized domains have a total dimension of 5,800m (north-south), ranging between 50-1,500m (east-west) in multiple veins and ranging between -370m and 220m RL (AMSL). The Monster and Southern areas each have a modelled strike of approximately 700m and Lynas Find 500m.
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*	• Grade estimation using Ordinary Kriging (OK) was completed using Geovia Surpac™ software for Li_2O, Ta_2O_5 and Fe_2O_3. • Drill spacing typically ranges from 25m to 50m with some limited zones to 100m. Drill spacing at Central and Monster has been reduced to 12.5 x 12.5m in areas designated for Stage 1 mining operations. Drilling spacing undertaken by Altura at the South pit ranges between 20 and 40m. • Drill hole samples were flagged with wire framed domain codes. Sample data was composited for Li_2O, Ta_2O5 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

Criteria	JORC Code explanation	Commentary
	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.*	using a combination of methods including grade histograms, log probability plots and statistical tools. Based on this statistical analysis of the data population, no top-cuts were applied for Li_2O, and only one domain for Ta_2O_5. For Fe_2O_3, they typically were around 6.5%. Some domains did not require top-cutting. • Directional variograms were modelled by domain using traditional variograms. Nugget values are moderate to low (between 15% and 30%) and structure ranges up to 500m. Domains with more limited samples used variography of geologically similar, adjacent domains. • Block model was constructed with parent blocks of 6m (E) by 20m (N) by 5m (RL) and sub-blocked to 3.0m (E) by 5.0m (N) by 2.5m (RL). For Lynas Find, it was constructed with parent blocks of 10m (E) by 10m (N) by 5m (RL) and sub-blocked to 5m (E) by5m (N) by 2.5m (RL). All estimation was completed to the parent cell size. Discretisation was set to 5 by 5 by 2 for all domains. • Three estimation passes were used. The first pass had a limit of 75m, the second pass 150m and the third pass searching a large distance to fill the blocks within the wire framed zones. Each pass used a maximum of 12 samples, a minimum of 6 samples and maximum per hole of 4 samples. The exceptions to this were domains with less than 20 samples, which used a maximum of 10 samples, a minimum of 4 samples and maximum per hole of 3 samples for the second pass. • As a potential deleterious element, 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, 0.2% from all historic GAM Fe_2O_3 assays and 0.4% from all Altura 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

Criteria	JORC Code explanation	Commentary
	• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	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 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*	• As expected, based on the orientations, thickness's and depths to which the pegmatite veins have been modelled, plus their estimated grades for Li_2O and Ta_2O_5, the current mining method is open pit mining. • The Mineral Resource is also depleted to end of June 2021.

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

Criteria	JORC Code explanation	Commentary
	method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	(uncoated) on surface grab samples and Gas Pycnometry on RC chips which produces consistent results. Geological mapping and rock chip/grab sampling has not observed any potential porosity in the pegmatite. • PLS conducted hydrostatic weighing tests on uncoated HQ core samples to determine bulk density factors. A total of 600 core samples were tested. Measurements included both pegmatite ore and waste rock. • The bulk density factors applied to the current resource estimate are 2.53 g/cm3 in the (minimal) oxide, and 2.72 g/cm3 in fresh/transition zone material. • Additional samples have been collected on a regular basis through the mining operations to increase the amount of available data.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The Mineral Resource has been classified on the basis of confidence in the geological model, continuity of mineralized zones, drilling density, confidence in the underlying database and the available bulk density information. • All factors considered, the resource estimate has in part been assigned to Measured and Indicated resources with the remainder to the Inferred category. • The Mineral Resource is also depleted to the end of June 2021.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• As part of the DFS study completed in 2016, and subsequent to multiple phases of technical due diligence as part of financing, along with audits/reviews have been completed on the Pilgangoora Mineral Resource with no material flaws identified
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*	• 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
	of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	