

# Bulk sampling program in initial mining areas achieves average grades in excess of 2%

***Outstanding results demonstrate world-class strength of Pilgangoora deposit. Financing initiatives proceeding well and mine camp commissioning set to start in two weeks***

## **HIGHLIGHTS:**

- Exceptional results generated from bulk sampling and pre-development grade control drilling at the proposed Central pit area within Pilbara's 100%-owned Pilgangoora Lithium-Tantalum Project in WA.
- A recently completed 10 tonne bulk sampling program from surface pegmatites within the Central Domain returns outstanding results with an average grade of 2.11% Li<sub>2</sub>O (in spodumene).
- Pre-development RC grade control drilling within the Central footwall pegmatite confirms high-grade spodumene mineralisation over the initial pit development stages. Significant intersections to date include:
  - **23m @ 1.54% Li<sub>2</sub>O from 3m (PGC022)**
  - **21m @ 1.72% Li<sub>2</sub>O from 1m (PGC025)**
  - **16m @ 2.07% Li<sub>2</sub>O from 14m (PGC027)**
  - **32m @ 1.72% Li<sub>2</sub>O from 0m (PGC033)**
- To date, a total of 123 holes for 4,139 metres at an average depth of 33m have been completed within the Central Footwall pegmatite area for the pre-mining grade control program.
- Offtake and project financing discussions well progressed.
- Construction works continue at the Pilgangoora site, with the mine camp commissioning targeted to start in two weeks.
- Mining Proposal approval process ongoing, with Pilbara finalising its response to the DMP technical queries. Approval expected within weeks.
- The Native Vegetation Clearing Permit has been fully approved.
- RCR Tomlinson Front-End Engineering and Design (FEED) stage 1 package nearing completion.

Australian lithium developer, Pilbara Minerals Limited (ASX: PLS), is pleased to provide an update on the strong progress being made on several fronts at its 100 per cent-owned Pilgangoora Lithium-Tantalum Project in the Pilbara region of WA.

Pilbara Managing Director, Ken Brinsden said the onsite preliminary works and offsite engineering, procurement, final metallurgical test work and approvals already received had continued to further de-risk the project's development.

Progress towards the completion of financing (including final offtake) combined with the Mining Proposal approval in the near-term means the project is well advanced towards a final investment decision.

"We are making good progress at Pilgangoora against a backdrop of strong demand from the lithium battery industry," Mr Brinsden said.

"This is particularly the case in China, where leading industry players see Pilgangoora as an important supply solution for the market."



### ***Pre-Mining Bulk Sample Campaign***

Bulk sampling of outcropping pegmatites from the proposed initial mining areas, and in particular the proposed DSO (Direct Shipping Ore) pits within the Central Domain and Lynas Find areas was completed during the quarter. Ten pegmatite samples of approximately one-tonne each were collected from different outcrops within the Central Domain (See Figure 1) for the purpose of assessing in-situ grade against the Resource and Reserve, further metallurgical testwork samples, product samples for customers and to assess mining sampling regimes.



***Figure 1 – Bulk Sampling Program within Central area***

Samples were sent to Nagrom laboratories in Perth. Each 1 tonne sample was crushed to a top size of 50mm then assayed across the Pilbara Minerals assay suite.

Results from the individual 1 tonne samples ranged from 1.46% Li<sub>2</sub>O to 2.93% Li<sub>2</sub>O with an average grade of 2.11% Li<sub>2</sub>O. (see Figure 2 following). Results and sample locations are reported in **Appendix 3**.

Pilbara recently signed a non-binding Memorandum of Understanding (MOU) with Atlas Iron Limited contemplating infrastructure services in relation to Pilbara's Run-of-Mine (ROM) ore strategy (*see announcement of 29<sup>th</sup> March, 2017*). This is an important step in establishing the path to market for the ROM product and represents one of the conditions to the completion of the initial binding offtake agreement with its customer. In addition, Pilbara continues to work with this customer to finalise its regulatory approvals in China to close the conditions precedent to the commencement of offtake. Should that occur, ore deliveries are planned to commence next quarter.

Pilbara also continues to work with other potential customers in relation to the ROM / unprocessed product.

While the ROM ore project is a unique opportunity to potentially provide early cashflow from operations, Pilbara's Stage 1 - 2 Mtpa processing project is not dependent on the progress of these ROM ore sales, nor is the project financing for the 2Mtpa project.

Two one tonne bulk samples of high-grade, low-iron ore have also been taken from the Eastern lode, to assist in generating further product samples for Technical Grade customers.

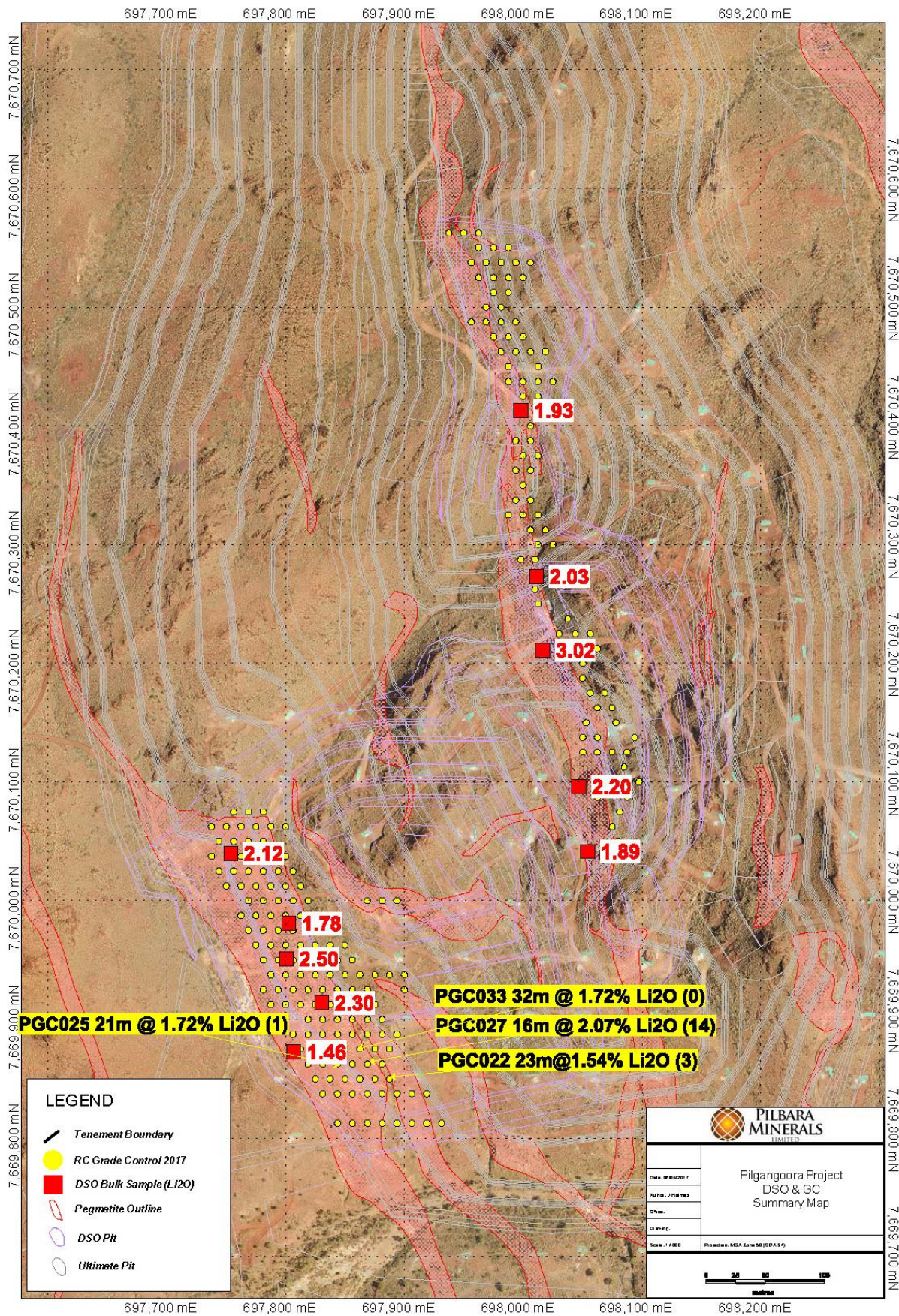


Figure 2 – Bulk Sample and Grade Control Summary Plan



### Pre-development Grade Control Drilling

RC grade control drilling is being undertaken on two key pegmatite domains (D36 and D1) within the Central pit area and also at Lynas Find. The program is being undertaken by Mt Magnet Drilling Pty Ltd using a track mounted RC450 drill rig.

Holes are being drilled vertically on a nominal 12 metre x 12 metre offset pattern to an average depth of 33m (representing approximately the first 6 benches of mining) through this zone. Drilling of the footwall zone (D36) is nearing completion with a total of 124 holes for 4,139 metres completed to date.

All samples are being sent to Nagrom laboratories in Perth for analysis using a peroxide fusion digest with an ICP finish. Results have been received for the first 43 holes with significant intersections including:

- **23m @ 1.54% Li<sub>2</sub>O from 3m (PGC022)**
- **21m @ 1.72% Li<sub>2</sub>O from 1m (PGC025)**
- **16m @ 2.07% Li<sub>2</sub>O from 14m (PGC027)**
- **32m @ 1.72% Li<sub>2</sub>O from 0m (PGC033)**

Drill hole locations are shown on Figure 2. A full suite of results is tabled in **Appendix 2**.

On completion of the drilling program, the resource will be re-calculated for domains D1 and D36 before undertaking detailed variography studies. Results from these studies will be used to optimise grade control strategies prior to commencement of mining.



**Figure 3 – Grade Control and Geotechnical Drilling Central Domain**

### Diamond Drilling

A diamond drilling program for additional geotechnical and metallurgical data is also currently underway. Drilling is being carried out at the Lynas Find, Eastern, Central and Far East Domains.

A total of 5 PQ drill holes for 225m have been completed at the Lynas Find prospect for additional metallurgical testwork. The drill holes have been positioned to twin existing RC holes. In addition 3 HQ drill holes (PLS968M to PLS970M) for a total of 258m have been completed for geotechnical purposes.

Geotechnical drilling has been completed at Central and Eastern Domains. This included 5 HQ drill holes for a total of 468m. The program is nearing completion with 2 PQ drill holes remaining at the Far East Domain.

Results to be reported on completion of drilling program and receipt of assays.



## **Reserve Development**

The Company will be undertaking further pit optimisation studies to incorporate the January 2017 resource base and ultimately upgrade the reserve for the Pilgangoora Project. It is anticipated that this work will be completed before the end of the June quarter.

## **Project Approvals**

Pilbara has continued to progress the Mining Proposal approval. This is the last significant project approval from the regulator prior to the commencement of major site works.

Pilbara has been responding as quickly as it can with a request for further information from DMP (Department of Mines & Petroleum) in relation to its application, with the two most significant queries relating to design criteria accommodating the possible maximum flooding event (a new requirement of DMP) and the influence of zones of pit instability. Both these queries have resulted in the requirement for additional design input (including from external consultants) to the project and its final Mining Proposal and represented a significant package of work that was larger than initial estimates. The response to these queries will be submitted by Pilbara imminently at which time DMP will continue with its assessment.

Pilbara anticipates that the remaining Mining Proposal assessment will be completed by DMP over the coming weeks, inclusive of review by DMP's Geotechnical branch.

As per ASX announcement of 27<sup>th</sup> March 2017, the Company is in receipt of a fully approved Native Vegetation Clearing Permit for the project, representing a further de-risking event to the projects development.

## **Offtake and Financing**

The Company has continued to progress its integrated offtake and financing objective, with significant progress having already been made towards reaching agreement on a final offtake and the balance of the project's required financing. The offtake and financing negotiations are not yet concluded but are well advanced and detailed documentation is being exchanged to finalise terms.

The Company notes that the demand for its products remains strong and that the Pilgangoora project is generally viewed as an important subset of the future lithium raw material supply base, particularly in China.

In the intervening period, the Company has continued project development based on the A\$100M financing it achieved approximately 12 months ago.

## **Onsite and Offsite Pre-Development Construction/Design Works and Metallurgical Testwork**

Initial site establishment works at Pilgangoora are now well advanced, inclusive of road upgrades, office and camp development and ancillary works (including a concrete batching plant).



**Figure 4 – Camp Development, with final installation of first 60 rooms (to right of photo)**

RCR Tomlinson (Plant Design and Construction) are nearing completion of the Front-End Engineering and Design (FEED) package, representing Stage 1 of the processing plant contract. Within this package there have been further procurement activities in relation to the plant with a view to maintaining the current project timeline and first concentrate on ship in the first quarter of 2018.

Upon the completion of the outstanding environmental approvals, final offtake and financing and then a Final Investment Decision (FID) of the Board of Pilbara Minerals, RCR Tomlinson is expected to undertake Stage 2 of the contract, culminating in the process plant construction on site.

Post DFS, further flotation optimisation test work has been undertaken to maximize the pilot program, which has involved a change in collector and pH modifier, with the result significantly improving flotation kinetics and reducing reagent consumptions (at a desktop level).

In the past four weeks, a flotation pilot plant with 100kg/hr throughput capacity has been configured at SGS Australia in Malaga, reflecting the Pilgangoora flow sheet as developed during the DFS and optimised with subsequent design and testwork.

This week, the circuit will be wet-commissioned on a bulk sample collected from the Eastern zone and once optimized, the three “marketing” bulk samples will then be processed to final flotation concentrates.

The objective of the pilot program is to further validate the flowsheet in the process design. The HMS and flotation concentrates produced from the three Domains will be utilised for marketing purposes.

Following from this current program, planning is now in progress with a 10 tonne bulk sample recently collected from the Eastern Domain. The Eastern zone has a lower iron content and with previous bench scale test work showed that it has produced “Technical Grade Spodumene” for the glass and ceramics industry. Bench scale test work will be undertaken initially to optimize conditions, and then this bulk sample will be put through the flotation



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pilot plant, with the objective to produce approximately 1.5 tonne of Technical Grade concentrate for further product marketing purposes.



**Figure 5: Flotation Pilot Deslime and Conditioning**



**Figure 6: Flotation Pilot Low Intensity Magnetic Separation (LIMS), Screening and Flotation**



**Additional 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 among the largest Spodumene (Lithium Aluminium Silicate) projects in the world. Pilgangoora is also one of the largest pegmatite hosted Tantalite resources in the world and Pilbara proposes to produce Tantalite as a by-product of its Spodumene production.

**ABOUT LITHIUM**

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

**ABOUT TANTALUM**

The Tantalum market is boutique in size with around 1,300 tonnes required each year. Its primary use is in capacitors for consumer electronics, particularly where long battery life and high performance is required such as smart phones, tablets and laptops.

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|---|---|
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**FORWARD LOOKING STATEMENTS AND IMPORTANT NOTICE**

This announcement may contain some references to forecasts, estimates, assumptions and other forward-looking statements. Although the Company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions, it can give no assurance that they will be achieved. They are indicative and may be affected by a variety of variables and changes in underlying assumptions that are subject to risk factors associated with the nature of the business, which could cause actual results to differ materially from those expressed herein. All references to dollars (\$) and cents in this announcement are to Australian currency, unless otherwise stated.

Investors should make and rely upon their own enquiries before deciding to acquire or deal in the Company's securities.

**Competent Person's Statement**

The information in this report that relates to Exploration Results 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 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. 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.



**Appendix 1 – Table of Results**

| Hole ID | From (m) | To (m) | Thickness (m) | Li2O % | Ta2O5 (ppm) |
|---------|----------|--------|---------------|--------|-------------|
| PGC001  | 2        | 4      | 2             | 1.49   | 88.00       |
| PGC002  | 2        | 11     | 9             | 1.42   | 67.33       |
| PGC003  | 3        | 20     | 17            | 1.28   | 75.12       |
| PGC004  | 4        | 24     | 20            | 1.42   | 66.15       |
| PGC005  | 9        | 13     | 4             | 1.44   | 82.50       |
| PGC005  | 16       | 32     | 16            | 1.63   | 78.50       |
| PGC006  | 15       | 29     | 14            | 1.56   | 74.07       |
| PGC007  | 1        | 7      | 6             | 1.69   | 202.33      |
| PGC007  | 20       | 23     | 3             | 1.75   | 87.67       |
| PGC007  | 26       | 37     | 11            | 1.17   | 64.45       |
| PGC008  | 9        | 11     | 2             | 1.42   | 132.50      |
| PGC008  | 25       | 39     | 14            | 1.35   | 70.86       |
| PGC009  | 4        | 5      | 1             | 1.41   | 82.00       |
| PGC010  | 3        | 12     | 9             | 1.39   | 121.22      |
| PGC011  | 7        | 21     | 14            | 1.39   | 89.50       |
| PGC012  | 1        | 6      | 5             | 1.67   | 87.00       |
| PGC012  | 16       | 21     | 5             | 1.34   | 103.40      |
| PGC013  | 1        | 15     | 14            | 1.29   | 83.57       |
| PGC014  | 6        | 27     | 21            | 1.08   | 81.33       |
| PGC015  | 0        | 4      | 4             | 1.88   | 158.25      |
| PGC015  | 18       | 21     | 3             | 1.55   | 83.67       |
| PGC015  | 26       | 33     | 7             | 1.25   | 61.29       |
| PGC016  | 5        | 9      | 4             | 2.19   | 170.75      |
| PGC016  | 20       | 44     | 24            | 1.76   | 74.21       |
| PGC018  | 1        | 15     | 14            | 1.43   | 61.00       |
| PGC019  | 0        | 22     | 22            | 1.24   | 71.32       |
| PGC020  | 2        | 24     | 22            | 1.28   | 75.05       |
| PGC021  | 1        | 3      | 2             | 1.38   | 367.00      |
| PGC021  | 6        | 12     | 6             | 1.20   | 95.83       |
| PGC021  | 22       | 25     | 3             | 1.33   | 118.33      |
| PGC022  | 3        | 26     | 23            | 1.54   | 119.22      |
| PGC022  | 30       | 31     | 1             | 1.13   | 6.00        |
| PGC023  | 1        | 6      | 5             | 1.37   | 67.20       |
| PGC024  | 2        | 15     | 13            | 1.74   | 51.15       |
| PGC025  | 1        | 22     | 21            | 1.72   | 65.43       |
| PGC026  | 3        | 14     | 11            | 1.71   | 75.82       |
| PGC026  | 17       | 27     | 10            | 1.60   | 81.10       |



|        |    |    |    |      |        |
|--------|----|----|----|------|--------|
| PGC027 | 14 | 30 | 16 | 2.07 | 91.44  |
| PGC028 | 1  | 3  | 2  | 1.95 | 260.50 |
| PGC028 | 6  | 8  | 2  | 1.46 | 197.00 |
| PGC028 | 11 | 31 | 20 | 1.63 | 103.45 |
| PGC029 | 0  | 12 | 12 | 1.52 | 71.17  |
| PGC030 | 0  | 18 | 18 | 1.77 | 69.78  |
| PGC031 | 0  | 25 | 25 | 1.70 | 73.72  |
| PGC032 | 2  | 30 | 28 | 1.83 | 95.89  |
| PGC033 | 0  | 32 | 32 | 1.72 | 84.47  |
| PGC034 | 1  | 8  | 7  | 1.79 | 109.71 |
| PGC034 | 14 | 35 | 21 | 1.44 | 85.10  |
| PGC035 | 1  | 7  | 6  | 1.82 | 152.67 |
| PGC035 | 10 | 37 | 27 | 1.64 | 124.11 |
| PGC042 | 0  | 1  | 1  | 1.98 | 160.00 |
| PGC043 | 6  | 11 | 5  | 2.10 | 218.00 |
| PGC043 | 19 | 31 | 12 | 1.48 | 150.92 |
| PGC043 | 34 | 43 | 9  | 1.43 | 72.44  |

## Appendix 2 – Drilling Information Pilgangoora Lithium-Tantalum Project

| Hole ID | East GDA94 | North GDA94 | RL  | Dip | Azm | DEPTH |
|---------|------------|-------------|-----|-----|-----|-------|
| PGC001  | 697844     | 7669813     | 184 | -90 | 0   | 6     |
| PGC002  | 697856     | 7669813     | 184 | -90 | 0   | 12    |
| PGC003  | 697869     | 7669813     | 185 | -90 | 0   | 20    |
| PGC004  | 697881     | 7669813     | 185 | -90 | 0   | 25    |
| PGC005  | 697894     | 7669813     | 186 | -90 | 0   | 30    |
| PGC006  | 697906     | 7669813     | 187 | -90 | 0   | 35    |
| PGC007  | 697919     | 7669813     | 186 | -90 | 0   | 40    |
| PGC008  | 697931     | 7669813     | 186 | -90 | 0   | 46    |
| PGC009  | 697831     | 7669838     | 184 | -90 | 0   | 6     |
| PGC010  | 697844     | 7669838     | 184 | -90 | 0   | 13    |
| PGC011  | 697856     | 7669838     | 185 | -90 | 0   | 18    |
| PGC012  | 697869     | 7669838     | 185 | -90 | 0   | 22    |
| PGC013  | 697881     | 7669838     | 185 | -90 | 0   | 26    |
| PGC014  | 697894     | 7669838     | 186 | -90 | 0   | 32    |
| PGC015  | 697906     | 7669838     | 187 | -90 | 0   | 38    |
| PGC016  | 697919     | 7669838     | 187 | -90 | 0   | 45    |
| PGC017  | 697825     | 7669850     | 185 | -90 | 0   | 10    |



|        |        |         |     |     |   |    |
|--------|--------|---------|-----|-----|---|----|
| PGC018 | 697838 | 7669850 | 185 | -90 | 0 | 18 |
| PGC019 | 697850 | 7669850 | 186 | -90 | 0 | 22 |
| PGC020 | 697863 | 7669850 | 186 | -90 | 0 | 24 |
| PGC021 | 697875 | 7669850 | 186 | -90 | 0 | 26 |
| PGC022 | 697888 | 7669850 | 186 | -90 | 0 | 30 |
| PGC023 | 697819 | 7669863 | 186 | -90 | 0 | 12 |
| PGC024 | 697831 | 7669863 | 186 | -90 | 0 | 17 |
| PGC025 | 697844 | 7669863 | 186 | -90 | 0 | 22 |
| PGC026 | 697856 | 7669863 | 187 | -90 | 0 | 27 |
| PGC027 | 697869 | 7669863 | 187 | -90 | 0 | 32 |
| PGC028 | 697881 | 7669863 | 186 | -90 | 0 | 37 |
| PGC029 | 697813 | 7669875 | 186 | -90 | 0 | 16 |
| PGC030 | 697825 | 7669875 | 186 | -90 | 0 | 21 |
| PGC031 | 697838 | 7669875 | 187 | -90 | 0 | 26 |
| PGC032 | 697850 | 7669875 | 187 | -90 | 0 | 30 |
| PGC033 | 697863 | 7669875 | 187 | -90 | 0 | 32 |
| PGC034 | 697875 | 7669875 | 187 | -90 | 0 | 40 |
| PGC035 | 697888 | 7669875 | 187 | -90 | 0 | 43 |
| PGC036 | 697806 | 7669888 | 187 | -90 | 0 | 20 |
| PGC037 | 697819 | 7669888 | 187 | -90 | 0 | 27 |
| PGC038 | 697831 | 7669888 | 187 | -90 | 0 | 32 |
| PGC039 | 697844 | 7669888 | 187 | -90 | 0 | 33 |
| PGC040 | 697856 | 7669888 | 188 | -90 | 0 | 36 |
| PGC041 | 697869 | 7669888 | 188 | -90 | 0 | 41 |
| PGC042 | 697881 | 7669888 | 188 | -90 | 0 | 45 |
| PGC043 | 697894 | 7669888 | 188 | -90 | 0 | 50 |
| PGC044 | 697819 | 7669900 | 188 | -90 | 0 | 30 |
| PGC045 | 697831 | 7669900 | 187 | -90 | 0 | 34 |
| PGC046 | 697844 | 7669900 | 188 | -90 | 0 | 38 |
| PGC047 | 697856 | 7669900 | 189 | -90 | 0 | 42 |
| PGC048 | 697869 | 7669900 | 189 | -90 | 0 | 46 |
| PGC049 | 697881 | 7669900 | 189 | -90 | 0 | 52 |
| PGC050 | 697788 | 7669913 | 187 | -90 | 0 | 18 |
| PGC051 | 697800 | 7669913 | 188 | -90 | 0 | 26 |
| PGC052 | 697813 | 7669913 | 188 | -90 | 0 | 32 |
| PGC053 | 697825 | 7669913 | 188 | -90 | 0 | 38 |
| PGC054 | 697838 | 7669913 | 189 | -90 | 0 | 41 |
| PGC055 | 697850 | 7669913 | 189 | -90 | 0 | 45 |
| PGC056 | 697863 | 7669913 | 190 | -90 | 0 | 51 |



|        |        |         |     |     |   |    |
|--------|--------|---------|-----|-----|---|----|
| PGC057 | 697875 | 7669913 | 191 | -90 | 0 | 54 |
| PGC058 | 697781 | 7669925 | 187 | -90 | 0 | 16 |
| PGC059 | 697794 | 7669925 | 188 | -90 | 0 | 26 |
| PGC060 | 697806 | 7669925 | 189 | -90 | 0 | 33 |
| PGC061 | 697819 | 7669925 | 189 | -90 | 0 | 40 |
| PGC062 | 697831 | 7669925 | 189 | -90 | 0 | 45 |
| PGC063 | 697844 | 7669925 | 190 | -90 | 0 | 50 |
| PGC064 | 697856 | 7669925 | 191 | -90 | 0 | 53 |
| PGC065 | 697869 | 7669925 | 193 | -90 | 0 | 59 |
| PGC066 | 697900 | 7669925 | 192 | -90 | 0 | 6  |
| PGC067 | 697788 | 7669938 | 188 | -90 | 0 | 26 |
| PGC068 | 697800 | 7669938 | 189 | -90 | 0 | 32 |
| PGC069 | 697813 | 7669938 | 190 | -90 | 0 | 40 |
| PGC070 | 697825 | 7669938 | 190 | -90 | 0 | 45 |
| PGC071 | 697838 | 7669938 | 191 | -90 | 0 | 53 |
| PGC072 | 697850 | 7669938 | 192 | -90 | 0 | 57 |
| PGC073 | 697863 | 7669938 | 193 | -90 | 0 | 46 |
| PGC074 | 697875 | 7669938 | 194 | -90 | 0 | 48 |
| PGC075 | 697888 | 7669938 | 194 | -90 | 0 | 10 |
| PGC076 | 697900 | 7669938 | 193 | -90 | 0 | 12 |
| PGC077 | 697781 | 7669950 | 189 | -90 | 0 | 26 |
| PGC078 | 697794 | 7669950 | 189 | -90 | 0 | 33 |
| PGC079 | 697806 | 7669950 | 190 | -90 | 0 | 38 |
| PGC080 | 697819 | 7669950 | 191 | -90 | 0 | 43 |



| Hole ID | East GDA94 | North GDA94 | RL  | Dip | Azm | DEPTH |
|---------|------------|-------------|-----|-----|-----|-------|
| PGC081  | 697831     | 7669950     | 192 | -90 | 0   | 52    |
| PGC082  | 697844     | 7669950     | 193 | -90 | 0   | 58    |
| PGC083  | 697856     | 7669950     | 194 | -90 | 0   | 46    |
| PGC084  | 697775     | 7669963     | 189 | -90 | 0   | 20    |
| PGC085  | 697788     | 7669963     | 189 | -90 | 0   | 30    |
| PGC086  | 697800     | 7669963     | 190 | -90 | 0   | 37    |
| PGC087  | 697813     | 7669963     | 191 | -90 | 0   | 44    |
| PGC088  | 697825     | 7669963     | 193 | -90 | 0   | 43    |
| PGC089  | 697838     | 7669963     | 195 | -90 | 0   | 45    |
| PGC090  | 697850     | 7669963     | 196 | -90 | 0   | 45    |
| PGC091  | 697769     | 7669975     | 189 | -90 | 0   | 18    |
| PGC092  | 697781     | 7669975     | 189 | -90 | 0   | 26    |
| PGC093  | 697794     | 7669975     | 190 | -90 | 0   | 35    |
| PGC094  | 697806     | 7669975     | 191 | -90 | 0   | 43    |
| PGC095  | 697819     | 7669975     | 193 | -90 | 0   | 42    |
| PGC096  | 697831     | 7669975     | 194 | -90 | 0   | 43    |
| PGC097  | 697844     | 7669975     | 196 | -90 | 0   | 45    |
| PGC098  | 697763     | 7669988     | 189 | -90 | 0   | 15    |
| PGC099  | 697775     | 7669988     | 190 | -90 | 0   | 23    |
| PGC100  | 697788     | 7669988     | 190 | -90 | 0   | 34    |
| PGC101  | 697800     | 7669988     | 191 | -90 | 0   | 43    |
| PGC103  | 697825     | 7669988     | 197 | -90 | 0   | 44    |
| PGC104  | 697769     | 7670000     | 189 | -90 | 0   | 20    |
| PGC105  | 697781     | 7670000     | 190 | -90 | 0   | 34    |
| PGC106  | 697794     | 7670000     | 191 | -90 | 0   | 44    |
| PGC107  | 697806     | 7670000     | 192 | -90 | 0   | 52    |
| PGC108  | 697819     | 7670000     | 195 | -90 | 0   | 40    |
| PGC112  | 697750     | 7670013     | 191 | -90 | 0   | 13    |
| PGC113  | 697763     | 7670013     | 190 | -90 | 0   | 20    |
| PGC114  | 697775     | 7670013     | 190 | -90 | 0   | 30    |
| PGC115  | 697788     | 7670013     | 190 | -90 | 0   | 34    |
| PGC116  | 697800     | 7670013     | 191 | -90 | 0   | 36    |
| PGC118  | 697744     | 7670025     | 192 | -90 | 0   | 18    |
| PGC119  | 697756     | 7670025     | 191 | -90 | 0   | 21    |
| PGC120  | 697769     | 7670025     | 190 | -90 | 0   | 30    |
| PGC121  | 697781     | 7670025     | 190 | -90 | 0   | 32    |
| PGC122  | 697794     | 7670025     | 190 | -90 | 0   | 33    |
| PGC123  | 697806     | 7670025     | 193 | -90 | 0   | 36    |



|        |        |         |     |     |   |    |
|--------|--------|---------|-----|-----|---|----|
| PGC124 | 697738 | 7670038 | 192 | -90 | 0 | 27 |
| PGC125 | 697763 | 7670038 | 192 | -90 | 0 | 33 |
| PGC126 | 697775 | 7670038 | 191 | -90 | 0 | 42 |
| PGC127 | 697788 | 7670038 | 190 | -90 | 0 | 32 |
| PGC128 | 697800 | 7670038 | 191 | -90 | 0 | 34 |

### Appendix 3 – Bulk Sample Location and Assay Data

| Easting | Northing | RL      | Li2O<br>% | Al2O3<br>% | Fe2O3<br>(unadj)% | K2O<br>% | MnO<br>% | Na2O<br>% | Nb2O5<br>% | P2O5<br>% | SiO2<br>% | SnO2<br>% | Ta2O<br>% |
|---------|----------|---------|-----------|------------|-------------------|----------|----------|-----------|------------|-----------|-----------|-----------|-----------|
| 697807  | 7669873  | 186.357 | 1.42      | 15.72      | 0.90              | 3.17     | 0.06     | 3.07      | 0.016      | 0.067     | 74.33     | 0.011     | 0.004     |
| 697830  | 7669914  | 188.004 | 2.19      | 16.30      | 0.76              | 2.47     | 0.08     | 2.19      | 0.016      | 0.088     | 74.67     | 0.010     | 0.008     |
| 697801  | 7669951  | 187.836 | 2.66      | 17.53      | 0.97              | 1.73     | 0.15     | 2.34      | 0.010      | 0.087     | 72.97     | 0.013     | 0.012     |
| 697803  | 7669981  | 190.103 | 1.72      | 16.21      | 0.82              | 1.63     | 0.14     | 3.36      | 0.016      | 0.123     | 72.79     | 0.013     | 0.017     |
| 697754  | 7670040  | 192.559 | 2.00      | 16.44      | 0.85              | 2.34     | 0.12     | 2.84      | 0.019      | 0.076     | 74.50     | 0.014     | 0.011     |
| 697998  | 7670413  | 216.131 | 2.05      | 16.91      | 0.70              | 2.93     | 0.11     | 2.95      | 0.010      | 0.060     | 73.66     | 0.009     | 0.012     |
| 698011  | 7670273  | 212.267 | 1.89      | 16.67      | 0.93              | 1.53     | 0.10     | 3.08      | 0.016      | 0.135     | 74.43     | 0.013     | 0.007     |
| 698016  | 7670211  | 211.615 | 2.93      | 17.14      | 1.29              | 1.27     | 0.12     | 2.26      | 0.016      | 0.059     | 73.85     | 0.017     | 0.008     |
| 698047  | 7670096  | 199.208 | 2.20      | 16.41      | 0.71              | 1.49     | 0.09     | 2.94      | 0.015      | 0.089     | 75.39     | 0.014     | 0.011     |
| 698054  | 7670042  | 200.173 | 2.04      | 16.47      | 0.78              | 1.84     | 0.15     | 2.78      | 0.027      | 0.082     | 75.15     | 0.014     | 0.010     |

The Pilbara Minerals assay suit includes; Li2O, Ta2O5, Nb2O5, Sn, Fe2O3, Na2O, K2O, P2O5, MnO, Al2O3, SiO2 and LOI1000, via XRF and ICP.

Selected samples were analysed via ICP for Al, Sb, As, Ba, Cd, Cr, Cu, Fe, Pb, Mn, Ni, Ag and Zn.



## 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   |
|------------------------------|--|--|
| <b>Sampling techniques</b>   | <i>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.</i>  | <p>Pilbara Minerals Limited (PLS) have completed <b>123 grade control reverse circulation drill holes for 4,139 metres</b></p> <p>Results for <b>43</b> holes are being reported, see Appendix 1.</p> <p>PLS have completed bulk sampling from <b>15</b> locations zones within Central and Lynas Find areas. Results from <b>10</b> samples taken in the Central pit have been reported.</p>  |
|                              | <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>   | <p>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 bucket and placed in rows on ground) and 15% to the sample port in draw-string calico sample bags (10-inch by 14-inch).</p> <p>Bulk samples were collected from outcropping zones within a radius of 20m from the reported central location point in Appendix 3.</p> |
|                              | <i>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.</i> | <p>PLS holes were all RC, with samples split at the rig, samples are then sent to Nagrom laboratory in Perth and analysed for a suite of 9 elements.</p> <p>1 tonne bulk samples were crushed to top size of 50mm. Two samples were split and assayed from this sample. All samples are to be homogenised to ascertain final analysis of the 10 tonne aggregate bulk sample. A 1 tonne duplicate sample from each location has been retained on site for future test work.</p>   |
| <b>Drilling techniques</b>   | <i>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.).</i>   | RC Drilling was completed by a track mounted Schramm T450 with an automated rod-handler system and on-board compressor rated to 1,350cfm/800psi. Drilling used a reverse circulation face sampling hammer. The sampling system consisted of a rig mounted cyclone with cone splitter and dust suppression system.  |
| <b>Drill sample recovery</b> | <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>   | Sample recovery was recorded as good for RC holes.   |



| Criteria  | JORC Code explanation  | Commentary  |
|---|--|---|
|   | <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>   | Whilst drilling through the pegmatite, rods were flushed with air after each 6 metre interval.  |
|   | <i>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.</i>  | Samples were dry and recoveries are noted as "good."  |
| <b>Logging</b>  | <i>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.</i>   | 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 hard copy logging sheets and later transferred an Excel spreadsheet. The rock-chip trays are to be stored on site at Pilgangoora. |
|   | <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>   | Logging has primarily been quantitative.  |
|   | <i>The total length and percentage of the relevant intersections logged.</i>   | The database contains lithological data for all holes in the database.  |
| <b>Sub-sampling techniques and sample preparation</b> | <i>If core, whether cut or sawn and whether quarter, half or all core taken.<br/>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.<br/>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> | RC samples were generally dry and split at the rig using a cyclone splitter, which is appropriate and industry standard.<br><br>Bulk surface samples were collected using a rock breaker mounted on excavator. Samples selected and placed in backhoe bucket and then into 1-2 tonne plastic cleaned pods.  |
|   | <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>   | PLS samples have field standards and blanks as well as laboratory splits and repeats.   |
|   | <i>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.</i>  | Standards and blanks every 50 samples.  |
|   | <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>   | 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.  |
|   |  |   |
| <b>Quality of assay data and laboratory tests</b>     | <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>  | PLS samples were assayed at Nagrom Laboratory in Kelmscott WA, for 9 elements using Peroxide Fusion Digest with ICP finish  |





| Criteria                                     | JORC Code explanation  | Commentary   |
|--|--|--|
|  | <p><i>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.</i></p> <p><i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></p> | <p>No geophysical tools were used to determine any element concentrations used in this resource estimate.</p> <p>The PLS drilling contains QC samples (blanks and standards plus laboratory pulp splits, and Nagrom internal standards), and have produced results deemed acceptable. No field duplicates were collected.</p>  |
| <b>Verification of sampling and assaying</b> | <p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p>  | <p>The infill RC grade control drilling has confirmed the approximate width and grade of historical drilling.</p> <p>PQ and HQ diamond holes were completed as twins in earlier PLS drilling campaigns, and has confirmed the approximate width and grade of previous RC drilling.</p>   |
|  | <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p>   | <p>An electronic database containing collars, surveys, assays and geology is maintained by Trepanier Pty Ltd, an Independent Geological consultancy.</p>   |
|  | <p><i>Discuss any adjustment to assay data.</i></p>  | <p>Li was converted to Li<sub>2</sub>O for the purpose of reporting. The conversion used was Li<sub>2</sub>O = Li x 2.153. The reported bulk sample is a weighted average grade from the 1 x 1 tonne samples. Samples are being homogenized into a single 10 tonne sample and which will be further analysed prior to shipment.</p>  |
| <b>Location of data points</b>               | <p><i>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.</i></p>  | <p>PLS holes and DSO sample locations were surveyed using DGPS in GDA94, Zone 50.</p> <p>Down hole surveying of drill holes was conducted using a Reflex EZ-shot, electronic single shot camera to determine the true dip and azimuth of each hole.</p> <p>Measurements were recorded at the bottom of each hole. Drill hole collar locations will be surveyed at the end of the program by a differential GPS (DGPS).</p> |
|  | <p><i>Specification of the grid system used.</i></p>   | <p>The grid used was MGA (GDA94, Zone 50)</p>  |
|  | <p><i>Quality and adequacy of topographic control.</i></p>   | <p>The topographic surface was calculated by a detailed Aerial survey completed by PLS</p>   |



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| Criteria   | JORC Code explanation   | Commentary  |
|--|---|---|
| <b>Data spacing and distribution</b>                           | <i>Data spacing for reporting of Exploration Results.</i>   | Grade control RC drill hole spacing is on a 12.5m x 12.5m offset grid   |
|  | <i>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.</i> | 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.  |
|  | <i>Whether sample compositing has been applied.</i>   | No compositing  |
| <b>Orientation of data in relation to geological structure</b> | <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>   | The mineralisation dips approximately 45-60 degrees at a dip direction of 090 degrees<br>The drilling orientation and the intersection angles are deemed appropriate. All grade control holes were drilled vertically   |
|  | <i>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.</i>                   | No orientation-based sampling bias has been identified.   |
| <b>Sample security</b>   | <i>The measures taken to ensure sample security.</i>  | Chain of custody for PLS holes were managed by PLS personnel.   |
| <b>Audits or reviews</b>                                       | <i>The results of any audits or reviews of sampling techniques and data.</i>  | Sampling techniques for historical assays have not been audited.<br>The collar and assay data have been reviewed by checking all of the data in the digital database against hard copy logs.<br>All PLS assays were sourced directly from the Nagrom laboratory |

Section 2 Reporting of Exploration Results

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

| Criteria                                       | JORC Code explanation  | Commentary  |
|--|--|---|
| <b>Mineral tenement and land tenure status</b> | <i>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</i> | PLS owns 100% of tenement M45/1256  |
|  | <i>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.</i>  | No known impediments.   |
| <b>Exploration done by other parties</b>       | <i>Acknowledgment and appraisal of exploration by other parties.</i>   | Talison completed RC holes in 2008<br>GAM completed RC holes between 2010 and 2012. |



| Criteria  | JORC Code explanation   | Commentary  |
|---|---|---|
| <b>Geology</b>  | <i>Deposit type, geological setting and style of mineralisation.</i>  | 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. |
| <b>Drill hole Information</b>   | <p><i>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.</i></p> <p><i>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.</i></p> | Refer to Appendix 1 this announcement.  |
| <b>Data aggregation methods</b>   | <p><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i></p> <p><i>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.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>   | Length weighed averages used for exploration results reported in Table 2 and 3. Cutting of high grades was not applied in the reporting of intercepts in Table 2 and 3<br>No metal equivalent values are used.                                |
| <b>Relationship between mineralisation widths and intercept lengths</b> | <p><i>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.</i></p> <p><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. ‘down hole length, true width not known’).</i></p>   | Downhole lengths are reported in Table 1 and 2  |
| <b>Diagrams</b>   | <i>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.</i>  | See Figures 1-3   |
| <b>Balanced reporting</b>   | <i>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.</i>  | Comprehensive reporting of drill details has been provided in Appendix 1 of this announcement.  |
| <b>Other substantive exploration data</b>                               | <i>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.</i>  | All meaningful & material exploration data has been reported.   |



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| Criteria            | JORC Code explanation  | Commentary  |
|---------------------|--|---|
| <b>Further work</b> | <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).<br/><br/>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> | The aim is to upgrade the existing JORC compliant resource calculation. |

-- ENDS --