ASX/Media Announcement **1 March 2017**

Outstanding results from pilot plant highlight potential to further improve economics of Pilgangoora lithium project

Results from heavy media separation program exceed DFS testwork, demonstrating scope to cut costs, update reserves and produce high-grade concentrate

HIGHLIGHTS

- Results from testwork at the heavy media separation (HMS) pilot plant exceed those from testwork done as part of the Definitive Feasibility Study (DFS)
- The HMS pilot plant has generated increased yields and recoveries for the course spodumene concentrates - recoveries range from 51.9% to 67.7% Li_2O compared with 41.9% to 44.6% used in the DFS
- Final concentrate grades following HMS processing range from 6.05% Li_2O to as high as 6.26% Li_2O, confirming Pilgangoora will generate a premium product and comfortably meet or exceed the industry benchmark of a 6% concentrate grade
- Recently-updated Resource and improved metallurgical recoveries will contribute to new Reserve estimate and inputs to support the 4Mtpa expansion case
- Pilgangoora project currently meeting expected milestones with run-of-mine ore program planning/set-up continuing.

Australian lithium developer Pilbara Minerals Limited (ASX: PLS) is pleased to advise that the Heavy Media Separation (HMS) Pilot Plant test work program was recently completed on its flagship 100 per cent-owned Pilgangoora Lithium - Tantalum Project in WA.

The final results show significant improvements in the yield, lithia recovery and course product grades. These results further demonstrate the superior recovery and grade characteristics of the Pilgangoora resource and will be factored into the Company's upcoming revision to Pilgangoora project Reserves and updated Stage 1 project financial modelling. Updated Pilgangoora project Ore Reserves, improved metallurgical recovery results and final cost data arising from the Stage 1 project works will form the basis of the proposed Stage 2, 4Mtpa ore processing Definitive Feasibility Study (DFS). This study will build on the previous strong financials outlined in the 4Mtpa Pre Feasibility Study (PFS) published in September 2016.

Heavy Media Separation (HMS) Pilot Testwork

The HMS circuit design for the Definitive Feasibility Study (DFS) was modelled on the Heavy Liquid Separation (HLS) test work program completed on the three major ore domains optimising the density cut points to produce a coarse spodumene concentrate.

Since the last metallurgical announcement dated 6 September 2016, the HMS Pilot Plant located at Diamond Recovery Services has been modified by Pilbara and then commissioned on a bulk surface sample from the Eastern Domain, with the definitive program completed using the PQ diamond core generated for the DFS.

The bulk samples for processing represent each ore domain, including bulk Eastern Surface ore, Eastern Domain, Western Domain and Central Domain, which is representative of the scheduled first five to seven years of mine life.

The bulk samples generated were prepared by the HPGR variability work and then screened to produce (+0.50 – 3.35 mm) HMS feed product, with the (-0.50 mm) material becoming the truncated feed for the gravity and flotation circuits.

Figure 1: HMS Pilot Plant

Figure 2: HMS Spodumene Concentrate (Sinks)

Figure 3: Left – HMS Spodumene-Tantalum Concentrate; Right – HMS Floats

The Pilot Plant HMS results for the Central, Western and East Domains are summarised in Table 1 below, with the results demonstrating increases in both yield and recovery compared to the DFS, including a significant increase in recovery in the Eastern Domain from **44.6% to 67.7%, an increase of 23.1% producing a 6.26% Li2O grade.**

Table 1: Two stage HMS Pilot Plant summary results

Sample	% Yield	% Li_2O Grade	% Li_2O Recovery
Central Domain	16.5	6.05	51.9
Western Domain	18.8	6.11	56.0
Eastern Domain	22.4	6.26	67.7

For comparative purposes, the HMS modelling conducted from the HLS test work used for the Basis of Design in the previously published 2Mtpa DFS (September 2016) is summarized in Table 2 below:

Table 2: Two stage HMS modelling results – DFS

Sample	% Yield	% Li_2O Grade	% Li_2O Recovery
Central Domain	13.2	6.00	44.2
Western Domain	12.0	6.00	41.9
Eastern Domain	13.8	6.00	44.6

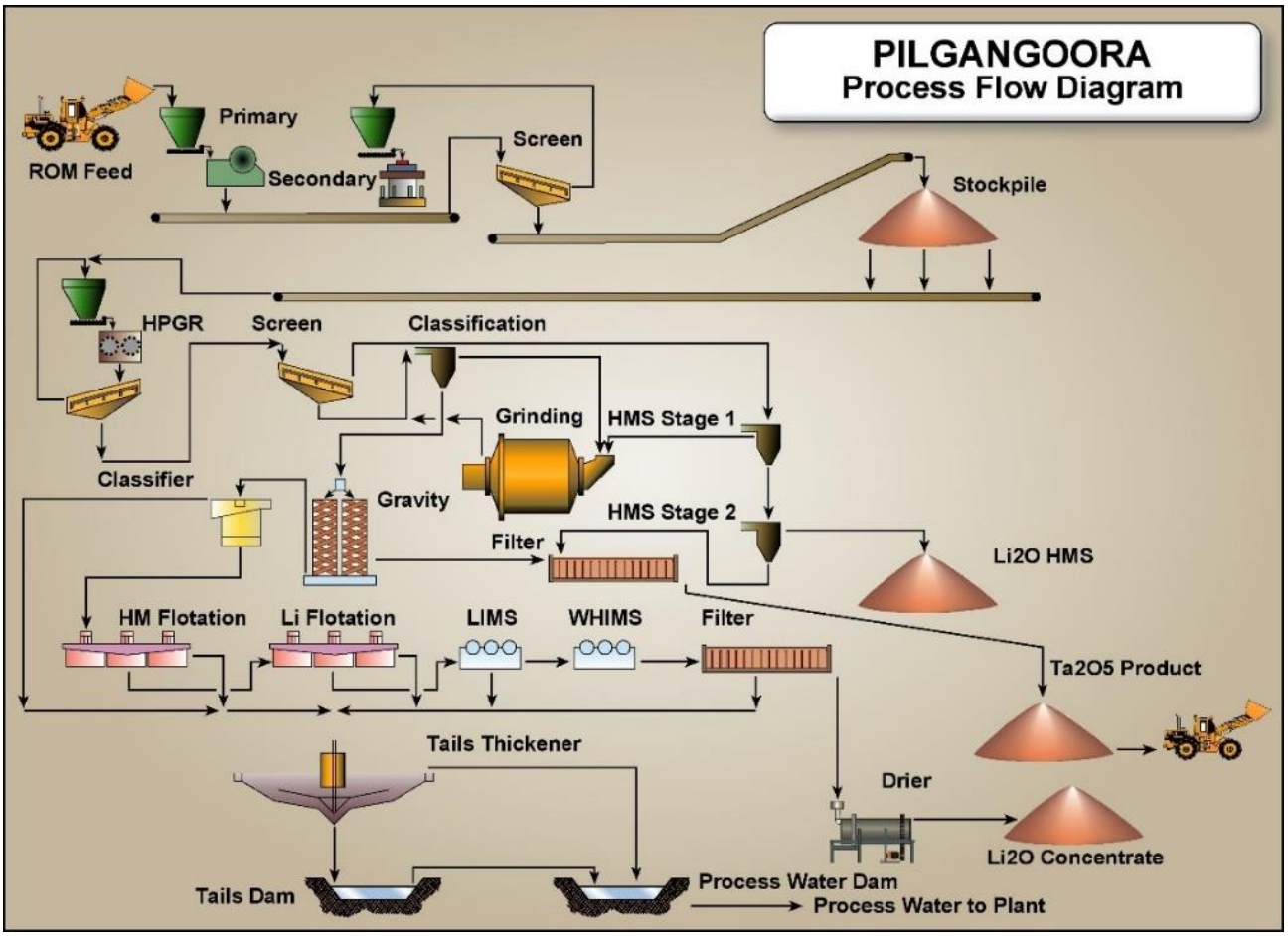

Figure 4: Process Flow Diagram

The results are a significant improvement over the modelled test work results used in the 2Mtpa DFS and provide an increased level of confidence for the FEED program currently being conducted by RCR Tomlinson, Minnovo and Primero.

The Pilot Plant gravity program has commenced with the bulk (-0.50 mm) material from each of the Domains being combined with the (+0.50 – 3.35 mm) first stage floats generated from the HMS Pilot Plant Program. After tantalum recovery, this material will be subjected to the further Flotation Pilot Plant program, with completion expected by the end of March, 2017.

These closing Pilot Plant programs will validate the DFS metallurgical test work program and will confirm and improve the basis of design for the current FEED process.

Reserve Update and Proposed Stage 2 - 4Mtpa Definitive Feasibility Study (DFS)

The recently published and expanded resource for the Pilgangoora project, the improved metallurgical characteristics and the more detailed engineering design arising from the current stage 1 execute project will be assessed in a revised JORC reserve estimate. The updated reserve will be published during the June quarter.

The Company previously published a Stage 2, 4Mtpa ore processing prefeasibility study (PFS) for the Pilgangoora project (see ASX announcement of 20 September 2016), which demonstrated very strong economic returns. Additional engineering design and pilot scale testwork has further demonstrated the merits of the Pilgangoora project and when combined with updated project reserves, support the continued study of expansion options at Pilgangoora beyond the current Stage 1 project.

Further planning is underway for the delivery of the Stage 2, 4Mtpa DFS and following the approval of Pilbara's Board, it is expected that these results could be published during the second half of 2017.

Pilgangoora Execute Project – General Update

Key environmental approvals to facilitate the commencement of major site works are in progress with the Department of Mines and Petroleum (DMP). Based on the expected assessment criteria, approval of the Company's Native Vegetation Clearing Permit (advertised from the 13th of February, 2017) and Mining Proposal are expected to be completed and received from the DMP by the end of March, 2017.

In anticipation of the commencement of major site construction works from April, the Company has continued to liaise with its offtake partner Shandong Ruifu with respect to the commencement of the run-of-mine (ROM) direct shipping ore program. Pilbara has collected bulk samples to send to Ruifu for the optimisation of their processing facility in China. Pilbara has also commenced the application process to access the Utah Point Port facility at Port Hedland to facilitate bulk ship loading for the purposes of the ROM program. The Company has also been advised that Ruifu have commenced applications to progress the proposed prepayment facility. As previously announced, the progress of the ROM ore offtake agreement with Ruifu remains subject to Pilbara's access to the Utah Point port facility and Ruifu obtaining regulatory approval in China for payment of the prepayment facility.

RCR Tomlinson, Minnovo and Primero are well progressed with the final engineering design for Stage 1 of the processing plant (2Mtpa). Procurement activities are ongoing with a number of key packages currently in tender and/or planned for award over the coming weeks consistent with the delivery schedule.

Site based construction works are now well underway with the following key areas now in progress:

- Pilbara Minerals construction management team site office establishment;
- General site clearing and bulk earthworks for Stage 1 camp relocation;
- Early remedial works on the major access road into the site to facilitate delivery;
- Contractor mobilisation and establishment for Stage 1 camp; and
- Contractor mobilisation and establishment for site based concrete batch plant facility.

Please see the photos in figures 5 and 6 below for further detail.

Since the DFS was announced, Pilbara has continued to work on the balance of the Company's funding requirements and offtake, inclusive of Lithium and Tantalum products. The Company is engaged with multiple industry participants, including advanced discussions and documentation for both Lithium and Tantalum concentrate offtake.

In parallel, potential funding streams are being progressed to the support the balance of the Pilgangoora project funding, including offtake-linked and non-bank debt facilities. While well advanced, these funding options remain incomplete and are subject to further work over the coming weeks. Any material developments will be communicated to the market as they arise.

Figure 5: Site works underway

Figure 6: Roy Hill Rail Camp 3 Demobilisation / Remobilisation

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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