



3 April 2023

**ASX Market Announcements
Via e-lodgment**

Peloton Red Mud Pilot Plant Project Update

Resource Development Group Limited (**ASX: RDG**) (**RDG** or the **Company**) is pleased to provide the following project update. Subsequent to the announcement made on 30th August 2022 (Execution of Share Sale Agreement with Peloton Resources Pty Ltd), construction of the Peloton Red Mud Pilot Plant has been completed and it is now located in a purpose designed facility in the south of Perth, Western Australia, where commissioning is nearing completion.

The Pilot Plant has been designed and constructed based on the Peloton proprietary patented technology to process bauxite residue (waste red mud) to produce high value products, including High Purity Alumina (HPA) a Critical Mineral and a material integral in the production of lithium-ion-batteries, LED lights and synthetic sapphire.

Highlights

- **Strong safety performance, with a Total Recordable Injury Frequency Rate (TRIFR) of zero**
- **Pilot plant construction completed and installed in new facility with a dedicated Clean Room**
- **Pilot plant wet commissioning completed**
- **Red Mud laboratory optimisation work on-going**
- **Initial run through with previously tested red mud used to produce HPA well advanced**
- **Excellent ESG credentials**

RDG is delighted that during the entire planning, design, fabrication and commissioning phases of the Pilot Plant Project there have been zero recordable incidents. This excellent record demonstrates the ongoing commitment to putting Safety First in all activities.

The photographs below show the pilot plant in its present configuration. Further, minor adjustments in positioning will be made to ensure maximum safety whilst also enhancing operability. The plant is divided into two sections, the first area containing the unit operations where red mud is received, handled and processed ("Red Area") and the second within a dedicated clean room where the stages of the Peloton process to produce the High Purity Alumina take place ("White Area"). Previous experience with producing HPA outlined the importance of reducing the potential for adventitious particulate contamination of the product and the construction of a clean room containing the White Area is an important part of the overall process.

All of the individual unit operations of the plant were commissioned using water to ensure they functioned as intended. After successful wet commissioning, the operations manuals were updated to better reflect the practical operations.

The majority of the Red Area has been commissioned using red mud with all stages operating as anticipated. Ramp up to the nameplate capacity of 50kg of wet red mud feed per day is currently underway. The processes



within the White Area were commissioned using a synthetic feed in order to ensure the high purity stages were ready to receive solution derived from red mud.

A significant volume of filtered red mud leachate has been generated allowing the subsequent unit operations to be commissioned using a real solution.

A dedicated process laboratory containing X-ray fluorescence (XRF), Atomic Absorption Spectroscopy (AAS) and Laser Ionisation Breakdown Spectroscopy (LIBS) has been established in order to support the Pilot Plant operation by providing timely analyses thereby allowing the process to be optimised.

As is the case with many pilot plants, some minor equipment and operational problems have arisen, and these are being addressed as they occur with longer term solutions being determined in collaboration with relevant equipment vendors. These matters are not expected to delay commissioning.

The initial production of calcined alumina from red mud is anticipated to occur within the next six (6) weeks.

Figure 1. Red Area





Figure 2a. White Area



Figure 2b. White Area





Figure 3. Leaching Skid



Figure 4. Precipitation Skid



Figure 5. Iron Solvent Extraction





Resource Development Group Managing Director Andrew Ellison commented:

“Safely completing the construction and progressing towards finalising commissioning of the Peloton Red Mud Pilot Plant are major milestones in our objective to commercialise the technology by achieving the conditions set out in the Share Sale Agreement executed with Peloton Resources Pty Ltd. This is an amazingly exciting project offering the potential to ultimately produce High Purity Alumina, a Critical Mineral and other products all produced from Red Mud a waste by-product of producing alumina using the Bayer process. In addition to aligning with our diversification strategy to be a producer of value-added products, the Project’s environmental benefits remain one of its key attractions.”

This announcement dated 3 April 2023 is authorised for market release by the Board of Resource Development Group Ltd.

**Michael Kenyon
Company Secretary**

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