ASX ANNOUNCEMENT

5 June 2023

ChemX Approves Construction of Resized HPA Pilot Plant

- **Continuous Micro Plant Optimisation produces improved flowsheet design and operability.**
- **Appointment of Fremantle Metallurgy, a metallurgical processing business specializing in flowsheet development and process design, to construct Pilot Plant.**
- **Optimised Pilot Plant design complete with construction to commence in June 2023.**
- **Based on industry feedback, single train Pilot Plant Resized to 24tpa, at significantly reduced cost of A$600,000 CAPEX from Prospectus forecasts of $2.5m.**
- **Pilot Plant designed to produce sufficient High Purity Alumina (HPA) for 4N/5N customer qualification,**

ChemX Materials (**ASX:CMX)** (**ChemX** or **the Company**), an Australian based high-purity critical materials business, is pleased to announce it is proceeding with construction of its HiPurA® HPA Pilot Plant in O'Connor, Perth, Western Australia.

During 2022 (ASX 18 August 2022), ChemX completed a Prefeasibility Study (**PFS**) with industry leading multidisciplinary engineering group and division of NRW Holdings Group (ASX:NWH), Primero Group, which confirmed flow sheet design and construction costs of $2.5m for a 50tpa HPA Pilot Plant. Following the PFS, ChemX secured a suitable site in O'Connor, Perth, Western Australia and commissioned its integrated HPA Facility in November 2022.

The Company has made significant investments in the facility, with installation of high-purity water and safety systems, together with a purpose-built laboratory with specialist analysis equipment to accelerate process optimisation and reduce reliance on external laboratories.

The HPA Micro Plant has now achieved its primary aim of process optimisation under continuous operating conditions thereby reducing the risk of scale-up which is common to hydrometallurgical processes. As a result of this Micro Plant optimisation, ChemX has identified process improvements, which together with reduced tonnage capacity of 24tpa and a simplified design reducing infrastructure costs (compared to the design considered in the PFS), has resulted in capital expenditure being reduced to approximately $600,000 from $2.5m

Dr Nicholas Welham, inventor of the HiPurA® process commented:

"The Micro Plant has proven extremely effective in delivering the data required to improve the design and optimise the operation of the Pilot Plant. This has resulted in a significant reduction in capital costs and a reduction in reagent costs. Importantly, the resized pilot plant will still meet expected customer demand by producing sufficient product to complete qualification by battery separator makers, sapphire growers and other stakeholders".

Construction of the Pilot Plant is expected to take approximately four months. Following ramp-up and commissioning the Pilot Plant will be run in intensive campaigns to produce the required volumes of HPA to meet customer qualification requirements and demonstrate 24/7 operation. Once the Pilot Plant is operational, the Micro Plant will be reconfigured to allow investigation of the production of products of higher purity, the initial targets being 5N HPA and aluminium salts for cathode production.

The reduction in size will leave sufficient space within the present building envelope to accommodate a proposed pilot plant to produce high purity manganese sulphate monohydrate (HPMSM) from the companies South Australian deposit, thereby allowing the synergies and cost savings of shared infrastructure.

HPA is a high-value critical material used in lithium-ion batteries as a coated ceramic separator. Placed between the anode and the cathode, the ceramic separator provides increased thermal insulation for improved safety, charging and performance. The market for HPA and high-purity aluminous based products is expected to experience significant growth in line with the lithium-ion electric vehicle market.

ChemX's disruptive HPA chemical-based process delivers a significant advancement over incumbent production methods in the HPA market, allowing for modular and scalable design.

This Announcement has been authorised for release by the Board.

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Peter Lee	Chief Operating Officer
David Leavy	Marketing & Strategy
Nicholas Welham	Chief Technical Advisor

About ChemX Materials (ASX: CMX)

ChemX is an advanced materials company focused on providing high purity critical materials for the battery industry. The Company's vision is to become a leading supplier of sustainable and ethically sourced critical materials to support the global energy transition.

ChemX is applying its high purity expertise to advance its Manganese project located on the Eyre Peninsula in South Australia. Metallurgical test work has indicated the manganese ore is amendable to upgrade through beneficiation and being processed into a high purity manganese sulphate to supply the Lithium-ion battery industry.

Developed in-house, ChemX's HiPurA® Process is capable of producing high purity alumina (HPA) and high purity aluminium cathode precursor salts for lithium-ion batteries. Initial test work has indicated that the process is low cost and low in energy consumption, compared to alternative methods. A key competitive advantage is that the HiPurA® process modular, scalable and is not tied to mine production, with the feedstock being a widely available chemical.

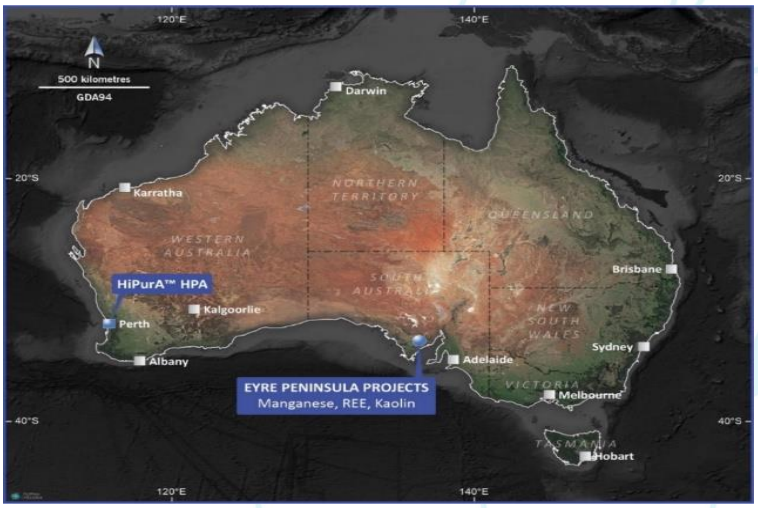

***Figure 2** – ChemX Project Locations*

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