

ASX ANNOUNCEMENT

16 December 2022

Battery Grade Manganese Exploration & Development Update

- **Manganese RC Drill Exploration Program Approved for January 2023**
- **Program Designed to Define and Estimate a Maiden Mineral Resource**
- **Manganese Testwork to Produce High Purity Manganese Sulphate Monohydrate (HPMSM)**
- **Customer Engagement for Early Qualification Commencing**

ChemX Materials Ltd (ASX:CMX) (ChemX or the Company), a materials technology company focused on providing the critical materials required for electrification and decarbonisation, is pleased to update the market on its proposed manganese exploration program.

Manganese Resource Definition Drill Program

ChemX has secured Environmental Protection and Rehabilitation (EPEPR) approval for a reverse circulation (RC) drilling program on the Jamieson Tank project from the South Australian Department of Mining and Energy. The drill program is scheduled to commence post-harvest in January 2023 and comprise approximately 5,000m.

The aim is to progress the Exploration Target (reported to the ASX, 27 July 2022) to estimate a maiden Mineral Resource in accordance with the JORC Code 2012. The Company's project location plan is included as Figure 1.

The Company has executed a drilling contract and access agreements with relevant landholders on the Eyre Peninsula to conduct its 2023 exploration program. ChemX is committed to maintaining sound relationships with communities on the Eyre Peninsula and is mindful of conducting exploration and field work at times that reduce inconvenience to landholders.

Due to the opportunities being presented by the US Inflation Reduction act, the Company will be prioritising manganese exploration over kaolin to become a supplier of battery grade manganese to the North American and European Electric Vehicle markets.

Supply chains for critical minerals are undergoing a fundamental realignment, which ChemX with its first class, in-house metallurgical and chemical engineering team is well positioned to take advantage of.

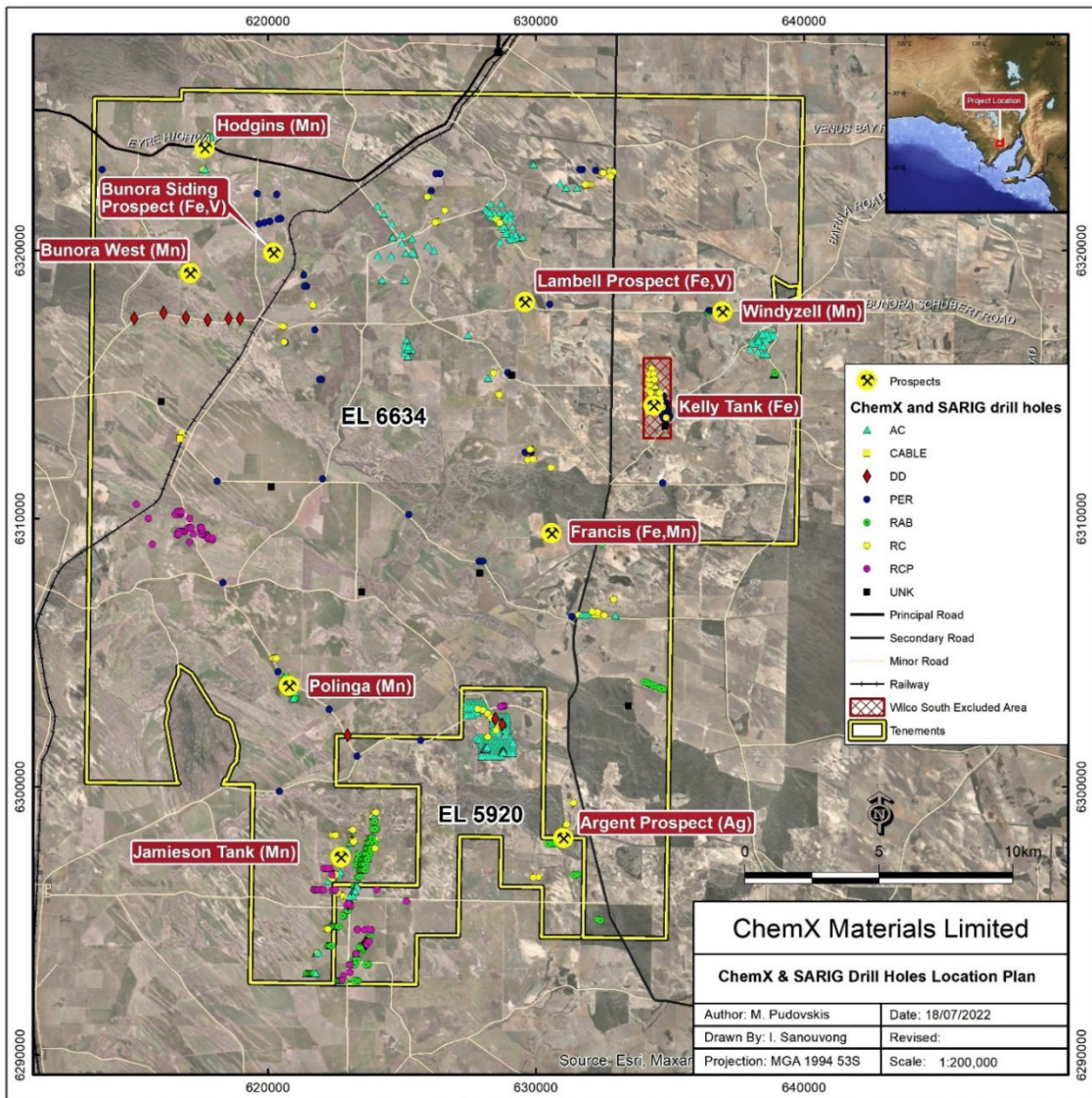


Figure 1 – Key prospects with now consolidated ChemX and SARIG Drill Hole data

Exploration Drill Program

The purpose of the 2023 drilling program is to infill the drill spacing to an approximate 100m by 50m over the northern-most 2km strike of Jamieson Tank for estimating a maiden Mineral Resource. Downhole geophysics will be employed to derive an in-situ density and support the Mineral Resource estimation. In addition, the geophysics will be used to complement the geological interpretation of Jamieson Tank and improve the geological continuity which was identified as a risk in the Exploration Target.

The manganese mineralisation is predominantly cryptomelane, hosted in jaspilite, and positioned near surface under a thin horizon of Quaternary clays and sands.

In addition to the Jamieson Tank project, ChemX has identified further manganese prospects at Bunora West, Hodgins, Windyzell, Francis and Polinga (Figure 1). These prospects have not been adequately explored and offer future discovery potential and feed options for the proposed future High Purity Manganese Sulphate Production plant.

The Company has been actively engaging with industry participants in the battery supply chain to begin early qualification of its High Purity Manganese Sulphate Monohydrate. Early engagement and qualification is an essential step to secure offtake agreements for Battery Grade Manganese which is increasingly becoming an important part of the electric vehicle battery chemistry, due to its ability to increase energy density, reduce costs and increase consumer take up of electric vehicles.

Manganese Testwork Programme

In early 2022, the Company completed its initial testwork program (ASX Announcement 11 May 2022), using manganese samples from previous tenement owners. The initial testwork program achieved manganese sulphate crystals with 99.7% purity. The testwork program was designed to test the efficacy of the chosen flow sheet, which achieved near specification quality without final purification steps. Two samples grading 12.2% Mn and 25.5% were composited to a single sample and submitted for heavy liquid separation at >2.95 and >3.30 density mediums. The results represented in Table 1 demonstrated that the ore was amenable to upgrade to battery grade levels using heavy liquid separation.

Table 1. Grade and recovery of Mn during heavy liquid separation

SG	>2.95		>3.30	
Sample	% MnO grade	% MnO recovery	% MnO grade	% MnO recovery
+600µm High Grade	-	-	55.2	88.5
45-600µm High Grade	14.1	7.1	53.5	87.1
+600µm Low Grade			57.6	69.8
45-600µm Low Grade	20.6	10.1	57.6	57.2

Subsequent to the initial successful testwork program, the Company obtained a representative sample of ore from Jamieson Tank's 2022 program, to undertake a second-round metallurgical flow sheet development program targeting a 99.99% (4N) HPMSM Product grade.

The current round testwork is ongoing with results expected in early 2023, subject to laboratory schedules.

Research and Scientific Advisor Dr Nicholas Welham, commented: "We look forward to concentrating bulk composites of manganese ore from Jamieson Tank and converting it to HPMSM in sufficient quantities to allow for first round qualification using an enhanced flow sheet, developed following the first round of metallurgical testwork which produced 99.7% Manganese Sulphate. "

The Company looks forward to keeping the market informed on the progress of its' exploration program, metallurgical testwork and customer engagement.

ENDS

This Announcement has been authorised for release by the Board.

For enquiries:

Stephen Strubel

Managing Director

ChemX Materials Ltd

Stephen@chemxmaterials.com.au

+61 404 400 785

Peter Kermode

Director

Cannings Purple

pkermode@canningspurple.com.au

+61 411 209 459

About ChemX Materials (ASX: CMX)

ChemX is a materials technology company focused on providing critical materials required for electrification and decarbonisation. The Company's vision is to support the energy transition with materials and technology that provide real solutions to lowering carbon emissions.

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

The Company has projects in South Australia and Western Australia.

The South Australian Eyre Peninsula projects include the Kimba Kaolin-REE Project and the Jamieson Tank Manganese Project. The ChemX HiPurA® Project is located in Western Australia.

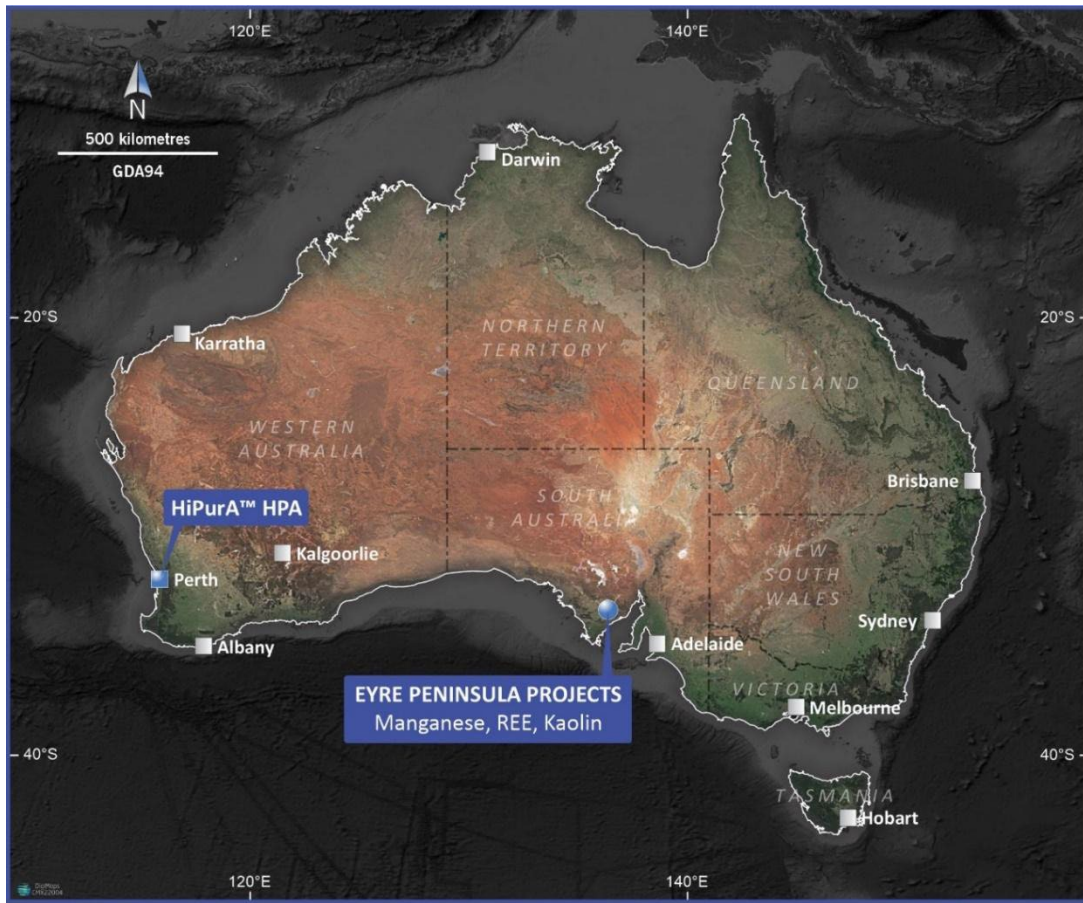


Figure 2 - ChemX Project Locations

www.chemxmaterials.com.au

[LinkedIn](#)

Directors

Kristie Young **Non-Executive Chair**
 Stephen Strubel **Interim Managing Director**

Warrick Hazeldine **Non-Executive Director**
 Alwyn Vorster **Non-Executive Director**

Compliance Statement

ASX Announcements

11 May 2022
 27 July 2022

ChemX – Battery Materials Strategy Moves Forward
 Jamieson Tank Manganese & HPMSM Project Update

The Company confirms that it is not aware of any new information or data that materially affects the information included in the above market announcement. The Company confirms that the form and content in which the Competent Person’s findings are presented have not been materially modified from the original announcement.

For personal use only