

#### IMPORTANT INFORMATION



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Producing advanced materials to power the energy revolution





#### High Purity Alumina (HPA)

HiPurA® HPA technology as a low cost, low carbon process



#### **Battery Grade Manganese**

High purity manganese sulphate monohydrate (HPMSM) is a key element in lithium battery cathode chemistries



#### Rare Earth Elements (REE)

Clay hosted REE mineralisation associated with high quality kaolin

#### **ESG** Profile

We encourage a culture of integrity, trust, innovation, and responsibility, that delivers sustainable outcomes on a local and global scale.

#### **Economic**

Committed to responsible economic development through transparent tax contributions, employment, and shared returns

#### **Social** Committed to being an active contributor in all connected communities and a value-generating partner



#### **Environment**

Committed to accelerating decarbonisation with cuttingedge production technology, lower costs, and a smaller footprint

#### Governance

Majority of independent Non-Executive Directors





Inherently scalable with capacity to rapidly expand as demand grows

Initial test-work suggests low capital and operating costs **Mine Production** 

Feedstock is a widely available chemical

Allowing for multiple production locations close to end users

Able to produce various grades and products, and to meet the requirements of different end users

# 2022 HPA HIGHLIGHTS



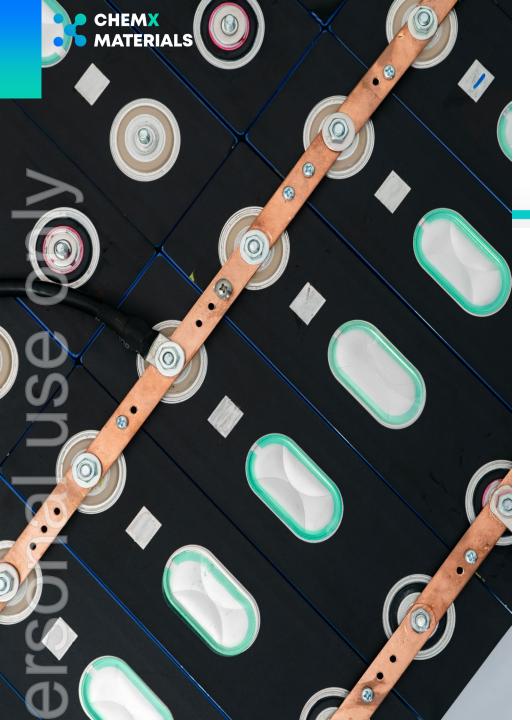
Micro Plant commissioned name plate production 5kg/day

Pilot Plant PFS completed – no fatal flaws in process

HPA samples despatched to labs on rolling cycles

Cap Ex A\$2.5m in line with Prospectus estimates Detailed design work being completed ahead of construction completed ~CY2023 Process being continually optimised to produce '5N' HPA

Potential to expand product mix of different high purity aluminous products



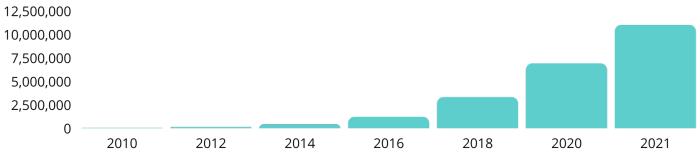
### HPA PRODUCTION TECHNOLOGY

The High Purity Alumina (HPA) market is driven by the demand for lithium-ion batteries, LED's, semiconductors, and new technologies.

#### A key safety component of Lithium-ion batteries

- Coated on the lithium battery separator, HPA provides significant additional thermal capacity.
- ChemX is able to produce aluminous based products for emerging cathode chemistries.

#### **EV Stocks 2010 - 2021**



Data from IEA.org

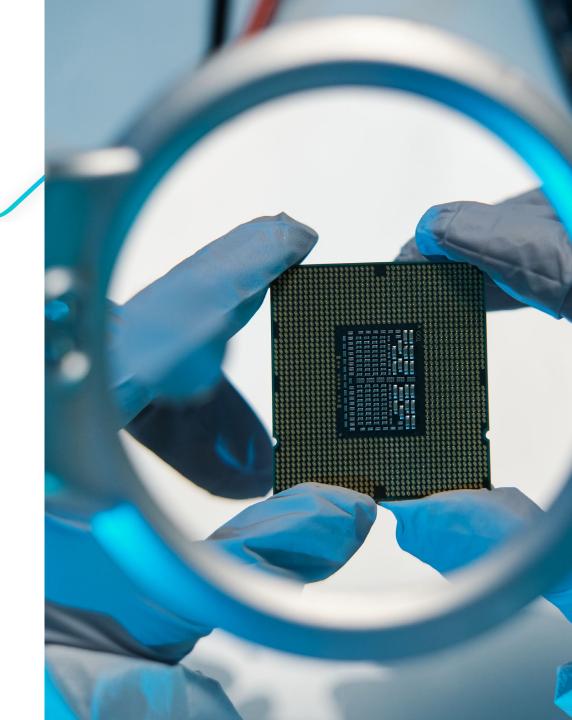
### HPA PRODUCTION TECHNOLOGY

The High Purity Alumina (HPA) market is driven by the demand for lithium-ion batteries, LED's, semiconductors, and new technologies.

#### 5N HPA Made into a single crystal synthetic sapphire

- Optical equipment iPhone camera lens
- LED's and micro LED's
- Semi-conductor wafers
- Scratch proof watch 'glass'





#### HiPurA® HPA - NEXT STEPS



Development path for the HiPurA® HPA Process

Micro Plant Delivered

Micro plant Commissioning

HPA Marketing to Li Battery and Sapphire Markets

Pilot plant Construction Product Testing and Qualification Process

















Primero Appointed for Pilot plant Prefeasibility

Prefeasibility Study Completion

Micro plant produces 99.99% (4N) Al2O3 Micro plant produces 99.999% (5N) Al2O3 MOU's and Offtakes





#### BATTERY GRADE MANGANESE

#### Jamieson Tank Manganese Sulphate

- Successful drilling campaign completed in 2022
- CSA Global conducted total geological review on past and present workings to determine exploration target of 21 to 35Mt at 7.5 to 10.1 % Mn
- 2023 exploration to target potential maiden JORC resource estimate

- Metallurgical test work supports potential for vertically integrated battery metals project
- 99.7 per cent manganese sulphate product achieved in 2022
- ChemX conducting further optimisation to finalise battery grade manganese flowsheet

#### MANGANESE DEMAND



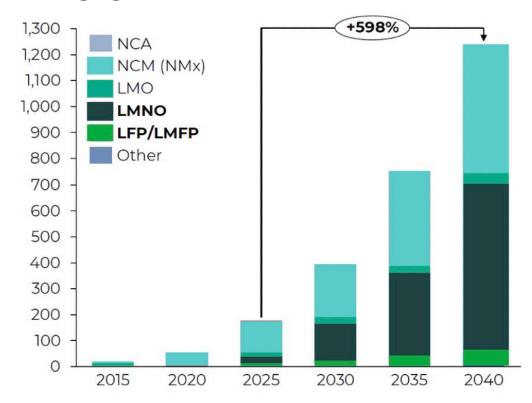


**NMx:** reportedly 5% cheaper than NCM, cobalt-free

**LMNO:** in development since early 2000s but only just at commercialisation

**LMFP:** CATL due to start commercial production this year, several others in development

#### Manganese demand supported by emerging chemists



In development

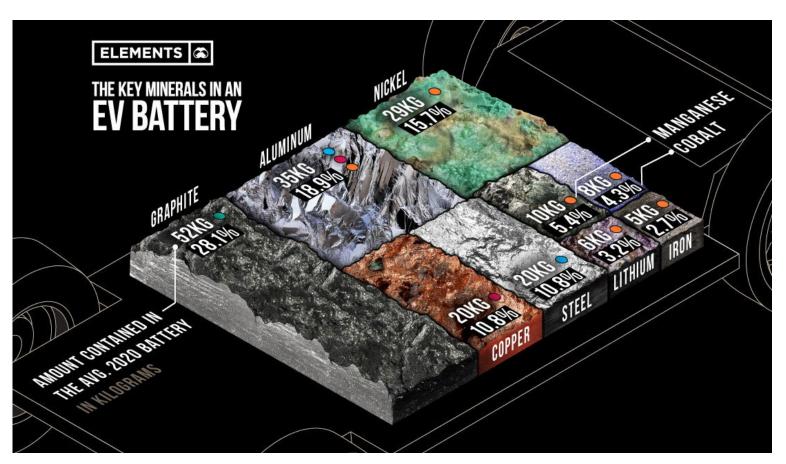


#### MANGANESE DEMAND



#### Manganese within a battery:

- Provides stability to battery chemistry.
- Increases energy density.
- Substitutes more expensive materials.
- Provides for mass market adoption.



**Graphic Elements from Visual Capitalist** 

#### **JAMIESON TANK MANGANESE**



#### **NEXT STEPS**

**Maiden Drilling** Campaign

**Manganese Sulphate Testwork** 

**Produce Cathode Grade Material** 

**Manganese Scoping Studies** 





**Assay Results to** 

be Received

















#### RARE EARTH ELEMENTS

- Maiden drilling program completed in Q12022 across known kaolin mineralised areas.
- REE assays show widespread mineralisation closely associated with in-situ kaolin.
- High levels of 'magnet' REE 20-30% of TREO achieved in many holes accounting for 90% of value in the REE suite.
- Testing underway to determine optimum REE liberation conditions.
- Clay hosted Rare Earths lower grade than hard rock but cheaper and easier to extract.



#### REE NEXT STEPS



Maiden Drilling Campaign

REE Separation test work

REE metallurgical test work





Assay Results to be received

Follow up exploration program

**REE Scoping Studies** 





#### **COMPLIANCE STATEMENT**



#### Compliance Statement

The potential quantity and grade of the Project's manganese exploration target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if future exploration will result in an estimation of a Mineral Resource.

The information in this presentation relating to exploration results and metallurgical testwork is extracted from the below ASX Announcements, all of which are available to view on the ChemX website, **www.chemxmaterials.com.au**. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original announcements. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original (ASX:CMX) market announcements.

(ASX:CMX) 11 May 2022, 99.7% Manganese Sulphate Achieved

(ASX:CMX) 23 June 2022, Significant Manganese and REE Results at Jamieson Tank

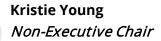
(ASX:CMX) 27 July 2022, Jamieson Tank Manganese & HPMSM Project Update

(ASX:CMX) 5 September 2022, Drill Results Confirm Significant REE Prospect

(ASX:CMX) 7 October 2022, ChemX Drill Results Confirm Significant Kaolin Prospect







25+ years' experience in industry with a focus on the resources sector. Technical mining engineer with strong experience across business development & growth including BD Director roles with EY & PwC. Kristie is Non-Executive Director with Lithium Australia (ASX:LIT), Tesoro Gold (ASX:TSO), MinEx CRC and Wesley College WA.



Warrick Hazeldine
Non-Executive Director

20+ years' experience across capital markets and strategic communications. Co-founder of advisory firm Cannings Purple. Non-Executive Chair of Global Lithium Resources Ltd (ASX:GL1); Director of Surfing WA.



Alwyn Vorster

Non-Executive Director

experience in 30+ vears' most recently resources, Managing Director of ASXlisted BCI Minerals Ltd, formerly Managing Director of Iron Ore Holdings Ltd and Non-Executive Director of Volt Resources. Previously with Aquila Resources Pty Ltd (Head – Iron Ore and Manganese) and Rio Tinto Iron Ore (Regional Manager -China).



**Stephen Strubel Managing Director** 

Company Founder with 20 years' experience in finance and corporate governance.
Senior role with Patersons
Securities and Director and
Company Secretary for ASX-listed companies.



Tamara Barr Company Secretary

16 years' experience as a Company Secretary and corporate governance adviser to ASX-listed and private companies and NFPs across a variety of sectors in Australia and Europe.

#### **MANAGEMENT**













**Peter Lee** Chief Operating Officer

20+ Years experience across mining, metals processing and chemical industries within Canada and Australia. Previous roles include **Executive Process** Engineering WSPGolder, with and technical management for tier-one companies in Refining and Electrochemical processes. Member AusIMM and a registered Professional Engineer (PEng) with EGBC Canada.

#### **Dr Nicholas Welham** Technical Consultant

30+ years experience in minerals processing. Adjunct Professor of Lithium Processing at the WA School of Mines and Principal of boutique hydrometallurgical consultancy Welham Consulting. He holds PhD in Minerals Engineering from the Royal School of Mines. Imperial College London. He developed the HiPurA® innovative process to produce HPA.

#### **Tony Tang** General Manager - Battery Materials Technology

25+ years experience in mining and metals industry and specialized in many complex hydrometallurgy and chemicals refining projects and operations. Extensive experience in full life cycle of project development from infant phase to fully and steady production phase both Australia and overseas.

#### **Moira Coffey** Project Manager – Eyre Peninsula

25 years experience in exploration and mining across multiple commodities together with extensive project management. Experienced in community and landowner engagement, exploration logistics and geological studies

#### **David Leavy** Marketing & Strategy

25+ years' experience in commodity markets. Past roles in finance, marketing and governance in advanced mining companies across varying commodities and jurisdictions. Executive focus over past five years on HPA marketing and production technologies.

## CHEMX MATERIALS