

## ASX ANNOUNCEMENT

1 August 2024

# SUCCESSFUL PRODUCTION OF FIRST GEOPOLYMER CONCRETE PRODUCT



### HIGHLIGHTS

- Production of 15 low carbon geopolymer concrete backing blocks completed with JV partner, PERMAcast, and delivered to a major Government infrastructure project.
- The geopolymer concrete backing blocks are **100% free from Ordinary Portland Cement (OPC)**, the core ingredient of concrete and the source of 8% of the world's CO<sub>2</sub> emissions, this being equivalent to the global car fleet.

Aaron Banks  
EXECUTIVE CHAIRMAN

Oliver Barnes  
NON-EXECUTIVE DIRECTOR

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ASX: SUV

- The 1000mm x 350mm x 350mm backing blocks were produced using the Company's licensed IP, a geopolymer concrete batching plant and Collicrete formulation.
- The Collicrete formulation uses a particular industrial waste as the aluminosilicate component offering significant environmental benefits.
- This marks the first milestone under the Joint Development Agreement.

**Suvo Strategic Minerals Limited (ASX: SUV)** ("Suvo" or "the Company") is pleased to announce that it has completed the production and delivery of its first low carbon geopolymer precast product, a series of 1000mm x 350mm x 350mm backing blocks, to be used for hardscaping and demonstration purposes for a major Government infrastructure project.

The backing blocks have been deemed as fit for purpose meeting the requirements of the end use application, including but not limited to concrete strength and design parameters.

This marks the first milestone under the Joint Development Agreement with JV Partner, PERMAcast, with the key objective being to deliver low carbon geopolymer concrete (GPC) products and projects and otherwise commercialise the intellectual property (IP) created through the joint venture entity (JV Entity).

The JV parties are continuing the other work streams as outlined in the JDA, being;

- Prepare and test a range of GPC formulations to meet concrete strength requirements of nominally 10, 20, 30 and 40 MPa, and determine maximum strength attainable;
- Characterise and assess applications and products that can utilise the different GPC strength formulations;
- Test and demonstrate suitability of different GPC formulations for different applications and products; and
- Assess cost and performance of different GPC applications and products to determine preferred route for commercialisation.

### **Geopolymer market snapshot**

The global geopolymer market size reached US\$7.3 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$40 Billion by 2032, exhibiting a growth rate (CAGR) of 20.9% during 2024–2032. The growing focus on sustainable construction practices to reduce carbon footprint, rising awareness about environmental pollution, along with favourable government initiatives, and

increasing demand for waste management solutions are some of the major factors propelling the market.

Geopolymer is an eco-friendly and sustainable choice for construction and infrastructure projects, the demand for geopolymers is rising across the globe.

*Source: [imarcgroup.com/geopolymer-market](http://imarcgroup.com/geopolymer-market)*

**Executive Chairman Aaron Banks commented:**

*“We’re rapidly accelerating the commercialisation of our geopolymer IP and now we have the production capability of PERMAcast with production and delivery of our first geopolymer concrete product to market in under 30 days.*

*We continue the work streams outlined in the JDA with our JV partner, PERMAcast, whilst also advancing other key activities such as negotiating supply agreements for various waste derived inputs required for our geopolymer formulations and advancing offtakes discussions for potential future geopolymer concrete products and projects.*

*We are thrilled with the operational readiness shown by our JV partner, allowing us to meet the first commitment under the JDA, being the delivery of the backing blocks to the project by the end of July.”*

**Approved for release by the Board**

**–ENDS–**

**For further information, please contact**

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## Company Profile

Suvo Strategic Minerals Limited is an Australian hydrous kaolin producer listed on the Australian Securities Exchange (ASX:SUV). Suvo is focused on expanding sales of hydrous kaolin produced at its 100% owned Pittong operation located 40km west of Ballarat in Victoria. Suvo is also progressing commercialisation of the 'Murdoch Technology', namely Intellectual Property for a geopolymer concrete batching plant a low carbon geopolymer concrete formulation known as 'Collicrete', which it licenses under a worldwide and exclusive Intellectual Property License Agreement.

## Pittong Operations

The 100% owned Pittong Operations, located in Victoria 40km west of Ballarat, is the sole wet kaolin mine and processing plant in Australia and has been in operation since 1972. Pittong comprises the Pittong, Trawalla and Lal Lal deposits located on approved Mining Licences MIN5408, MIN5365 and MIN5409 respectively. The Pittong processing plant has a name-plate capacity of 60,000 tonnes per annum.

At Pittong mining contractors deliver crude kaolin ore to stockpiles from the two currently operating mines, Pittong and Lal Lal. The plant takes its feedstock from the ROM and it is processed into four separate product forms for end users. These product forms are 10% moisture lump, high solids slurry, 1% moisture powder and 1% moisture pulverised powder. The solids slurry is used in paper and board manufacturing. The other products are used in paper, coatings, paint and specialist industries including rubber and pharmaceutical applications.

## Geopolymer Concrete IP and Commercialisation

Suvo licenses the 'Murdoch Technology' from Murdoch University under a worldwide and exclusive Intellectual Property License Agreement. The Murdoch Technology is namely Intellectual Property for a geopolymer concrete batching plant a low carbon geopolymer concrete formulation known as 'Collicrete'.

Geopolymer concrete is a low carbon concrete that is made by reacting aluminate and silicate bearing materials with a caustic activator, such as metakaolin, flyash, ground blast furnace slag and other waster derived materials. Geopolymer concrete is a suitable replacement for concrete made using the traditional binder known as Ordinary Portland Cement (OPC). The manufacture of OPC is a highly emitting process representing 8% of global CO<sub>2</sub> emissions which is equivalent to the entire global car fleet.

Utilising the licensed IP, in a laboratory setting, Suvo has successfully produced three new geopolymer concrete formulations using caustic activators, metakaolin and flyash. The laboratory trials ran tests comprising five samples in each test returning an average compressive strength of 27 megapascal (MPa) up to 52MPa. The trials indicated the geopolymer concrete formulations using metakaolin and flyash showed a potential greenhouse gas emission reduction of up to ~70% compared to concrete made using OPC.

Suvo has entered into a binding Joint Development Agreement (JDA) with PERMAcast and is now in the process of incorporating a joint venture entity (SPV Entity) to develop and commercialize low-carbon geopolymer concrete (GPC) products. Under the binding JDA, Suvo and PERMAcast will prepare and test various formulations, assess their suitability for different applications, and determine the best route for commercialization through the jointly-owned special purpose vehicle.

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