ASX ANNOUNCEMENT

10 November 2023

SECOND LAB TRIAL PRODUCES GEOPOLYMER CONCRETE WITH METAKAOLIN & FLY-ASH

Laboratory trials with Murdoch University continue to produce promising results for the Company. Suvo's second round of trials successfully created a metakaolin and fly-ash geopolymer concrete formulation, which again showcased a reduction in greenhouse gas (GHG) emissions, when compared to the production of Ordinary Portland Cement. Importantly, as fly ash is a waste derived product, the geopolymer concrete formulation from this round of testing which is an equal part formulation (one part metakaolin for every one part fly-ash) has the ability to significantly reduce the per unit cost of production.

HIGHLIGHTS

- Geopolymer concrete lab trials with Murdoch University continue.
- New formulation includes Suvo metakaolin and waste derived material, fly-ash.
- Including fly-ash with metakaolin potentially reduces greenhouse gas ('GHG') emissions by ~70% compared to Ordinary Portland Cement ('OPC').
- New geopolymer concrete formulation can significantly reduce cost base of production.
- The test work concluded that by further optimising the formulation ratios, higher compressive strengths could potentially be gained.

Suvo Strategic Minerals Limited (ASX: SUV) ("Suvo" or "the Company") is pleased to announce its next iteration of results with its geopolymer concrete studies

The purpose of the second round of laboratory scale test work undertaken by Murdoch University was to produce a geopolymer concrete with zero Ordinary Portland Cement using the Company's metakaolin combined with a waste derived material, specifically in this formulation, fly-ash.

Geopolymer concrete is a low emission, environmentally friendlier alternative to traditional concrete made with Ordinary Portland Cement. It is produced by chemically reacting aluminate and silicate-bearing materials with caustic activators like metakaolin, fly ash, ground blast furnace slag, and other waste-derived components.

This second round of trials with Murdoch University, using metakaolin from the Company's Gabbin deposit, focused on the potential of creating a geopolymer cement that included fly-ash, a waste derived material, sourced from a power station in Collie, Western Australia.

This geopolymer concrete formulation used a 1 for 1 ratio of metakaolin to fly-ash. When using 100% metakaolin in a geopolymer concrete formulation a 50% reduction in GHG emissions can be achieved (ASX Announcement: 3 November 2023). This new formulation further reduces the GHG footprint as it halves the usage of metakaolin and includes fly-ash which is a waste product whose emissions are already attributed to the coal burning process.

Furthermore, fly-ash is traded at a significantly lower price when compared to metakaolin which reduces the cost base of production of this geopolymer concrete.

Murdoch's geopolymer cement laboratory ran two tests comprising of five samples in each test. The first 5 samples returned an average compressive strength test of 16MPa. In the second round of tests, the sodium silicate activator was increased by 5% and it returned circa 70% increase in strength to 27MPa. Data collected confirmed that by optimising the formulation ratios further, higher compressive strengths can potentially be achieved.

Some examples of 'every day' concrete products with a compressive strength of <25MPa include, post and rail retaining wall systems, retaining wall blocks, pavers, culverts, soak wells and single-story house slabs.

Non-Executive Chairman Aaron Banks commented:

"*The outcome of this round of testing was a critical piece of work for the Company and it demonstrates that we can combine waste materials within our formulations.*

This potentially achieves two important outcomes; in that we can halve the use of the precursor material (metakaolin) thereby reducing both the cost base and the GHG emission profile in the concrete manufacturing process.

By utilising waste by-products we can move further towards creating a circular economy whereby we provide an industrial application for waste derived materials that might otherwise be committed to landfill.

The Company used it's Gabbin metakaolin in these trials to compare the results with our previous test results using 100% metakaolin. Based on these successful results with Gabbin metakaolin, the Company will look to commence geopolymer concrete lab trials with Pittong kaolin and waste derived materials as this is potentially a quicker pathway to commercialisation."

Approved for release by the Board

-ENDS-

Test results

Identifier	Mass (g)	Density (kg/m3)	Ave. Diameter (mm)	Height (mm)	Area (mm2)	Load (N)	MPa	Ave. MPa	2*Std Dev
2.1	30.58	1635.34	24.62	39.29	475.94	5914	12.43		
2.2	30.85	1639.55	24.59	39.61	475.03	8915	18.77		
2.3	31.17	1649.48	24.59	39.78	475.03	9467	19.93	16.04	8.42
2.4	28.65	1651.93	24.60	36.48	475.42	5047	10.62		
2.5	30.80	1646.50	24.64	39.23	476.84	8802	18.46		

Identifier	Mass (g)	Density (kg/m3)	Ave. Diameter (mm)	Height (mm)	Area (mm2)	Load (N)	MPa	Ave. MPa	2*Std Dev
3.1	31.73	1709.60	24.60	39.06	475.16	13910	29.27		
3.2	32.28	1723.76	24.60	39.40	475.29	14306	30.10		
3.3	33.43	1718.41	24.70	40.60	479.16	11494	23.99	27.62	5.31
3.4	32.12	1706.94	24.71	39.25	479.42	13949	29.10		
3.5	31.23	1700.25	24.73	38.23	480.46	12320	25.64		

For further information, please contact

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Company Profile

Suvo Strategic Minerals Limited is an Australian hydrous kaolin producer and exploration company listed on the Australian Securities Exchange (ASX:SUV). Suvo is focused on production at, and expansion of, their 100% owned Pittong hydrous kaolin operation located 40km west of Ballarat in Victoria. Suvo's exploration focus is on near-term kaolin and high purity silica assets with 100% owned Gabbin (kaolin), Eneabba and Muchea (silica sands) projects located in Western Australia.

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.

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. Around 20-25kt per annum is supplied to various end users.

Gabbin Kaolin Project

The 100% owned Gabbin Kaolin Project (White Cloud) is located 215km northeast of Perth, Western Australia. The project area comprises four granted exploration licences (E70/5039, E70/5332, E70/5333, E70/5517) for 413km^2, centered around the town and rail siding of Gabbin. The generally flat area is primarily cleared farming land devoid of native bushland and is currently used for broad-acre cereal cropping. A mining access agreement is in place over the current resource area with the landowner and occupier.

The main rock types at Gabbin are primarily Archaean granite, gneiss, and migmatite. These rocks are overlain and obscured by Tertiary sand and Quaternary sheetwash. The weathering profile is very deep and contains thick kaolin horizons capped by mottled clays or laterite zones. The current JORC 2012 Mineral Resources are 72.5Mt of bright white kaolinised granite with an ISO Brightness of 80.5%.

Eneabba Silica Sands Project

The 100% owned Eneabba Silica Sands Project is located 300km north of Perth, Western Australia. The project comprises four granted exploration licences (E70/5001, E70/5322, E70/5323, E70/5324) for 169km^2. The project is located on the Eneabba Plain whose sandy cover is very flat to gently undulating. Outcrop is rare due to the accumulations of windblown and alluvial sand at surface. Below this is a thin hard silcrete or lateritic claypan which overlies deep white and yellow sands.