

27 May 2021

### Suvo delivers a robust Scoping Study demonstrating the potential to develop a multi decade mine at their 100% owned White Cloud Kaolin Project

Australian kaolin producer and silica sand exploration company, Suvo Strategic Minerals Limited ("**Suvo**" or "**the Company**"), is pleased to announce the results of a Scoping Study ("**Study**") for its 100% owned White Cloud Kaolin Project located near Gabbin in the Wheatbelt Region of Western Australia, 210km northeast of Perth.

#### **Cautionary Statement**

The White Cloud Kaolin Project Scoping Study (the **"Study"** or the **"Project"**) referred to in this ASX announcement and the accompanying Scoping Study Summary Report is conceptual in nature and has been undertaken to assess the potential for the development of the Project via the mining of a greenfield bright white kaolinised granite deposit and the construction of a hydrous kaolin processing plant located near Gabbin in the Wheatbelt Region of Western Australia, 210km northeast of Perth.

The Study is based on the Mineral Resources that were announced by the Company on 25 March 2021<sup>1</sup>. The Mineral Resources are located within the perimeter of land on which the Company has an access and compensation agreement, as well as granted exploration licences.

The Study is preliminary in nature and, although based entirely on Indicated Mineral Resources, the overall deposit includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied that would enable them to be categorised as Ore Reserves. Mineral Resources are not Ore Reserves and do not have demonstrated economic viability.

The Study includes a preliminary economic analysis based on a number of possible production targets ("**Production Target**") and assumptions on Modifying Factors and evaluation of other relevant factors estimated by a Competent Person to be at the level of a Scoping Study.

The Study outcomes, Production Target and forecast financial information are based on information that is considered to be at a Scoping Study level. The information applied in the Study is insufficient to support the estimation of Ore Reserves. While each of the Modifying Factors was considered and applied to a level that is considered to be appropriate for a Scoping Study, there is no certainty of eventual conversion to Ore Reserves or that the Production Target will be realised. Further exploration and evaluation studies are required before the Company will be in a position to estimate any Ore Reserves or provide any assurance of an economic development case.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Study. The Study is based on the White Cloud Kaolin Project's Indicated Resources as estimated by the Company's Mineral Resource Estimate released to the ASX on 25 March 2021. The Company is not aware of any other new information or data that materially affects the information included in that release. All material assumptions and technical parameters underpinning the estimates in the ASX release continue to apply and have not materially changed.

Of the Mineral Resources scheduled for extraction in the Study's Production Target, 100% are classified as Indicated and 0% as Inferred. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the conversion of the Inferred Mineral Resources to Indicated Mineral Resources or that the Production Target itself will be realised. For this reason, to date, the Company has elected not to include the Inferred Resources in the Study.

This ASX announcement and accompanying Scoping Study Summary Report contains a series of forward-looking statements. The words "expect", "potential", "intend", "estimate" and similar expressions identify forward-looking statements. Forward-looking statements are subject to known and unknown risks and uncertainties that may cause the actual results, performance or achievements to differ materially from those expressed or implied in any of the forward-looking statements in this report and are not a guarantee of future performance.

This ASX announcement and accompanying Scoping Study Summary Report regarding the White Cloud Kaolin Project and the Company's business generally, which are not historical facts, are forward-looking statements that involve risks and uncertainties. These include Mineral Resource Estimates, selling prices of refined hydrous kaolin products, capital and operating costs, changes in project parameters as plans continue to be evaluated, the continued availability of capital and project finance, general economic, market or business conditions, and statements that describe the future plans, objectives or goals of the Company including words to the effect that the Company or its management expects a stated condition or result to occur. Forward-looking statements are necessarily based on estimates and assumptions that, while considered reasonable by the Company, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties. Actual results in each case could differ materially from those currently anticipated in such statements. Investors are cautioned not to place undue reliance on forward-looking statements.

The Company has concluded that it has a reasonable basis for providing these forward-looking statements and the forecast financial information included in this ASX announcement and accompanying Study. This includes a reasonable basis to expect that it will be able to fund the development of the White Cloud Kaolin Project upon the successful delivery of key development milestones. The detailed reasons for these conclusions are outlined throughout the ASX announcement and accompanying Study. While the Company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Study will be achieved.

There is no certainty that the Company will be able to source the required development funding estimated within the Study when required. The Company considers that there is a reasonable expectation that a project of this scale will be able to be funded with a combination of debt and equity. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's shares. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Study.

No Ore Reserve has been declared. This ASX announcement and accompanying Study have been prepared in compliance with the current JORC Code (2012) and the ASX Listing Rules. All material assumptions, including sufficient progression of all JORC modifying factors, on which the Production Target and forecast financial information are based, have been included in this ASX announcement and accompanying Study.

## **Scoping Study Highlights**

- Life of Mine (LOM) approximate financial metrics:
  - LOM revenue of A\$3,600M
  - LOM EBITDA of A\$2,340M
  - Cashflows (pre-tax) for LOM of A\$2,222M
  - NPV (8% discount rate) (pre -tax) of A\$705M
  - IRR (pre-tax) of 113%
  - Assumed funding of 50% equity and 50% project finance
  - Initial payback period of 12 months from commencement of production
- Study baselines:
  - 25 years LOM on current Indicated Resources of 26.9Mt of bright white kaolinised granite <50% of the resource total</li>
  - Hydrous processing plant with initial processing capacity of 500,000tpa producing 200,000tpa of refined kaolin products
  - Estimated capital costs including pre-production costs of A\$68M
  - All in Sustaining Cost<sup>2</sup> (AISC) of A\$256/t with an anticipated selling price of A\$720/t (ex-works)

# All figures are approximations and have been rounded to reflect appropriate levels of confidence.

Suvo Executive Chairman, Robert Martin, commented: "We are extremely pleased to present this Scoping Study to the market and to our shareholders as it is our intention to turn our White Cloud project into a world class, high quality, kaolin mining and processing operation capable of producing 200,000 tonnes per annum of product. The Study clearly demonstrates we are on the right pathway to achieve this.

The exceptionally strong project economics show an initial pre-tax NPV of A\$705 million, an IRR of 113% with LOM revenue of A\$3.6B and LOM EBITDA of A\$2.34B. These numbers confirm our immediate obligations to commence a Pre-Feasibility Study that will allow us to make a final investment decision on a long life mining operation capable of delivering strong shareholder returns.

The Scoping Study provides an indication of the project as it currently stands, which predominantly only captures a small portion of the available deposit. As part of our development strategy, we will contemporaneously look to upgrade and expand the current resource. Any further improvements to the resource could present opportunities to consider further developing plant design and potential improvements to project economics.

The study also shows the ability to deliver significant social benefits to the local community with a construction workforce of over 250 people and full time employment of 80 - 90 people who we hope to secure from the local communities with many of the mining and haulage personnel to be employed during the off peak of the grain harvesting season," Mr Martin said.'

The Scoping Study delivers robust economics for the White Cloud Kaolin Project based on an initial hydrous (wet) processing plant capacity of 500,000tpa to produce 200,000tpa of high-quality kaolin products to be exported via the Fremantle bulk container port to the high-quality paper coating, paint, pharmaceutical, catalysts and ceramics markets. The finished product will be bagged in bulk at the processing plant and will be loaded into 20' sea containers and transported via rail directly to Fremantle port. Suvo will utilise CBH's Gabbin rail siding and grain storage facility<sup>2</sup>.

The Scoping Study was prepared in conjunction with Primero who compiled capital costs and operating costs for the processing plant (Class 5 level, ± 50% accuracy). The data used was effective for Q1 2021. Suvo contributed to the Scoping Study by leveraging the extensive operational experience from its 100% owned hydrous kaolin Pittong operations and the major equipment supplier contacts introduced by Eileen Hao, Suvo's General Manager – Global Sales, Marketing & Business Development who, with more than 26 years' working experience in industrial minerals including over 15 years working at English China Clays/Imerys, was involved in numerous plant designs, end-user product design and development and global sales and marketing of kaolin products. In addition, test work interpreted and reported by Dr Ian Wilson, a director of Suvo and the Competent Person and author of the Independent Geologist Report contained in the Company's replacement prospectus dated 25 June 2020, were used to define the most suitable flowsheet for the processing plant and determine end user markets for the finished refined hydrous kaolin products that will be exported from the White Cloud Kaolin Project.

Mining will consist of shallow open pit excavation on the site which Suvo has a land access and compensation agreement in place. On 25 March 2021, Suvo announced an upgrade to the Resource to 72.5Mt, 26.9Mt classified as Indicated and 45.6Mt Inferred. Initial planned mining and processing utilises ~50% of the Indicated Resource and none of the Inferred. This leaves the potential to upscale the operations in future years depending on market conditions and demand for White Cloud's unique high quality kaolin products.

The Project is anticipated to create approximately 80-90 jobs once the plant is fully operational with most employees to be sourced locally. Mining will occur seasonally after harvesting is completed and major grain movements have ceased. Sufficient ROM stockpiles will be mined to feed the plant continuously The plant is designed to operate continuously based on 5 shift rotation (2 shifts working 12 hours per day, 5 team rotation). Plant availability has been factored at 91.3%. Tailings, consisting mainly of sand, will be backfilled into the pit on a campaign basis.

At an assumed ex-works selling price of A\$720/tonne (using USD exchange rate of 0.76), total Life of Mine (**LOM**) revenues of A\$3,600M are estimated to be generated. Total AISC averages A\$256/tonne. Pricing is on an ex works basis.

Capital expenditure has been estimated at A\$68M. It has been assumed that the Project will be funded 50% via equity and 50% by project finance and further information on capital financing is set out in the financial section on page 26. Start-up working capital is estimated at A\$18M. Rehabilitation and site restoration will be completed on a continuous basis in order to preserve

the integrity of topsoil to avoid sterilisation and facilitate revegetation. The Scoping Study has factored rehabilitation and restoration costs of \$5M over the LOM.

Total cumulative cashflows generated over the LOM are A\$2,222M pre-tax and A\$1,642M posttax. At an assumed discount rate of 8%, the White Cloud Kaolin Project has an NPV of A\$705M pre-tax and A\$533M post-tax. The IRR is 113% pre-tax and 108% post-tax. Payback period is expected to be within 1 year assuming full production capacity and sales of 200,000tpa of refined kaolin products.

Initial target export markets include the high-quality paper coating, paint, pharmaceutical, catalysts and ceramics industries. A MOU<sup>3</sup> has already been signed with one of the largest manufacturers of ceramic products, LIXIL ASTJ, who are actively assisting Suvo in developing tailor-made refined kaolin products for their global manufacturing plants.

A summary of the key physical and financial statistics associated with the Scoping Study is shown in Table 1.

Mine Plan – Production Target	White Cloud Kaolin Project
From Measured Resources	0.0Mt
From Indicated Resources	13.7 Mt
From Inferred Resources	0.0 Mt
Total Production Target	13.7 Mt
Capital Costs	
Processing Plant Costs (AUD)	\$68M
Sustaining Capital Costs (AUD)	\$15M
Production Summary	
Mine life (years)	25
Processing rate of kaolinized granite (ktpa)	500
Annual Refined Kaolin Produced (ktpa)	200
Yield of Refined Kaolin (LOM average)	40%
Project Economics	
Premium Kaolin Price Average (AUD) (ex-works)	\$720/t
Revenue (AUD)	\$3,600M
AISC equivalent (LOM average) (AUD) (ex-works)	\$256/t
Cashflows (AUD) (pre-tax)	\$2,222M
Cashflows (AUD) (post-tax)	\$1,642M
NPV (8% pre-tax)	\$705M
NPV (8% post-tax)	\$553M
IRR (pre-tax)	113%
IRR (post-tax)	108%
Payback from start of production and sales	12 months

Table 1 – Key project statistics (all figures are on a 100% project basis and rounded to reflect appropriate levels of confidence)

Given the robust economics derived from the Scoping Study, Suvo will proceed to commission a Pre-Feasibility Study and, concurrently, will undertake mining and environmental studies to lead towards the application of a mining licence. Local stakeholders' engagement has already commenced with the project receiving strong support from the local shire council. Services to the project site, including water and power, will also be better defined and the results incorporated into the Pre-Feasibility Study.

- Refer to ASX announcement dated 25 March 2021 titled Suvo Increases White Cloud Kaolin Resource by 84% to 72.5Mt
- <sup>2</sup> Refer to ASX announcement dated 21 October 2020 titled Suvo to Secure Access to Crucial Infrastructure Assets
- <sup>3</sup> Refer to ASX announcement dated 31 March 2021 titled Suvo Signs MOU with Tier 1 Ceramic Producer

This announcement has been approved for release by the Board of Directors.

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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 redevelopment of, their 100% owned Pittong hydrous kaolin operation located 40km west of Ballarat in Victoria. Suvo's exploration focus is on their 100% owned White Cloud Kaolin Project located adjacent to Gabbin in the Central Wheat Belt, and the 100% owned Nova Silica Sands Project located in the Gin Gin Scarp near Eneabba, both situated 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 products for end users. These products 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.

Current Reserves and Resources at Pittong are reported to PERC code and are in the process of being upgraded to JORC 2012 compliance.

#### The White Cloud Kaolin Project

The 100% owned White Cloud Project is located 215km northeast of Perth, Western Australia. The project area comprises three granted exploration licences (E70/5039, E70/5332, E70/5333) for 392km2, and one exploration licence application (E70/5517) for 21km2 centred 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 owner and occupier. The main rock types at White Cloud 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 (Indicated 26.9Mt, 45.6Mt Inferred) of bright white kaolinised granite with an ISO Brightness of 80.5%, <45µm yield of 41.2% results in 29.9Mt of contained kaolin.

Further details in respect to the JORC 2012 Mineral Resources and the exploration results underpinning it, are set out in the company's announcement "Suvo increases White Cloud kaolin resource by 84% to 72.5Mt of bright white kaolinised granite (released on the ASX market announcement platform on 25 March 2021). Suvo confirms it is not aware of any new information or data that materially affects the exploration results set out in the announcement dated 25 March 2021 and all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

#### **Nova Silica Sands Project**

The 100% owned Nova Silica Sands Project is located 300km north of Perth, Western Australia. The project comprises three granted exploration licences (E70/5001, E70/5322, E70/5323) for 133km<sup>2</sup> and one exploration licence under application (E70/5324) for 36km<sup>2</sup>.

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.

Preliminary exploration has included 54 drillholes for 1,620 metres to depths of up to 30m. This program is anticipated to deliver an initial resource for the project and a process route.



White Cloud Kaolin Project Scoping Study Summary

Figure 1 – White Cloud Gabbin transport hub

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#### **Overview**

Suvo's 100% owned White Cloud Kaolin Project is located near the town of Gabbin in the Wheatbelt region of Western Australia, 210 kms northeast of Perth. The Project is easily accessible by sealed roads and the township of Gabbin has a rail line with a siding that was previously used by CBH in its grain storage and handling facility.



Figure 2: Location map of White Cloud Kaolin Project's exploration tenements

On 25 March 2021, Suvo announced a Mineral Resource Estimate 72.5Mt of bright white kaolinised granite at 80.5% ISO brightness. The in-situ 72.5Mt of bright white kaolinised granite yields 29.9Mt of <45 $\mu$ m kaolin product. The Mineral Resource Estimate was categorised as Indicated 26.9Mt and Inferred 45.6Mt. This followed an extensive infill drilling campaign to better designate the Resource.

The Scoping Study assumes the support of a 25+ year mine life which relies on less than 50% of the Indicated Resource and none of the Inferred.

The Scoping Study was completed with the assistance of Primero who calculated the processing plant capital and operating expenditure estimates at Class 5 level + / - 50% accuracy based on a flowsheet chosen by Suvo through a series of test works programs performed by Dr Ian Wilson, a director of Suvo, operational experience drawn from the Company's 100% owned Pittong hydrous kaolin mining and processing operations, and from the experience of Suvo's General Manager – Global Sales, Marketing & Business Development, Eileen Hao.

The Scoping Study is based on the following major assumptions:

- The Project will use shallow open pit mining method with ore stockpiled in multiple stockpiles to allow for testing and blending ahead of processing.
- Processing will be hydrous through a processing plant with an initial capacity of 500,000tpa to produce 200,000tpa of refined kaolin products at a 40% yield.
- The processing plant will be a continuous operation with 91.3% availability.
- The project will employ between 80 90 people once in full production.
- An initial LOM of 25 years.
- A sale price of A\$720/t (ex-works).
- AISC of \$256/t (ex-works).

The Study was completed to a Scoping Study level and demonstrates a technically feasible and economically attractive project. The Company believes that this positive outcome supports progressing to a full Feasibility Study in the near future.

#### Geology

The White Cloud project area comprises four granted exploration licences for 413km<sup>2</sup> centred around the town and rail siding of Gabbin. The area is underlain primarily by Archaean granitoids of the Yilgarn Craton and is contained within the Bencubbin 1:250,000 map sheet. Thin dykes and isolated thin greenstone sequences transect the tenure further to the north and east.

Kaolin deposits are found at various localities in the Yilgarn Craton due to the prominence of these granitic rocks. In the local area kaolinite is often visible in the spoil of farm dams. Kaolin deposits have formed from the strong weathering and leaching of the underlying intrusive, mostly granitic, rocks. The mineral kaolinite is derived from the alteration of feldspars and usually presents with some residual textures and quartz crystals.



Figure 3 - Plan view of drill holes completed at the White Cloud Kaolin Project showing cross section

Locally, the generally flat area at White Cloud has a thin veneer of brown sand that overlies ferruginous, weakly pisolitic, orange-brown soils to a depth of approximately 4 metres. The change from soil to bright white kaolinitic clay is generally abrupt and can intermittently include a thin siliceous hard cap. A typical cross section through the deposit is shown in Figure 4, which is also represented in Figure 3.

The kaolinitic clay at White Cloud forms a continuous, sub horizontal, layer up to 28m thick that is bounded by the upper and lower surfaces of weathered granite relating to changes in oxidisation states. At the base of this layer the colour changes to cream, pinkish or buff as the oxidation state of the material changes and it grades into partially kaolinised granite, before becoming fresh granite.



Figure 4 - Section through the White Cloud kaolin deposit showing geological units

Drilling to date has been conducted utilising air core drills which have only allowed fragments of more competent partially oxidised parent rock to be examined. Hand specimens of these fragments highlight an absence of dark minerals in a moderately competent rock composed mostly of dominantly altered feldspar and greyish quartz.

The mineralisation has not been closed off by drilling and it is likely that further drilling will encounter kaolinite within the tenure.

#### **Mineral Resource**

The Mineral Resource estimates for White Cloud have been prepared in accordance with the JORC Code (2012 Edition).

The Mineral Resource estimate used for the study was developed by CSA Global Pty Ltd in March 2021 and is detailed in Table 2 below and was reported to the ASX on 25 March 2021 ("Suvo increases White Cloud kaolin resource by 84% to 72.5Mt"). The Company confirms that it is not aware of any new information or data that materially affects the information in the announcement of 25 March 2021 and confirms that the material assumptions and technical parameters underpinning the assessment continue to apply.

	White Kaolinised granite (Mt)	ISO Brightness (%)	Yield (%)	Kaolin (Mt)
Indicated	26.9	80.4	41.3	11.1
Inferred	45.6	80.6	41.1	18.8
Total	72.5	80.5	41.2	29.9

Table 2 - Mineral Resource estimate (<45 microns)

A total of 131 air core drill holes were used to develop a geological interpretation of the white kaolinised granite, this unit was wire framed to develop the resource. A bulk density of 1.8 tonnes/m<sup>3</sup> has been assumed for the kaolinite ore and tonnes have been reported at a 0% ISO

brightness cut-off. In this study only Indicated Resources will be used as this comprises the main proportion of mineralisation within the Mining Access Agreement area.

There have been no material changes to the Mineral Resource estimate since the date of its publication. No ore reserves have been delineated to date.

#### Infrastructure and Services

The White Cloud kaolin Project is located 3kms south of the town of Gabbin, in the Wheatbelt region of Western Australis, 210km northeast of Perth. The Wheatbelt's proximity to the Perth metropolitan area, easy access to key transport routes and availability of land suitable for industrial purposes make it an ideal location for the establishment of new industries, including freight and logistics. The liveability of the region is increasingly being recognised with growth of communities in Wheatbelt shires that adjoin the metropolitan area. This reflects the ability to easily access higher order social and community services in Perth while living in supportive rural communities.

The White Cloud kaolin deposit is adjacent to sealed and unsealed roads. It is located 3kms south of the CBH grain storage and handling facility with a fully functional rail siding. Suvo is securing access to CBH's infrastructure which will be used to store and load refined kaolin product into 20' sea containers which will be rail freighted straight the Fremantle bulk container port for export.



Figure 5 – CBH grain storage shed and rail siding, Gabbin, Western Australia

An existing 33kV line supplies the CBH grain storage facility and associated rail siding. Power also runs right through the land area where the white kaolinised granite deposit is located. Potable water to the town of Gabbin is supplied via the Kalgoorlie water pipeline.

The nearby towns of Koorda and Bencubbin are less than 20km distance from Gabbin and have excellent services including general supplies, fuel, medical services and accommodation.

Communications, including high speed internet, are available throughout the region, including Gabbin.

#### Mining

The project is proposed to comprise open cut mining with a conventional load and haul fleet consisting of 40-50t articulated haul trucks and 100-120t hydraulic excavator with ample rip-out power supported by an ancillary mobile fleet of dozers, graders, water carts and service vehicles located within the pit and waste dumps.



Open pit operations will consist of free dig shallow pits that progressively expand and merge to form one large pit at the latter end of the life of mine (LOM). The processing plant is adjacent to the Koorda-Bullfinch road which is within close proximity to the pit minimising ore haulage. Waste will be stockpiled adjacent to the pit and will be backfilled into the mined voids over time.

Topsoil and surficial material will be removed and stockpiled for later rehabilitation purposes. Drilling to date has encountered intermittent thin hard cap and this would be dealt with by dozer ripping and excavator rip-out power during overburden waste mining.

The small size mining fleet will allow for selective ore mining. The ore is visible (brilliant white), flat lying and relatively soft thus the proposed mining fleet can mine with negligible dilution and high recovery.

#### Pit Optimisation

For optimisation purposes Micromine 2021 – Pit Optimiser software was used to generate the most profitable pit shell based off the modifying factors detailed below. Because revenue is substantially higher than cost we were able to recover nearly all the "Indicated" material.

The Resource Model (CSA Global Pty Ltd, March 2021) was used as the basis for the pit optimisation. The Resource Model was regularised to an SMU block size of 5mx5mx1m to gain definition around the ore and pit walls to validate overall wall angle of 34 degrees. Only Resource Category "Indicated" was used for the optimisation. The Modifying Factors were then applied to the regularised model to achieve the most profitable LOM pit.

Scoping level "Modifying Factors":

ltem	Description
Ore Processing	500,000tpa
Product	200,000tpa
Recovery	40%
Processing cost (product)	A\$209/t
Sale price	A\$720/t
Royalty	5%
Mining	Open Pit
Method	Conventional load and haul
Mining cost	A\$4/t
Overall wall angle	34°
Ore loss	5%
Dilution	0%
Model	CSA Global Pty Ltd, March 2021
Resource Category	Indicated only
Density	1.8 (ore and waste)
Cut-off	=>80% Brightness

Table 3 – White Cloud Scoping Study Modifying Factors

#### Results

At a processing rate of 500ktpa the life of mine is 34 years during which a total movement of 40Mt tonnes will occur, consisting of 17Mt ore and 23Mt waste. The waste to ore ratio is 1.35. The Scoping Study has been truncated at a 25 year LOM.

Total Ore	Tonnes	Brightness	<45%um Yield	Total Recovered Tonnes (<45um)
Brightness Cut-off 80%	17,000,000	82	43	7,400,000
Table 4 . White Cloud I OM are preduction in Mt				

Table 4 – White Cloud LOM ore production in Mt

Anything below 80% Brightness was considered waste, however there is approximately 3.5Mt of mined kaolin, yielding 1.4Mt product at 77% Brightness and when blended with primary ore could yield an 81% Brightness product.



The Production Target estimate has allowed for 5% ore loss and 0% dilution. These figures have been selected as once the orebody is uncovered only ore is mined to the base of the pit. It has been assumed that ore would be discarded and/or stockpiled as low grade rather than send inferior ore to the processing plant which would affect product quality.



Figure 6 - Pit Optimisation and Indicated block model of White Cloud kaolin deposit



Figure 7 – Pit Optimisation of White Cloud kaolin deposit

The Production Target results in 17Mt of ore mined and sent for processing. All of this Production Target comprises Indicated Resources which were completed by a Competent Person and reported to the ASX on 25 March 2021.

#### Metallurgy & Processing

The chemistry by XRF and mineralogy on White Cloud kaolin was carried out in the United Kingdom showing White Cloud kaolin contains 46.2%~62.1% kaolinite, low iron and low titanium. XRF and LOI was undertaken by AMG Superalloys (UKAS accredited) and XRD, SEM and trace elements by ICP was undertaken at the James Hutton Institute (UKAS accredited) laboratories.

XRPD (X-Ray Powder Diffraction) was also carried out at James Hutton Institute, UK. The SEM from the aqueous dispersion method gave clear imagine with three different bar scales at 2 microns, 1 micron and 200 nm, all showing platy pseudo-hexagonal morphology.



Figure 8 - SEM of Kaolinite from 70 kgs White Cloud matrix sample (scale of 2 microns)

Metallurgical test work programs have been conducted in the UK led by Dr. Ian Wilson, a director of Suvo and a recognised world expert on industrial minerals. Physical tests were completed in the laboratories of a major international kaolin manufacturer using standard industry procedures. The results from these test works have been used, where appropriate, to inform the process design criteria, equipment sizing and kaolin product recovery.

In addition, the report "Pittong production lines and flowsheet, Ian Wilson notes", discussions with Brad Haywood, General Manager at Pittong, and Eileen Hao, Suvo's General Manager - Global Sales, Marketing & Business Development, have been used to inform the process design criteria.

Test work is ongoing at various locations, but those results are not yet available. The new results will be available to feed into the proposed Feasibility Study. The design basis used in the Scoping Study has kaolin recovery of 40%.



Figure 9 - SEM of Kaolinite from 70 kgs White Cloud matrix sample (scale of 1 micron)



Figure 10 - SEM of Kaolinite from 70 kgs White Cloud matrix sample (scale of 200 nm)

Recognising the unique nature of the kaolin ore of White Cloud, and the results generated by a number of tests performed to date, and having assessed the most likely end-user markets for the products that will be produced from the White Cloud Kaolin Project, more importantly, based on the experience of Suvo's kaolin hydrous operation plant in Pittong, Victoria, Suvo has reviewed the various options that Primero summarised as part of a flowsheet options analysis where a number of flowsheets were considered and capital and operating costs were extrapolated. Suvo has considered the optimal flowsheet and has concluded that flowsheet described in this Scoping Study is the most suitable for adoption by Suvo's White Cloud Kaolin Project and to form the basis of the Scoping Study outputs in terms of determining likely capital and operating costs.

Production stream tonnages in the Scoping Study are based on 500,000tpa of feed ore, 200,000tpa of refined kaolin product, and 300,000tpa sand waste product on the basis of a recovery rate of 40%.

This flowsheet for the Scoping Study is outlined in the block flow diagram (BFD) in Figure 12.



Figure 11 – White Cloud Kaolin Project Flowsheet Block Flow Diagram

Based on this flowsheet, hydrous-processing is applied on White Cloud Kaolin matrix to produce pelletized high-grade premium refined kaolin with 10% moisture content suitable for both the domestic Australian and export markets, targeting high quality paper-coating, ceramics, paint and pigments as well as other markets of high-quality performance minerals.

Primero was retained to carry out a site process plant design and capital and operating costs estimates.

The process design for the White Cloud Kaolin Project has been developed based on metallurgical test work completed to date and the extensive operational experience from Suvo's hydrous kaolin operations in Pittong, to meet the design objective of treating 500,000tpa kaolin matrix to produce 200,000tpa of high-grade refined kaolin final products by using a hydrous processing method.

The sand waste product will be trucked back to the nearby mine and backfilled. The plant design includes the following areas:

- ROM stockpiles
- Scrubber trommel mill
- De-sanding
- Thickening
- Filtering
- Paddle and PUG mixing
- Extruding
- Band dryer
- Product storage and packaging

The process design basis assumes a continuous operation, 24 hours/day, 365 days/annum with total availability and utilisation of at least 91.3%.

The plant will also include dust and gas management where the drying building and the final product bagging facility are equipped with baghouses for dust collection.

The major reagents to be used in the process are dispersant and flocculant which will be stored as per the appropriate dangerous goods regulations. Reagents will be mixed and dosed according to the process plant requirements.

Utilities required in the plant include:

- Cooling water
- Potable water
- Instrument air
- Process compressed air
- Natural gas

Fuel will be delivered and stored under an arrangement with a fuel supplier.

The general control philosophy or the plant includes a high level of automation and control with minimum operator intervention. The plant control will be monitored from the main plant control room situated in the plant building.

Various streams within the plant and during production will be sampled regularly to determine the levels of impurities in the kaolin product at various stage in the process. An analytical and QC laboratory will also be included in the plant for monitoring process streams and quality control of kaolin products.

#### **Environmental and Approvals**

The White Cloud project comprises the granted exploration licences E70/5039 (granted 25 October 2018), E70/5332 (granted 8 September 2020), E70/5333 (granted 9 September 2020) and E70/5517 (granted 24 February 2021).



Figure 12: Location map of White Cloud Project's exploration tenements

A Mining Access Agreement was secured with the private landowner and occupier of the tenement (E70/5039) containing the majority of the Mineral Resources. This agreement was announced to the ASX on 29 September 2020 ("Suvo secures Mining Access Agreement at flagship White Knight Kaolin Project").

Organisation of the required environmental technical studies has commenced. This includes desk top studies for flora and vegetation, fauna, heritage, noise, dust and hydrology. These desk top studies will indicate if further technical work, such as on ground surveys, is required.

Given the potential requirement to clear vegetation and the proximity to the Gabbin Nature Reserve it is envisioned that flora and fauna on ground surveys will be required. Flora and vegetation survey time has been allocated in spring due to the high demand for these services in the current market.

Noise and dust desk top studies are required due to the proximity to the Gabbin townsite. Data from the Pittong Mine, which has been in operation for over 50 years, can be used to inform the noise and dust studies. These studies will involve identification and assessment of sensitive receptors.

Whilst ground water has not been intersected during drilling to date, verification of groundwater levels and potential impacts to ground and surface water will need to be verified. If there is no impact to groundwater, a hydrologist may be able to use desk top information, that includes publicly available data, to demonstrate this.

Potential environmental approvals identified at the scoping phase include:

1. Western Australian (WA) Environmental approval / Part IV Environmental Protection Act 1986 (EP Act) (WA)

Given the proximity to the Gabbin Nature Reserve and Gabbin townsite, referral is recommended following finalisation of the technical environmental desktop studies.

2. Works Approval to Construct and Licence to Operate / Part V EP Act (WA)

Approval will be required as the project falls within the definition of a scheduled premises for the processing or beneficiation of metallic or non-metallic ore (Category 5) under Schedule 1 of the EP Act. A detailed understanding of the mining and processing activities will be required before the technical studies can be conducted and an application prepared. If the Environmental Protection Authority (EPA) decides to assess the project under Part IV of the EP Act, the Minister for the Environment's decision will be required before the Department of Water Environment and Regulation (DWER) can grant approval for the project under Part V.

3. Mining Proposal and Mine Closure Plan / Mining Act 1978 (WA)

Approval will be required by the Project. If a Part IV EP Act approval is required, the Mining Proposal approval can only be granted by Department of Mines, Industry Regulation and Safety (DMIRS) once the Minister for the Environment grants environmental approval under the Part IV EP Act process.

4. Native Vegetation Clearing Permit / Part V EP Act (WA)

Approval may be required by the project if native vegetation is to be cleared, and if a Part IV EP Act assessment is not required.

5. Federal Environmental approval / Environment Biodiversity and Conservation Act 1999 (EPBC Act) (Federal)

Approval may be required if matters protected under the EPBC Act are identified from flora and fauna surveys.

6. Authorisation to take threatened flora and fauna or impact a threatened ecological community / Biodiversity Conservation Act 2016 (WA) (BC Act)

Approval may be required if matters protected under the BC Act are identified from flora and fauna surveys.

7. Section 18 Consent to Disturb / Aboriginal Heritage Act 1972 (WA)

Approval may be required if heritage studies indicate sites of significance.

#### **Refined Kaolin Market and Sales Strategy**

Initial target markets for the high-quality refined hydrous product include the top-quality paper coating, paint, pharmaceutical, catalysts and ceramics industries, for both Australian domestic market and export.

The high-quality kaolin products will be exported via the Fremantle bulk container port which has sufficient capacity. The finished product will be bagged in bulk at the processing plant and will be loaded into 20' sea containers and transported via rail directly to Fremantle port. Suvo will utilise CBH's Gabbin rail siding and grain storage facility as a loading and storage facility.

Offtake agreements will be negotiated after end user testing of refined kaolin products from the White Cloud Project matrix is produced from bulk test work that is currently planned. The Company has signed non-binding indicative agreements including an offtake agreement with C.M.M Toye Industrial Mineral Consultants who intend to buy 10,000tpa of refined kaolin products at A\$850/t and an MOU with one of world's largest manufacturers of ceramics and sanitaryware products, LIXIL AS Sanitary Manufacturing (Tianjin) Co., Ltd to cooperate in the development of tailormade refined kaolin products for their global manufacturing plants which, if successful, the parties intend to enter into a binding offtake agreement.

From a global kaolin market perspective, according to a report produced in April 2020 by a world leading research publication, the kaolin market is expected to grow from US\$3.1B to US\$4.1B annually at a compound annual growth rate of 5.5% between 2020 and 2025. The growth of the market is primarily driven by the rising demand for kaolin from end-user industries such as paper, ceramics, paints and coatings. Rising demand for paper packaging due to e-commerce activities has fuelled the need for paper. High demand for building and construction ceramics and sanitaryware in highly populated and emerging economies such as India and China are another growth source of kaolin consumption, plus the post-COVID economic recovery resulting in new housing and infrastructure development in the US, Australia, Europe and the rest of the world.

Kaolin is also used in the paints and coatings, plastics and fiberglass industries. Kaolin plays a vital role in the manufacture of automotive primers. The use of kaolin enhances various properties of automotive primers that include corrosion resistance, film smoothness, edge film build and uniformity. The rise in the production of automobiles has propelled the demand for better quality automotive primers. Meanwhile, the rapid development and production growth of electric vehicles and lithium-ion batteries all over the world are driving the demand growth on higher quality, high purity kaolin products to be used in automobile paint, stronger but lighter plastics and fiberglass, as well as lithium-ion battery separators and catalysts, thereby contributing to the growth of the kaolin market.

Food grade or United States Pharmacopeia grade kaolin is used in pharmaceutical products as an inert filler and active ingredient. The spread of COVID-19 has caused rapid increase in demand for medicines and other pharmaceutical products which is expected to drive the growth of kaolin usage in the healthcare industry in coming years.

Kaolin processing and value adding require technical expertise. Sales and marketing also require access and qualification. As the only domestic producer of kaolin products in Australia, Suvo is fully aware of customers' needs and requirements. Suvo is serving both the domestic and export markets technically and commercially whilst developing our business model with caution and ambition.

Suvo adopts the hydrous (wet) process for all its kaolin products from its Pittong operation, and will do the same for the potential products from its White Cloud Kaolin Project as water-washing is a highly adopted method used globally to remove impurities from the kaolin matrix without altering the chemical properties and ensuring consistency in quality.

Based on the unique nature of the White Cloud kaolin matrix, the White Cloud Kaolin Project has been targeted to produce superior quality kaolin products using Suvo's technical expertise and experience on hydrous processing.

Suvo's existing client base and business relationships with global kaolin end-users also provide more opportunities and direct access for Suvo to develop its White Cloud Kaolin Project, particularly in sales and marketing, as well as product development and qualification.

Additional kaolin market areas, including supplying the High Purity Alumina (HPA) sector, have not been considered as part of this Scoping Study and represent potential future opportunities to be evaluated.

#### **Financials**

Capital expenditure has been estimated at A\$68M. It has been assumed that the Project will be funded 50% via equity and 50% by project finance. The Company has had preliminary conversations with both equity and debt providers and the Board is confident that, subject to the completion of bankable feasibility study on comparable metrics, it will be able to obtain such funding.

As set out above, there is no certainty that the Company will be able to source the required development funding estimated within the Study when required it also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's shares. Similarly, debt financing may require security interests to be registered over the Company's assets, or be subject to restrictive covenants.

#### Capital Expenditure

Estimated pre-production capital expenditure is A\$68M whilst total LOM capital expenditure is A\$91M after allowing for working capital, initial overburden removal and continuous rehabilitation costs which are estimated at A\$23M. These are summarised in the following table:

Item	A\$M
Sunken costs including exploration and evaluation costs	1
Processing plant direct costs including associated infrastructure	56
Contingency	7
Laboratory equipment	1
Owners' costs	3
Total pre-production capital expenditure	68
Working capital including initial fill	18
Continuous rehabilitation	5
Total working capital and other LOM costs	23
Total capital expenditure, working capital and other LOM costs	91

Table 5 – White Cloud Scoping Study estimated LOM capital expenditure (A\$M)

Further work is required in relation to mine closure planning and assessing key infrastructure and services for the project including the supply of power and water, as well as mining methodology and optimisation (owner operated or outsourced, the latter has been assumed for the purpose of this Scoping Study). These will be assessed as part of a future Feasibility Study.

#### **Operating Costs**

The operating costs or the Scoping Study are summarised in the following table. Mining costs have been assumed at contractor level. Processing plant operating costs were developed by Primero using the plant parameters specified in the process design criteria and also on information supplied by the Pittong operations. The costs are presented in A\$ and are based on prices obtained in Q1 2021. Sale price quoted in this Scoping Study is ex-works.

ltem	A\$M LOM	A\$/t of kaolin product produced
Mining costs	117	23
Processing costs inc. direct administration costs	1,045	209
Royalties and commissions	97	20
Cash operating costs	1,260	252
Sustaining capital	19	4
All-in sustaining costs (AISC)	1,279	256

Table 6 – White Cloud Scoping Study estimated LOM operating costs (A\$M and A\$/t)

#### Cash Flows

The preliminary economic analysis provides a cumulative net pre-tax cashflow of A\$2,222 million over the 25 years LOM as shown in the following graph. Sales revenue is generated from Year 3 with Year 0 representing sunken costs incurred to date. It is estimated that mining and construction approvals will be secured in Year 1 and construction will span Years 1 and 2.



Figure 13 – White Cloud cumulative pre-tax cash flows (A\$M)

#### **Baseline Evaluation**

A summary of the economic results of the preliminary economic analysis conducted from the Scoping Study is shown in the following table. The preliminary analysis shows strong economics and a high rate of return for the Project. NPV and IRR are calculated as at April 2021 using Q1 2021 pricing data for the Scoping Study capital and operating expenditure components.

Valuation	Units	Result
NPV (pre-tax)	A\$M	705
NPV (post-tax)	A\$M	553
IRR (pre-tax)	%	113
IRR (post tax)	%	108
NPV/initial capex (pre-tax)	Ratio	10.4
LOM Production & Financial Metrics	Units	Result
Refined hydrous kaolin production	MT	5
Gross revenue	A\$M	3,600
Mining, production and administration	A\$M	(1,260)
EBITDA	A\$M	2,340
Pre-production capital	A\$M	(68)
Other capital and working capital	A\$M	(18)
Interest and finance costs	A\$M	(8)
Sustaining capital	A\$M	(19)
Rehabilitation	A\$M	(5)
Net cashflows (pre-tax)	A\$M	2,222

Table 7 – White Cloud Scoping Study estimated economic outcomes

#### Sensitivity Analysis

Sensitivities for NPV on a pre-tax basis for the key value drivers of the project are shown in the figure below. A discount rate of 8% has been applied with +- 25% variations to the key value drivers, namely the sale price of refine kaolin products, the AISC and capital expenditure for the Project. The sensitivity analyses are individual, not cumulative.

The sale price of refined hydrous kaolin products is the variable that provides the highest volatility with a volatility factor of +-42% in the resultant pre-tax NPV based on +-25% change in the adopted average sale price of A\$720/t of refined kaolin products. Demand and supply factors will determine the ultimate sale price, as will the quality and reliability of delivery. The next most volatile key driver is AISC which provides +-14% volatility and then capital expenditure which has a relatively low +-2% volatility impact in pre-tax NPV for the Project.



Figure 14 – White Cloud +-25% sensitivity analysis of key NPV value drivers

#### **Risks and Opportunities**

#### Risks include:

- Reduction in world demand and pricing for refined kaolin products.
- The Project is based in Australia and the majority of its operating costs will be denominated in A\$. Refined kaolin products will be exported and fluctuations in foreign currencies, if sales are contracted in other than A\$, may present a risk (or opportunity) for the Project.
- The Project has an access and compensation agreement with the land owners and occupiers and granted exploration licences. It is yet to apply for, and be granted, a mining licence.
- Whilst the Project is located within close proximity to Wheatbelt towns which have excellent infrastructure and services (housing, medical centres, schools, shops where essential supplies and hardware can be purchased, fuel depots, etc), the supply of certain services directly to the mine and processing plant, like power and water, have yet to be fully investigated and will be done as part of a future Feasibility Study.
- Product substitution, for example, calcium carbonate for the paper industry, may present a risk to the growth in demand for refined kaolin products.
- The impact of any pandemic, including COVID-19, may present uncertainty about the demand of refined kaolin products world-wide.

#### Opportunities include:

- Studies and test work performed to date show no fatal flaws.
- The Resource that underpins the production output over the LOM considered under the Scoping Study is sourced from less than 50% of the Measured Resource and none of it from the Inferred Resource. Whilst Resources are not Ore Reserves, this provides a reasonable degree of confidence that the project will delineate Ore Reserves at the completion of a future Feasibility Study.
- The project is located on cleared broadacre farmland and has excellent infrastructure in terms of road access and rail access. The Company has secured access to the CBH grain storage and loading facility at Gabbin, located some 3km from the mine site, which will facilitate rail transport of loaded sea containers straight to the Fremantle bulk container port ready for export.

#### **Project Implementation**

The Study has demonstrated that the development and operation of a modern hydrous kaolin processing plant supplied via a shallow white kaolinised granite deposit with high quality and low impurities matrix, is both technically and financially feasible and attractive. Following the release of this Study, the forward work program involves completion of a Feasibility Study.

The Feasibility Study will utilise the services of suitably experienced resource, mining, metallurgical and engineering consultants under the direction of Suvo. The Feasibility Study is estimated to cost approximately \$0.6 million. This excludes Ore Reserves quantification drilling, bulk sample testing to derive end user products which in turn will be sent to potential end users for acceptance testing and, ultimately, securing binding offtake agreements.

Key areas of focus for the Feasibility Study will include:

- Ore Reserves definition drilling and Mineral Resource update.
- Pit design geotechnical drilling, modelling and assessment.
- Mining studies.
- Waste management assessment and planning.
- Bulk sample test work and end product review.
- Environmental impact study and mine closure and rehabilitation plan.
- Water supply and management studies including recycling and wastewater.
- Landform, waste dumps and tailings studies.
- Logistical studies including firming rail and shipping prices.
- Operational strategies including organisation capabilities and design.
- Project execution planning including stakeholders engagement.
- Risk management.
- Project approvals including mining licence.

Completion of a Feasibility Study is expected to take approximately four to six months. Environmental and project approval works, including mining licence application, will be done concurrently. Post completion of the Feasibility Study, a Final Investment Decision will be made.

The cost of the Feasibility Study, and its formal commencement, is still subject to a decision by Suvo's Board of Directors.

There is no certainty that Suvo will be able to source the required development funding when required. Suvo is yet to engage in discussions with potential funders but considers that there is a reasonable expectation that a project of this scale will be able to be funded with a combination of debt and equity. It is also possible that such funding may only be available on terms that may be dilutive to, or otherwise affect the value of, Suvo's shares. Suvo believes there are a number of different steps that could be considered to fund the Project, including placements and/or rights issues, joint venture partner to earn an interest in the project by funding the development activities, project finance or mezzanine equity facilities, and streaming or royalty funding.

Suvo's Board and Management have a broad experience in the resources industry. They have played leading roles in the exploration, development, production and funding of resource projects.

Whilst Suvo believes that that there is a reasonable expectation that funding for the Project would be available as required, there is no guarantee or assurance that it will be secured.

#### **Competent Persons Statements**

The information in this announcement which relates to Exploration Results and Mineral Resources is based on information compiled by Dr Ian Wilson. Dr Ian Wilson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a competent person as defined in the JORC Code, by virtue of his being a member of IOM3, a Recognised Professional Organisation. Dr Ian Wilson is a full-time employee of Ian Wilson Consultancy Ltd and also a Non-Executive Director of Suvo Strategic Minerals Limited. Dr Ian Wilson receives board fees in relation to his directorship. Dr Ian Wilson consents to the inclusion of the information in the release in the form and context in which it appears. Other than 500,000 performance rights and 500,000 options granted to Dr Ian Wilson pursuant to shareholder approval gained at a general meeting held on 24 November 2020, Dr Ian Wilson does not hold securities in the Company.