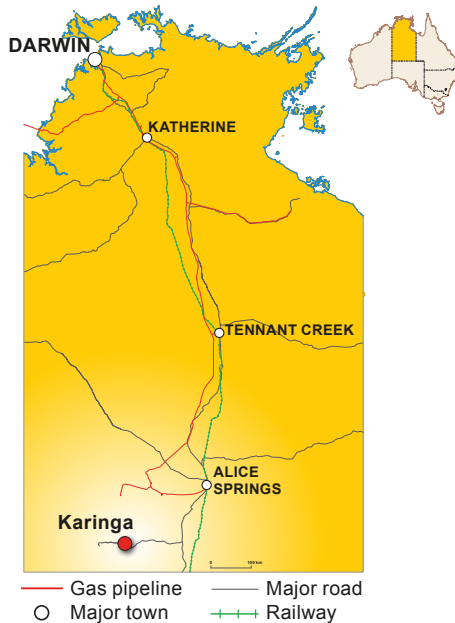


Karinga Lakes Potash Project

K_2SO_4



Company overview

Verdant Minerals is a publicly listed Australian resources company focused on the exploration, evaluation and development of potash and phosphate projects in the Northern Territory.

ASX: VRM

Market capitalisation:

\$20 million at 4 October 2016

Number of shares:

963.7 million

Website:

www.verdantminerals.com.au

Resource: Phosphate

Contact details

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Australia's Northern Territory Government

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For more information on this project or others available in the Northern Territory, visit core.nt.gov.au

Project overview

The Karinga Lakes sulphate of potash (K_2SO_4 or SOP) project is located 200–300 km southwest of Alice Springs. Verdant Minerals is investigating the subsurface potassium- and magnesium-rich brines in a chain of dry playa salt lakes along the Lasseter Highway between Alice Springs and Ayers Rock (Uluru). These brines could be used for the production of various fertiliser minerals.

The project has a JORC Measured, Indicated and Inferred Resource of 8.4Mt K_2SO_4 at an average resource thickness of 17 m and contained beneath 25 lakes with a total area of 132 km².

A scoping study on the project was released in December 2014 that supported the production of potash (SOP; potassium sulphate) fertiliser or an intermediate product, potassium magnesium sulphate fertiliser (schoenite).

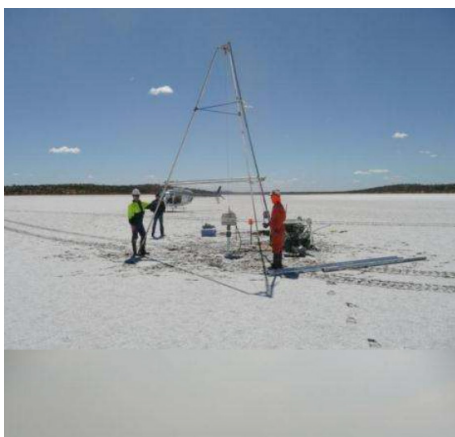
Verdant Minerals is the only Australian resources company which owns both potash and phosphate projects, commodities that are essential for efficient agriculture. Australia currently imports all of its potash requirements, and there is no substitute for potassium in agriculture.

Geology and exploration activity to date

The subsurface brines in the Karinga Lakes are partly derived from and replenished by discharge of the Central Australian Groundwater Discharge Zone. The Karinga Creek drainage system contains hundreds of salt lakes representing the eastern extension of the Lake Amadeus system. Two distinct aquifers are present with one contained in unconsolidated near-surface lake sediments with the second aquifer hosted in siltstone and sandy interbeds of the Devonian Horseshoe Bend Shale of the Finke Group (Amadeus Basin).

The total insitu brine resource of 8.4 Mt K_2SO_4 is based on exploration data gathered over four years, including 93 brine samples from hand dug pits, 4 small backhoe trenches which were pump tested, 8 vibracore drill holes, 73 sonic drill holes 200 aircore drill holes, 42 installed 50 mm piezometers around drill holes and 48 piezometers around trenches, 47 installed 100 mm wells, 10 pumping tests from 100 mm wells, 4 long term pump tests from 3 trenches and a well, and 142 porosity samples.

In November 2015 a further 11 reverse circulation holes were drilled, this time to depths greater than 30 m. Five of the deeper holes successfully flowed brines with four of the five holes flowing brines with potassium levels typical of the existing K_2SO_4 resource. A number of K_2SO_4 grades exceeded 12 000 mg per litre of brine (equating to more than 12 kg/m³ K_2SO_4). It is anticipated that this recent drilling data will enable a modest increase in the potash brine resource.



Infrastructure

The Karinga Lakes project is well situated next to the Lasseter Highway and within close proximity of the Adelaide to Darwin railway line, providing access north to the port of Darwin for export to Asian markets, and south to domestic markets. To power the project, a December 2014 scoping study contemplated two gas supply scenarios – either the supply of competitively priced gas becoming available from emerging regional producers, or compressed natural gas (CNG) gas delivered by truck from Alice Springs.

Project economics

- A scoping study for the project was completed in December 2014, covering two development scenarios. The first scenario would see brine sourced from 14 of the more-than 25, producing more than 11.125 Mtpa SOP for at least 10 years. The estimated capital expenditure for this scenario is A\$340m. Under the second scenario, 100 000 tpa potassium magnesium sulphate (schoenite) would be produced for a minimum of 15 years. This second scenario has the potential to start the project on a smaller scale, and has an estimated capital expenditure of A\$93m.

Project status and development timeline

- In 2016, GHD and Norwest Corporation were engaged to conduct a review of the project's 2014 Scoping Study, for the purpose of consolidating information and understanding knowledge gaps as a precursor to a preliminary feasibility study which is the next step in developing the project.
- Subject to attracting a suitable joint venture partner, large scale production of SOP could begin in 2018.

Investment sought

Verdant Minerals is seeking joint venture investment in the Karinga Lakes potash project from potential end-users of sulphate of potash or schoenite.

JORC Resource Estimates

The Measured, Indicated and Inferred Resource reported on 20 February 2014 comprises:

Category	Potassium (t)	K ₂ SO ₄ (t)	Schoenite (t)
Measured	2,600,000	5,800,000	13,000,000
Indicated	210,000	460,000	1,100,000
Inferred	950,000	2,100,000	4,900,000
TOTAL	3,800,000	8,400,000	19,000,000

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