

Fact Sheet:

Anglesea Mine Filling Strategy & Groundwater Pumping Test

Introduction

[Alcoa's Anglesea power station and coal mine](#)

operations permanently ceased in August 2015, and the progressive remediation and closure of the mine site is now well advanced.

Alcoa has a regulatory obligation to develop the final Anglesea Mine Rehabilitation and Closure Plan to ensure a safe, stable and sustainable landform, with an expectation that the rehabilitation of the mine is completed in a timely manner.

Two rehabilitation milestones were achieved in 2020 with the major earthworks program and vegetation strategy completed.

The key remaining aspect is an approved long term strategy to fill the mine void with water. Establishing the waterbody is also a key enabler for the [Eden Project Anglesea concept](#).

The final Anglesea Mine Rehabilitation and Closure Plan must be approved by the Victorian Government's Earth Resources Regulation. Key referring agencies are the Department of Environment Land Water and Planning, EPA Victoria, Southern Rural Water and Corangamite Catchment Management Authority, with Barwon Water also identified as a key stakeholder.

Water filling strategy

Approximately 18 gigalitres of water is needed to fill the mine void. There is approximately 2 gigalitres of water in the void as at May 2021.

Alcoa's preferred option is for a "fast" fill strategy to fill the mine void over five to 10 years to support the current Eden Project Anglesea concept, early community access to the broader area, and significant jobs and economic development in the region.

The alternative is to continue with a natural fill, which may take more than 50 years and will not support the broader outcomes expected by the community and government in a timely manner.

Filling options

Alcoa has investigated and conducted technical analysis on a range of filling options including:

- restoration of Salt Creek into its original path to the mine void;
- use of groundwater from the Upper Eastern View Formation (UEVF) aquifer;
- use of groundwater from the Lower Eastern View (LEVF) aquifer;
- use of recycled water from Barwon Water's Black Rock water reclamation plant in Breamlea; and
- the natural fill option (groundwater infiltration and rain) which is estimated would take more than 50 years.

Of these, Alcoa's preference is to use a combination of surface water, including peak flows from Salt Creek, and groundwater from the UEVF aquifer.

Use of groundwater from the Upper Eastern View Formation aquifer

To enable further investigation of using groundwater from the UEVF aquifer Alcoa is conducting a 12-month groundwater pumping test.

The test was approved by Southern Rural Water as an amendment to Alcoa's existing groundwater licence.

The test will provide additional information to Alcoa, the regulator and community to better inform decisions about the potential use of groundwater in the longer term and determine if a sustainable extraction limit can be established.

During the test a total of 1.5 gigalitres will be extracted. This is less than half the historical annual extraction rate for the power station over 46 years of operation, and significantly less than our current licence limit of 4 gigalitres per year.

The use of groundwater from the UEVF aquifer is currently the only option that will meet the timeline outlined by Eden Project International to support the proposed concept.

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12-month groundwater pumping test

The test began on 13 May 2021 and is proposed to be undertaken in two parts:

- an initial six-month period to establish various aquifer parameters, update the groundwater model, and determine a sustainable extraction rate, which if successful would then support a further licence amendment; and
- an additional six-month period to provide confidence to the community, and further validation of the updated groundwater model and input to the associated risk assessment.

Monitoring and triggers

The test is underpinned by a water monitoring plan approved by Southern Rural Water.

To inform the plan, Alcoa has installed a network of 16 groundwater monitoring bores and data loggers around the periphery of the mine.

The bores and data loggers are installed in pairs and will monitor groundwater levels, with conservative trigger levels set against these. This will ensure the groundwater extraction is not threatening groundwater dependent ecosystems that may be connected with the aquifer underlying and surrounding the mine.

The monitoring will be undertaken by a specialist consultant and results will be independently reviewed.



A pair of monitoring bores.

Keeping you informed

A monthly update will be produced to enable regulators and stakeholders to track progress and details of key indicators such as extraction rates, groundwater levels and trigger status.

Updates will also be provided in regular 'Alcoa Community Updates' that are published in the Surf Coast Times and Armstrong Creek Times, distributed to more than 1,000 people on Alcoa's email database and posted on www.alcoa.com.au/anglesea.

If you would like to be added to the database or provide any feedback, please contact the Alcoa Anglesea team via:

EMAIL: angleseaps@alcoa.com.au

ONLINE FORM: [Click here to complete the form](#)

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The monitoring bore and data logger locations.