McPhillamys Gold Project

#6 Groundwater and surface water

Sustainable water supply

One of the unique features of the McPhillamys Gold Project is its proposed water supply.

Regis is proposing to source surplus, stock-quality water from Springvale, near Lithgow, to provide the production water requirements of the project.

It would be brought to the site via a 90km pipeline.

The pipeline supply would provide a secure, sustainable source of water and that means we would not be competing with local landholders for our production water supplies.

Monitoring local water and bores

Groundwater baseline conditions within the project area and surrounding areas have been monitored since May 2014.

More recently, Regis installed a project-specific network of 23 groundwater monitoring bores across 14 locations.

Up to five years of baseline groundwater quantity and quality data has been collected and included as the basis for the project application.

Routine water monitoring across a network of landholder bores and surface water features has been in place for over two years.

Predicted groundwater impacts

Independent studies by recognized experts indicate that McPhillamys' impact on groundwater will be minimal.

This includes impacts on stream environments, groundwater dependent ecosystems (GDEs) and baseflow.

Modelling indicates that no privately-owned bores will lose water as a result of the project.

Monitoring groundwater

Regis' project-specific groundwater monitoring network will collect data for the life of the mine providing an early indication of potential impacts.

The monitoring network will be reviewed, adjusted and expanded to ensure coverage and collection of data to validate and update modelling predictions.

The ongoing development and expansion of the monitoring network will occur in consultation with:

- the Natural Resources Access Regulator (NRAR)
- NSW Environment Protection Authority (EPA); and
- Department of Planning, Industry and Environment (DPIE) - Water, as required in the project's Water Management Plan (WMP).

Mitigating groundwater impacts

The mine has been designed to efficiently recover water, while minimising environmental impacts.

The Groundwater Management Plan (to be developed if the Project is approved) will describe Regis' commitments to monitoring and updating of the groundwater model as new information becomes available.

Modelling indicates that no privately-owned bores will lose water as a result of the project.

Surface water supply

The project requires a reliable, sustainable water supply for ore processing and dust suppression, which cannot be supplied from local surface water or groundwater sources.

It is proposed to bring surplus water from:

- Centennial Coal's Angus Place Colliery;
- Springvale Coal Services Operations; and
- Energy Australia's Mount Piper Power Station, near Lithgow.

Under this proposal, their surplus water would be delivered to McPhillamys via a 90km pipeline.

Monitoring surface water

Routine water monitoring commenced at the project site in May 2014 in order to provide a good understanding of local conditions well before any mining activity commences.

Regular baseline monitoring of surface water quality has been done at three monitoring locations on the Belubula River downstream of the mine development:

- upstream of Blayney township;
- Goose Park in Blayney township (downstream from confluence with Abattoir Creek); and
- downstream of Blayney, at Brewery Bridge.

Surface water samples have also been periodically collected from selected dams, springs and seep locations in and downstream from the project area since 2014.

In March 2019, seven new monitoring locations were added to the sampling program, including the three sites listed above, in order to increase the understanding of the area.

The McPhillamys surface water monitoring networks are established in consultation with the Natural Resources Access Regulator (NRAR) and Department of Planning, Industry and Environment – Water (DPIE Water).

This consultation forms part of the project's Water Management Plan (WMP).

Post-mining water monitoring requirements will be assessed as part of the mine closure plan.

Predicted surface water impacts

Surface water baseline monitoring information has been included in water-related technical studies done for the project's environmental assessments. They include development of a water balance and numerical groundwater model for the mine development, and assessments of water quality, flow, flooding, and hydrochemistry.

Studies have been used to predict changes to surface water quantity and quality. During construction and operation, inflow to Carcoar Dam will be temporarily reduced by approximately 4%.

After McPhillamys is closed and rehabilitated, there will be a permanent reduction in inflows of half a percent, a change that is within current natural variabilities in catchment conditions.

Mitigating surface water impacts

The mine has been designed as a no-discharge site. Water captured within the site, and water brought into the site, will be contained. Onsite water will be recovered efficiently while minimising environmental impacts. The mine water management system has been designed to:

- allow clean water to flow through the mine site and continue on downstream to the Belubula River;
- prevent offsite discharge of process-affected water; and
- contain and manage on-site water using a series of water management facilities.

Lowering of water quality in local surface water sources is not expected due to the design of the project. After project approval, Surface Water Management Plans will be developed for the construction and operation phases.

These plans will address additional concerns raised during the exhibition and approvals process for the project. They will also set out Regis' commitments to monitoring and updating of the surface water model as new information becomes available.

The Surface Water Management Plans will be prepared in consultation with the Department of Planning, Industry and Environment—Water; the Natural Resources Access Regulator; and the NSW Environment Authority.