

Potential impacts of the Project on surface water quality include the reduction in surface water quality due to uncontrolled site runoff, controlled licensed discharges and/or alteration of groundwater quality affecting baseflow in surface water resources.

The Project water management system would be designed to maintain separation between surface water runoff from undisturbed, rehabilitated and active mining areas, in order to:

- € minimise the capture of surface water runoff from undisturbed areas, by optimising the diversion of up-catchment water to downstream receiving waters;
- € provide controlled release for surface water runoff from rehabilitated mine areas through licensed discharge points in accordance with Environment Protection Licence conditions;
- € capture, store and manage surface water runoff from partially rehabilitated mine areas and infrastructure areas, and provide controlled release of these waters through licensed discharge points in accordance with Environment Protection Licence conditions; and
- € capture and store surface water runoff from active mining areas and mine-affected water, with no release off-site.

The Project would result in changes to flows in local creeks due to the progressive extension of the open cut and associated capture and re-use of drainage from operational disturbance areas and controlled releases from licensed discharge points.

✓ The southern part of the Project open cut and the MIA would be protected from extreme flooding events from local watercourses by both temporary and permanent flood bunds.

A Water Management Plan, incorporating the Site Water Balance, Erosion and Sediment Control Plan, Surface Water Monitoring Program, Groundwater Monitoring Program, and the Surface Water and Groundwater Response Plan would be prepared for the Project.

The Surface Water and Groundwater Response Plan would describe how Whitehaven would respond to any potential exceedances of water performance criteria, and it would describe the contingent mitigation/compensation/offset measures that would be implemented in the event that downstream water users or riparian vegetation are adversely affected by the Project.

Noise and Blasting

A Noise and Blasting Impact Assessment for the Project was undertaken by Wilkinson Murray. The Project would operate 24 hours per day and seven days per week.

An acoustic model was developed that simulates the Project components using noise source information (i.e. sound levels and locations) and predicts noise levels at relevant receiver locations. The model considers meteorological effects, surrounding terrain, distance from source to receiver and noise attenuation.

A number of iterative steps were undertaken to assess the potential noise impacts and develop appropriate mitigation measures for the Project.

Whitehaven commits to the implementation of a pro-active noise management system for the Project. This is a system where meteorological forecasting and real-time noise and meteorological monitoring is used to anticipate upcoming periods of adverse weather conditions that may generate evening and/or night-time noise exceedances at private receivers. In response, mining operations would be altered when unfavourable meteorological conditions are predicted to target compliance with noise criteria.

In summary, with these measures in place, the operational noise assessment indicates:

- € During periods of calm meteorological conditions, operational noise from the Project would comply with the 35 A-weighted decibels (dBA) $L_{Aeq,15min}$ criterion at all privately-owned receivers.
- € During the daytime, operational noise levels (assessed under relevant meteorological conditions) are predicted to exceed the 35 dBA $L_{Aeq,15min}$ criterion at four receivers. In most instances, Project operational noise levels at receiver locations would be less during the daytime than during the evening and night.
- € During the night, exceedances of the 35 dBA $L_{Aeq,15min}$ criterion by between 1 to 2 dBA are predicted for two privately-owned receivers during adverse meteorological conditions.
- € During the night, exceedances of the 35 dBA $L_{Aeq,15min}$ criterion by between 3 to 5 dBA are predicted for two privately-owned receivers during adverse meteorological conditions.