Hume Coal understands that the protection of the local environment is an important consideration as we progress the project.

Hume Coal is undertaking a comprehensive environmental monitoring program to actively manage and mitigate any potential impact from future exploration and mining activities.

Types of environmental studies and monitoring undertaken by the Project include:

1. **Groundwater**

Groundwater is water that is located below the earth’s surface. Over time, water from rain and rivers migrates through the ground and is stored in porous soils and rocks. The study of groundwater is known as hydrogeology.

Hume Coal’s groundwater monitoring program involves the installation of specially designed monitoring devices, called piezometers, which are installed into regular water bores.

   **Groundwater piezometer nests**

   Include two or three bores which are drilled at different depths for each groundwater monitoring site. Piezometers are then installed in the bores and are suspended by a steel cable from the top of the casting. The equipment sits entirely within the well. This allows our hydrogeologists to sample groundwater for water quality and measure water depth and any water movement.

   The main purpose for installing piezometer nests is to monitor baseline data for a minimum of two years to understand groundwater depth, yield, flow, water quality and any interaction with surface water in the area. The groundwater monitoring plan is also designed to meet all requirements of the Aquifer Interference Policy (AIP) not available from desktop studies.

   **Vibrating Wire Piezometers**

   A vibrating wire piezometer is a type of sensor that measures the pressure or depth of water above the sensor. It can either be placed in a conventional monitoring bore within the water column, or be grouted into an open borehole to measure the pore pressure at the depth of the sensor.

2. **Noise**

Exploration Projects and mines in NSW have comprehensive noise management plans to keep any disruptions to neighbours and the community to an absolute minimum.
Surface water

Surface water refers to water in a stream, river, lake, wetland or ocean.

There are three types of surface water; permanent (perennial), semi-permanent (ephemeral) and man-made. Permanent surface waters are present throughout the year. They are usually in the form of waterholes, lagoons, springs and swamps.

Surface water monitoring involves the use of gauges to measure the quantity and timing of flow along a watercourse. Measurements taken regularly by an installed surface water gauge can be used to understand natural flow patterns and regimes of the watercourse.

Hume Coal currently has 5 surface water flow gauges installed in and around the exploration lease. Monthly water samples are taken at 15 locations for quality testing by a company that is accredited by the National Association of Testing Authorities.

Flora and Fauna Studies

Site assessments are undertaken by an ecologist prior to any drilling to provide advice to the drill team on the location, features and access routes. Studies provide a comprehensive assessment of the current flora and fauna in the Southern Highlands.

Systematic surveys are undertaken in bushland and property to produce the studies. The studies provide recommendations that may assist the Project in the conservation and management of these areas. They also contribute to a database list of species and the mapping of vegetation communities.

Air Quality

Hume is undertaking a baseline study of air quality throughout the area. These results will be used to inform future mitigation measures.

Aboriginal and European Studies

Policies, assessments and land management guidelines are put in place by the Government to ensure professional and culturally appropriate management of Aboriginal and European cultural material and heritage is upheld, including places of significance and traces of past lifestyles.