

CASE STUDY



NEW SOUTH WALES
MINERALS COUNCIL LTD
MININGENUITY™

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Dust Management: BHP Billiton Mt Arthur Coal

The NSW minerals industry is committed to reducing its impact on the environment and the community in which it operates.

One of the impacts of mining is dust, which can be generated from several different aspects of mining activity.

Innovation

Dust management at BHP Billiton's Mt Arthur Coal involves the integration of operational procedures, automatic alerts and an extensive monitoring network to minimise dust.

Environmental Management

The use of Modular Global Positioning System (GPS) equipment has proved to be an important tool for tracking mining equipment locations and cross referencing with real time meteorological and dust monitoring data to guide dust mitigation practices on site.

To address dust generated from wind action on overburden, an aerial seeding trial has been undertaken to assess the success of temporary vegetation over large areas in minimising dust generation. This trial involved the seeding and fertilisation of approximately 84 hectares of overburden with use of a light aircraft.

Aerial seeding aims to minimise the amount of dust that can be generated from exposed overburden areas in two ways. Seeds develop into vegetation that provides coverage for the land and protects it from wind action, and the roots of the vegetation bind the soil together to reduce the amount of loose dust.

Dust Suppression

Another on-site initiative has been the ongoing trial of dust suppressants on haul roads. The dust suppressant is currently being applied to 17kms of Mt Arthur Coal's long term haul roads to assess the performance of the product. It is anticipated

that by treating the long term haul roads with dust suppressants there will be less demand for watering on those roads, leaving the water carts to concentrate on in-pit watering to further control dust generation in active mining areas.

Watering Carts

A further initiative is the use of smaller watering carts. The current water cart fleet consists of four water carts (160,000L capacity). Replacing these with a fleet of six new water carts with a lesser capacity of 75,000L will result in greater coverage of the pit, thereby reducing the time between watering.

Mine Site Design

Mt Arthur Coal is also integrating mine site design and overburden design. This initiative will involve working together with environmental consultants to better understand particle size of overburden and its ability to generate dust.

Results recorded during 2009 confirm that existing controls such as water sprays, enclosed conveyors and dumping strategies are proving effective in mitigating the potential dust impacts from Mt Arthur Coal's activities. These results coupled with best practice trials and initiatives are a reflection on Mt Arthur Coal's commitment to reducing its impact on the environment and the local community.



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