

Poitrel and South Walker Creek Mines Sustainable Water Releases

Unprecedented rainfall plagued Queensland in the summer of 2011 such that large volumes of water accumulated in the majority of the open mine pits in the Fitzroy basin. In many instances, existing mine-affected water release permits did not allow flushing of the pit-accumulated water leading to increased water quality deterioration, further restricting the mine's ability to release the water trapped in their pits. As a result, operation of the mines was severely constrained and a series of Transitional Environmental Permits (TEP) extending conditions for mine-affected water releases had to be negotiated with the Queensland Department of Environment and Resources Management (DERM).

BHP Mitsui Coal Pty Ltd. (BMC) approached BMT WBM to undertake a study to subsidise amendments to its Environmental Authority (EA) to discharge mine-affected water releases from their operation at Poitrel and South Walker Creek (SWC) Mines. Amendment of the EA allowed BMC to have certainty of the rules governing the release of their mine affected waters, posing limited risk to the receiving environment. Additionally, establishment of the EA removed the need for continuous liaison with DERM for instalment of new TEPs.

As part of this study BMT WBM:

- Identified the environmental values (EVs) of waterways within the receiving environments of Poitrel and SWC Mines and determined the water quality objectives (WQO) to protect or enhance those environmental values;
- Defined background and reference water quality conditions within and adjacent to the study area; and
- Determined potential criteria that allowed Poitrel and SWC Mines to maximise their ability to discharge mine-affected water under differing flow regimes.

The outcomes of this study were subsequently used for application of the EA amendment, which set out the rules under which BMC can release mine affected waters without compromising its operations, whilst meeting the water quality objectives to protect the identified receiving water environmental values.

Client

BHP Mitsui Coal Pty Ltd

Date

July 2011 – October 2011

Services & Expertise Provided

Ecosystem health assessment;

Data collection and analysis;

Determination of environmental values and water quality objectives;

Assimilation capacity assessment; and

Determination of mine-affected water releases.

