Rehabilitation

The implementation of rehabilitation and remediation measures in the underground mining area and surrounds is monitored by Metropolitan Coal.

Surface Disturbance Areas

A Rehabilitation Management Plan – Surface Disturbance Register is used to manage the rehabilitation of surface disturbance areas. Some surface disturbance areas will be able to be rehabilitated during the life of the Project (e.g. monitoring sites no longer required), while other surface disturbance areas will likely remain until after the completion of mining operations.

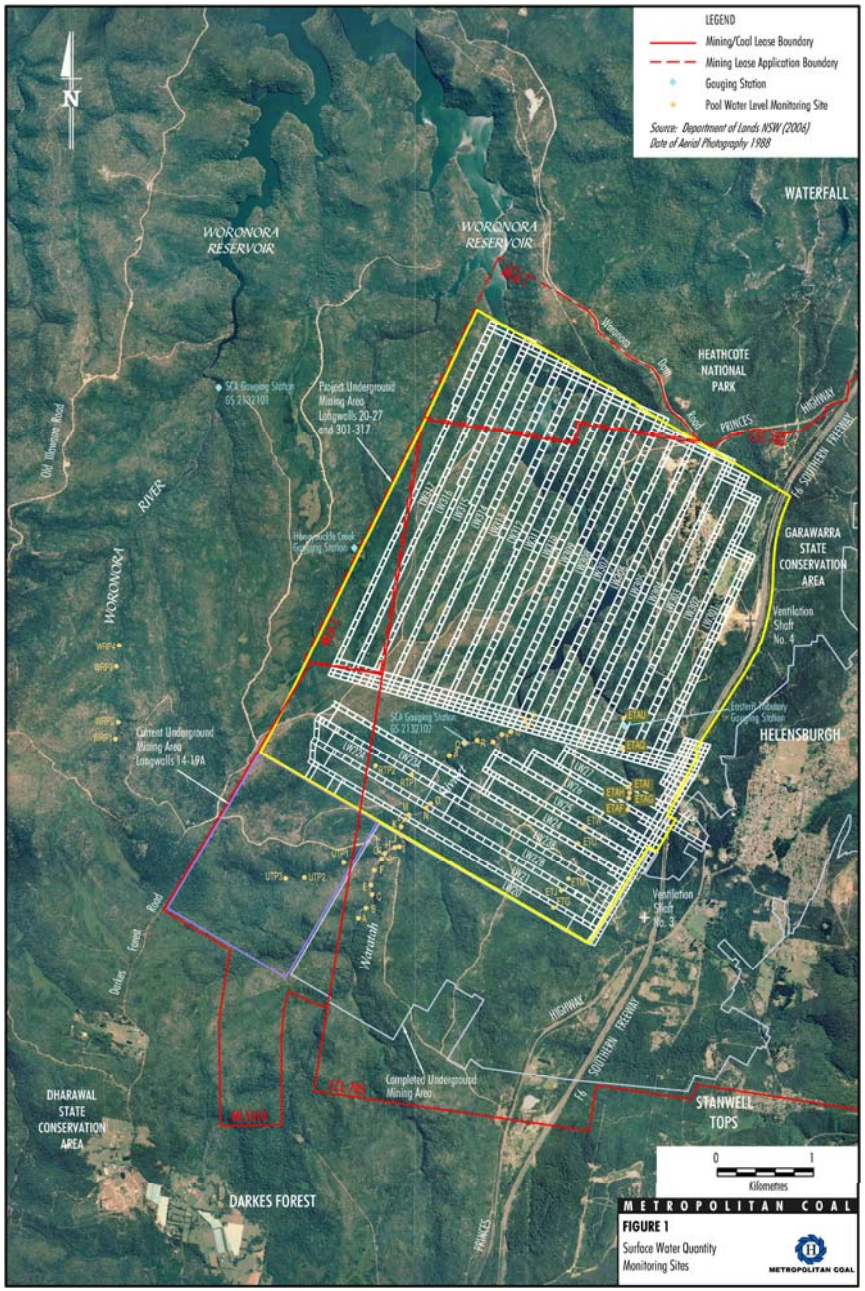
Once a surface disturbance area is no longer being utilised, monitoring will be conducted to assess:

- where appropriate, whether equipment/infrastructure items have been removed;
- whether the area is tidy or rubbish removal is required;
- whether erosion and sediment controls are required and if so, the effectiveness of those installed;
- the presence of weeds and the need for the implementation of weed control measures;
- where appropriate, whether vegetation is re-establishing naturally or whether active revegetation is required; and
- if active revegetation is conducted, whether vegetation is establishing.

No surface disturbance areas were rehabilitated during the review period as the majority of disturbance pertained to the installation of environmental monitoring sites which are a life of mine asset. These sites will be rehabilitated to appropriate standards following cessation of mining.

Stream Pool/Rock Bar Remediation

Pools A, B, C, E, F, G, G1, H and I on the Waratah Rivulet are situated in the completed mining area (i.e. overlying Longwalls 1 to 13) between Flat Rock Swamp and the tailgate of Longwall 20 (Figure 1). Pool water level monitoring of Pools A, B, C, E, F, G, G1, H and I are shown on Chart 1. As a result of previous mining, the water levels in pools upstream of Flat Rock Crossing (i.e. Pools A to G) have been impacted by mine subsidence.



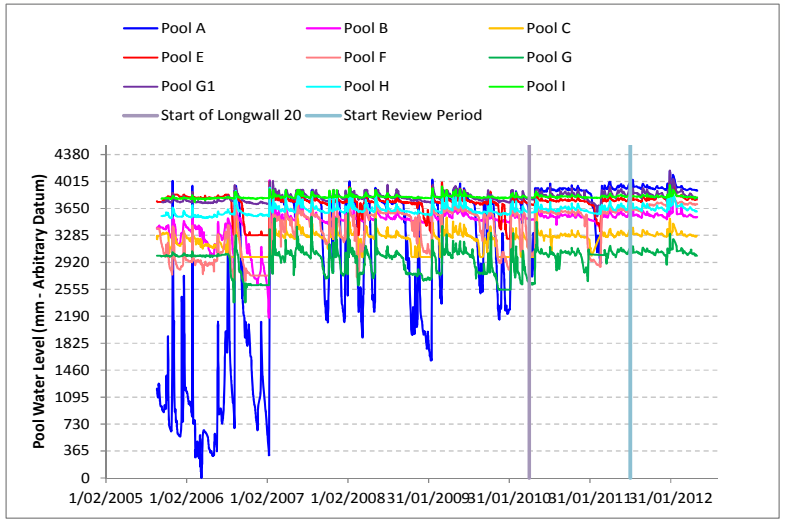


Chart 1 Pool Water Levels in Pools A, B, C, E, F, G, G1, H and I

Stream remediation activities have commenced at Pools A and F on the Waratah Rivulet. The rock bars at Pools A and F are considered to largely control the pools located upstream of these rock bars. As a result, Metropolitan Coal anticipates that the restoration of surface flow and pool holding capacity at Pools A and F will restore the surface flow and pool holding capacity of pools between Flat Rock Swamp and Pool F. Metropolitan Coal will assess whether stream remediation is required at any additional pools/rock bars between Flat Rock Swamp and Pool F once stream remediation activities at Pools A and F have been completed.

Recorded manual water levels in Pools E, G1, H and I were temporarily below their cease to flow levels during isolated periods during the review period. The presence of flow over the rock-bar controls downstream of these pools is also noted on the manual records. In spite of the fact recorded water levels were below the pool full or cease-to-overflow levels, there were no instances when the pool was recorded as not overflowing. The cease to overflow levels of the manually monitored pools, including Pools E, G1, H and will be resurveyed and consideration will be given to installing automatic pool monitoring devices to improve the degree of accuracy of pool water level data for these pools

Automatic pool water level monitoring is also conducted for Pools A and F and for pools further downstream of Flat Rock Crossing (Pools H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V and W). Recorded water levels have remained above surveyed cease to overflow levels in all pools over the review period with the exception of Pool J (Chart 2). However, it is apparent from the monitored water levels in Pool J that there is likely to have been a change in the zero level datum of the water level logging device which will be resurveyed during the next review period. Other than this apparent shift in datum the recorded pool water levels in Pool J are consistent with natural recessional behaviour and therefore is not considered at this time to have triggered stream remediation.

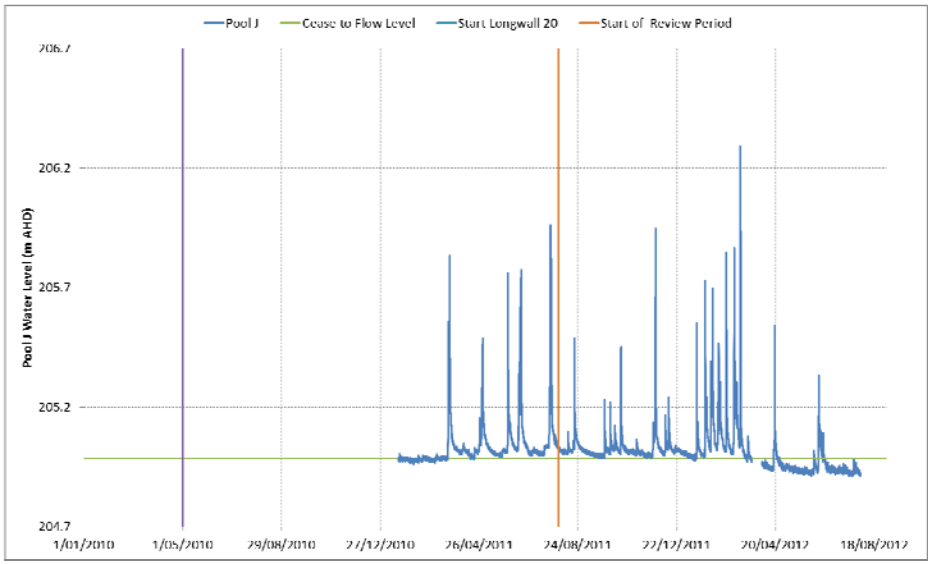


Chart 2 Pool J – Recorded Pool Water Level

Daily temperature fluctuations affected recorded pool water level hydrographs in 2010. Metropolitan Coal is has upgraded the pool water level meter instrumentation in order to remove the effects of daily temperature fluctuations. Data recorded since these upgrades show substantially less temperature effects.

Remediation of Pools A and F has been ongoing over the review period. The monitored data show a trend of longer periods of sustained rock bar overflow in both Pools A and F. It is proposed to conduct an assessment of the stream remediation activities at Pool A against the stream remediation performance indicator detailed in the Rehabilitation Management Plan once a period of drier climatic conditions has been experienced.

Metropolitan Coal will conduct an analysis of the stream remediation activities at Pool A against the stream remediation performance indicator detailed in the Rehabilitation Management Plan to assess whether surface flow and pool holding capacity at Pool A has been restored once a period of drier climatic conditions has been experienced.

In the next review period stream remediation activities will be conducted at Pools F and G/G1 on the Waratah Rivulet.