

WPB COLLIERY

COMMENTS ON INFORMATION GIVEN - MARCH 2012

1 INTRODUCTION

The purpose of this note is to put on record comments received on documents received via email on 12 March 2012.

2 COMMENTS ON POLLUTED WATER COLLECTION.

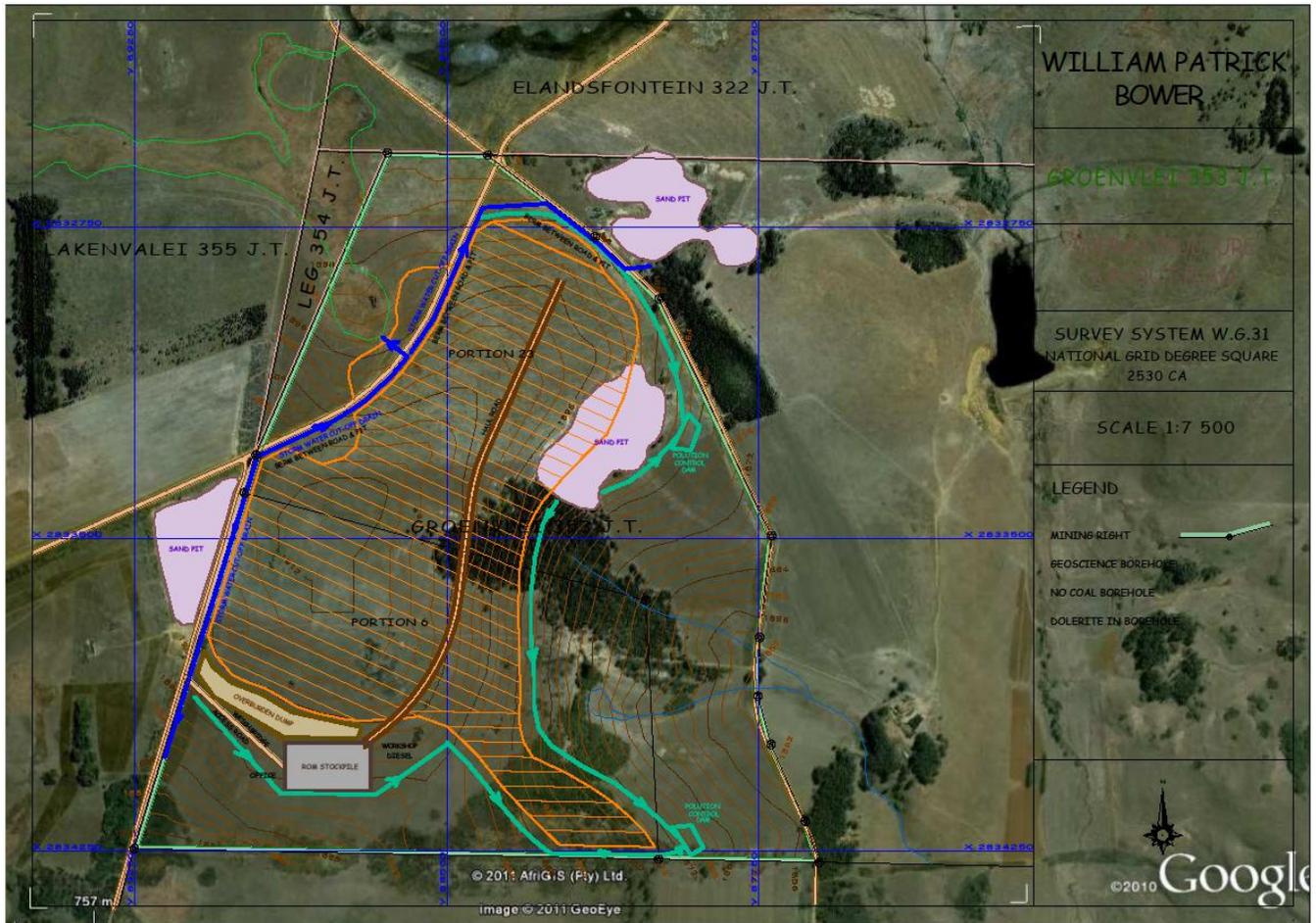


Figure 1: Conceptual layout for pollution control collection channels and pollution control dams

Figure 1 shows the conceptual layout for the pollution control collection channels and pollution control dams. My comments in previous correspondence are valid showing that insufficient thought went into laying out the pollution control system for the proposed mine. Some of the collection drains show water flowing uphill.

In the absence of a mining cut layout plan, I have used the #1 seam floor contour plans and water flow paths to compile Figure 2 which shows the recommended pollution control drainage channels and dams based on the floor contours and water paths submitted.

With reference to Figure 2 the following points are made:

1. No water will be accumulated in the post-mining pit which is contrary to what is stated in the documents submitted. All acid/contaminated water will flow out of the spoils and into the river system, with the dominant flow being to the south-east along the already contaminated water path.

2. Recommended polluted water collection drains are shown by the red arrows. It must be noted that these drains may have to be modified when superimposing the mining cut plan, seam contour plan and surface topography.
3. The location of collection sumps is shown as red squares which will collect the polluted water and direct this to a main pollution control dam situated in the drainage path flowing to the south-east.
4. The recommended position of the pollution control dam will need to be investigated to ensure that its construction will intercept all of the polluted water emanating from the workings.
5. In view of the fact that all of the acid water generated will flow out of the pit, the size of the pollution control dam will need to be correctly sized to ensure that it can contain the water in seasons of high rainfall.

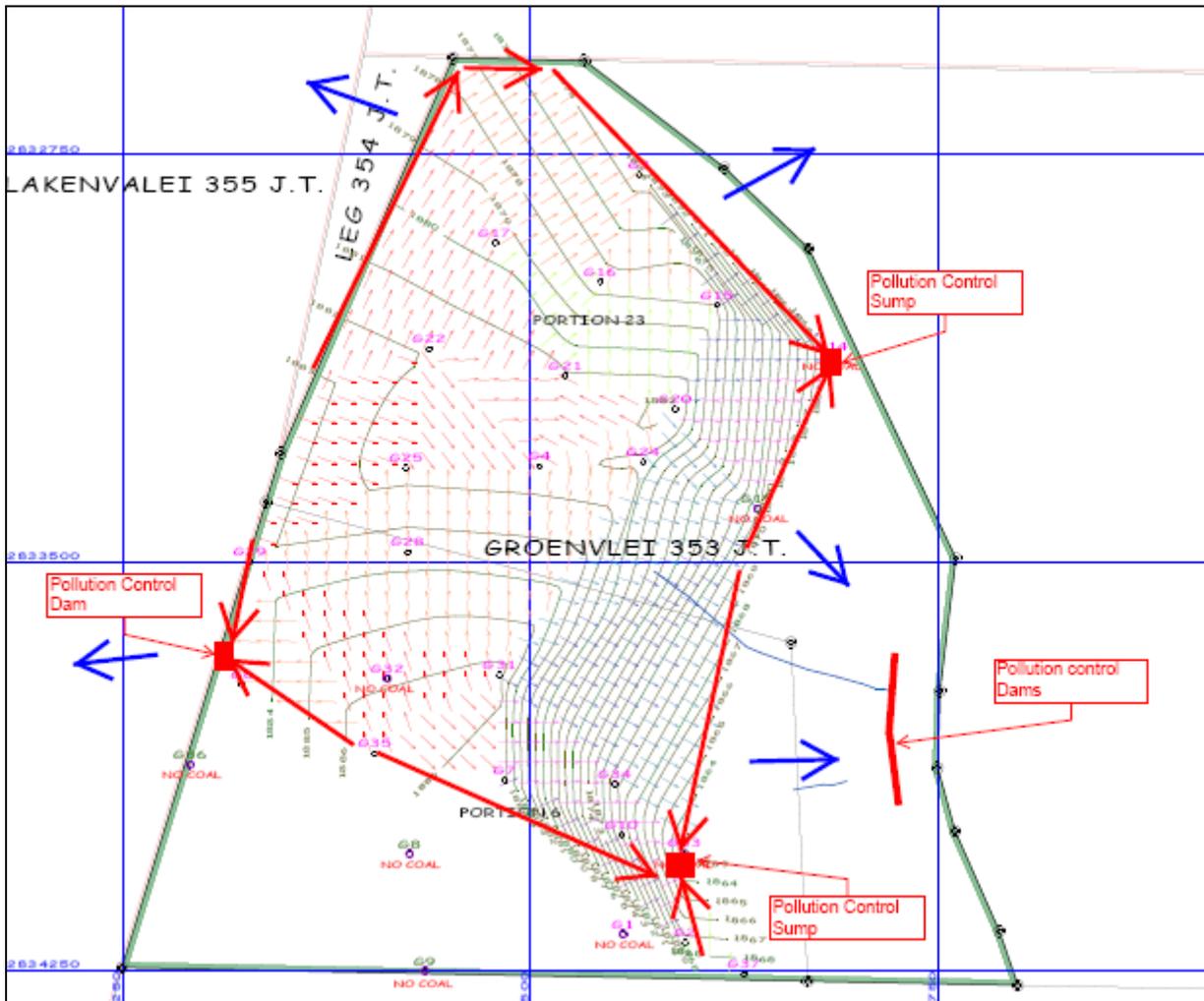


Figure 2: Recommended pollution control drainage channels and dams

The following comments are made which either have not been addresses in the reports or are misleading when reading the reports.

1. Reference is made to the burying of acid forming #2 seam material in the flooded sections of the post-mining pit. This is misleading as there are no troughs shown on the floor seam contour and flow path plans, *all of the acid water generated will flow out of the pit and into the water courses.*

2. Reference is made in the reports to sealing off of the barrier pillars of the old underground mine workings and to seal off the adits to prevent the flow of the polluted water into the streams. This is practically an impossibility as the ground along the outcrop and around the old workings is weathered and fractured which will allow water to seep out of the containment area. Furthermore, what materials will be used to create the seal which will have to be acid resistant?
3. In terms of the formulae and descriptions given in the reports on the formation of acid mine drainage, it must be noted that due to insufficient alkalinity being present in the rock formations water seeping out of the current old mine workings has reached the second stage of the chemical process. The water is low in sulphates but has a high iron content which leaves the water with a “*tart*” taste making it unpalatable for drinking.

Water from the proposed mining operation will have a similar quality and the volume flowing out of the workings will be very much greater than what is currently flowing out. These higher volumes will need to be addressed in terms of amelioration.

Reference is made to introducing passive water systems to handle the polluted water. To my knowledge no successful passive water treatment systems are operating in the country and those implemented require regular maintenance. ***There is no provision on the closure costs and post-closure management for managing the acid mine drainage.***

4. In the reports reference is made to the acid mine drainage potential of the Bushveld Igneous Complex. What has this complex got to do with the Karoo System?
5. Finally, the level of design work submitted in the reports is not to the level required for a Mining Right application. Too many critical issues relating to post-mining water management have not been properly addressed.



MT Brett