



6 July 2018

Garry Bailey  
General Manager of Mining Development  
The Bloomfield Group  
Via email: [gBailey@bloomcoll.com.au](mailto:gBailey@bloomcoll.com.au)

**RE: Rix's Creek Continuation of Mining Project – Response to NSW Health comments on Revised Response to Submissions**

Dear Garry,

The following response addresses commentary outlined in the NSW Health's letter dated 29 June 2018 regarding the Rix's Creek Coal Mine Continuation of Mining Project SSD 6300 – Response to Revised Response to Submissions.

Further review of Appendix H has revealed that the new NEPM air standard for annual average PM<sub>10</sub> of 25 µg/m<sup>3</sup> is not predicted to be exceeded in the residential areas immediately north of Singleton are but at least

The new NEPM air standard is not applicable for the Rix's Creek Coal Mine Continuation of Mining Project (the Project) nor does the NEPM apply to the assessment of individual specific project developments. We note that subsequent to this Project, the NSW EPA have adopted the NEPM air standards values for PM<sub>10</sub> and PM<sub>2.5</sub> as criteria, and similar criteria are set out in the DP&E Draft Voluntary Land Acquisition and Mitigation Policy. Regardless, for the Project, the NEPM air standard and the new NSW EPA criteria will be met at all privately-owned receptors except for Receptor R1 and receptors already afforded acquisition rights due to other operations.

µg/m<sup>3</sup> is not predicted to be exceeded in the residential areas immediately north of Singleton are but at least one residence is predicted to reach 25 µg/m<sup>3</sup> and many other residences will be in the vicinity of the goal due to incremental emissions from Rix's Creek and existing air pollution from surrounding mines. Many private

We acknowledge that in the most impacting year, Year 2023, the most impacted other privately-owned receptor may reach up to but not more than 25µg/m<sup>3</sup> (noting that the applicable criteria for this Project is 30µg/m<sup>3</sup>). It is also acknowledged that other receptors will be in the vicinity of the goal, however this is the case currently at this location and many other locations in the Hunter Valley region and other parts of Australia and is considered to be acceptable as these levels are below the NEPM and impact assessment criteria.

In regard to private residences within McDougall Hill and Singleton Heights, NSW Health states "...will have significantly increased predicted daily PM<sub>10</sub> impacts from the mine – many with an incremental average 24-hour PM<sub>10</sub> impact of 20 to 30 µg/m<sup>3</sup> (Appendix H, Table 3)". It is unclear whether NSW Health is referring to

the number of days of impact or the incremental 24-hour PM<sub>10</sub> level on the maximum day of impact, or some other measure. Also it is unclear what baseline NSW Health is using to suggest increases in daily PM<sub>10</sub> impacts. Our analysis indicates that fewer residences would experience impacts at the criteria level of 50µg/m<sup>3</sup> due to the mine, and note that there would be some additional effect in some years and less effects in other years. In other words the effects move spatially over time and at any one place there may be an increase or decrease according to the various stages of the project, but in terms of the criterion there are fewer impacted locations. (Also see point below regarding the conservative choice of background level in the assessment).

hour PM<sub>10</sub> impact of 20 to 30 µg/m<sup>3</sup> (Appendix H, Table 3). The cumulative impact at the Country Acres Caravan Park is predicted to exceed the NEPM average 24 hour PM<sub>10</sub> goal of 50 µg/m<sup>3</sup> (Appendix H, Table 6, Figure 3 and 4 - noting that the tolerance of 5 days of exceedance of the goal per annum has been removed from the revised NEPM). There are also incremental impacts in mine owned residences and residences subject to acquisition.

We note that the new NEPM air standard has removed the automatic tolerance of 5 days of exceedance, but point out that now there is an unlimited number of days that can be omitted due to bushfires and other extraordinary events. For conservatism, and transparency, such events are not removed from the analysis we have made, and the year chosen has an above average number of exceedance days and elevated values with potential to lead to exceedances. In terms of acquisition criteria, an allowance of up to 5 additional days of impact is permissible to determine if the potential impact is significant or not. The potential cumulative 24-hour average PM<sub>10</sub> impact at the Country Acres caravan park is predicted to be from 1 to 4 additional days of impact.

While the EIS focuses on assessment criteria we note that there is no evidence of a threshold below which exposure to particulate matter (PM) is not associated with health effects. Therefore, it is important that all reasonable and feasible measures are taken to minimise human exposure to PM.

We note that particulate matter (PM) is a non-threshold pollutant and that the annual average PM<sub>2.5</sub> (rather than annual average PM<sub>10</sub> or 24-hour average PM<sub>10</sub>) is responsible for the great majority of potential impacts on human health (e.g. greater than 90% or more). As presented in the *Rix's Creek Extension Project – Economic Assessment (KPMG, 2018)*, the maximum predicted change in annual average PM<sub>2.5</sub> effects due to the Project at the most impacted locality is less than 0.2µg/m<sup>3</sup> and is significantly less than 0.1µg/m<sup>3</sup> in the more densely populated areas (e.g. Singleton). This indicates no significant health impacts are likely to arise due to the Project. Nevertheless we agree that all reasonable and feasible measures should be taken to minimise human exposure to PM and note that the Project would apply all reasonable and feasible best practice measures including a revised mine design, operational shutdown periods, forecast and predictive planning tools, etc. to minimise dust from the operation.

Please feel free to contact us if you would like to clarify any aspect of this letter report.

Yours faithfully,  
Todoroski Air Sciences



Aleks Todoroski



Philip Henschke