



The Drayton coal mine and Hunter Valley air pollution

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The proposed mine extension should be rejected on the basis of air pollution and associated health impacts. Particle pollution in the Hunter Valley.

The Drayton coal mine is located 13 kilometres southwest of Muswellbrook and is owned and operated by Anglo American Metallurgical Coal Pty Ltd. The company's current licence allowed 8 million tonnes of run-of-mine coal to be mined each year until 2017. The mine exhausted this deposit faster than expected and has applied to extend the mine, extracting 75 million tonnes over the next 17 years. The Drayton South mine expansion has been opposed by nearby thoroughbred horse studs concerned about the health impacts of coal pollution on their horses. The Planning Assessment Commission rejected the Drayton South extension in its previous form (120 million tonnes over 27 years) in October 2014.

Health impacts of coal dust

1. There is no threshold below which particle pollution does not contribute to cardiovascular and respiratory ailments. Short-term exposure to elevated concentrations of PM₁₀ trigger health responses that lead to hospital admissions. Every 10µg/m³ increase in PM₁₀ concentrations, even at levels below the national standard, causes a 1% increase in hospital admissions for respiratory disease (CAHA p.20).
2. Recent modeling by the Climate and Health Alliance¹ estimates that exposure to particle pollution from coal mining imposes a burden of \$47 million on the town of Singleton each year and \$18.3 million each year on Muswellbrook: "The communities most affected by open cut coal mining and coal-fired power generation in the Upper Hunter region and most at risk from poor air quality are the larger regional towns of Singleton and Muswellbrook, and the smaller towns of Camberwell, Warkworth, Maison Dieu, Jerrys Plains and Wybong." (CAHA p.21).
3. Community groups have urged the NSW Government to conduct a comprehensive Health Impact Assessment study in the Hunter for more than a decade, but no study has ever been undertaken.
4. The Upper Hunter experiences some of Australia's highest particle pollution levels. Additional sources of particle pollution pose a significant health risk and should not be approved by the NSW Government.
5. According to the NSW EPA, 87.6% of the Hunter's coarse particle pollution (PM₁₀) is caused by coal mining.² Fine particle pollution (PM_{2.5}) is caused by combustion processes including diesel locomotives and the off-road diesel vehicles used in mines.

New air pollution standards and licencing

6. The NSW EPA and industry monitor air pollution extensively in the Hunter Valley. The EPA network was expanded in 2011, in response to community concerns, and there are now 14 monitoring stations within 20km of the Drayton mine.³
7. The NSW Government, along with other state and territory governments and the Commonwealth, confirmed a national standard for PM₁₀ pollution of 50 micrograms per cubic metre (µg/m³) for 24 hour average concentrations and a standard of 25µg/m³ for annual PM₁₀ concentrations.
8. Daily average PM₁₀ levels recorded by the EPA at Upper Hunter monitoring sites exceeded the current national standard of 50µg/m³ on 49 occasions during 2014. Levels above the national standard were recorded at all of the Hunter Valley's 14 monitoring stations. During 2016, 24-hour average coarse particle concentrations have exceeded the national standard at Singleton, Camberwell (6 times), Singleton NW, Mt Thorley and Wybong. With five monitoring stations having recorded exceedances, the air shed must be considered over-burdened and additional pollution sources rejected.
9. At the closest monitoring site to the Drayton South mine (Camberwell), the national standard for 24-hour average concentrations of 50µg/m³ was exceeded 11 times during 2014, 9 times during 2015 and 6 times to date during 2016.
10. Residents in the rural Hunter Valley are experiencing worse air pollution than residents in inner city Sydney. The highest 24-hour average PM₁₀ concentration recorded so far during 2016 has been 65.7µg/m³. In 2015, 24-hour concentrations reached 86.7µg/m³. By comparison, the highest 24-hour averages recorded this year at inner city suburbs Randwick and Rozelle were 44.1µg/m³ and 58.8µg/m³.

11. The recommended conditions of consent for Drayton South are based on an “interim NSW guideline of $30\mu\text{g}/\text{m}^3$ for annual PM_{10} average concentrations” (Appendix G, p.18). **The national standard** for annual average PM_{10} concentrations is now $25\mu\text{g}/\text{m}^3$. This standard must be applied to coal mines in the Hunter.
12. The annual average PM_{10} concentration recorded at Camberwell has exceeded the national standard for two of the last four years ($26.5\mu\text{g}/\text{m}^3$ in 2013 and $27.7\mu\text{g}/\text{m}^3$ in 2014). This monitoring site consistently records the highest annual average of all 14 Upper Hunter monitoring sites.
13. The annual average fine particle ($\text{PM}_{2.5}$) concentrations recorded at Camberwell, Singleton and Muswellbrook regularly exceed the current national standard of $8\mu\text{g}/\text{m}^3$. The NSW Government has committed to meeting a stricter standard of $7\mu\text{g}/\text{m}^3$ by 2026. This standard is exceeded every year at all Hunter Valley monitoring sites every year.
14. Pollution alerts are issued when 24-hour average PM_{10} concentrations exceed the national standard. To date, 41 alerts have been issued for Hunter Valley monitoring sites during 2016. Sixteen alerts have been issued for exceedances at Camberwell, the closest monitoring site to the proposed Drayton extension.
15. The operators of the Drayton mine have breached their air pollution licence conditions 12 times since 2002 (Environment Protection Licence 1323).

Controlling coal dust

16. The Drayton coal mine reported emissions of just under 2 million kilograms of PM_{10} in 2014-15.⁴
17. The Preliminary Assessment prepared by DPE indicates that Anglo American is committed to *best practice dust management* (p.ii; p.19) and to assuring nearby horse studs that there will be no adverse impacts on the health of their horses. There is no detailed air pollution mitigation strategy to warrant this optimistic assessment. On the contrary, the DPE Preliminary Assessment states clearly (p.11) that the proposed mine will utilise the same mining technique and equipment as the existing Drayton mine.
18. In 2011, the NSW EPA commissioned Katestone Environmental Pty Ltd to produce the *NSW Coal Mining Benchmarking Study: International best practice measures to prevent and/or minimise emissions of particulate matter from coal mining*. There is no reference to this study nor to the many mitigation techniques it details.

Air pollution impacts from this proposed mine

19. Air pollution modeling has been considered in developing the DPE Preliminary Assessment. Table 4 (p.58) shows that the Drayton South mine is expected to increase PM_{10} concentrations at Hollydene Estate by up to $29\mu\text{g}/\text{m}^3$ (in addition to current pollution concentrations), up to $19\mu\text{g}/\text{m}^3$ at Coolmore up to $10\mu\text{g}/\text{m}^3$ at Woodlands. This table does not indicate the resulting concentrations in these locations (baseline plus Drayton).
20. Table 4 also shows that annual average PM_{10} concentrations will exceed $20\mu\text{g}/\text{m}^3$ at all these three locations. The table refers to a criterion or objective of $30\mu\text{g}/\text{m}^3$ against which these concentrations should be interpreted. This objective was adopted by the NSW Government some decades ago as an interim target and was replaced by the new national standard of $25\mu\text{g}/\text{m}^3$ in December 2015.
21. DPE’s Preliminary Assessment (p.iv) states that “modelling indicates there could be up to 5 additional days in a year where the short term PM_{10} criteria may be exceeded when mining is closest to the studs, Anglo is likely to be able to avoid such exceedances occurring by implementing best practice dust control on site, and curtailing its operations during adverse weather conditions.” **This is unacceptable.** The national pollution standards are not discretionary. The NSW Government has committed to ensuring air pollution remains below these standards and to actively managing the air environment in order to improve health outcomes.

Air pollution levels in the Hunter Valley – and this part of the Valley especially – already exceed the current particle pollution standards. Pollution in the Hunter has a major impact on public health and the region’s economy. The proposed mine will adversely impact an already polluted airshed and should not be approved in its current form.

¹ Climate and Health Alliance, 2015, Coal and Health in the Hunter, <http://caha.org.au/projects/hunter-coal/>

² Senate Inquiry into the Health Effects of Air Quality, May 2013 p.55

³ Upper Hunter Air Quality Monitoring Network <http://www.environment.nsw.gov.au/aqms/uhunteraqmap.htm>

⁴ National Pollutant Inventory, <http://www.npi.gov.au>

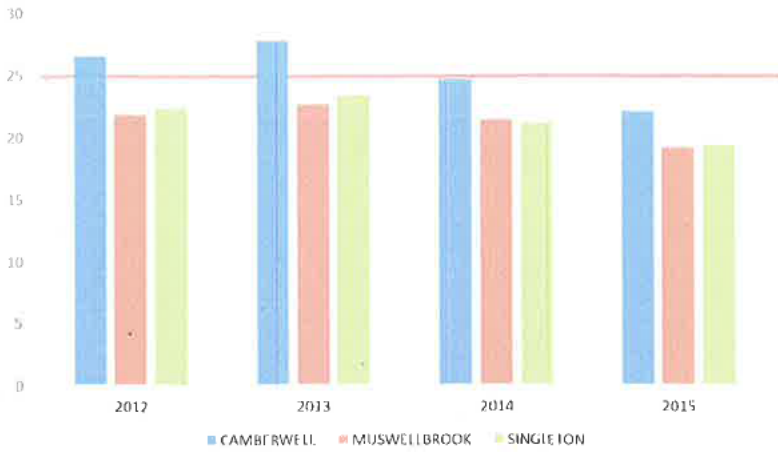


Figure: Annual average PM₁₀ concentrations recorded 2012-15

The national standard for annual average PM₁₀ concentrations is 25 µg/m³. This annual average concentration is exceeded at all Hunter monitoring sites.

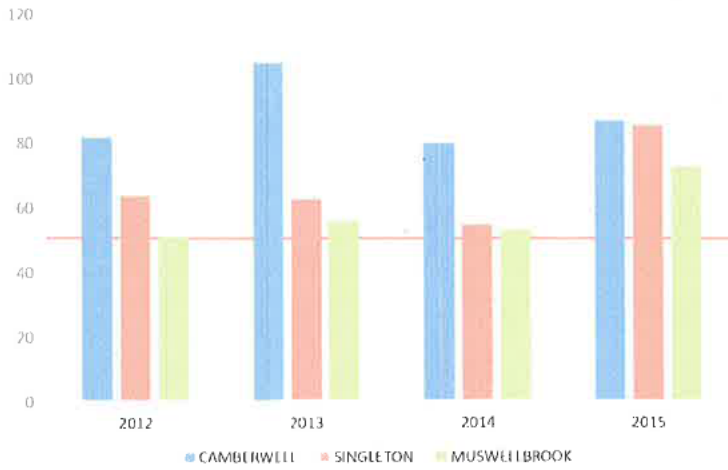


Figure: Maximum PM₁₀ concentrations recorded 2012-15 (µg/m³)

The highest 24 hour PM₁₀ concentration recorded by the EPA between 2012-15 at Camberwell was 104.8µg/m³ - more than double the national standard of 50µg/m³.

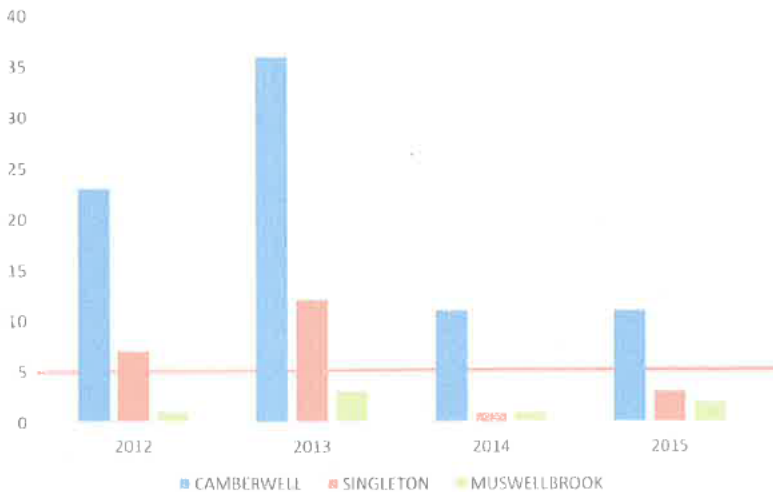


Figure: Number of exceedances of national PM₁₀ standard 2012-15

The national standard for PM₁₀ concentrations is 50µg/m³, not to be exceeded more than 5 times per annum. Particle pollution levels exceed 50µg/m³ at all Hunter Valley monitoring sites each year.

