muswellbrook shire council

Enquiries Steve McDonald
Please ask for
Direct
Our references
Your reference

8 March 2013

**Senator Rachel Siewert**
**Chair**
**Senate Community Affairs Reference Committee**
**Parliament House**
**CANBERRA ACT 2600**

Dear Senator Siewert,

**RE: Inquiry on impacts on health of air quality in Australia**

I refer to the Senate Community Affairs Committee inquiry into health impacts relating to air quality in Australia and am pleased to provide the following submission on behalf of Muswellbrook Shire Council.

## Background

The Muswellbrook Local Government Area (LGA) is located approximately three hours to the north of Sydney and 1 hour and 50 minutes from Newcastle. The Shire serves an area of 3,402 square kilometres of which 1,455 square kilometres (43%) is National Park. The Muswellbrook township (approximate population 14,000) and seat of the Shire, incorporates a major Central Business District (CBD), industrial areas, rural holdings, and diverse residential areas. Denman (approx. population 2,000) located to the South West of Muswellbrook is a smaller rural township highly dependent upon the equine, viticulture, beef grazing and tourism industries. The population of the Muswellbrook LGA is estimated at 16,322[1]. Population growth for the year ending 30 June 2011 was 1.7%[2].

Industrial activity in the Muswellbrook LGA is primarily focussed on the energy sector: both extractive and generation. Forty per cent of the State's base load energy requirements are generated in the Muswellbrook LGA, and the Shire is one of two of the major centres for coal production in the Hunter Valley, with operations expanding considerably over the past decade and expected to increase further in the coming years. Muswellbrook is the only town of its size in Australia to be entirely surrounded by approved coal mining development. Appendix A shows the proximity of coal mining operations to the Shire's largest community.

The extraction of coal from within the Shire is set to increase significantly over the next four years with approved tonnages (ROM) from Mount Arthur 32 million tonnes per annum (MtPA); Bengalla 10.7 MtPA; Mangoola 10.5 MtPA; Mount Pleasant 10.5 MtPA; Drayton 8

[1] Local Government Area populations, New South Wales. *3218.0 - Regional Population Growth, Australia, 2010-11,* Released 31 July, 2012.
[2] Local Government Area populations, New South Wales *3218.0 Regional Population Growth, Australia, 2010-11,* Released 30 March 2012.

MtPA; and Muswellbrook Coal (2 MtPA). Development of new mines and the expansion of existing mines are planned.

Whilst the communities of the Muswellbrook LGA enjoy the economic benefits the mining and related support industries bring to the Shire, residents also endure the adverse impacts associated with intensive mining, including the health impacts arising from mining related dust emissions. Appendix B shows the area of potential dust affectation from approved coal mines in the Muswellbrook Shire.

Hunter New England Local Health District delivers limited health services from the Muswellbrook District Hospital and from the Denman Multi-Purpose Service, including acute care, emergency care and maternity services, surgical, paediatric, chemotherapy, and renal dialysis, together with a range of allied health services, in addition to general practice services provided at sites in Muswellbrook and one in Denman. The Muswellbrook District Hospital, which requires a significant capital upgrade, is unable to satisfactorily meet the community's demand for health services. A lack of investment in the Shire's health services and facilities has been identified by the NSW Government as a contributing factor to poor health delivery for residents in the LGA[3].

**Dust emissions**

Muswellbrook Shire endures unacceptable levels of dust emissions emanating from the extensive coal mining operations which surround Muswellbrook. Recent analysis[4] by researchers at the University of Sydney into the health and social impacts of coal mining have found adverse impacts of coal mine sourced particulate dust emissions. This research comes as no surprise to residents who live in coal affected communities; the impacts felt are widely known by long term residents within the Muswellbrook Shire.

The LGA's high proportion of young people and senior citizens are particularly vulnerable to the health impacts of dust emissions, which have been linked to high incidence of asthma, lung cancer, cardiovascular and respiratory illnesses. NSW Health[5] confirms the rate of hospital separations for asthma, cardiovascular and other respiratory illness in local residents is higher than the NSW average.

National Environment Protection Measures (NEPM) set a national statutory framework for standards of ambient air quality. There are two NEPM standards that are of particular concern;

1. Particulate matter below 10 microns in diameter ($PM_{10}$): the standard states that less than 50 micrograms per cubic metre should be measured within a 24 hour period; and

2. Particulate matter below 2.5 micron in diameter ($PM_{2.5}$): the standard states that less than 25 micrograms per cubic metre should be measured within a 24 hour period.

It is noted the NEPM standards for $PM_{10}$ emissions allow for five exceedances per year and sets no standard for $PM_{2.5}$, rather providing a 24 hour threshold of $25ug/m^3$. This is a reporting threshold for the NEPM equivalence program and is not a heath standard. Further

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[3] Department of Planning (2010) *Major Project Assessment: Mt Arthur Coal Consolidation Project (09_0062)*. p.42

[4] Colagiuri R, Cochrane J, Girgis S. (2012) Health and Social Harms of Coal Mining in Local Communities: Spotlight on the Hunter Region. Beyond Zero Emissions, Melbourne..

[5] NSW Department of Health (2010) Respiratory and cardiovascular diseases and cancer among residents in the Hunter New England Area Health Service

it is noted no standard exists for $PM_1$ particulate matter. Council strongly believes NEPM health standards must be set for $PM_1$ and $PM_{2.5}$ particulate matter and interest has been expressed by Councillors in the combined respiratory impact of coal dust and diesel fuel emissions.

Council is also concerned that averaging emissions measurements over a 24 hour period and annually may provide the opportunity for the mining industry to emit dust at particular times to minimise exceedances of the NEPM standards. Data collected for $PM_{2.5}$ from the Bowman Park monitoring station in 2011/12 indicated almost 47% of the elevated results occurred between 9pm and 1am at night and that in excess of 80% of the days with elevated concentrations were between May and August[6]. Elevated $PM_{2.5}$ concentrations are the most prominent late at night, during winter when wind speeds are very low.

As a result of action lead by Muswellbrook Shire Council, the Upper Hunter Air Quality Monitoring Network was established as a partnership between the State Government and industry members to provide reliable, regional air quality monitoring data in response to community concerns relating to the cumulative impact of coal mining on air quality in the Upper Hunter. Sites located in and around Muswellbrook are as follows:

1. Muswellbrook (Bowman Park);
2. Muswellbrook (Cnr Kyuga and Wybong Roads);
3. Wybong;
4. Aberdeen;
5. Merriwa; and
6. Jerrys Plains.

Data from the Upper Hunter Air Quality Monitoring Network indicates breaches of the NEPM standards[7]. Notwithstanding these exceedances, there is no equivalent standard applied to the corresponding impacts of those exceedances on human health. The air quality exceedances are recorded on the NSW Environment and Heritage website[8], whilst the health impacts of the dust are left to prevail.

Our community is exhausted of the burden of those negative consequences of the mining industry. At the very least, the NSW Government must enforce the requirement that when NEPM standards are exceeded, all operations that contribute to dust cease, until the air clears.

The NSW Government makes no connection between the approval of coal mine operations and extensions, and the cumulative impacts of $PM_{2.5}$ (and smaller) particulate matter. It is very difficult to pinpoint which mine is contributing which portion of dust. When mining developments are approved, conditions are placed on dust emissions in isolation of emissions generated by neighbouring mines. It is further noted that areas of dust affectation generated by a single mine is based only on $PM_{10}$ rather than $PM_{2.5}$ or less, which limits those properties that fall within affectation zones and may be able to seek recourse to mitigation measures or acquisition.

The mining industry has continued to grow steadily across the Upper Hunter for many years, and despite concerns that the boom is coming to an end, residents in Muswellbrook Shire can expect an ongoing expansion and intensification of mining activity within the boundaries of our local government area.

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[6] Muswellbrook Shire Council 2011/12 State of the Environment Report

[7] http://www.environment.nsw.gov.au/aqms/uhunteraqmap.htm

[8] http://www.environment.nsw.gov.au/aqms/uhaqmnfaq.htm

Muswellbrook LGA is also home to Macquarie Generation's coal fired Bayswater and Liddell Power Stations which together generate 40% of the State's baseload power. The local coal fired power industry is a noted emitter of pollutants including $NO_x$ and $SO_x$[9].

It is also noted the township of Muswellbrook is situated on the National Highway Network (the New England Highway), which passes directly below the junction of the three main rail corridors that form the Hunter Valley Coal Chain: the Main North, Ulan and Hunter rail lines, carrying large volumes of heavy vehicular and rail traffic and their consequential particulate emissions. Council has long advocated for road and rail bypasses of the town, which would substantially mitigate the impacts of the associated dust emissions.

**Health Services**

The growth of the coal mining industry has driven growth in the local population, with the 2011 Census showing increasing numbers of people are choosing to settle in Muswellbrook. Such population growth places increasing pressure on the demand of a range services, in particular health and hospital services. That supply of public health services and facilities has not met that demand driven by growth in the mining industry.

The NSW Government has confirmed in three separate assessments by Hunter New England Area Health, the Department of Planning and Department of Trade and Investment that services in Muswellbrook are underfunded, inadequate and already highly strained. According to the State Government's 2011 *Economic Assessment of Mining Affected Communities*, Muswellbrook Shire endures an annual shortfall in capital expenditure of over $8.7 million per year, without consideration of the particular impacts the mining industry has on the Shire's local infrastructure.

The NSW Department of Planning confirmed the strain Muswellbrook District Hospital endures from the cumulative impact of State Significant Projects, including coal mining development. In its assessment (*Major Project Assessment: Mt Arthur Coal Consolidation Project* page 42) of the Mt Arthur coal mine expansion on the edge of the Muswellbrook township, the Department noted that "health services [in Muswellbrook] are already strained".

NSW Health has also identified that residents in Muswellbrook had "higher rates of emergency department presentations for both asthma and overall respiratory illness" than in other parts of the State. Its report *Respiratory and cardiovascular diseases and cancer among residents in the Hunter New England Area Health Service,* also illustrates the linkage between coal mine location and rates of asthma hospitalisation. It shows that 0-35 year-old people in Muswellbrook had higher rates of emergency department presentations for all respiratory illnesses than anywhere else in the Hunter New England or Sydney areas, and that Singleton and Muswellbrook LGAs have the highest rates cardiovascular disease rates in all NSW. The report indicates such data may reflect on "inadequate access to primary care", and came following a media report in 2010 that Muswellbrook was the "sickest town in the Hunter", recording the highest number deaths which may have been preventable through health service intervention.

The nexus between the impacts of the coal industry in the Upper Hunter and ongoing strains on the ability of Muswellbrook District Hospital to deliver high quality health services is not in doubt, which only serves to exacerbate the health impacts of mining industry related dust emissions on this community.

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[9] http://www.npi.gov.au/npidata/action/load/emission-by-facility-result/criteria/year/2011/destination/AIR/lga/64/source-type/ALL/subthreshold-data/Yes/substance-name/All

Council appreciates the opportunity to comment. Should you require further information please do not hesitate to contact me.

Yours faithfully,

Steve McDonald
**General Manager**

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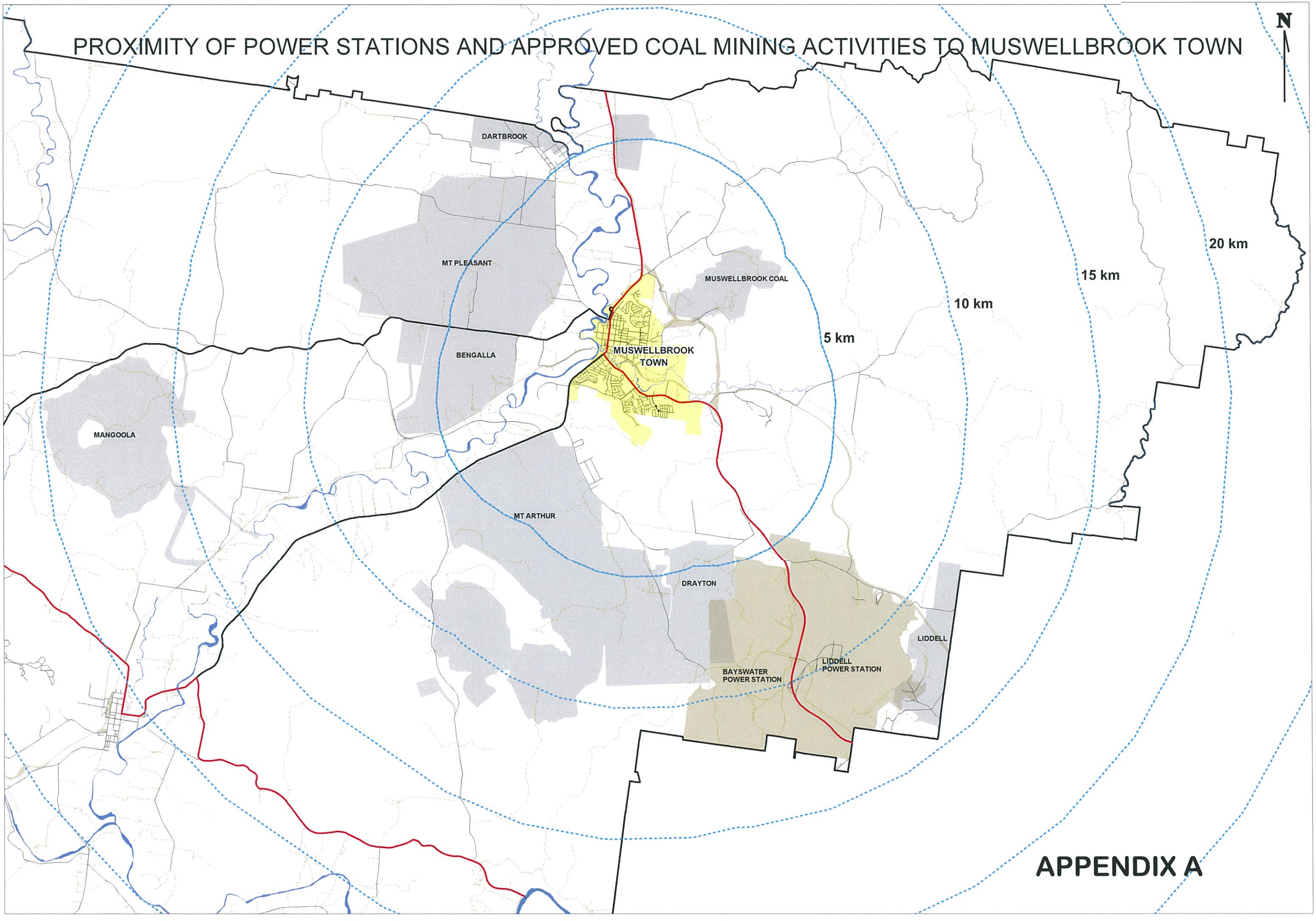
# PROXIMITY OF POWER STATIONS AND APPROVED COAL MINING ACTIVITIES TO MUSWELLBROOK TOWN




**APPENDIX A**

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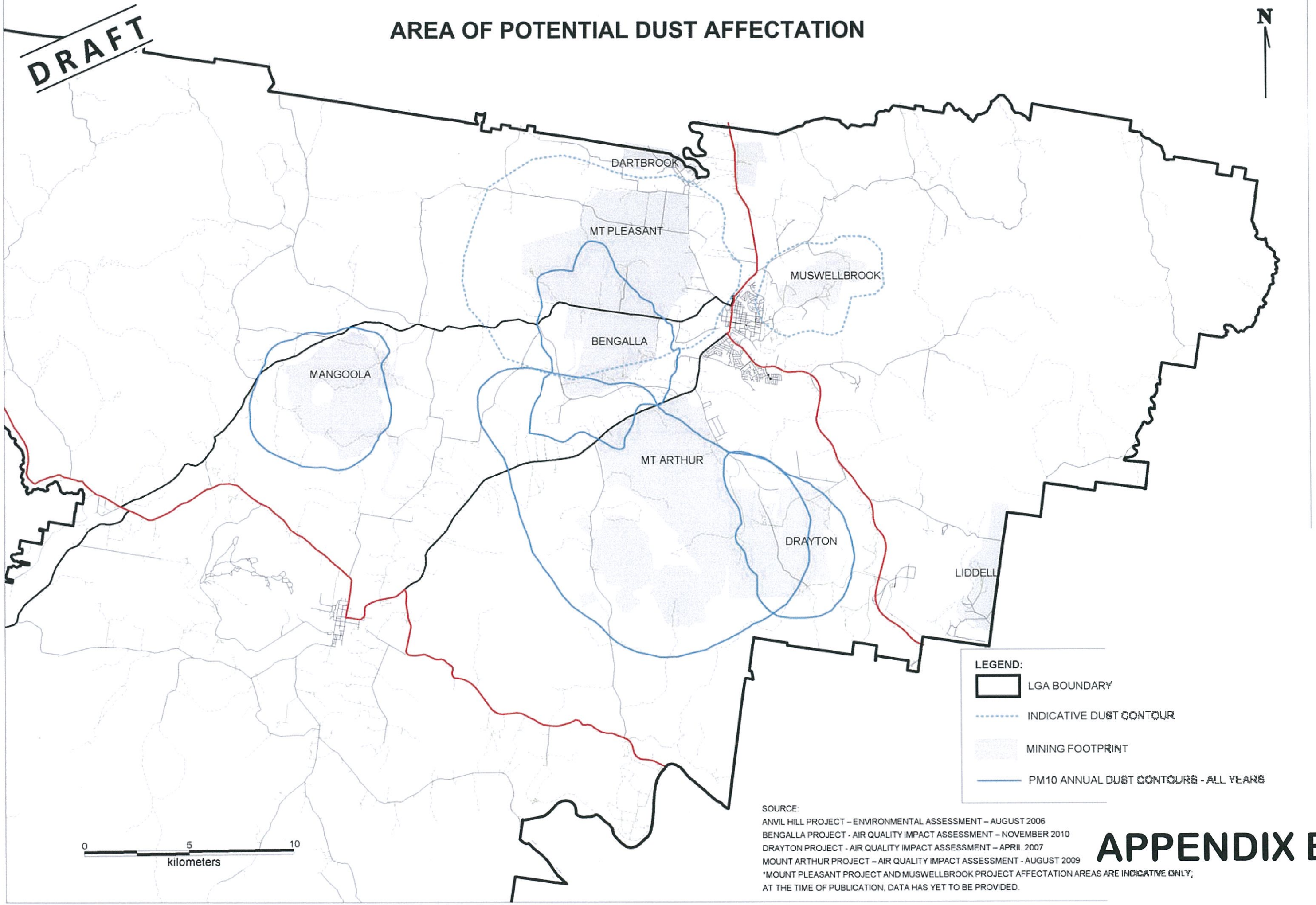
# AREA OF POTENTIAL DUST AFFECTATION




SOURCE:
ANVIL HILL PROJECT – ENVIRONMENTAL ASSESSMENT – AUGUST 2006
BENGALLA PROJECT - AIR QUALITY IMPACT ASSESSMENT – NOVEMBER 2010
DRAYTON PROJECT - AIR QUALITY IMPACT ASSESSMENT – APRIL 2007
MOUNT ARTHUR PROJECT – AIR QUALITY IMPACT ASSESSMENT - AUGUST 2009
*MOUNT PLEASANT PROJECT AND MUSWELLBROOK PROJECT AFFECTATION AREAS ARE INDICATIVE ONLY;
AT THE TIME OF PUBLICATION, DATA HAS YET TO BE PROVIDED.

**APPENDIX B**