

Drayton South Open Cut Coal Project Review Report

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November 2015

Drayton South Coal Open Pit Expansion Project PAC Review Report©
State of New South Wales through the NSW Planning Assessment Commission, November 2015.

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Executive Summary

The Planning Assessment Commission has been directed to review the Drayton South Open Cut Coal Mine proposal:

- consider the EIS for the project, the issues raised in submissions, the formal response to submissions, and any other information provided during the course of the review;
- assess the merits of the project as a whole having regard to all relevant NSW Government Policies, and paying particular attention to the potential impacts on the operations of the Coolmore and Woodlands horse studs; and if necessary;
- recommend further measures to avoid, minimise, and/or manage the potential impacts of the project.

The Commission to undertake this review was constituted by Ms Lynelle Briggs AO (Chair) and included Mr Ross Carter and Ms Abigail Goldberg.

The application is to develop a new open cut coal mine adjacent to two of the state's most significant thoroughbred breeding studs, Coolmore and Darley's Woodlands Studs. The studs are core pillars of the Equine Critical Industry Cluster in the Upper Hunter and central to the cluster's reputation as the most significant thoroughbred breeding cluster in the Southern Hemisphere. The mine would create 500 jobs and provide the potential for ongoing employment to those 409 people currently working on the Drayton Mine which is shortly due to close, with the imminent exhaustion of the economic coal reserves in its approved mining areas.

Public Hearings were held on 10 and 11 September 2015 at the Denman Memorial Hall, with 96 speakers presenting over the two days. The Commission heard submissions both for and against the proposal. The Commission also called for written submissions and had an unprecedented response, with over 17,000 submissions received.

The vast majority of submissions supported the project, highlighting its significant benefits. In particular speakers and submitters highlighted the employment opportunities, investment and multiplier effects for the region and the importance of this to local communities, the revenue to government from extracting the resource and the other government taxes that would be collected. The deferral of social and economic cost impacts were also highlighted, particularly for those currently employed at the Drayton Mine, soon due to close.

Opponents of the mine also spoke and made submissions to the Commission. Concerns raised included the perceived, potential and actual impacts on the neighbouring horse studs, Coolmore and Darley's 'Woodlands', and the potential associated flow on effects this would have on the broader Equine Critical Industry Cluster in the Upper Hunter and associated tourism and viticulture sectors, should these studs choose to leave the Hunter Valley; and the significance of this long term loss of sustainable economic diversity, in terms of jobs and businesses, throughout the region. The real risk of this happening was clearly articulated.

The potential benefits of the mine were also questioned, including the mine's viability and its capacity to deliver the stated benefits reliably for the proposed 15 years of operations, including employment and forecast production outputs (and associated royalty revenue). Concerns were raised about other impacts of the mine, particularly the impacts on the Aboriginal cultural heritage items, landscape values and the sensitive history of the area and/or site. Impacts on biodiversity; long term rehabilitation; final void and water outcomes for the site and surrounding systems; and impacts to the local road network were also highlighted. The Commission heard broader concerns

about the cumulative impacts of mining in the Hunter Valley. Submissions were also made questioning the need for thermal coal, reflecting an emerging global effort to minimise the impacts of climate change.

The Commission carefully considered the application, the issues raised in submissions, and the Applicant's response to the submissions; and sought further clarification from the Applicant, the Environment Protection Authority, the Department of Industry's Division of Resources and Energy and the Department of Planning and Environment. Advice from each of those parties was subsequently received and considered as part of the review.

The Commission found that there are some uncertainties associated with the quantum of benefits that would be generated from the project and that there are a number of externalities, or costs, that have not been included in the cost benefit analysis undertaken. Notwithstanding this, the project represents a significant employment opportunity for the local community, particularly those currently employed or supplying the Drayton Mine. The project also has the potential to generate a substantial revenue stream for the state in the form of royalties and taxes over its 15 year life.

Land use planning, however, involves the regulation of land use in an efficient way to manage land use conflict. Coexistence is an outcome whereby different land uses can occur in proximity to one another. Each land use type should be sustainable and should not pose any significant threat to the success or longevity of the other.

The presence of two highly important and sensitive horse studs across the road from the proposed Drayton South Mine site presents a significant land use conflict. The Applicant has provided extensive documentation and plans to support its application. It has gone to great lengths to hide the mine behind ridgelines, establish tree screens and provide buffers, and offers to relinquish any open cut mining options on areas of its site beyond that proposed in this application. In this regard, the Commission is satisfied that the impacts of the project have been minimised and mitigated as far as is feasibly possible for an open cut mine on this site.

Ultimately, the Commission has found that the studs are highly sensitive to potential impacts of mining. The studs maintain a landscape that is deceptively bucolic but in fact intensely managed to demonstrate the highest standards and attention to every detail of the horse's care. The importance of this landscape and its similarities to other premier breeding centres is central to the studs, and the sector's objections to the mine, and the concerns that the studs may leave the Hunter Valley rather than put up with the impacts of the mine, regardless of their severity.

The two land uses are vastly different and are not compatible in close proximity, consequently the Commission is dealing with a land use conflict between the two industries. Both industries are important to the region and the state. Both have long associations with the Hunter Valley and should be afforded long-term futures, notwithstanding the finite nature of any one coal mining resource.

Each industry makes a significant economic and employment contribution to the region, the state and ultimately to the nation as a whole.

While mining is a far bigger sector, the mining industry is not heavily reliant on this one mine. The same cannot be said of NSW's thoroughbred breeding industry, the standing of which is integrally connected to the quality of the stallions it stands, a significant portion of which are in the hands of Coolmore or Darley in the Upper Hunter.

Both the NSW Mining Industry and the NSW Thoroughbred Horse Breeding and Racing Industry are significant contributors to the state economy in terms of employment, direct expenditure and flow-

on effects. Both industries employ a similar number of people, approximately 21,000 full time equivalent. The mining industry understandably has a higher total direct expenditure figure of approximately \$13.6 billion, and the approximately \$2 billion total direct expenditure of the NSW Thoroughbred Horse Breeding and Racing Industry is not insubstantial.

In more regional terms, the Hunter thoroughbred breeding sector, of which Coolmore and Darley are pivotal establishments, employs 1,103 workers (with approximately 265 full time equivalent jobs provided by Coolmore and Darley's Hunter operations) and has a total direct expenditure of approximately \$341 million per annum. The Drayton South mine project is expected to employ 500 people and have a total direct expenditure of \$131 million per annum, over its 15 year life.

Coolmore and Darley's Woodlands have been found to be key to the sustainability of the Equine Critical Industry Cluster in the Upper Hunter and to NSW. The likely effects of the studs relocating would be that the cluster would suffer to a significant extent and enter a potentially terminal decline.

The Commission considers that the scenario of the studs leaving the Hunter is the critical issue for the decision maker to weigh up in considering whether to approve the project. Clearly there is uncertainty around the studs' claims that they would relocate. There is also uncertainty about whether the project, if approved, would proceed at the scale and timing the Applicant has proposed, for the full 15 years. The risk of putting an industry of considerable international standing, which has a sustainable long term future, into decline and value reduction needs to be weighed against a project with potentially immediate and tangible employment and community benefits, but arguable over-all economic public benefit and a relatively short 15 year lifespan.

The Commission heard that impacts on the Equine Critical Industry Cluster would not be contained to that sector. The loss of the Southern Hemisphere's peak thoroughbred breeding cluster and one of the three most significant in the world (alongside Kentucky in the US and Newmarket in the UK) would have some cumulative flow on effects to associated industries and to the wider reputation and brand of the State of NSW. In particular the region's tourism and viticulture industries share some commonalities, each reliant on the preservation of the Hunter's reputation for quality, clean and safe agricultural production and complemented by the area's landscape heritage and character. There would also be broader implications of NSW losing the Southern Hemisphere's peak thoroughbred breeding cluster to either Victoria or New Zealand, particularly for the State's reputation and capacity to market its tourism and agricultural industries.

The information provided throughout the application and review process has been unable to satisfy the Commission that the impacts, real and perceived, to the studs could be tolerated by their clients and investors and consequently that the risk to the Equine Critical Industry Cluster is acceptable and manageable. The Commission finds that the Department's assessment and recommended conditions leave residual uncertainties and the potential for a number of risks to be unmitigated.

The Commission finds that the indirect and dynamic visual impacts of the project represent a risk to the image and reputation of the studs. Potential reputational impacts should evidence of blasting become apparent to clients during visits, or via media and the internet, are of particular concern. Aside from any actual impact to the horses, blast impacts, and other evidence of mining in close proximity, are inconsistent with the image so carefully cultivated by the studs.

The combined reputational risks posed by the mine, are sufficient to convince the Commission that the threat to the studs and the broader Equine Critical Industry Cluster is real and that the studs may leave the Hunter Valley should the mine proceed. The Commission concludes there are a range of

uncertainties in relation to the project benefits, that the risks to the Equine Critical Industry Cluster are real and that the risks are likely to outweigh the relatively short term benefits of the mine.

In recommending that this open cut mine neighbouring the Coolmore and Woodlands studs should not proceed, the Commission is deeply saddened by the implications of its recommendation for the 312 workers and 97 contractors at the Drayton Mine, their families and the associated suppliers and support businesses to the mine.

The Commission recognises that the Applicant has made its best efforts to minimise impacts on the neighbouring studs, and that the impacts would generally be considered acceptable in another location in the Hunter Valley.

It is with great difficulty that the Commission has had to conclude that the land use conflict confronted cannot be overcome. Balancing these competing and conflicting land uses is not inherent in the existing planning framework for the region and espousing coexistence does not make it so.

There is an absence of any meaningful planning tool or provisions currently in place which would provide greater clarity and certainty for all parties on a reasonable exclusion zone or buffer beyond which mining can reasonably occur. This is particularly important in circumstances such as this, where facilities at the epicentre of the Equine Critical Industry Cluster have the potential to be seriously impacted. The Commission regrets that this policy gap has created significant uncertainty for all parties involved and resulted in the local community becoming increasingly divided by conflict. Greater certainty needs to be provided by Government and the planning system, and the Commission encourages Government agencies to take action to redress the situation as has occurred in other jurisdictions.

The Commission understands that the Department of Planning and Environment promotes a planning system that can provide certainty and clarity to all industry sectors and the community. The Commission commends this initiative and considers that as has already been provided for coal seam gas, and drafted for wind farms, clear buffers need to be established to protect sensitive industries from the significant impacts of open cut mining.

The Commission also heard concerns that it risked placing more value on horse health than on the people of the Hunter, the mining industry in particular, and especially the 409 strong workforce at the existing Drayton Mine. The Commission notes that the relevance of the equine health question relates to the potential impacts on the viability of the studs, the broader implications for the Equine Critical Industry Cluster, and the associated employment and economic contribution of that industry. The Commission found that the particulate emission impacts are inconsistent with the studs' business image and branding, and that this reputational concern represents a real risk to the ongoing operations of the studs and the broader Equine Critical Industry Cluster as a whole. The Commission has not found any conclusive evidence of horse health impacts, although it acknowledges that competing Victorian and New Zealander stud farms may claim that there are health impacts, for their own advantage.

The Commission notes there are a significant number of viable open cut mining operations in the Hunter Valley that it has approved, and more still to come that are approvable. While the Commission recommends that the Drayton South Open Cut Coal Mine proposal does not proceed, it notes that the Applicant has sought limited additional mining within the existing Drayton Mine Pits. The Commission is satisfied that this mining at the existing Drayton Mine site is acceptable and is approvable subject to conditions.

RECOMMENDATIONS

The Commission makes the following recommendations:

In relation to the current application:

1. The application for the Drayton South open cut coal mine should not proceed.
2. That the part of the project related to the extension of the existing Drayton Mine operations is approvable and should be allowed to progress as it will provide some short term extension of the current employment on the mine.
3. The proposed conditions of consent relating to the existing Drayton Mine's rehabilitation should be strengthened to take into account the outcomes of any review of the NSW Government's current policy on final voids, should those additions to the mine proceed.

On planning:

During the course of its review the Commission has identified a number of areas of the NSW planning framework that could be improved or enhanced, in the context of the issues confronted on this application.

4. Greater clarity and planning certainty needs to be provided to the mining industry, the community and other industries that exist within mining regions. NSW Planning and Environment, NSW Department of Industry's Division of Resources and Energy and other relevant government agencies need to collaborate to develop a strategic framework for the coordinated release of exploration licences and a suite of effective planning tools to provide reasonable exclusion zones or buffers to protect other industries and sensitive land uses within those parts of the state that are rich in coal, gas and/or mineral reserves. In particular,
 - a. resources need to be allocated to allow relevant Departments to undertake the work required to:
 - i. identify sensitive land uses and resources (such as important agricultural land, water resources, places of special Aboriginal cultural significance or of significant conservation value) that warrant protection from mining; and
 - ii. to determine appropriate buffers, exclusionary zones or preservation measures for those land uses and areas of other significant value;
 - b. the Gateway process needs to be strengthened and its remit widened to ensure it has the capacity to identify and prevent significant land use conflicts from progressing.
5. The importance of the Equine Critical Industry Cluster, its sensitivities to intensive development and the landscape character of its central operators, including the Coolmore and Woodlands studs, needs to be acknowledged with the development and enforcement of appropriate buffers, exclusionary zones or preservation measures to safeguard this important industry.

The Commission notes that the Strategic Regional Land Use Plan for the Hunter prepared in 2012 identified and highlighted the importance of the Upper Hunter's Equine and Viticulture Critical Industry Clusters. Further strategic planning work is needed to address current conflicts and deliver planning protections to safeguard both of these Critical Industry Clusters from incompatible land uses, thereby providing greater certainty for all sectors and potential land uses in the region and providing greater certainty for further investment in these Critical Industry Clusters.

6. Work underway in Government to establish a policy on mining voids should include:
 - a. consideration of whether, and if so, under what circumstances final voids would be acceptable in the rehabilitation plans for open cut mine design in NSW;
 - b. criteria to guide the level of landscape (both landform and land capability) and water impact legacies the state is willing to accept in exchange for the various economic and employment returns provided by mining; and
 - c. guidance on how these should be factored into the mine's cost benefit analysis and wider public benefit considerations for decision makers.

7. Within areas of significant open cut mining activity strategic consideration of Aboriginal cultural heritage landscapes and places is needed, to consider cumulative landscape changes and impacts and identify priority areas for protection. This should provide for more comprehensive consideration of the significance of Aboriginal cultural heritage values, not only the physical artefacts that have tended to form the focus of mining assessments, but also the wider cultural landscape connections and the interplay between these elements.

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1 INTRODUCTION

The Applicant (Anglo American), is seeking to develop a new open cut mining operation in the Hunter Valley's Muswellbrook region. The mine is proposed to operate for 15 years, producing up to 6.4 million tonnes (Mt) of ROM coal a year and taking advantage of the workforce, infrastructure and equipment available with the imminent closure of the Drayton mine, approximately 3 km north of the site.

1.1 BACKGROUND

The existing Drayton Coal Mine is located 13km south west of Muswellbrook in the Upper Hunter Valley. The mine is owned and operated by Anglo Metallurgical Coal Pty Ltd (the Applicant), a subsidiary of Anglo American plc, a multinational mining company headquartered in London, United Kingdom. From its various mines across the world Anglo American produces a range of mineral and metalliferous commodities including platinum, diamonds, copper, iron ore and coal.

The Drayton Coal Mine currently operates under project approval (06_0202) granted in 2008, which allows the Applicant to extract and process up to 8 Mt of ROM coal per year until 2017, after which it is required to rehabilitate the mine. However, coal reserves in the existing mine are almost exhausted and, to continue operations, the Applicant seeks approval for a new open cut coal mine, known as the Drayton South Coal Project, 2.3 km to the south of the existing mine. The proposed mine is within close proximity to two major thoroughbred horse studs—Coolmore and Darley's Woodlands.

Mining on the proposed Drayton South site is highly contentious due to concerns about the ability of an open cut mine to 'coexist' with neighbouring studs. In 2012, the Applicant lodged an application for the Drayton South Coal Project, which originally sought to extract 120Mt of ROM coal over 20 years from four open cut pits. In 2013, the then Minister for Planning requested that the NSW Planning Assessment Commission (the Commission) undertake an independent review of the merits of the Drayton South Coal Project, with a particular focus on the potential impacts on Coolmore and Woodlands horse studs.

The Commission released its review report in December 2013 and recommended that the mine should not proceed at the planned scale in this location due to the potential impacts on the studs. The Commission found that the Coolmore and Darley operations are critical to the broader Equine Critical Industry Cluster and should be protected and that a buffer is necessary. The Commission recommended that at an absolute minimum, the mine should be setback behind the natural ridgeline, as marked by the yellow line in Figure 1, and that further work would need to be undertaken to demonstrate that mining of the remaining area would not threaten the viability of the Coolmore and Woodlands horse studs.

In response to the Commission's review report, the Applicant reduced the size of the mine by deleting the Houston pit, but argued that the Redbank Pit (closest to the studs) was essential to the viability of the operation and consequently should be retained. The Department of Planning and Environment (the Department) completed its final assessment, recommending that the project be approved subject to conditions, and referred the application to the Commission for final determination.

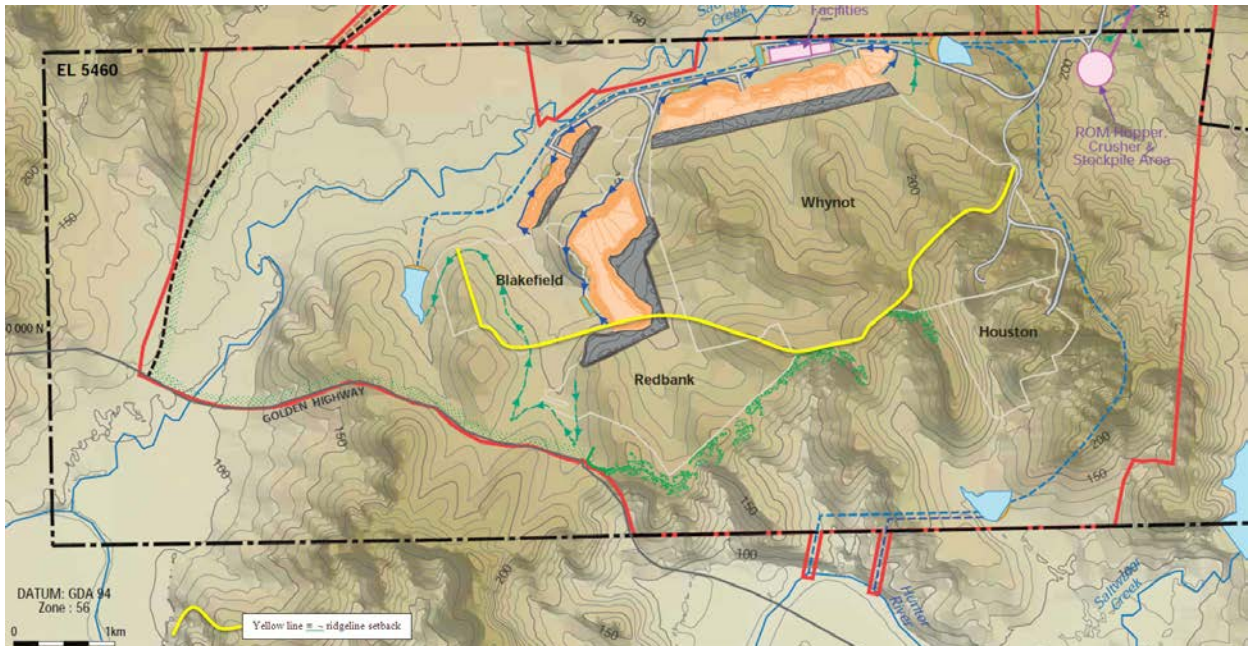


Figure 1: Previous application for the Drayton South Coal Project

On 17 October 2014, the Commission refused the project on the following grounds:

1. *The project does not provide sufficient buffer to protect Coolmore and Darley from the impacts of mining as recommended in the PAC Review Report and the Gateway Panel Report.*
2. *The project has not demonstrated that it will not adversely impact on equine health and the operations of the Coolmore and Darley horse studs.*
3. *The approach of monitoring the response of thoroughbred horses to the mine's operation to address uncertainty is not acceptable because once the damage to the operations of the studs occurs, it is irreversible.*
4. *The economic benefits of the project do not outweigh the risk of losing Coolmore and Darley and the potential demise of the equine industry in the area with flow-on impacts on the viticultural tourism industries.*
5. *The project is not in the public interest.*¹

Subsequently, the subject application for a smaller Drayton south coal mine proposal was lodged in May 2015. The proposal seeks to extract 73.5Mt of ROM coal over 15 years from two open cut coal pits, known as Blakefield and Whynot, which are setback approximately 1km from the boundary of Coolmore and Darley horse studs.

1.2 TERMS OF REFERENCE FOR THE REVIEW

Section 23D of the *Environmental Planning and Assessment Act 1979* (EP&A Act) provides for the Minister to request the Commission to conduct a review of a development application for a project and to hold a public hearing into the matter the subject of the review. The Minister's terms of reference for this review, dated 13 August 2015, are to:

1. *Carry out a review of the Drayton South Coal Project, and:*
 - a) *consider the EIS for the project, the issues raised in submissions, the formal response to submissions, and any other information provided during the course of the review;*

¹ PAC 2014, *Drayton South Coal Project Refusal*

- b) *assess the merits of the project as a whole having regard to all relevant NSW Government Policies, and paying particular attention to the potential impacts on the operations of the Coolmore and Woodlands horse studs; and if necessary,*
 - c) *recommend further measures to avoid, minimise, and/or manage the potential impacts of the project.*
2. *Conduct public hearings during the review as soon as practicable after the Department of Planning and Environment provides its preliminary assessment report to the Commission.*
 3. *Submit its final report on the review to the Department of Planning and Environment within 9 weeks of receiving the Department's preliminary assessment report, unless the Secretary of the Department agrees otherwise.*

The Secretary's Environmental Assessment Report was received by the Commission on 17 August 2015.

2 THE PROJECT APPLICATION

2.1 THE PROPOSAL

The site of the proposed new mining area is on agricultural land to the north west of Jerry's Plains. The existing Drayton mine lies further north, as a result of which the Applicant has characterised the application as a southern extension to its open cut Drayton Mine. The proposal involves:

- minor extensions to the existing Drayton Mine to the north, east and south, and
- the construction of two new open cut mining pits at Drayton South, known as Whynot and Blakefield, covering a total disturbance area of 1,477.5 ha.

It is proposed to extract a total of 73.5 Mt of coal at an average rate of up to 6.4 Mt of ROM coal per year for 15 years using traditional open cut mining methods, including a combination of a dragline, trucks and shovels. There will be up to 500 full time equivalent employees across both the existing Drayton mine and the proposed mine, with mine operations occurring up to 24 hours a day, seven days per week.

Other major components of the proposal are summarised as follows:

- Development of infrastructure, including:
 - standard surface facilities, including a workshop and office;
 - a ROM hopper, crusher and stockpile; and
 - a water management system;
- The construction of a transport corridor from Drayton mine to the proposed mining area;
- The creation of biodiversity offsets;
- Rehabilitation works:
 - involving progressively rehabilitating the disturbed areas with woodland and pasture species, including at least 1,127 ha of rehabilitated woodland;
 - incorporating micro-relief to the final landform and conformation to surrounds;
 - leaving three final voids (two at Drayton and one at Drayton South) that will not be filled.
- Realignment of a portion of Edderton Road and its intersection with the Golden Highway.

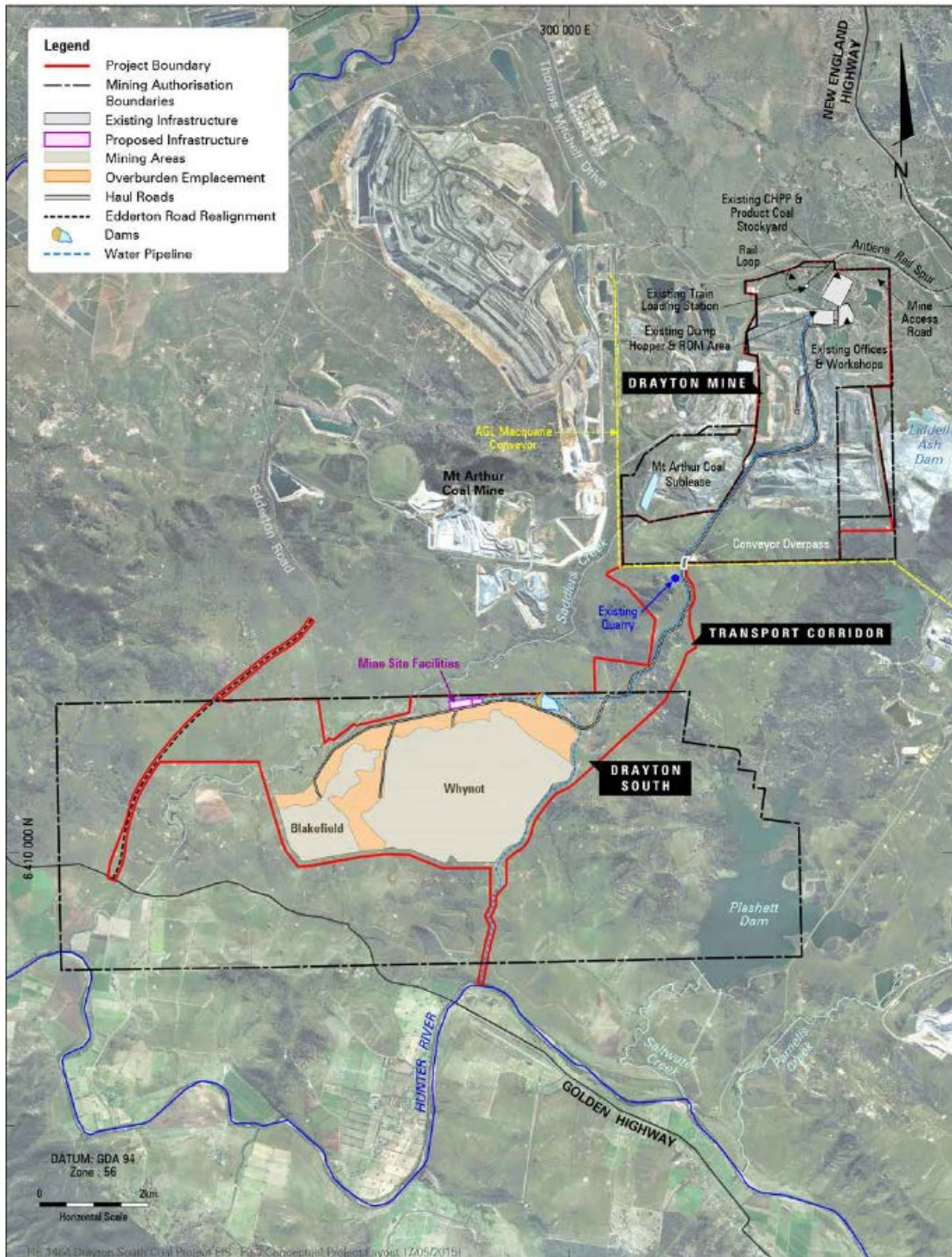


Figure 2: Site Context and Proposed Mine Plan

2.2 PROJECT SURROUNDS AND HISTORICAL CONTEXT

The Drayton South project site is surrounded by a range of different land uses. To the north are two existing open cut coal mines, the Mount Arthur Mine and the Drayton Mine. To the east is the Plashett Dam, associated with Macquarie Generations' Bayswater Power Station. To the south are the Coolmore and Darley horse studs and the Arrowfield (or Hollydene) vineyard and winery. To the west, on the other side of Saddlers Creek, are a number of smaller rural properties.

The Hunter Valley's Muswellbrook area is the traditional land of the Wonnarua people. The Applicant has identified hundreds of Aboriginal sites and artefacts within the project site and surrounds, including open artefact sites containing evidence of the production of stone tools, scarred trees, grinding grooves and stone quarries. Aboriginal stakeholders consulted about the proposal identified Saddlers Creek and Mount Arthur as key features in a landscape that is overall considered to be culturally significant.

Since European settlement, the site and surrounds have largely been used for agricultural purposes, including grazing, cropping, dairying and horse breeding. The area of the proposed mine site and surrounds was covered by the Plashett, Bowfield, Arrowfield, Strowan, Woodlands and Edderton Estates, granted during the 1820s. There is a history of thoroughbred horse breeding occurring on Woodlands from the late 1800s and Arrowfield from the early 1900s. This land is still largely used for pastoral purposes. Plashett and Bowfield estates are also still used as pastoral properties and are owned by the Applicant. Arrowfield and Strowan comprise part of Coolmore horse stud. The Edderton Estate has been acquired by Mount Arthur Coal and is currently leased as a working pastoral property primarily for cattle grazing.

Coal was first identified by Europeans in the Hunter Valley in 1797. Mining within the Muswellbrook area commenced in the 1890s and has evolved from small underground operations to large scale open cut operations in more recent times. Coal mining has been active at Bayswater Colliery since the 1960s, at Drayton Mine since the 1980s and at Mount Arthur since 2008.

3 THE COMMISSION'S ACTIVITIES

Ms Lynelle Briggs AO, chair of the Planning Assessment Commission constituted the Commission to review the application, with Mr Ross Carter and Ms Abigail Goldberg. The Commission also engaged Commission Member, Mr Geoff Carmody, to provide some assistance with its consideration of the economic analysis.

3.1 PUBLIC HEARINGS AND SUBMISSIONS

In accordance with the Commission's terms of reference, public hearings were held on 10 and 11 September 2015 at the Denman Memorial Hall. A total of 96 verbal submissions were made, comprising the Applicant, employees of the mine, the Coolmore and Darley horse studs, the Hunter Thoroughbred Breeders Association (HTBA), the Scone Equine Hospital and other related horse racing and/or breeding organisations, local councils and local businesses, along with interest groups for Aboriginal cultural heritage, tourism, vineyards and the environment and numerous other individuals.

In excess of 17,000 written submissions were also received by the Commission, including a number of significant late submissions. More submissions have been received on this project than on any other matter before the Commission, with the majority of submissions being in support of the proposal.

Those in support of the mine stated that the mine will provide direct and indirect employment for the region, that the mine would stimulate the local economy and that there would be no physical or tangible impacts on the horse studs if the mine was to proceed. The supporters also noted the significant personal and social benefits ongoing employment of the Drayton workforce and associated contractors and suppliers would bring. Not only did the Commission hear a significant number of the personal stories of the workers and suppliers to the mine, of their passion for their jobs, their employees and the sector, but also of the strength of their community and their commitment to building a better future for the next generation. In this context, approval of viable mining operations during the current downturn with unemployment in Muswellbrook at 11.4%, was said to be critically important.

Those objecting to the mine raised concern that the reputational impacts on Coolmore and Darley horse studs would force the studs to relocate interstate or overseas and the flow on effect this would have on the equine industry within the region. Particular issues of concern to objectors included that the mine would have adverse visual, traffic, air quality, health, environmental and Aboriginal heritage impacts. The cumulative impact of mining in the region was a particular concern of many objectors concerned for the future of other industries in the Hunter and for the environment.

Many people both in support and against the mine commented on the failure of appropriate strategic land use planning to mitigate land use conflict between the equine and mining industry in the locality.

A summary of the issues raised at the Public Hearing and in written submissions is provided in **Appendix 3** of this Report. The submissions and copies of any speech notes and presentations that were provided to the Commission during the public hearings can be accessed from the Commission's website (www.pac.nsw.gov.au) . A small number of submissions were submitted to the Commission in confidence. These submissions raised similar concerns to those raised at the hearings and in the available submissions.

3.2 CORRESPONDENCE, MEETINGS AND SITE INSPECTIONS

The Commission was briefed on the project by the Department of Planning and Environment on 26 August 2015. On 31 August 2015, the Commission was briefed by the Hunter Thoroughbred Breeders Association. On 1 September 2015, the Commission visited the proposed mine site, and was briefed and accompanied by the Applicant. Following the site inspection, the Commission met with Muswellbrook Shire Council and then proceeded to inspections of the Coolmore and Woodlands horse studs, with briefings from representatives of Coolmore and Darley respectively at those properties.

Following the public hearing and receipt of additional submissions, the Commission met with the Applicant on 28 October 2015 to discuss some of the key issues and residual concerns. Representatives of the Department of Planning and Environment were also present at the meeting.

A summary of these meetings and site inspections are provided in **Appendix 4**.

Through the course of the review, the Commission requested additional information from various government agencies and the Applicant regarding issues raised in submissions and at the hearings. Written advice was received from the Environment Protection Authority (EPA) on 28 October 2015 and from the NSW Department of Industry's Division of Resources and Energy (DRE) on 30 October 2015. The Applicant provided additional information on 23 October 2015, 28 October 2015, 29 October 2015, 3 November 2015 and 5 November 2015. On Thursday 12 November the Department

also provided some further advice on the protection measures in place for the Kentucky and Newmarket thoroughbred breeding centres.

Given the time required to request and receive advice from government agencies and other experts, the Commission requested an extension to the timing of the review, as provided by the Minister's terms of reference.

The above mentioned correspondence is provided in Appendix 5.

4 RELEVANT NSW GOVERNMENT POLICIES AND LEGISLATIVE ITEMS

In line with the terms of reference, the Commission has considered all relevant NSW government policies and legislative items. The Commission notes that several of these items relate to land use planning, and address the importance of ordering and regulating land in an efficient way so as to manage land use conflicts.

Upper Hunter Strategic Regional Land Use Policy

In September 2012, the NSW Government published the Upper Hunter Strategic Regional Land Use Plan (SRLUP). The Commission notes that this is the first iteration of the SRLUP and that it is due to be reviewed by September 2017.

The SRLUP acknowledges that while the region makes a major contribution to the state's production of many agricultural commodities, it also contains a significant amount of the state's currently identified coal reserves. Improving the balance between competing land uses, particularly achieving coexistence where possible between mining and agriculture is a key challenge identified in the SRLUP for the region. The SRLUP also recognises the importance of the 'clean green' branding of the region in contributing to the attraction for agricultural industries and regional tourism.

The Commission notes that the SRLUP does not currently outline or recommend tools for mitigating land use conflict between open cut mines and adjoining land uses. This is discussed in further detail in section 6.1.9.

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

The Commission has considered the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Mining SEPP) during this review process.

In relation to the repeal of Clause 12AA of the Mining SEPP, which came into effect on 2 September 2015, the Commission is satisfied that balanced consideration has been given to the environmental, economic and social impacts of the proposed development as part of this review.

Clause 12 of the Mining SEPP requires the consent authority to assess the compatibility of the proposed mine with other existing and approved uses of land within the vicinity of the development. More specifically, any ways in which the proposed development may be incompatible with any of those existing or approved uses and evaluate any measures proposed by the Applicant to avoid or minimise any incompatibility. In light of the conflict between the proposed open cut coal mine and agricultural uses within the vicinity of the proposal, the Commission questions the Department and the Applicant's consideration of Clause 12 of the Mining SEPP. Although measureable and physical impacts on the horse studs from the proposed mine may be mitigated to some extent via conditions, as discussed in section 6, the Commission is not at all convinced that the 1km distance between the mine and the studs is sufficient to ensure that the reputation, operations and viability of the horse studs would be protected.

Division 4 of the Mining SEPP requires all proposed mining development on biophysical strategic agricultural land (BSAL) and/or Critical Industry Cluster land to apply for a gateway certificate. The Strategic Agricultural Land Map identifies the subject site as containing BSAL and maps Coolmore and Darley as Equine Critical Industry Cluster land. A conditional gateway certificate was issued by the Panel on 2 April 2015. The gateway process for the project is discussed in further detail in section 6.1.9.

The Commission notes that the Mining SEPP prohibits coal seam gas development within 2km of a residential zone, future residential growth area land, additional rural village land or Critical Industry Cluster land.

Hunter Regional Environmental Plan 1989

The *Hunter Regional Environmental Plan 1989* lists a number of heritage items that are within close proximity to the proposed mine, including the Woodlands homestead located on Darley's Woodlands horse stud. The Commission has provided further consideration to the potential impacts of the proposed mine on heritage items and sites in section 7.1.2.

State Environmental Planning Policy (Infrastructure) 2007

The Infrastructure SEPP requires the consent authority to notify relevant public authorities of developments that may affect public infrastructure or land. The Commission is satisfied that the relevant public authorities have been notified about this application and that recommendations made by public authorities to date have been generally adopted by the Department in the recommended conditions of consent. The Commission is satisfied that the proposal complies with the requirements of the Infrastructure SEPP.

State Environmental Planning Policy (State and Regional Development) 2011

The project involves development for the purposes of coal mining and is classified as a State Significant Development under Section 89C of the EP&A Act, which is specified in Schedule 1 of this SEPP. There were more than 25 public submissions in the nature of objections on the subject application and as such, the application falls within the Minister's delegation to the Commission dated 14 September 2011. The Commission acknowledges that in the future the application may be referred to it for determination. The Commission notes that under Clause 11 of the SEPP, development control plans do not apply to State Significant Development.

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33)

The proposed development meets the definition of a 'potentially offensive industry', as detailed in SEPP 33. As outlined in Clause 13 of SEPP 33, in determining an application to carry out a potentially offensive industry, the consent authority must consider:

- (a) current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development, and*
- (b) whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply, and*
- (c) in the case of development for the purpose of a potentially hazardous industry—a preliminary hazard analysis prepared by or on behalf of the Applicant, and*
- (d) any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application), and*
- (e) any likely future use of the land surrounding the development.*

The Commission has considered these matters in detail and is satisfied that the application has been prepared in accordance with current circulars and guidelines published by the Department of

Planning and Environment, that the relevant public authorities have been contacted about the proposed development and that a satisfactory preliminary hazard analysis has been prepared and submitted with the application. The Commission notes that 13(d) and 13(e) address land use conflicts which it finds intractable and does not consider to be resolved in the application.

State Environmental Planning Policy No. 44 – Koala Habitat Protection

SEPP 44 aims to conserve and manage areas of natural vegetation that provide habitat for koalas to reverse the current trend of koala population decline. The flora surveys conducted on the site identified the presence of preferred feed tree species listed in Schedule 2 of the SEPP. Given that no koalas have been historically recorded on the site and no evidence of koala habitation was found during targeted surveys, the Commission is satisfied that the project would not significantly impact koala populations and is in keeping with the objectives of SEPP 44.

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)

Under the provisions of SEPP 55, the Commission must not consent to the carrying out of any development on the subject land unless it has considered whether the land is suitable for the proposed new use. Clause 7(2) of SEPP 55 requires that a consent authority must, before determining an application, consider an environmental report specifying the findings of a preliminary investigation of the land, carried out in accordance with the contaminated land planning guidelines, for land on which development for a purpose referred to in Table 1 of the contaminated land planning guidelines is being carried out. Mining and extractive industries is a use specified in Table 1 of the contaminated land planning guidelines. The Commission has considered the 'Soil and Land Capability Impact Assessment' prepared by Environmental Earth Sciences and submitted by the Applicant, and is satisfied that the project satisfies the requirements of this SEPP.

Muswellbrook Local Environmental Plan 2009 (Muswellbrook LEP)

Pursuant to Muswellbrook LEP, the site is predominantly located within the RU1 Primary Production zone. Open cut mining is permissible within the zone, subject to development consent. As well as permissibility, Clause 2.3(2) of Muswellbrook LEP requires the consent authority to have regard to the objectives for development in a zone when determining a development application in respect of land within the zone. The zone objectives for the RU1 Primary Production zone are:

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- *To minimise the fragmentation and alienation of resource lands.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- *To protect the agricultural potential of rural land not identified for alternative land use, and to minimise the cost to the community of providing, extending and maintaining public amenities and services.*
- *To maintain the rural landscape character of the land in the long term.*
- *To ensure that development for the purpose of extractive industries, underground mines (other than surface works associated with underground mines) or open cut mines (other than open cut mines from the surface of the flood plain), will not:*
 - a. *destroy or impair the agricultural production potential of the land or, in the case of underground mining, unreasonably restrict or otherwise affect any other development on the surface, or*
 - b. *detrimentally affect in any way the quantity, flow and quality of water in either subterranean or surface water systems, or*
 - c. *visually intrude into its surroundings, except by way of suitable screening.*
- *To protect or conserve (or both):*
 - a. *soil stability by controlling development in accordance with land capability, and*

- b. trees and other vegetation, and*
- c. water resources, water quality and wetland areas, and their catchments and buffer areas, and*
- d. valuable deposits of minerals and extractive materials by restricting development that would compromise the efficient extraction of those deposits.*

The Commission is of the view that these zone objectives acknowledge the issue of land use conflict between mining and agricultural uses, but that the mine in question could not meet the objective of not impairing, and it could possibly trigger the relocation, of Coolmore and Darley, with significant adverse effects on the Equine Critical Industry Cluster.

5 JUSTIFICATION FOR THE PROJECT

The Commission received many submissions regarding the potential economic and social benefits of the mining proposal. These include significant local employment generation/continuation, substantial investment in the development of the site and the multiplier effects for the local region and broader socioeconomic benefits to be derived from retaining a skilled, educated and community minded workforce in the region, capable of supporting local business, sporting and community organisations and contributing to the betterment of the local educational and health services and facilities, and community as a whole. At the wider state level, the significant royalty and tax revenue was also noted.

The substantial personal and economic burden of closing the Drayton Mine and the flow on impacts and losses to the local region, its families and the community it supports was also made clear to the Commission. Submitters noted that the Drayton South mining application represents an employment lifeline for those workers and suppliers who are reliant on the Drayton Mine for work and who face redundancies, or significant decline or retraction in their businesses, with the impending closure of the Drayton Mine.

The Commission also heard concerns that the benefits of the mine had been overstated, including that the stated business strategy of Anglo American globally was to reduce its employee numbers and to sell or put into care and maintenance less profitable assets. A number of submissions speculated that viability of the mine was based on a complex scheme to avoid or put off the significant remediation liabilities at the existing Drayton mine in line with this business strategy. Others highlighted the declining coal price and suggested that the mine was not needed and/or that if the mine was not already unviable it would become so in the very near future, putting at risk the prospective employment and economic benefits. It was suggested that the environmental impacts of open cut mining were not justified when the benefits are not clear.

The significance of the adjoining thoroughbred horse studs to the region's world renowned thoroughbred breeding cluster was also highlighted. Various representatives of the Hunter thoroughbred sector, and independent industry participants and investors, argued that Coolmore and Darley, the operators of the adjoining horse studs, are critical to the success of the Equine Critical Industry Cluster. It was further argued that the studs are vulnerable to impacts from the proposed mine, and that they are mobile and will readily move elsewhere, devastating the long term sustainability of the sector within the region's economy. The wider economic ramifications of this loss were said to significantly outweigh any benefit to be derived from the relatively short term extension of current jobs and mining activities associated with the Drayton fleet and workforce.

In light of these two conflicting views on the costs and benefits of the mine, the Commission has given detailed consideration to this issue.

5.1 MINING INDUSTRY CONTEXT

5.1.1 NSW COAL INDUSTRY

In value terms coal is the single largest export product from NSW, and in 2013-14 accounted for a quarter of the total NSW export revenue (equating to \$15 billion in export revenue). In 2014 a record high of 159.2 million tonnes of coal was exported through the Port of Newcastle².

Asia (mainly Japan, China, South Korea and Taiwan), continues to be the major market for NSW coal, taking 98% of the total coal exports in 2013-14. Demand is expected to grow for coal over the next five years³.

According to NSW Trade and Investment data, the Hunter region is the largest regional contributor to Gross State Product with a Gross Regional Production of \$38.5 billion in 2013. The mining industry contributed 14.7% to this total⁴. The NSW Government's Economic Development Strategy for Regional NSW (2015) – Hunter Region Economic Profile states that the 'mining sector and allied industries, such as construction and transport, are expected to remain key drivers of economic growth despite recording a decline in GRP growth between 2011 and 2013, following the mining boom'.

The Hunter Coalfield is the largest coalfield in NSW, producing approximately 60% of the State's coal. It comprises 15 large mining complexes, including the Drayton Mine, that stretch in a broad corridor on either side of the Main Northern Railway between Singleton and Muswellbrook. There are two power stations, the Bayswater Power Station and the Liddell Power Station, located to the north east of the project site.

The coal mining industry continues to be a major employer in NSW with 21,863 people working in coalfields across NSW. This is down approximately 3000 positions since coal employment reached a peak in 2012⁵. In the Upper Hunter-Gunnedah region, coal mine employment reached 13,606 employees⁶ in 2013-14.

The Drayton South project, as a proportion of the overall NSW Coal industry, would contribute less than 2% to overall output, at an average of 4.9 million tonnes per year. The value of its production would also be less than 2% in relation to the overall value of NSW's annual mineral production at \$297.5 million per year. Table 1 provides comparative statistics between the project and the whole of NSW's coal industry.

² Department of Industry 2015, *Coal in NSW*, accessed 5/11/2015,

<http://www.resourcesandenergy.nsw.gov.au/investors/investment-opportunities/coal/coal>

³ NSW Coal Industry Profile 2014, prepared by NSW trade and Investment, Division of Resources and Energy (NSW Coal Industry Profile), Volume 1 p. 2

⁴ Economic Development Strategy for Regional NSW 2015, *Hunter Region Economic Profile*

⁵ NSW Coal Industry Profile, Volume 1 p. 2

⁶ NSW Coal Industry Profile, Volume 1 p.119

Table 1. Comparative statistics between the NSW Coal industry and the Drayton South project

	Estimated recoverable coal reserves	Total ROM coal output/yr	Export/yr	% of Value of NSW Mineral Production (\$20.9 billion in 2013-14)/yr	Employment
NSW Coal ⁷	15,311mt	261 mt	196.6mt	80% (\$16.7 billion)	21,863
Drayton South	0.48% (73.5mt ⁸)	1.87% (Average 4.9mt)	1.78% (Average 3.5Mt)	1.4% (\$297.5m @ \$85 AUD/t)	2.28% (500 FTE)

mt – million tonnes

5.2 PROJECT BENEFITS

5.2.1 APPLICANT'S JUSTIFICATION

The southern limits of the proposed Drayton South mining area have been guided by the minimum boundaries suggested in the Commission's 2013 review report, and as such the mine contains only two mining areas, the Whynot and Blakefield pits.

The project targets 73.5 million tonnes of coal by open cut methods, with a mine life of 15 years. An additional 1.4 million tonnes is also proposed to be mined from the existing Drayton Mine. The EIS describes this project as the initial stage in the potential development of a mining operation to extract the more significant, 588 million tonnes of underground resource in deeper seams, although extraction of this resource does not form part of this application.

The mine plan aims to achieve a coal stream that replaces that from the current Drayton Mine as well as addressing the concerns raised by the Commission in 2013 and 2014.

In aiming to address the Commission's concerns, The Applicant has moved the mining areas behind the ridgeline to the north of the Golden Highway. This reduces the amount of the coal resource to be exploited by 25%. It also increases the distance to the studs. The Applicant now argues it provides a buffer of 1.6 kilometres to the primary areas of operations on Woodlands Stud and approximately 2.4 kilometres to Coolmore. However, the consideration of impacts to the studs' operational areas is disputed by the studs, who maintain their entire properties are operational areas; this point is considered in Section 6. In addition to the greater separation distance, blasting, noise and dust impacts on the studs are proposed to be mitigated through a range of design and operational measures including best practice ground vibration, overpressure and combustion gas management for blasting.

In order to address the Commission's concerns about the visual impact of the mine and post-mining rehabilitation, the Applicant has committed to progressively constructing the final landform and ensuring overburden is not visible from its nominated 'operational areas' of Coolmore and Woodlands. In addition, microrelief techniques are proposed so that the final landform reflects a more natural looking topography designed to shed water away from the single final void in the Whynot area. The Blakefield area would be fully rehabilitated with no final void.

Socio Economic Benefits of Proposal

As part of the Applicant's project justification, Gillespie Economics was commissioned to undertake an Economic Assessment of the project for the EIS. The assessment concluded that the project

⁷ NSW Coal Industry Profile, various pages.

⁸ Anglo American 2015, *Environmental Impact Statement*, p. 1

would have a net social benefit to NSW of \$242 million (present value)⁹. This was calculated through a benefit cost analysis (BCA).

Key inputs into the BCA included the price of coal, operational, capital and decommissioning and rehabilitation costs, and the costs associated with environmental, social and cultural impacts.

The coal price used in these calculations was USD\$72 per tonne in 2016, USD\$82 per tonne in 2017 and USD\$87 per tonne for the remainder of the project life with an assumed exchange rate of AUD/USD 0.85. Sensitivity testing of plus or minus 20% was carried out over the life of the project.

Capital spending is expected to be in the order of \$131 million (present value) over the life of the mine with operating costs to be in the order of \$213 million (present value).

It was explained by the Applicant that mining costs would be minimised by maximising the use of existing Drayton infrastructure (draglines, excavators, dozers, haul trucks and the Coal Handling and Preparation Plant) and personnel in the transition from the existing Drayton Mine to Drayton South.

According to the Applicant, there will be a range of national, State and local benefits that would flow from the project:

- The Applicant expects the project to provide an annual regional direct and indirect output of \$559 million into the regional economy and \$906 million into the NSW economy.
- The total net production benefit, in present value terms, is estimated to be \$464 million. This includes \$93 million in company taxes payable to the Commonwealth Government and \$233 million in royalties to the NSW Government.
- The Applicant has offered to enter into a Voluntary Planning Agreement with Muswellbrook Shire Council, with \$290,000 a year to be paid into a Community Fund for community projects, \$50,000 a year to be paid to Council for road maintenance and \$15,000 a year to assist Council in monitoring the impacts of the mine.

The mine is projected to employ up to 500 workers, with indirect employment projected to be up to 984 jobs in the Hunter Valley and 2,085 jobs in NSW. The Applicant is committed to sourcing three apprentices locally per year of operation.

5.2.2 DEPARTMENT'S ASSESSMENT

The Department has assessed the application in detail, considering the impacts of the project and the cost benefit analysis. It notes that there are several arguments to justify the project, namely that:

- the coal resource to be extracted is significant and that the extraction of 6.4 million tonnes of coal a year would make the mine the 13th largest coal producer amongst the 59 active coal mines in NSW;
- the mine design is sensitive to the surrounding land uses and environmental features of the site, with significant buffers between the mine and the horse studs and reduced environmental impacts, comparative to the previous application for mining on the site;
- the proposal would take advantage of the existing infrastructure in place at the Drayton mine site;
- it represents \$464 million (net present value) in benefits, including \$233 million in royalties and \$93 million in company taxes, although the Department notes that the royalty revenue is sensitive to the coal price with estimated benefits ranging between \$149 and \$357 million (present value) depending on the coal price and Australian dollar exchange rate against the US dollar;

⁹ Anglo American 2015, *Environmental Impact Statement*, Appendix E

- in the order of \$355,000 per annum in contributions would be made to Muswellbrook Council, as part of a voluntary planning agreement;
- there would be substantial capital and operational spending;
- the employment of 500 workers and associated multiplier effects would benefit employment in the region; and
- the cost benefit analysis undertaken by the Applicant predicts a net production benefit to Australia of \$330 million (present value), acknowledging the analysis is sensitive to coal price, exchange rate and profit beneficiaries, but that under all scenarios the project would result in a significant benefit to Australia.

The Department's assessment considered the following key issues:

- Policy framework;
- Co-existence of land uses
- Social and Economic issues
- Visual
- Equine Health
- Air quality, noise and blasting impacts
- Biodiversity impacts and proposed offsets
- Water resource
- Aboriginal and historic heritage and landscapes
- Final landform and rehabilitation
- Traffic and transport.

The Department concludes that the application should be approved subject to strict conditions. In arriving at this view the Department was satisfied that:

- approximately 75 million tonnes of coal would be extracted and that this would generate substantial economic benefits for the region and state;
- the project would be able to comply with relevant air, noise and blasting criteria at Coolmore and Woodlands studs;
- scientific evidence supports a view that the project would not result in adverse equine health impacts;
- the quality and quantity of water used by the studs would not be impacted significantly by the project;
- as the mining operations would remain behind the major natural ridgeline on the site, the mine plan is consistent with the Commission's recommendations and that there would be no direct visual impact of mining operations on the core operational areas of the studs;
- any visual impacts on the studs would be acceptable as the areas affected are not core areas where horse breeding activities occur, noting that there would still be some indirect and dynamic impacts as a result of the project, and concluded that:
 - these impacts can be mitigated to some degree;
 - are common impacts in the Hunter Valley where mines are located in close proximity to several horse studs in the Equine Critical Industry Cluster; and
 - are unavoidable consequences of co-existence of these two important industries in the valley.

The Secretary's Environmental Assessment Report notes that the '*...Department is satisfied that the project would extract a significant coal resource of around 75 million tonnes of coal ... and that the*

*extraction of this coal resource would generate substantial economic benefits for the regional and State economy'*¹⁰.

The Department does not consider that the impacts to the studs would be so significant that the Coolmore and Woodlands studs would leave the Hunter Valley.

5.2.3 SUBMISSIONS ON THE BENEFITS OF THE PROJECT

Submissions in support of the project raised the economic benefits of the project. These submissions largely echoed the benefits highlighted by the Applicant and the Department in the preceding sections. That is, the benefits were said to include contributions to the local and regional economy from ongoing employment for mine workers, contractors and those employed by suppliers of goods and services to the mine, substantial annual contributions to Muswellbrook Shire Council, and the royalties and taxes payable to the NSW and Australian Governments.

As noted earlier in this section, the supporters also noted the significant personal and social benefits ongoing employment of the Drayton workforce and associated contractors and suppliers would bring.

Not only did the Commission hear a significant number of the personal stories of the workers and suppliers to the mine, of their passion for their jobs, their employees and the sector, but also of the strength of their community and their commitment to building a better future for the next generation. The Commission also received an overwhelming and unprecedented online response to its call for submissions, with some 17,000 submissions in support of the workers and community at Drayton.

5.3 PROJECT COSTS AND POTENTIAL OVERESTIMATION OF BENEFITS

While not nearly as numerous, the Commission received a number of substantive submissions questioning the benefits of the project. These submissions came from workers and residents on the Coolmore and Woodlands studs, as well as experts commissioned by Coolmore and Darley. Other submissions were received from participants from a range of industry backgrounds, including the viticulture, tourism, dairy and wider equine and agricultural support sectors. Their concerns about the economic analysis included that:

- the economic and employment benefit calculations were optimistic and/or overstated;
- the project was not commercially viable;
- mine rehabilitation and associated costs were being delayed for a balance sheet advantage and there was a perception that the mine might not eventuate; and
- the impact of Coolmore and Darley leaving the Hunter (and NSW) had not been adequately assessed and that the real risks of this occurring had not been acknowledged or understood, and could result in a net economic loss for NSW and a long term decline in the economic diversity of the Hunter region.

5.3.1 POTENTIAL OVERSTATING OF BENEFITS

Employment Benefits

Queries were raised about the validity of the Applicant's figures of 500 FTE jobs and a total wages of \$90 million per annum with a claimed \$25 million payroll tax requirement.

The Applicant has since clarified that it intends the project to be a 7 day operation that will require approximately 500 FTE personnel. The employment roster will be made up of 393 direct employees

¹⁰ Department of Planning and Environment 2015, *Drayton South Coal Project (SSD 6875) Secretary's Environmental Assessment Report*, p.iii

and approximately 100+ contractors. At the Commission's request it also provided employment and wages data since 2010 (see Table 2) and a revenue and expenditure profile of the project. From this data it can be seen that total direct employee wages would be in the order of \$56 million, with \$39 million of this total going to employees living in the region¹¹.

Many of the speakers raised concerns with job security at the mine and the need for an approval to the Drayton South coal project to provide long term stability for their families.

As shown in Table 2, the mine has been gradually reducing its workforce at the Drayton Mine as operations wind down in expectation of closure by the end of 2017. According to the Applicant there are currently 409 FTE personnel remaining at the Drayton Mine with over 82% of this workforce living in the Singleton, Muswellbrook and Upper Hunter LGAs¹².

Table 2. Drayton Mine Employment and Wage Data¹³

	2010	2011	2012	2013	2014	2015 ¹
Employment Numbers						
Total Employees	337	427	448	410	378	312
Contractors	106	168	131	176	84	97
Total FTE's	443	595	579	586	462	409
% Employees From Local Postcodes²	80%					82%
Wages Information						
Salaries - Ordinary Time	\$118,774	\$110,884	\$115,109	\$125,668	\$121,312	\$122,674
Overtime	\$6,211	\$5,267	\$4,667	\$6,330	\$5,088	\$3,465
Bonus	\$4,476	\$2,499	\$3,124	\$4,444	\$6,764	\$1,108
On-costs	\$36,535	\$34,848	\$44,231	\$60,423	\$57,341	\$56,836
Other Employee Benefits	\$2,735	\$1,489	\$1,438	\$1,158	\$1,712	\$635
Superannuation/ Pension Funds	\$9,648	\$9,170	\$11,901	\$12,725	\$12,823	\$12,484
Total Cost/Employee	\$178,379	\$164,157	\$180,470	\$210,748	\$205,040	\$197,202

¹ Data correct as of the date of this report.

² Muswellbrook, Upper Hunter Shire and Singleton LGA's (Demographic information only collated 2010 & 2015)

The existing Drayton Mine has significant support industries in the local area which supply trade and technical skilled labour and various goods and services which the mine relies on for its operations. Drayton Mine has contributed to a diverse range of community groups for many years, including funding partnerships with the Upper Hunter and Muswellbrook Shire Councils for social infrastructure and sponsoring the Aberdeen Highland Games and the Westpac Rescue Helicopter amongst others¹⁴.

The Applicant provided comparative employment data which highlighted the effect of the coal mining downturn. In September 2011 the unemployment rate for the Muswellbrook LGA was 2.2%,

¹¹ Anglo American 2015, email, 23 October 2015 and Hansen Bailey 2015, email, 3 November 2015

¹² Anglo American 2015, email, 23 October 2015

¹³ Anglo American 2015, email, 23 October 2015

¹⁴ Hansen Bailey 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, p. 56

while for the Singleton LGA it was 1.1%. The June 2015 unemployment rate for Muswellbrook LGA has climbed to 11.4%, and 6.6% in the Singleton LGA¹⁵. Many submissions argued that these unemployment levels would be significantly higher, especially in Muswellbrook, if the mine extension does not proceed.

Long-run Price and Demand for Coal

Submissions criticised the coal prices used in the BCA calculation as being out of date. Submissions also questioned the logic of adding further coal supply into an oversupplied market and stated that coal is in structural decline with coal prices unlikely to recover to the extent that the Applicant has projected¹⁶. The Applicant's assumed coal price is USD\$72/t in 2016, USD\$82/t in 2017 and USD\$87/t thereafter based on the average of the December 2014 Consensus Pricing from 21 financial institutions¹⁷.

The Applicant acknowledge that a typographical error was made in the EIS, in that the coal price figure used for 2018 onwards should have been USD\$87/t rather than AUD\$87/t. The company states that the correct figure was used in the modelling and therefore the value of coal was not overestimated¹⁸.

Current coal prices are at USD\$58/t. The price of Australian thermal coal has been gradually decreasing since a high of USD\$123/t in 2011. For its royalty calculations DRE use the current short term coal prices, and medium to long term export thermal prices in the range of AUD\$90 to AUD\$117/t, which at the current USD/AUD exchange rate of 0.72 equates to a range of USD\$65 to USD\$84¹⁹.

The Office of the Chief Economist is part of the Australian Government's Department of Industry, Innovation and Science and produces the Resources and Energy Quarterly. The September edition of the Quarterly states that:

Lower prices are expected to reduce the incentive to invest in new capacity and continue to force the closure of unprofitable capacity. Beyond 2017, thermal coal prices are projected to increase moderately as demand increases, supply growth slows and the market tightens. ..The JFY (Japanese Fiscal Year) benchmark contract price is projected to decline to US\$58 a tonne in 2017 (in 2015 dollar terms), before increasing to around US\$61 a tonne (in 2015 dollar terms) by 2020²⁰.

Despite forecasting a coal price of only US\$61/t by 2020, the Office of the Chief Economist is positive about the economic outlook for thermal coal. Thermal coal exports are projected to increase to over 230 million tonnes over the next five years. This is mainly due to projected demand for coal fired power across Asia. It reflects the views of the International Energy Agency which forecasts energy demand in South East Asia to increase by 80% by 2040²¹.

¹⁵ Ibid

¹⁶ Institute for Energy Economics and Financial Analysis 2015, *Anglo American's Drayton South Coal Mine, A Likely Stranded Asset*

¹⁷ Anglo American 2015, *Environmental Impact Statement*, Appendix E

¹⁸ Anglo American 2015, email, 25 September 2015

¹⁹ Department of Trade and Investment - Division of Resources and Energy 2015, Correspondence to the Commission, 26 June 2015

²⁰ Department of Industry, Innovation and Science - Office of the Chief Economist 2015, *Resources and Energy Quarterly*, Canberra

²¹ Department of Industry, Innovation and Science - Office of the Chief Economist 2015, *Riding the resources cycle: the outlook for the Australian resources and energy sector, presentation to Australian Business Economists*, Canberra

The 2014 Consensus Pricing used by the Applicant assumed an AUD/USD exchange rate of 0.85. While it is noted that historic coal prices and exchange rates are not relevant for determining future predicted coal prices, commodity prices are known to have a strong relationship with the Australian dollar. The Australian dollar has fallen along with the prices of oil, iron ore and coal. A lower Australian dollar, against the US dollar, can to some extent, offset lower US denominated prices for Australian commodities, such as coal²².

Marsden Jacobs Associates prepared a review of the Applicant's Economic Assessment for Coolmore Australia and Darley Australia. Marsden Jacobs Associates compared the net social benefits realised with a coal price of AUD\$87 (USD\$74) with a coal price of AUD\$102 (USD\$87), assuming an AUD/USD exchange rate of 0.85, and found that the benefit reduces significantly from \$458 million to \$45 million. Marsden Jacobs Associates then went on to factor the costs of externalities it believes were not priced correctly or included in the Gillespie Economics model i.e. greenhouse gas emission costs, travel costs and Aboriginal heritage costs, which then took the net social benefits into negative territory²³.

The Applicant responded that its sensitivity testing encompasses a range of coal prices and exchange rates. Further comparisons were provided, including a coal price of US\$61/t, and exchange rates varying from 0.85 to 0.70. All comparisons were shown to be within the boundaries of the sensitivity testing undertaken in the EIS²⁴.

Royalties

The royalty value of the project to NSW was queried. It was claimed that if the current coal price of US\$58/t is used, royalties of only AUD\$23 million per annum would be payable, rather than the AUD\$30 million estimated by the company.

However, DRE commented that it calculated a higher royalty return due to the more positive medium to long term forecast coal prices used in its royalty calculations²⁵.

5.3.2 POTENTIAL UNDERSTATING OF COSTS

Economic Impact of Coolmore and Darley Relocating out of NSW

A major criticism of the BCA was the failure to properly account for the impact to the regional and NSW economies of Coolmore and Darley potentially relocating interstate, or even to New Zealand²⁶. The Applicant maintains that 'technical assessments show that the Project will not impact the horse stud operations and therefore there are no impacts for inclusion in the Economic Assessment'²⁷.

Coolmore, Darley and the HTBA have stated that the reputational damage associated with having an open cut coal mine in such close proximity to their operations would be too high to risk and would precipitate a move, most likely out of the state. This in turn, due to the economic importance to the

²² St. George, *Australian Dollar Outlook*, accessed 4/11/2015, <https://www.stgeorge.com.au/content/dam/stg/downloads/report-centre/AUD%20Outlook%20%2014%20Sep15.pdf>

²³ Marsden Jacobs Associates, *Drayton South Coal Mine: Review PAC, Independent review of the Economic Assessment October 2015*, report prepared for Coolmore Australia and Darley Australia (Marsden Jacobs Associates) p. 4

²⁴ Hansen Bailey 2015, email, 3 November 2015

²⁵ Department of Trade and Investment, Division of Resources and Energy 2015, Correspondence to the Commission, 26 June 2015

²⁶ Marsden Jacobs Associates 2015, Submission to the Commission, p. iv; Hunter Thoroughbred Breeders Association 2015, Submission to the Commission; Darley Australia 2015, Submission to the Commission; and Coolmore Australia 2015, Submission to the Commission

²⁷ Anglo American 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, p. 15

industry of the two studs, would be devastating to the Upper Hunter's Equine Critical Industry Cluster.

Importance of the Broodmare Industry

The Commission received a submission which described the thoroughbred industry from a breeder's perspective. The submission made the case that, contrary to the Applicant's and the Department's view, the thoroughbred industry is highly mobile and there are no obstacles to Coolmore or Darley relocating²⁸. In countering arguments that the studs' real property investment, the local established network of infrastructure and the proximity and reliance on other breeding enterprises are barriers to relocation, the submission makes the following points:

'the bloodstock assets that the studs own are worth many times the property value...even though the value of the properties is significant in absolute terms, it is minor in comparison to the financial damage that would flow from reduced earnings potential of the stallions, and is interchangeable with other properties as far as utility is concerned'.

'...the same infrastructure is available in other parts of Australia and New Zealand. Victoria...has infrastructure that currently supports around 6,000 mares, nearly two-thirds the amount of the Hunter Valley. What sets the two locations apart is the value of the stallions and mares in each, not the quality of the land...It should be noted that in each of Victoria, Queensland or New Zealand, there is ample land for expansion of their main breeding centres, and an absence of mining...it would take comparatively little effort to transfer'.

'...the stallions are the draw for the mares, not the other way round...Virtually all of the elite stallions available to Australian breeders are today located in the Hunter Valley, and hence the owners of well credentialed breeding mares invariably choose to keep their mares there. So the issue for the owners of these mares will be how to respond when Coolmore and Darley are inevitably forced to move more than half of these elite stallions to another location. If those stallions moved to Victoria...that movement alone would swing the numbers of elite stallions in Victoria to numerical superiority over the Hunter Valley...at least a significant proportion of the breeding mare population must also be relocated for the reason that it is commercially imperative that these elite broodmares are mated with elite stallions to maximise the value of the offspring, and outside of Coolmore and Darley there are not enough elite stallions to service the market'.

The submission goes on to estimate that the loss of 3,000 mares to the Hunter Valley is the minimum likely impact, and over time more are likely to move as breeders would have to decide where to base their new stock. It is the author of the submission's belief that many breeders would choose to base future mares wherever Coolmore and Darley relocate to. The submission estimated that the movement of Coolmore and Daley and 3,000 mares would result in total annual direct spending loss to the Hunter Valley of \$190 million. The submission also raised the prospect that the estimated 409 FTE jobs required to look after 3,000 mares would be at risk, in addition to those at Coolmore and Darley.

Other Externalities

A number of submissions raised concern that externalities, such as impacts on Aboriginal heritage, the viticulture and tourism industries, human health and greenhouse gas impacts, had not been properly incorporated into the BCA²⁹.

²⁸ Guihot, D 2015, Submission to the Commission

²⁹ Marsden Jacobs Associates p. 16

The Applicant notes that the project's impacts on Aboriginal heritage have reduced as a result of the contraction of the mine footprint (156 impacts impacted, down from 175 previously) and that the impacts will not be unmitigated (the Drayton Mine Aboriginal Cultural Heritage Management Plan will be revised and implemented). Gillespie Economics made the decision not to include the residual impacts in the BCA due to difficulties in pricing them³⁰.

The Applicant maintains that the approach taken in the Economic Assessment to valuing greenhouse gas costs is appropriate. The Applicant acknowledges however that there is some broader debate about appropriate valuation methods³¹.

The Applicant also maintain that there is no reason to put a price on any potential impacts to the horse studs, in the BCA as there will be 'no tangible impacts on the operation of either horse stud, or indeed, as suggested, on the greater thoroughbred breeding and gambling industries'³².

The Applicant disputes the importance of Coolmore and Darley to the regional economy and claims that horse breeding in the Hunter only provides 2% of the employment compared to 25% provided directly by coal mining. The Applicant also points out its greater financial contributions to the NSW and Commonwealth governments, in the form of royalties and taxes³³.

5.3.3 PROJECT VIABILITY

The commercial viability of the project was questioned on the basis that estimated project preparation, transport, royalty and rehabilitation costs could be in the order of AUD\$77-79/t (USD \$65 – 67 at 0.85 USD/AUD exchange rate) of coal shipped³⁴.

The Applicant provided further information confirming its project and rehabilitation costs and maintained that at a range of coal price and exchange rate assumptions the net social benefits of the project remained positive.³⁵

Project viability is not usually a relevant consideration for a planning assessment, but where there is potential for significant cost impacts, questions about the viability and certainty of the purported benefits become more important. Consequently the Commission has considered the viability concerns raised in submissions.

Production risk

Michael White, a resources consultant, undertook a review of the Applicant's EIS on behalf of Darley Australia and Coolmore Australia. White's review identified risks to delivering the projected saleable tonnes of coal due to:

- historical underperformance of 35% when comparing actual production against the projected 2007 production schedule for the Drayton mine;
- assumptions made about equipment productivity; and
- assumptions made about life of mine equipment reliability and impacts on output³⁶.

³⁰ Anglo American 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, p. 14

³¹ Anglo American 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, p. 15

³² *ibid*

³³ *ibid*

³⁴ Institute for Energy Economics and Financial Analysis 2015, Submission to the Commission

³⁵ Hansen Bailey 2015, email, 3 November 2015

³⁶ White, M 2015, Submission to the Commission

The extent of the coal resource and quality of the coal product was also queried in a number of submissions.

In relation to comments made that the coal resource at Drayton South has been overestimated, The Applicant maintains that the resource estimate is based on extensive exploration and detailed geological modelling and has high confidence in its results which are compliant with the *Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves* (JORC Code). The Applicant argues that the economic analysis was conservative in nature and sensitivity analysis was undertaken equivalent to a 20% reduction in resource³⁷.

The Applicant considered the claim that Drayton choosing to target a lower tonnage than the maximum approved amount is an indication that they will not achieve tonnages stated in the Drayton South EIS, is disingenuous³⁸.

In relation to queries about equipment productivity the Applicant explained that the increase in performance was due to the inclusion of low cost mining techniques into the greater dragline system³⁹.

The Applicant explained that in terms of equipment reliability and long-term output it is confident that as the mining environment at Drayton South will be simpler and easier than at the Drayton Mine, and that equipment productivity will improve as a result. Repair and replacement will be driven by the market, the options available at the time, and the remaining mine life⁴⁰.

Department of Industry, Division of Resources and Energy (DRE) has verified the project's resource estimation and confirmed that important coal quality specifications for export thermal coal will be met by the project's coal product⁴¹. DRE note, however, that while the current Drayton Mine has produced less coal than stated in its 2007 EA, this was not uncommon amongst many of the adjacent mines in the region. There are numerous reasons why this may occur and these usually relate to a mine's investment in equipment and coal handling facilities, workforce levels, demand for coal and projected future prices as well as the mine's approval conditions and stage in the mine's lifecycle⁴².

Strip ratio

White's review queried the higher than average strip ratio of the project and consequential higher costs to the company⁴³.

The Applicant acknowledges the high strip ratio of the Drayton South project in comparison to other Hunter Valley mines and states that the high strip ratio costs of the mine have been addressed by low cost overburden removal methods and strip width optimisation. The company is confident that the project will be productive in comparison to other regional mines and would be at least as efficient as other mines with similar strip ratios such as Liddell and Ravensworth⁴⁴.

³⁷ Anglo American 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, p. 13 and Anglo American 2015, email, 23 October 2015.

³⁸ Anglo American 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, p. 8

³⁹ *ibid*

⁴⁰ *ibid*

⁴¹ Department of Industry - Division of Resources and Energy 2015, Correspondence to the Commission, 30 October 2015

⁴² *ibid*

⁴³ White, M. 2015, Submission to the Commission

⁴⁴ Anglo American 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, p. 10

DRE confirmed that the strip ratio for the project is higher than the NSW average but that it is still within an acceptable range. It was noted that the Ravensworth North Mine has been operating successfully since 2012 and has a comparable strip ratio to the project (Run of Mine strip ratio of 6.7:1 compared to Drayton South's strip ratio of 6.9:1)⁴⁵.

Missing information

White's review noted missing information related to 1.4 million tonnes of coal to be extracted from the existing Drayton Mine and queried the effect this would have on waste production schedules and air quality data⁴⁶.

The Applicant explained that the 1.4 million tonnes of coal from the Drayton Mine that appeared unaccounted for is remaining output from the Drayton Mine that would be extracted during preliminary activities at Drayton South⁴⁷. The Applicant has corrected the calculation error in the waste production schedule and determined that air quality modelling remains unaffected⁴⁸.

Capital costs

Both MJA's and White's reviews raised issues with the validity of the capital costs used in the BCA⁴⁹. In responding to concerns that capital costs for the project have been underestimated, the Applicant explains that the capital costs are different to the figures for the previous project because it is a different project and *'the revised capital costs reflect this and the pressures for cost savings given the smaller project. Further, in the current mine downturn, capital costs associated with mining developments have become far more competitive and are continuing to trend downwards'*⁵⁰. The Applicant has acknowledged that some stay in business costs have not been fully disclosed as a matter of commercial confidentiality. Costs associated with equipment repair and replacement have not been included, as these decisions will be made as the mine progresses⁵¹.

Rehabilitation costs

White's review and other submissions queried why the mine rehabilitation and closure costs have increased since 2012⁵². Marsden Jacobs Associates noted that despite the current project being for a smaller mine (compared to the original application) the avoided costs associated with decommissioning and rehabilitating both the Drayton and Drayton South mines increased from \$32 million to \$66 million without any justification being provided⁵³. In response the Applicant explains that the *'closure plan is now very close to finalisation and as such the cost for rehabilitation of the site...is well understood and adequately allowed for in provisioning'*⁵⁴.

The Applicant further notes that:

⁴⁵ Department of Industry - Division of Resources and Energy 2015, Correspondence to the Commission, 30 October 2015

⁴⁶ White, M. 2015, Submission to the Commission

⁴⁷ Anglo American 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, p. 19

⁴⁸ Anglo American 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, pp. 19-20

⁴⁹ White, M. 2015, Submission to the Commission

⁵⁰ Anglo American 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, p. 14

⁵¹ Anglo American 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, p. 14

⁵² White, M 2015, Submission to the Commission and Marsden Jacobs Associates p.14

⁵³ Marsden Jacobs Associates p. 14

⁵⁴ Anglo American 2015, *Drayton South Coal Project Response to Submissions to Review Planning Assessment Commission*, p. 9

...a range of factors ... have contributed to the approximate \$34 Million increase in this cost estimate. The most significant areas of change are attributed to:

- *An increase in void and tailings disposal areas in the current application compared to the 2012 application.*
- *The cost of incorporating micro-relief into the final landform compared to the 2012 application, and*
- *Increases in the applicable rates of the Department of Resources and Energy (DRE) Rehabilitation Cost Calculation Tool between 2012 and 2015⁵⁵.*

The Applicant explained that some areas of the current Drayton Mine will be required as part of the Drayton South proposal such as the remaining voids, transport roads and fixed infrastructure areas. The cost of decommissioning and rehabilitating these areas is estimated to be \$34 million and will be deferred to the end of the Drayton South mine life. Other areas of the Drayton Mine not required for the Drayton South project will be progressively rehabilitated. Decommissioning and rehabilitating the Drayton South area at the end of its life is projected to cost \$32 million bringing the total costs to \$66 million⁵⁶.

Other rehabilitation concerns

Submissions raised concern with the deferral of closure and rehabilitation costs. The concern is that the Applicant may sell the project to divest itself of the rehabilitation liability. A number of submissions noted the public statements by Anglo-American in relation to substantially reducing its global workforce and selling, or placing into care and maintenance, a range of mining assets. The concern was that this project may be directed at gaining a balance sheet advantage by deferring rehabilitation costs with a risk that the project would not proceed and therefore not deliver the economic and employment benefits. Concern also centred around the potential for the rehabilitation burden to fall to the NSW Government if the project is on-sold to another company that does not have the capital to fund closure costs at the end of the project.

The Applicant provided further information to the Commission in relation to its rehabilitation and decommissioning costs at a meeting on 28 October 2015 and confirmed its intention to proceed with mining at Drayton South, should it be approved.⁵⁷ The Applicant also provided further information confirming its project and rehabilitation costs and maintained that at a range of coal price and exchange rate assumptions the net social benefits of the project remained positive.⁵⁸

Marsden Jacobs Associates review, informed in part by White's review, found that the Applicant's economic analysis, conducted by Gillespie Economics, potentially incorrectly estimated the benefits and /or costs by approximately \$1.5 billion, with social benefits being overestimated by as much as \$538 million⁵⁹.

This \$1.5 billion figure was arrived at as a result of reviewing the assumptions made by Gillespie Economics in relation to the coal price, project costs and social benefits of the project. Marsden Jacob Associates raised a number of alternative assumptions which factor into this decrease in economic benefit. For instance the net benefits of the proposal could decrease by:

- approximately \$910 million if, as raised in White's review, product tonnes for the project have been over-estimated by 35% ;

⁵⁵ Hansen Bailey 2015, email, 3 November 2015

⁵⁶ *ibid*

⁵⁷ *ibid*

⁵⁸ *ibid*

⁵⁹ Marsden Jacobs Associates, p.i

- \$130 million if greenhouse gas, transport and aboriginal heritage costs are calculated as suggested by MJA (and BDA and Deloitte Economics in the case of greenhouse gas); and
- \$101 million if additional costs for repair and maintenance are included, as suggested by White's review⁶⁰.

5.4 CONCLUSIONS ON THE ECONOMIC AND SOCIAL BENEFITS AND COSTS OF THE PROPOSAL

The Commission finds itself presented with, from both the thoroughbred industry and from the Applicant, highly technical economic analyses in reports prepared by respected professionals in their field on the same subject matter but which reach vastly different conclusions. Much of the analysis is built on assumptions which are not easily or readily verifiable. The Commission has, for example, no way of conclusively testing some of the claims made by the Applicant, for instance in relation to cost assumptions made in its BCA, nor is it able to fully test the claims made by the studs that they will have no option but to leave the region.

The Commission is satisfied that claims made by the Applicant of the substantial economic benefits to NSW of a project approval, should the proposal proceed fully in the indicated timeframe after approval, have been adequately tested by submissions made to the Commission as well as questions put to it by the Commission itself.

In the Commission's opinion the Applicant has responded to questions about rehabilitation and decommissioning costs. The Applicant provided further material, confirmed by DRE, that appropriate resource estimation, in accordance with the JORC Code, has been undertaken. It further noted that although the strip ratio of the mine is above average and coal prices are declining, these factors are offset by the low capital costs of the project as a result of using the infrastructure from the current Drayton Mine. The Applicant explained that the mine is viable and indicated that it fully intends to retain the mine and proceed with its development.

Analysis provided by Marsden Jacob Associates illustrating how widely the economic benefits or costs of the project to NSW can vary depending on the assumed coal price, if exchange rates are held constant was enlightening⁶¹. This was confirmed by the Applicant in correspondence to the Commission:

*'Avoided one-off decommissioning and rehabilitation costs only impact BCA undertaken at the global level and do not impact the Net Social Benefits of the project to NSW. This is because the Net Social Benefits of the project at the NSW level mainly comprise royalties, which are unaffected by such costs'*⁶².

From further information provided by the Applicant it appears that substantial fluctuations in the coal price and exchange rate have been adequately captured in sensitivity testing undertaken as part of the BCA. The Commission does note however, that it is evident from a review of a number of credible forecasts of coal prices that the Applicant's assumptions are at the upper end of the spectrum.

A number of claims made by the Applicant, for instance, that horse breeding in the Hunter only provides 2% of the employment compared to 25% provided directly by coal mining, that the project would provide a \$25 million payroll tax benefit to NSW, as well as some capital and operating cost

⁶⁰ Marsden Jacobs Associates, p. ii

⁶¹ Marsden Jacobs Associates p. 4

⁶² Hansen Bailey 2015, email, 3 November 2015

assumptions, have not been verified by the Commission but these are not considered material to the Commission's conclusions. Notwithstanding, it is the Commission's understanding that direct coal mining employment in the Hunter region is closer to 10%⁶³.

Due to his extensive economic expertise, the Commission requested Commissioner Geoff Carmody, to assist it in analysing the economic data provided by the Applicant and in submissions, and to define any areas where there may be significant residual questions in relation to the economic aspects of the proposal. A summary of these comments are provided below:

1. It was suggested that the benefits cited in favour of the Drayton South proposal are better described as coal mining economic losses avoided, rather than incremental net new benefits, to the Hunter Valley, NSW, and Australia.
2. In terms of an appropriate discount rate, in a low yield environment that may continue for some time it may be more appropriate to use a lower rate, acknowledging that while this would increase net present value estimates of the effects of the project it may shift the balance more in favour of activities operating in perpetuity over those extracting depletable resources over 15 years. In turn, this may increase the importance of minimising risks that the former activity ceases in response to the latter activity. In this context, there is some suggestion that official discount rates being used elsewhere at Commonwealth and State levels are being lowered.
3. The probability of the studs moving is in dispute. The Applicant claims there is almost no chance they will move. Opponents of the Drayton South project assert that there is a high probability that they will move, taking the mares they service as well. The NSW Government is taking a risk that the move will occur if the Drayton South project goes ahead. Is the Applicant sufficiently confident of its own probability assessment to accept in some way a share of the costs faced by NSW if the studs do move out of the state? If the probability that the studs will move (ie, almost if not exactly zero) is accurate, the Applicant should be indifferent, or close to indifferent, about shouldering some of the risk, whatever its cost.

The Commission accepts that Benefit Cost Analyses (BCA) are useful to an understanding of the proportionality of a proposal. A proposal's BCA assists the decision maker by contributing to the information available on which to base a decision. However, BCAs do have some limitations—in the case of the Drayton South project for instance, assumptions are favourable to the Applicant's case, and the BCA has excluded some potential costs such as impacts on the horse industry, impacts on the environment (including cumulative human health), Aboriginal cultural heritage, and landscape/tourism impacts.

The Commission appreciates that some externalities are difficult to cost and that in these cases it may be preferable to leave the weighing up of their comparative value to the decision maker as part of the overall merit assessment of the project. It is however disappointing that greater justification for many of the assumptions made in the BCA were not provided up front.

The Commission considers that the net economic benefits of the project are optimistic and are likely to have been overstated. Nevertheless, it is apparent that, while considered questions have been raised regarding the Applicant's economic analysis, the project is still likely to deliver substantial economic benefits to NSW in the form of royalties from the extraction of coal, and from the flow-on benefits of the economic activity from the operation of the mine over a period of 15 years, should it proceed. The continued employment and community benefits that the project would provide during

⁶³ ABS 2011 data

that time would also be important to the mine workers, proprietors and employees of mine support businesses and the towns of Muswellbrook and Singleton, especially considering the high levels of unemployment in these council areas.

Notwithstanding the likely economic benefits, to be spread over a relatively short 15 years, the Commission has significant concerns in relation to the potential long term economic costs to the Hunter Valley and NSW if Coolmore and Darley relocated out of the state.

The following section provides further discussion on the economic contribution of Coolmore and Darley to both the Hunter and NSW economies, and the potential impacts of the project on Coolmore and Darley's Woodlands stud.

6 POTENTIAL IMPACTS ON THE OPERATIONS OF COOLMORE AND WOODLANDS STUDS

6.1.1 BACKGROUND

NSW Thoroughbred Breeding and Racing Industry

A recent report by the NSW Government entitled '*Size and Scope of the NSW Racing Industry*⁶⁴' sets out the economic contribution made to the NSW state economy of the three codes of racing: thoroughbred, harness and greyhound.

The report breaks down the expenditure profile of the racing industry into a number of elements, such as production (breeding related activities), preparation (training related activities) as well as race-day and non-race-day expenditures. In terms of the economic impacts of production, the report states that the:

*'...thoroughbred breeding sector is responsible for generating more than \$432.2 million in the production and care of racing stock. The Hunter region is responsible for nearly 79% of this amount*⁶⁵.

The report goes on to say:

*In addition to the cost of producing the racehorse the thoroughbred breeding industry in NSW captures a significant amount of expenditure from purchasers of horses at yearling sales – most notably the Australian Easter Yearling sales at Newmarket, Sydney. Once the stallion fees, costs of production and sales costs are deducted from the sale price of NSW bred yearlings, the remaining expenditure can be attributed to stimulating the breeding sector in NSW. In total, close to \$70 million was spent into the NSW economy from the sale of NSW bred yearlings at auction sales – much of this by out of state buyers*⁶⁶.

Figures from the report show that the broader thoroughbred breeding and racing industry in NSW has a direct spending impact of \$1.9 billion per year (2012-13 figures) with a total value added contribution of \$2.6 billion.

Hunter Thoroughbred Breeding Sector

The Hunter region of NSW has a long history of agricultural use, including thoroughbred breeding, and this sector of the economy plays a major role in the Hunter's cultural identity and in maintaining its economic diversity. The Hunter thoroughbred breeding sector is considered to be one of the

⁶⁴ Office of Liquor, Gaming and Racing 2014, *Size and Scope of NSW Racing Industry*

⁶⁵ Office of Liquor, Gaming and Racing 2014, *Size and Scope of NSW Racing Industry*, p. 47

⁶⁶ Office of Liquor, Gaming and Racing 2014, *Size and Scope of NSW Racing Industry*, p. 45

largest and most important thoroughbred breeding clusters in the world, along with Newmarket in the United Kingdom and Kentucky in the United States of America.

The Department of Primary Industries *Upper Hunter Region Equine Profile*⁶⁷ notes that the Upper Hunter region, particularly the Muswellbrook and Upper Hunter Local Government Areas region is ranked second only to Kentucky, USA in terms of the concentration of thoroughbred stud properties and the quality and number of bloodlines. The region also supports nationally recognised training, racing, medical and research facilities.

The Equine Profile makes the point that it is *‘the quality of bloodlines and the value of horses bred in the region; the reputation of those studs and the consequent fees they can attract for servicing and agisting mares and rearing foals; [and] the very extensive flow on values generated by the industry via employment, investment and support services’* that defines the significance of the Hunter thoroughbred breeding sector.

The sector produces around half of all the thoroughbred horses in Australia and approximately 70% of Australia’s thoroughbred horse exports. It generates approximately \$300 million in income each year, including horse exports valued at over \$100 million. The Hunter thoroughbred breeding sector is a significant part of the overall NSW Thoroughbred Breeding and Racing Industry.

Table 3 provides a comparison between the wider NSW Thoroughbred Horse Breeding and Racing Industry with the NSW Mining Industry. It can be seen that both are significant contributors to the state economy in terms of employment, Total Value Added and Total Direct Expenditure.

Table 3. Comparative Statistics of the NSW Mining and Thoroughbred Breeding and Racing Industries

	Total FTE	Total Value Added	Total Direct Expenditure
NSW Mining Industry ⁶⁸	21,516	\$28,600m	\$13,633m
NSW Thoroughbred Breeding and Racing Industry ⁶⁹	21,232 (2012/13)	\$2,600m	\$1,909m
Hunter Thoroughbred Breeding Sector ⁷⁰	1,103	-	\$340.93
Drayton South ⁷¹	500	\$219.8m	\$131m

m –million

Figures from the *‘Size and Scope of the NSW Racing Industry’* report show that the gross value added to the Hunter economy on an annual basis by the broader thoroughbred breeding and racing industry was in the order of \$564.6 million⁷².

The report goes on to state that the broader thoroughbred breeding and racing industry in the Hunter directly employs the fulltime equivalent (FTE) of 4,797 people.

In the Hunter region the thoroughbred breeding sector employs 1,103 full time equivalent workers and spends in total, on an annual basis, \$340.93 million producing racehorses⁷³. This figure does not

⁶⁷ Department of Primary Industries 2013, *Upper Hunter Region Equine Profile Factsheet No.6*

⁶⁸ NSW Mining Industry, Economic Impact Assessment 2013/14, prepared for the NSW Minerals Council October 2014 using data supplied by 22 companies surveyed directly by the NSW Minerals Council.

⁶⁹ Office of Liquor, Gaming and Racing 2014, *Size and Scope of NSW Racing Industry*, p. 9

⁷⁰ Office of Liquor, Gaming and Racing 2014, *Size and Scope of NSW Racing Industry*, p. 42

⁷¹ EIS Appendix E p. E50

⁷² Office of Liquor, Gaming and Racing 2014, *Size and Scope of NSW Racing Industry*, p. 9

take into account indirect employment associated with other industries that support the industry such as veterinary services, feed, retail, tourism, accommodation and transport.

The report also shows that in 2012-13 the Hunter thoroughbred breeding sector supported:

- 470 breeders and 1,013 staff;
- 136 licenced trainers; and
- 389 stable employees.

The sector also supported:

- 1357 thoroughbreds in training;
- 85 registered stallions;
- 5,655 broodmares; and
- 3,635 live foals.⁷⁴

The report notes in relation to the thoroughbred breeding sector:

Breeders derive the majority of their income from service fees and the public and private sale of their stock. This particular sector of the (racing) industry has great potential to generate economic impacts for the state, as breeders often sell their stock to interstate and overseas buyers, at sales events. This process leads to significant opportunities for foreign investment to flow back to the state as a result of non-NSW buyers buying NSW breeding stock. A significant proportion of thoroughbred broodmares from around Australia travel to NSW each year to be bred with stallions based in the Hunter Valley region. In 2012/13 there were 212 thoroughbred stallions based in NSW including 34 shuttle stallions who undertake dual season breeding programs in the northern and southern hemispheres. Shuttle stallions in the 2012/13 covering seasons in NSW also covered mare books in the northern hemisphere in Ireland, Great Britain, France and the United States of America⁷⁵.

Some comparative statistics between the overall NSW thoroughbred breeding sector and the Hunter thoroughbred breeding sector are provided at Table 4. The Table shows that the Hunter region was responsible for nearly 79% of NSW's total expenditure on the production and care of thoroughbred racehorses, equating to \$341 million⁷⁶. The expenses were incurred from maintenance on broodmares, cost of breeding, and care of foals as well as the maintenance of stallions, sales commissions on yearlings sold at auction, bloodstock insurance, other business related expenditure and sales and marketing. A further \$41 million was spent on preparing and training racehorses⁷⁷.

Table 4. Comparative Statistics (2012-13) – NSW and Hunter thoroughbred breeding sectors

	Employment by breeders	Stallions registered	Broodmares covered	Live Foals born	Total Expenditure on producing racehorses
Hunter ⁷⁸	1,013	85	5,655	3,635	\$340.93m
NSW total ⁷⁹	4,416	212	9,611	6,178	\$432.17m

m – million

⁷³ Office of Liquor, Gaming and Racing 2014, *Size and Scope of NSW Racing Industry*, p. 43-45

⁷⁴ *ibid*

⁷⁵ Office of Liquor, Gaming and Racing 2014, *Size and Scope of NSW Racing Industry*, p. 45

⁷⁶ Office of Liquor, Gaming and Racing 2014, *Size and Scope of NSW Racing Industry*, p.47

⁷⁷ Office of Liquor, Gaming and Racing 2014, *Size and Scope of NSW Racing Industry*, p.38

⁷⁸ Office of Liquor, Gaming and Racing 2014, *Size and Scope of NSW Racing Industry*, p. 42

⁷⁹ *ibid*

The Equine Profile notes that ‘strong prices, an expanding Asian market and the region’s significant competitive advantages provide the basis for continued industry growth in both value and scale’⁸⁰. This statement is supported by the Hunter Thoroughbred Breeders Association which has made the point that the Hunter is an:

‘internationally renowned industry [that] has taken many decades to build. International breeding and racing experts and investors alike consider the Hunter Valley a ‘rare and international gem’ that has all the attributes (environmental, topographical, scenic and reputational) to continue to grow and take advantage of investment and further growth potential as our breeding and racing markets, and those throughout Asia, expand’⁸¹.

This suggests further strong growth potential for the equine industry in the Hunter. The status of the entire NSW thoroughbred breeding sector is contingent on the continuing success of the Hunter thoroughbred breeding sector. Any long term decline in the Hunter thoroughbred breeding sector would mean a statewide decline and allow another Southern Hemisphere competitor, such as Victoria or New Zealand, to increase its share of a high value market currently dominated by NSW.

The Equine Critical Industry Cluster in the Upper Hunter

The NSW Government’s *Upper Hunter Strategic Regional Land Use Plan* (SRLUP) identifies the operation of an Equine Critical Industry Cluster in the Upper Hunter. The Equine Critical Industry Cluster is defined as follows:

“The horse breeding cluster includes a highly integrated concentration of horse breeding facilities and related infrastructure covering thoroughbred and stock horse breeding centres and numerous other equine developments and support services, such as a specialised veterinary centre. In 2009 - 2010 the region provided 80 to 90 per cent of the total value of stud horses exported by Australia. It is also the headquarters for the NSW Stockhorse Society. The attraction for equine interests to the region lies in its combination of a temperate climate, protected aspect and varied terrain combined with a lack of tropical diseases and accessibility to Sydney. The breeders are supported by the aggregation of equine industry infrastructure and good transport routes.”⁸²

The Equine Critical Industry Cluster includes not only thoroughbred studs but also 150 broodmare farms and stable employees, breeders and their staff, trainers, a network of equine support industries including farriers, fodder producers, saddlers, equine transport companies and the Scone Equine Hospital, which alone employs over 100 people. The SRLUP identifies that ‘[o]ver \$2 billion has been invested in the region’s stud farms and horses in recent years’⁸³.

The SRLUP notes the importance of providing a range of economic opportunities for the communities of the Upper Hunter region and the importance that diversity has on the regional economy’s ability to withstand change in the longer term⁸⁴.

The need to encourage a diversified economy in the Upper Hunter has been a constant concern raised by Upper Hunter councils over recent years. The above statement in the SRLUP reflects those made previously in the 2011 Upper Hunter Economic Diversification Project Report (Economic Diversification Report, which notes that a:

⁸⁰ Department of Primary Industries 2013, *Upper Hunter Region Equine Profile Factsheet No.6*

⁸¹ Hunter Thoroughbred Breeders Association 2014, Submission to the Commission

⁸² Department of Planning and Infrastructure 2012, *Upper Hunter Strategic Regional Land Use Plan*

⁸³ Department of Planning and Infrastructure 2012, *Upper Hunter Strategic Regional Land Use Plan*

⁸⁴ Department of Planning and Infrastructure 2012, *Upper Hunter Strategic Regional Land Use Plan*

'few sectors are the major economic drivers and this includes the mining areas of Singleton and Muswellbrook; the equine and agricultural regions of Upper Hunter LGA; [and]the agricultural regions of Dungog and Gloucester...The industry specialisation in each area tends to be narrow, which creates vulnerabilities with cyclical and structural changes in these sectors'⁸⁵.

The equine industry, similar to the mining industry, has extensive support industries that will be affected if industry activity slows down in specific locations. The Economic Diversification Report raises, as a major industry issue, the competition between land use and resource issues. The report notes that the growth of existing key sectors (such as agriculture) and diversification options are dependent on maintaining critical mass in these sectors, such as the equine and wine industries. A key element of the promoted diversification strategy is the generation of sustainable jobs, based on current advantages and creation of new advantages⁸⁶.

Coolmore and Darley

Coolmore and Darley, each global thoroughbred horse breeding organisations, are a significant part of the Australian thoroughbred horse industry.

They are the two largest thoroughbred breeding operations in both the Hunter and Australian thoroughbred breeding sectors. They are said to constitute, between them, 40% of the entire Australian Stallion Market. It is widely accepted these two studs stand many of the best sires in the Hunter and Australia, are cornerstones of the Equine Critical Industry Cluster, and are a significant part of the reason for the Hunter's thoroughbred breeding industry being known as one the top three internationally. According to figures from the Australian Stud book, in 2011 NSW produced 76% of all the income produced from stallion fees in Australia, with almost all of this amount (74%) being derived from the Hunter Valley. Of the total fees, 40% were attributable to Coolmore and Darley, equating to approximately \$100 million⁸⁷.

Coolmore and Darley are acknowledged by Government to be pivotal to the sustainability of the Equine Critical Industry Cluster⁸⁸.

Previous consideration of Coolmore and Darley's Woodlands studs, by others, has found that:

"There are significant links between these studs and many of the agricultural and allied activities in the Upper Hunter. While they may not sit at the centre of the cluster spatially, the proximity of the studs is nonetheless critical to the ongoing operations and success of the cluster as a whole."⁸⁹

The importance of the Upper Hunter Equine Critical Industry Cluster is not contested. Nor has the significance of Coolmore and Darley to the industry been questioned, indeed the Department's assessment *"recognises that both the Coolmore and Woodlands studs are essential to the equine industry in the Upper Hunter, and should be afforded the highest level of protection from the impacts of mining"*⁹⁰.

⁸⁵ Buchan Consulting 2011, *Upper Hunter Economic Diversification Project Report*

⁸⁶ *ibid*

⁸⁷ Marsden Jacobs Associates p.20

⁸⁸ NSW Trade and Investment, Correspondence to the Department of Planning and Infrastructure on Drayton South Coal Project, February 2014

⁸⁹ PAC 2013, *Drayton South Coal Project Review Report*

⁹⁰ Department of Planning and Environment 2015, *Drayton South Coal Project (SSD 6875) Secretary's Environmental Assessment Report*, p.43

Both studs have invested significantly in the thoroughbred breeding sector in Australia, and in the Hunter Valley particularly. The significance of the two studs to the broader sector is attributable to the consistently high quality of the offspring produced from the studs' stallions. The stallions that they stand in Australia and at their other overseas locations are highly sought after by the thoroughbred breeding and racing elite, with two of Darley's stallions currently commanding a \$110,000 service fee⁹¹ and Coolmore's Fastnet Rock commanding \$220,000. The two studs, between them, invested \$100 million in the purchase of stallion prospects for their breeding operations in the last year⁹².

Coolmore is said to have been instrumental in developing the local thoroughbred breeding industry by pioneering the 'shuttle stallion' or 'dual hemisphere' concept in Australia whereby a stallion can stand at stud during both the Northern and Southern hemisphere breeding seasons. Shuttle stallions have given the Australian thoroughbred industry access to bloodlines that previously would have been difficult to afford and have improved the overall standard of breeding. Stallions now regularly shuttle between Australia, Japan, the US and Europe⁹³.

Coolmore operates stud farms in Ireland, Kentucky (in the USA) and Jerrys Plains, in the Hunter Valley. Darley is headquartered in Newmarket (in the UK), with operations in Europe, Kentucky, Japan, as well as its Australian studs: 'Northwood Park' in Victoria and its two Upper Hunter properties which are run as an integrated operation with 'Kelvinside' at Aberdeen being its main location for its stallions and 'Woodlands' at Jerrys Plains where the broodmares are based.

Both enterprises stand stallions of a very high calibre, and shuttle stallions between the northern and southern hemispheres, to service mares during both breeding seasons. Darley has 15 stallions standing in the Upper Hunter (10 of which are also listed as standing in the northern hemisphere)⁹⁴ and 250 broodmares and 170 yearlings. The stud employs approximately 150 people in the Hunter⁹⁵.

Coolmore has 12 stallions standing at its Jerrys Plain Stud this season (8 of which are also listed to stand in Ireland or Kentucky)⁹⁶, and services 1400 mares annually. The stud employs up to 150 people during the breeding season, has 90 residents on the property and trades with 160 suppliers in the Upper Hunter⁹⁷.

Darley established its thoroughbred breeding operation in the Hunter Valley in 2001 '*in recognition of Australia's growing reputation as a international thoroughbred breeding and racing location*' and

⁹¹ Thoroughbred Breeders Australia 2015, *Standing Stallions in 2015 by Service Fee – NSW*, accessed 5/11/2015, <http://www.tbaus.com/NSWstallions>

⁹² Coolmore Australia 2015, Submission to the Commission

⁹³ ABC 2001, *Shuttle Stallion concept Pays Off at Yearling Sale*, accessed 4/11/2015, <http://www.abc.net.au/landline/stories/s282819.htm>

⁹⁴ Darley Europe 2015, *Our Stallions*, accessed 11/11/2015, <http://www.darleyeurope.com/stallions/our-stallions>; Darley America 2015, *Our Stallions*, accessed 11/11/2015, <http://www.darleyamerica.com/stallions/our-stallions>; and Darley Australia 2015, *Our Stallions*, accessed 11/11/2015, <http://www.darley.com.au/stallions/our-stallions>

⁹⁵ Darley Australia 2015, Submission to the Commission

⁹⁶ Coolmore Australia 2015, *Stallions*, accessed 11/11/2015, <http://coolmore.com/australia/stallion-roster-australia/>; Coolmore Ireland 2015, *Stallions*, accessed 11/11/2015, <http://coolmore.com/ireland/stallion-roster-ireland/>; and Coolmore America 2015, *Stallions*, accessed 11/11/2015, <http://coolmore.com/america/stallion-roster-america/>

⁹⁷ Coolmore Australia 2015, Submission to the Commission and Coolmore Australia 2015, accessed 4/11/2015, <http://coolmore.com/australia/>

has, in the past decade ‘... invested over \$1 billion in developing its Australian operations into world class thoroughbred breeding and racing facilities - comparable to the best ... in the world’⁹⁸.

In conclusion, the Commission is satisfied that the Hunter thoroughbred breeding sector is an integral part of the Upper Hunter Equine Critical Industry Cluster, and is significant regionally, at a state level, nationally and internationally. Economically, the Equine Critical Industry Cluster makes a significant contribution to the local, regional and State economies and in broadening the region’s economic diversity. The Commission is also satisfied that Coolmore and Darley are very significant contributors and, arguably, the core pillars and contributors to the Hunter thoroughbred breeding sector as well as the Equine Critical Industry Cluster’s success and current international reputation and standing.

Coolmore Stud

Coolmore’s horse stud comprises a relatively large landholding to the north west of Jerrys Plains, consolidating farms historically known as Strowan, Oak Range and Arrowfield. The property spans both sides of the Hunter River, and the Golden Highway. The topography of the land includes sections of alluvial or river flats, along with undulating hills in both the north western and southern parts of the property. The landholding has a long agricultural history, including for both thoroughbred breeding, and vineyard purposes. The long term success of the properties is partly attributed to diverse topographic landscape and excellent deep clay loam soils rich in calcium and phosphorus⁹⁹.

Coolmore’s current operations on the site include significant thoroughbred breeding operations. Supporting infrastructure has been established including stallion stables, a veterinary hospital, foaling units, and a system of different paddocks designed to assist the mares and foals through various stages of the foal’s development. The system includes a wide range of options to ensure the foal’s environment can be tailored to its specific needs. The horses on site include Coolmore’s own stallions, mares and foals, as well as a large number of mares and foals owned by other parties, as Coolmore offers a range of services including agistment.

Associated with the breeding operations are promotional, sales or parade days and the necessary facilities to support these functions. The ability to market Coolmore’s horses, and the services it provides, is an integral component of its business. As well as marketing the achievements of its horses, Coolmore also promotes its property and the surrounding landscape to attract its clientele. Consequently the image presented at the farm is highly important to its brand, reputation and, ultimately, to the success of the business. The farm and its facilities are maintained to a very high standard, both for the horses and perhaps more relevantly for the buyers and investors. This is reflected on Coolmore’s website and in its marketing material, which states that careful management has ensured that the land continues to provide optimal conditions for the growth and development of thoroughbreds of the highest quality¹⁰⁰. Both Coolmore’s website and its hard copy marketing material feature numerous photographs of the property and the surrounding landscape.

In addition to the breeding, farming and sales operations, the property also supports a small community of workers and in some cases their families. Up to 150 people are employed on the site during the peak season and the site includes a range of accommodation for workers, including a number of homes with families (90 residents, including 30 children) residing permanently on the site. In addition to permanent accommodation, the premises offer a small amount of visitor

⁹⁸ Darley Australia 2015, Submission to the Commission

⁹⁹ Coolmore Australia 2015, Submission to the Commission, Appendix 6

¹⁰⁰ Coolmore Australia 2015, *Coolmore Stud Farm*, accessed 18/11/2015, <http://coolmore.com/australia/farm/>

accommodation. The Commission understands that some clients spend time at the property, for example when their foal is born or at other periods. A small airstrip is maintained on site.

In recent years Coolmore has also taken ownership of the neighbouring Arrowfield or Hollydene winery. The site supports a small vineyard, winery and cellar door and also includes a restaurant. The Department's assessment notes that the Arrowfield estate holds a development consent which allows for the addition of 28 tourist cabins and 2 function centres.

In summary, Coolmore's Jerrys Plains property supports a diverse but complementary range of farm, veterinary, residential, visitor accommodation, tourism and promotional land uses.

There are, of course, many other thoroughbred farms in the Upper Hunter, particularly further north. Many farms offer agistment, foaling and hospital facilities. There are also a number of other farms standing stallions each year. However, the size of Coolmore's operation and turnover; its international reputation; the quality of its breeding stock; and its global network differentiate it from other similar local operations.

Darley's Woodlands Stud

The Woodlands stud also has a long history of agricultural and equine use, with similar physical characteristics, including alluvial flats and undulating hills. Woodlands operates in tandem with Darley's Kelvinside Stud at Aberdeen. The operation is not as complex as the neighbouring Coolmore stud, as Darley stands its stallions at Kelvinside. Nonetheless the site hosts Darley's significant number of broodmares. The stud has been designed to provide a wide range of tailored options to suit the various development needs of each mare and foal. As with Coolmore's stud, this includes foaling units, and a system of different paddocks designed to assist the mares and foals through various stages of the foal's development.

The stud also hosts a strong working population at the stud and a number of residential homes and families on the property. Darley's operations encompass a wider, integrated racing, training and breeding operation in NSW, including facilities in Twin Hills, Warwick Farm and Agnes Banks. Darley argues that impacts on the Woodlands property cannot be singled out and considered in isolation from its wider, integrated NSW operations.

Landscape of the Studs

In previous assessments the landscape setting of the studs and the connections to the marketing of the Equine Critical Industry Cluster has been considered in detail. A 2013 Planning Assessment Commission Review engaged Dr Richard Lamb to consider (amongst other things) the visual and cultural landscape of the location.

In that advice Dr Lamb characterised the landscape as follows:

"The combination of uncleared, naturally vegetated and complexly eroded steep hills as a backdrop, cleared steep to undulating grassy side slopes, and the manicured patchwork of intensively used lower slopes and river flats, with their grid-work of post and rail fenced paddocks, natural riparian landscapes of the Hunter River course, cultural vegetation, houses and other buildings, creates a landscape for the studs that is both distinctive and of substantial intrinsic scenic quality. At the finer grain, the studs feature highly organised and structured areas defined by the size and character of paddocks and their fencing, manicured road verges, interconnecting and fenced spaces, groups of buildings with specific purposes clustered together, residences associated with specific sub-farms, landscaped areas, grazing paddocks and open views in all directions.

The studs are designed to demonstrate high standards of thoroughbred racehorse production and management in a manicured and cultured landscape that is intended to create an image of quality, safety and luxury conditions for the horses, as well as a display of state of the art breeding environments in a scenic setting. Attributes of the image include clear water, clean air, productive soils, greenness, expansive views and intensive and meticulous attention to detail of almost every visible feature. The sense of the places is that they are deceptively bucolic but are in fact intensively planned, designed, managed and programmed to generate a predictable and high quality product in a setting that projects the image of international thoroughbred breeding underpinning the horse racing industry. All of the world's premiere thoroughbred breeding areas project similar combinations of imagery in their somewhat different physical environments (eg, Newmarket and Kentucky).

Part of the unique quality of the landscapes of the studs that contributes to their image is the sense of continuity with the wider rural landscape and the sense of isolation they currently enjoy from the changing landscapes of the Upper Hunter Valley, many of which are being transformed by coal mining. From most parts of both studs, the presence of the nearest coal mining activity at Mt Arthur has a minor impact on that sense of continuity with the rural landscapes and of the isolation of the internal parts of the studs from outside influences.”¹⁰¹

Having visited both the Coolmore and Woodlands studs, and travelled through the area, the Commission agrees with Dr Lamb's expert opinion on the landscape and its significance to these two key operators within the Equine Critical Industry Cluster, including his conclusion that:

“The landscapes of the studs are of special intrinsic scenic quality and character, historically significant and of importance to the story of development of the Upper Hunter Valley, the theme of agriculture and rural industry and the thoroughbred racing industry. They are of special and possibly unique sensitivity to impacts on the scenic values of their settings and are highly vulnerable to direct and indirect visual impacts.”¹⁰²

The importance of this landscape and its similarities to other premier breeding centres is central to the studs, and the sector's, objections to the mine and the concerns that the studs may leave the Hunter Valley rather than put up with the impacts of the mine, regardless of their severity.

As required by the Minister's terms of reference for the review, the Commission has assessed the merits of the project as a whole and given particular consideration to the potential impacts to Coolmore and Darley's Woodlands Studs.

6.1.2 VISUAL AND LANDSCAPE IMPACT

The Department's assessment has considered three elements of visual impact, namely the direct, indirect and dynamic views of the proposed mine.

Direct visual impacts

Direct views of the mine would be available from three areas potentially affecting the Coolmore and Woodlands Stud farms. These areas are: on the elevated areas of the stud properties, on an adjoining section of the Golden Highway and along parts of Edderton Road. The Applicant has suggested that these views would not have any significant impact on the operations of the studs, while Coolmore and Darley have argued that the visual impacts are unacceptable and cannot be adequately mitigated.

¹⁰¹ PAC 2013, *Drayton South Coal Project Review Report*, Appendix 5, p. 7

¹⁰² PAC 2013, *Drayton South Coal Project Review Report*, Appendix 5, p. 15

Views from the studs

The mine would be directly visible from some parts of both Coolmore and Darley's properties, around Trigg Hill. The Applicant has not provided any photomontages of this impact, arguing that these parts of the Coolmore and Woodlands studs are not core operational areas and are highly unlikely to be used for any equine purpose and consequently that the visual impacts are not relevant in this location.

Views from the Golden Highway

The evidence on the visual impact along the Golden Highway is contested between the parties. The Applicant suggests that in the eastern sector *"some limited views or glimpses of the project may be possible in this area of the Golden Highway when travelling eastwards. However these will be eliminated by further plantings in this location"*¹⁰³. In the western sector the mine layout generally remains behind ridge lines, but a view zone of *"approximately 500 m"*¹⁰⁴ exists. It goes on to suggest that *"[t]he highway at this distance will have moderate sensitivity"*¹⁰⁵. The Applicant's Environmental Impact Statement does not include any photomontage of the potential visual impacts at this point. The horse studs have submitted that there would be direct views of the mine from a 600 m stretch of the Golden Highway as it traverses the side of the ridge, adjoining Darley's property¹⁰⁶. A composite image was prepared on behalf of the studs highlighting the area predicted to be visible within the landscape.

The Applicant subsequently provided its own photos (2011 and 2015) and photomontages¹⁰⁷. These show planting already undertaken, and forecast the future growth of existing trees alongside new plantings, and the screening this could provide in year 4, 6, 9 and 12 of the mine's life.

Comparing the composite image provided by the studs¹⁰⁸ to the photomontages of the Applicant¹⁰⁹ is inconclusive. Each present a subjective interpretation of the potential impacts. The studs highlight the areas of mining in red, while the Applicant's photomontage predicts significant tree screening and suggests the overburden dumps would be pale in colour and blend into the surrounding landscape.

A dilemma is posed by these highly different predictions. Generally travellers will be passing through at speed, so evidence of the mine may not be obvious should tree planting realise the dense screening shown in the photomontages, including lower level screening which can be hard to achieve. Nonetheless even the Applicant's montages acknowledge that the trees will take many years to reach a height that would shield the view completely (approximately year 9), and this is facilitated in photomontages by the pale shade used to indicate overburden dumps. Even at year 9, filtered views would still be apparent should the attention of a traveller be drawn to that side of the road.

Views from the Edderton Road

Edderton Road is the most direct route between Coolmore and Woodlands and most of the other farms and veterinary facilities further north around Scone. Consequently it is regularly used to

¹⁰³ Anglo American 2015, *Environmental Impact Statement*, Appendix L, p. 51

¹⁰⁴ Anglo American 2015, *Environmental Impact Statement*, Appendix L, p.52

¹⁰⁵ *ibid*

¹⁰⁶ Wright, M. 2015, Submission to the Commission

¹⁰⁷ Anglo American 2015, photomontages received by email, 5 November 2015

¹⁰⁸ Wright, M. 2015, Submission to the Commission

¹⁰⁹ Anglo American 2015, photomontages received by email, 5 November 2015

transport horses and clients between these studs and other equine facilities. The proposed Blakefield pit would extend through Edderton Road and consequently the road is proposed to be relocated to the west of the mine site. Travellers on Edderton Road would have direct views to the mine areas, both on its existing and proposed new alignments. The Applicant has assessed the visual impacts from the proposed new Edderton Road alignment, acknowledging that some direct views of the mine site would occur, although this would be minimised with tree screening where possible (not all of the land is owned by the Applicant). The Applicant's assessment does not appear to consider direct visual impacts from the existing Edderton Road alignment, which would remain in place and open to public traffic during the first 3 to 4 years of mining. The studs' visual assessment suggests that travellers would be exposed to close range views during the first 4 years.

In addition to the concerns that the direct visual impact assessment did not encompass all possible viewpoints in and around the studs, objectors also contest the suggestion that tree planting will provide adequate visual screening to mitigate the impact. There is some lag time while trees establish and reach a height and mass capable of screening the view, the Applicant has acknowledged this and suggested planting would be prioritised to ensure views would be screened as early as possible. It has also offered to provide earth bunds covered in hydro-mulch, to limit views to the mine from this section of the road¹¹⁰, although it is unclear which section of road the Applicant is proposing to add the bund to, and whether this is part of the existing road alignment, or the proposed new road.

During the Public Hearings the Commission heard submissions that the direct views of the mine from Edderton Road were acceptable, as travellers along this road would already be exposed to significant views of existing open cut mining at the Mount Arthur and Bengalla mines further north along Edderton and Denman Roads. The addition of another open cut pit along this road was said to be inconsequential in light of the obvious presence of mining further north. The Commission agrees that there are clear and significant direct views of mining further north around the Mount Arthur and Bengalla mines. The key difference between those mining operations and the proposed mine is the proximity of the mine to the studs. The studs argue that the proposed proximity to the studs represents an unacceptable risk to their reputation and image.

The relevance of any visual impact or view from Edderton Road has also been questioned in submissions, noting it is a local council road and not a significant tourist route. Coolmore and Darley have argued that the road is important as it is the quickest route between the studs and the Scone Equine Hospital (and that travel time is critical during emergencies). More relevant to the visual assessment is the suggestion it is a key travel route for clients during Coolmore's Stallion Parade. The studs suggest that many clients travel from farms in the Upper Hunter to Coolmore's Stallion Parade and would take Edderton Road as the most direct route¹¹¹.

The sensitivity of the visual impact at each of the three areas (on the slopes around Trig Hill and along Edderton Road and the Golden Highway) is debatable. The Commission acknowledges mining is already visible from parts of each of these areas. The Commission also acknowledges the present views are of distant mining and industrial activities, and that the proximity of this proposed mine makes the visual impact more significant and harder to ignore.

Visual impacts have been a key issue of concern in the previous application on the site and the Applicant and the Department argue the 'buffer' between the studs and the mine now provides sufficient separation distance to protect the visual amenity of the horse studs. The Commission

¹¹⁰ Anglo American 2015, email, 23 October 2015.

¹¹¹ Wright, M. 2015, Submission to the Commission

notes that both the Department and the Applicant found that the previous application, with a buffer half that currently proposed, was also an acceptable impact. The Department's assessment of this application acknowledges that some indirect and dynamic visual impacts will occur, but notes that the studs are already exposed to indirect and dynamic visual impacts associated with other mining activities in the region, such as at Hunter Valley Operations.

Indirect visual impacts

Submissions identify four indirect visual impact sources, namely: dust, blast plumes, night time lighting and the presence of mining vehicles on public roads. The Applicant has provided some assessment of these indirect visual impacts, as well as potential construction, infrastructure and signage elements that might provide visual cues to the nearby mining activities.

The Commission is satisfied that the project would not cause significant mining traffic in and around the Coolmore and Woodlands studs, as the mine site's main entrance would be retained at Drayton's existing site. It should also be possible to manage any signage and infrastructure (such as water pumps) to minimise the potential for this to become an issue along the Golden Highway and at the studs. The Commission does however acknowledge the three other indirect visual impacts the mine would produce: night lighting, dust and blast plumes.

Night lighting

The EIS acknowledges the potential for both direct and diffuse light effects and finds these are mitigated by topography, vegetation, distance to sensitive receivers, use of low lux lamps and measures to ensure lighting is directed towards the ground, where practical¹¹². The Applicant notes that there is already some night lighting effect from surrounding mining activities and its assessment finds that the additional lighting effects from the proposed Drayton South mine would not create significant visual impact.

Based on the information provided, it is difficult to understand what level of night light impact would occur. The Department's assessment suggests that there would be "*a noticeable light glow during the night*"¹¹³ and has accepted that "*the indirect lighting impacts of the project would not be sufficient to result in any negative effect on [thoroughbred] breeding cycles*"¹¹⁴. The Commission expects that there are other visual issues of greater concern to the studs, as most visitors are expected to be around during the day. Nonetheless, the night lighting impacts would serve as a reminder of the relatively close proximity of the mine for any travellers passing by at night, or for visitors staying at the properties or attending during an emergency, such as during foaling.

Dust and blasting

In relation to dust and blasting, the potential for these to be visible to surrounding receivers is acknowledged. The Applicant has not provided any detailed consideration of the effect of this impact visually, nor to any potential mitigation, other than standard dust minimisation and blast management practices¹¹⁵. The Department's assessment notes that two way communication protocols would be established to ensure activities such as blasting would be scheduled to limit disruption to activities or events at the studs. Its assessment also acknowledges the previous Commission review finding that "*constraining mining to the north of the second ridge line was the*

¹¹² Anglo American 2015, *Environmental Impact Statement*, Appendix L

¹¹³ Department of Planning and Environment 2015, *Drayton South Coal Project (SSD 6875) Secretary's Environmental Assessment Report*, p. 52

¹¹⁴ Department of Planning and Environment 2015, *Drayton South Coal Project (SSD 6875) Secretary's Environmental Assessment Report*, p. 56

¹¹⁵ Anglo American 2015, *Environmental Impact Statement*, Appendix L

*absolute minimum required to buffer against noise, dust, blasting and lighting*¹¹⁶. The Department believes this setback substantially reduces the potential for indirect visual impacts, but acknowledges that adhering to that setback and the additional management and mitigation measures would not eliminate these impacts entirely.

The studs have raised significant concerns about the potential for dust and blasting impacts to affect their operations, reputation and viability. Potential for blasting to produce highly visible orange gas or for a fire to break out at the mine were both raised as concerns given there is recent evidence of both such events at other open cut mines. While blasting should be controlled to prevent production of NO_x (including visible NO₂), accidents do occur.

The Commission also understands that NO_x is also more likely to be produced during adverse conditions, or where blasting has had to be delayed. In this context the need for the studs and the mine to cooperate on blast scheduling possibly increases the risks of highly visible and potentially dangerous gas plumes. Alternatively it suggests the Applicant will in reality offer little flexibility around the blast scheduling due to the risk of NO_x related accidents from blast delays.

Dynamic views

Dynamic views are generally assessed as those from a moving vehicle, or other travel through a landscape. Previous consideration of possible visual impacts to the studs has highlighted the need for broader influence to be considered. Dr Lamb has suggested that:

“Views are experienced not only in moving sequences, which may be repeated regularly, but may also be from experiences that are displaced in time, in which views or other visual material, such as those from books, digital or other visual media etc. are also assembled cognitively into an image of a place, journey or destination. The latter is a significant consideration with regard to impacts on the visual imagery of the stud operations, which is integral to the presentation of their aesthetic values.

Dynamic viewing is a day to day experience, in which 3 and 4-dimensional understanding of the world comes from the continually refreshed visual images that are experienced while moving about in the environment. The fourth dimension is of time, in which the past and expectations of what will happen in the future are an integral part of the experience and the continual unconscious and also conscious revisions of cognitive images that occur with every new experience.”¹¹⁷

The Applicant has not assessed dynamic views beyond the conventional assessment of views from the road corridor. The studs have raised significant concerns about the potential for digital content to impact on the reputation and image presented by the studs. In this context the mine, and its proximity, would be highly obvious to anyone viewing the area on online aerial or satellite image mapping platforms. Combined with social and conventional media reporting of problems that might occur (such as a poorly managed, highly visible blast), dynamic views (especially through digital content) have the potential to represent a significant reputational risk for the studs.

Dr Lamb’s advice on the previous application acknowledged many of these concerns, noting:

¹¹⁶ Department of Planning and Environment 2015, *Drayton South Coal Project (SSD 6875) Secretary’s Environmental Assessment Report*, p.52

¹¹⁷ PAC 2013, *Drayton South Coal Project Review Report*, Appendix 5, p. 12

“For those assembling the dynamic visual imagery of the place from memory, advertising material and other disparate sources and this would apply to a great many of the clientele and those promoting it to them, the presence of a large coal mine in the immediate vicinity may be seen as clashing with the stereotypes of clean air, clean water, clean pastures, immaculate landscape designs, quietness, wide open spaces and picturesque scenery. As the image is assembled partly by experience and partly by the industry that constructs it for the consumption of the buyers of the services and horses, it is idealised, stereotyped and highly susceptible to impacts of what might objectively seem to be minor effects. For example, night time lighting of the operations that may be perceived as causing a glowing effect on the atmosphere, particularly in ideal circumstances for that phenomenon to occur, may conflict with the image of cleanliness, safety, isolation and the absence of light that is typical of the rural, high quality experience in the imagery projected by the studs. Blasting noise and dust plumes from blasting or vehicles on haul roads and working on unconsolidated overburden may also be perceived as alien to that imagery. In that regard, the sensitivity of the studs to impacts on the imagery that is inherent in their branding and identities deserves acknowledgement and special consideration with regard to the acceptability of the proposed mine, either as proposed or as may be acceptable, subject to recommendations to minimise visual impacts.”¹¹⁸

Coolmore’s submission notes that the Applicant’s proposed ~1km setback between the studs and the mine would be insignificant when viewed on online mapping platforms, especially when viewed in the context of the mining area. The extent of the proposed mining area is also substantially greater than the proposed distance between the two land uses. For example the Whynot mining disturbance area would span approximately 3 km, north to south and an even greater span in an east to west direction.

While further measures to mitigate direct visual impacts could be imposed (for example with the closure of Edderton Road and requirements to provide extensive further vegetation plantings and earth bunds), these mitigation strategies would not screen all of the direct, indirect and dynamic views of the mine.

Many have argued that the views are acceptable and that it would be unreasonable to expect absolute protection. In this regard, the Department has suggested that an application to mine within a valid exploration licence area should not need to comply with indirect and dynamic view impacts that are not defined in government policy. While the Commission accepts that there is no defined government policy on indirect or dynamic view impacts, the Commission notes the Strategic Regional Land Use Plan seeks to protect the Equine Critical Industry Cluster. The Commission is not convinced that the Department’s approach and recommended conditions provide certainty that the Equine Critical Industry Cluster would be protected. Nor does the Commission accept the tenor of the Department’s argument—that an absence of government policy on how an impact should be assessed automatically makes that impact acceptable or approvable where an exploration licence has been issued.

The Commission acknowledges the significant concessions the Applicant has proposed, in doubling the setback and providing tree screening, with the option of additional earth bunding. In most locations these measures would be considered adequate to minimise the impacts on visual amenity in a rural landscape. In this location however, the neighbouring land uses are highly sensitive to amenity impacts, critically important to the Upper Hunter thoroughbred breeding industry and consequently require a very high level of protection. Concerns about the damage any visual evidence

¹¹⁸ PAC 2013, *Drayton South Coal Project Review Report*, Appendix 5, p.13

of mining in such close proximity to the studs would have on the reputation, image and brand of the studs are real and cannot be readily dismissed. The Commission has noted the visual imagery attached to the studs, and has heard submissions on the extent to which the visual experience influences customers' perception and the perceived value of the brand. Reputation, image and brand are paramount in the horse industry because of the inherent risks associated with horse breeding. Any direct or indirect impacts that represent a reminder that there is active mining being conducted within the vicinity of the studs may raise "doubt in the customer's mind as to how safe it is to raise a valuable equine athlete so close to a coal mine"¹¹⁹. The perceived risk to the health of a horse is a "clear and present danger to the commercial viability" to the horse studs' reputation, brand and operation in the Hunter Valley, especially given the close knit nature of the industry¹²⁰. As a result, studs are said to be constantly vigilant to customers' concerns, real or perceived¹²¹.

The Department has recommended that a substantial vegetation buffer should be established along the northern side of the Golden Highway, to enhance the screening of indirect mining activities, enhancing the perception that the landscape is not dominated by mining. The Commission is not satisfied that this vegetation screening along the Golden Highway would provide sufficient protection to these highly sensitive business operations. The Commission notes that there are both time delays and other uncertainties that could impede the success of any vegetation plantings, plant growth rates and associated screening provided. Other limitations of tree planting or other screens or bunds include that the plantings will not block views of blast plumes that would be evident above any tree line plantings, nor will they be able to screen night lighting glow impacts from the pit. Plantings have no influence on views from the air, or from satellite imagery, nor to potential social media coverage of any mishaps at the mine.

The Commission finds that the indirect and dynamic visual impacts of the project represent a risk to the image and reputation of the studs and would also increase the cumulative erosion of the clean green image associated with the Upper Hunter's wider equine, viticulture and tourism industries.

6.1.3 BLASTING

The Applicant's EIS proposes up to 5 blasts per week, using a maximum instantaneous charge of between 1000 to 2000 kg, to ensure standard ground vibration and overpressure criteria would be met. Coolmore has raised strong objections to the proposed blasting suggesting it would create significant impacts on the studs' operations. Coolmore advises it "*could not take the risk of allowing staff to handle horses anywhere on the farm when a blast was anticipated*"¹²². Coolmore notes that covering mares is a core part of its business and that despite its significant experience in this area, the process is unpredictable and can vary considerably. The process is said to require four people to manage the two horses and can take between 30 minutes and 2 hours, depending on a range of factors including the temperament of the two horses.

Coolmore's submission to the Commission suggests that it would have to stop activity in its two covering sheds when blasting was scheduled, and that it would be unworkable to schedule the movement of horses and people around even a 45 minute blast timeframe. Coolmore also note that blasting can be delayed due to a range of factors. The Commission agrees that it seems likely there would be times when blasting would not be completed within the 45 minute timeframe considered by Coolmore, but notes that the potential for impacts to covering and other horse handling is entirely contested.

¹¹⁹ Bell, L 2015, Submission to the Commission

¹²⁰ *ibid*

¹²¹ *ibid*

¹²² Coolmore Australia 2015, Submission to the Commission

The Applicant argues that blasting would be represented as a low level rumble at the studs and that there is no evidence to suggest this would affect the horses or increase risks during covering. The Applicant cites the Edinglassie Stud as evidence that horses will not be affected, or even aware of the blasting occurring. The Applicant also suggested that aircraft, agricultural activities on the properties and traffic noise would represent greater issues and noted that it is not aware of any treatment measures being implemented at Coolmore in response to approaching storms and associated lightning strikes, which would represent a far worse impact.

The Commission is unable to reconcile these entirely different positions. The Commission acknowledges the Applicant's position that covering and other horse handling could continue during blasting events without any increased risk. Nonetheless, the Commission can also understand Coolmore's concerns for its bloodstock and staff. Ultimately the Commission has no evidence to definitively confirm that the horses would not react to blasting. While the Edinglassie example (and the video evidence of a blast event in Nowra, provided by the Applicant) demonstrates that horses can be habituated to blasting and other mining activities, the Commission understands that the Edinglassie Stud does not undertake covering on site, nor does it receive visiting mares on the property for covering as Coolmore does.

The Commission accepts that blasting could represent a risk to Coolmore's operations. This is significantly compounded by the potential reputational, image and branding impacts that could occur with the perception of risk to valuable stock - with the evidence of blasting that would be apparent to any visitors to the site, or travelling in the vicinity of the site.

As noted by Coolmore, one way to mitigate the operational risk would be to cease all horse handling activities in preparation for scheduled blast events. The Commission acknowledges that this would represent a significant intrusion on the stud's operations. In addition to the obvious scheduling constraints this would pose, Coolmore raised concerns about needing to abandon a programmed covering that was not able to be completed prior to a scheduled blast event, and the safety risks an already excited stallion could pose for its handlers. An alternative would be that the blasting would have to be delayed until the covering was completed.

The feasibility of the stud farm and the mine both being able to coordinate activities around the other's programs is questionable. The Commission is not aware of any example of such cooperative systems successfully operating between two entirely differing neighbouring land uses. While the Commission acknowledges the Edinglassie stud farm example put forward in submissions, it understands the farm does not include covering of mares, and that the operation is owned by the neighbouring coal mine, facilitating a clear hierarchy of priorities and associated communication pathways.

In this instance one neighbour would need to be nominated as having priority to veto the other's activities. For example, Coolmore would need to be able to have the power to prevent a scheduled blast from occurring at a certain time, while an extended covering was completed. It also seems likely the Applicant would need to have the ability to extend its scheduled blast period in the event of a misfire that requires refiring or some other problem occurring during preparation or detonation of the blast, including changing weather conditions. The potential intrusion each land use could have on the other's operations could be significant, making successful coexistence difficult.

The Commission finds that the blasting requirements of the mine represent a potential risk to the operations of the studs, particularly Coolmore. These risks are three fold, namely:

1. potential safety concerns for workers handling horses that might be startled by blasting at the mine;

2. potential business impediments, should Coolmore's suggestion that it would not be able to conduct live coverings during scheduled blast periods prove necessary; and, most significantly,
3. potential reputational impacts should evidence of blasting become apparent to clients during visits, or via media. Regardless of any actual impact to the horses, blast impacts are inconsistent with the image so carefully cultivated by the studs.

The Commission acknowledges that horses can become habituated to the impacts of mining, including blasting. Nonetheless Coolmore's operations include live covering of visiting thoroughbred mares that would not have an opportunity to become accustomed to the blasting, potentially representing a risk to their handlers and themselves, as well as Coolmore's capacity to schedule live coverings efficiently.

The Commission acknowledges the difficulty this presents to any mining application on the adjoining landholdings. The Commission has given careful consideration to the various options. In particular the Commission considered whether it would be practical to give the studs the power to veto blasting events during certain sensitive periods, such as during VIP visits and parade days, noting that visits could foreseeably last more than one day. Ultimately the Commission concluded that even if blasting could be postponed for a number of consecutive days while key stakeholders were present at either stud farm, the question of managing blasting during the breeding season would need to be resolved.

The alternative proposed, to adaptively manage impacts, should they become problematic is not considered acceptable by the Commission. If an impact did occur, the safety of horse handlers may have already been put at risk, and damage to the stud's reputation could also have occurred, potentially irreparably. Even the risk of an impact occurring poses a threat to the studs' reputation.

In order to ensure scheduled blasting did not represent a safety risk to the workers handling horses on the studs, further work would need to be done to definitively reconcile the opposing views of Coolmore and the Applicant about whether live covering during a blast event would represent safety and/or reputational risks to Coolmore's operations and brand.

Given the range of reactions animals can display to any number of stimuli, it seems unlikely that a definitive answer could be reached. Consequently it would be necessary to consider whether it would be practical to give Coolmore the power to postpone a scheduled blast event due to a protracted covering. In addition to this, it is not clear how Coolmore could be compensated for the reduced number of live coverings able to be conducted each day, nor how this would affect the wider industry (with fewer mares able to be serviced by Coolmore's top stallions).

Even if all of these obstacles could somehow be overcome, there is still a risk to the image and reputation of the studs, as blast plumes and impacts would be evident to anyone traveling in the area during a blast event, and images of gas plumes or some other evidence of blasting could end up in the media or the internet, and used against the studs (and the wider cluster) by competitors interstate or overseas.

6.1.4 AIR QUALITY AND HUMAN HEALTH

The Department has assessed the air quality impacts of the mine, acknowledging that some residences on Coolmore and its Hollydene Estate are predicted to be impacted by exceedance of the PM₁₀ dust levels at certain times over the life of the mine. The Department suggests that active management systems now being used at some Hunter mines have the capacity to significantly reduce or eliminate predicted exceedances and consequently it believes the Applicant will be able to

avoid contributing significantly to the short term cumulative dust impacts identified in the modelling.

Submissions to the Commission raised a number of concerns about the potential air quality impacts, including the modelling undertaken by the Applicant, the cumulative impact of mining in the Hunter on the region's air quality and the associated human health impacts to residents in the area. During the public hearing, attention was drawn to a report by Hunter health practitioners that pointed to rising concern regarding the cumulative impact of mining on air quality, and related health concerns. Submissions also noted the disconnect between the World Health Organisation's advice and associated air quality criteria for particulates and the Australian National Environment Protection (Ambient Air Quality) Measure (currently under review) and other criteria adopted in NSW.

The Commission has considered this issue acknowledging the human health risks associated with increased exposure to particulate matter. Under normal circumstances, acquisition criteria are applied which provide options for nearby residents to relocate should air impacts exceed those levels prescribed by NSW government policy. In this instance the Commission considers that acquisition of residences owned by Coolmore would be unacceptable, as acquisition of some or all of the stud property, or its adjoining vineyard could pose significant operational risks and business impediments to the company, and flow on effects to the wider cluster.

While some exceedance of the applicable dust criteria is predicted by the Applicant, they are not so many that acquisition options would be automatically triggered by the NSW policy. However, submissions to the Commission questioned a number of the assumptions and inputs used in the modelling of the predicted impacts and suggested that the cumulative air quality impacts may substantially exceed the assessment criteria.

The Commission sought the advice of the NSW Environment Protection Authority (EPA) (see Appendix 5), noting its previous submission had advised "*the assessment shows impacts exceeding the assessment criteria for at least four privately-owned residences*"¹²³. The EPA subsequently advised the Commission (see Appendix 5) that the 80% dust control efficiency level adopted by the Applicant for wheel generated dust has been found to be achievable, with some Hunter Valley mines achieving control efficiencies of up to 96%. Notwithstanding this, the EPA advised that it "*cannot state with certainty that modifying mining operations at the project site will prevent exceedances of the assessment criteria at all private residences*", but that it focuses on requiring best management practice to minimise the offsite impacts from all mining¹²⁴. The EPA also advised that the current review of the National Environment Protection (Ambient Air Quality) Measure is expected to be finalised by 31 December 2015 and that the government will need to consider how to apply the adopted revisions once they are finalised.

The Commission accepts the EPA's advice that the 80% control assumption used in the modelling is achievable and potentially even conservative. However, it is mindful that cumulative dust impacts are difficult to manage, as the EPA has cautioned. In light of this, the Department's belief that significant short term cumulative impacts can be avoided may be somewhat optimistic.

In most rural locations, the approach proposed by the Applicant would generally be accepted. In this location however, the interdependence of the onsite dwellings to the studs' business pose risks and challenges not contemplated in the standard mitigation and acquisition policy framework. While it is entirely possible that dust impacts would be able to be managed within accepted criteria, given the

¹²³ EPA 2015, Submission to the Department of Planning and Environment, 26 June 2015. p 12

¹²⁴ EPA 2015, Correspondence to the Commission, 28 October 2015. P 1

EPA cannot verify this with certainty, detailed consideration of the potential contingency options available would need to be explored in any further consideration of open cut mining in this location.

Ultimately amenity impacts from any visible dust emissions and deposition from the mine, along with residual uncertainties about the mine's capacity to ensure no exceedance of the relevant air quality criteria at the nearest dwellings, pose potential risks to the reputation and operations of the studs respectively. This residual risk is considered in section 6.1.8.

6.1.5 NOISE

Due to the relatively isolated and rural location of the studs, the background noise levels experienced are quite low. As a result, it is expected that there will be some noise impacts due to the project.

Currently receivers on Coolmore Stud that are situated closer to the Golden Highway have been shown to experience background noise levels of around 35dB(A) during the day and down to around 33dB(A) at night, while background levels for receivers at Darley's Woodlands Stud that are close to the Golden Highway are in the vicinity of 29 dB(A) during the day and down to approximately 25 dB(A) at night¹²⁵.

The Department has assessed the noise impacts of the project on Coolmore and Woodlands Studs and acknowledges that noise impacts would be predominantly from the Drayton South mining area with limited cumulative impacts from other sources.

According to the Applicant the worst case predicted noise levels over the life of the project would remain below 35dB(A) for all residences on the Coolmore and Woodlands Studs. With the northernmost residences on Coolmore likely to experience a maximum predicted noise level of 32dB(A) in year 12 as the mine pit gradually moves in a southerly direction. A 30 dB(A) noise level is the predicted maximum that all other receivers are likely to experience at any time as a result of the project.¹²⁶

In applying the *NSW Industrial Noise Policy (INP)* to the project the Department has recommended, that the Applicant be required to comply with the default lowest noise criteria applicable under the INP of 35 dB(A) day, evening and night, in order to minimise the potential noise impacts at residences located around the mining area.

The Department acknowledges that this does not mean that the project will not be audible at times, but this is not the test set by the INP.

Submissions to the Commission raised concerns about the noise impact of the project and questioned the methodology and modelling used in the Noise Impact Assessment.

The Commission accepts that the EPA and the Department have both reviewed the Noise Impact Assessment and raised no concerns with the assessment methodologies and modelling. The Commission also accepts that the noise impacts of the project are likely to be relatively low, however due to the current low noise environment experienced by the studs it is likely that at times, especially at night, and as the mine pit moves closer to the studs, the project would be audible and

¹²⁵ Anglo American 2015, *Environmental Impact Statement*, Appendix I, pp.I-13

¹²⁶ Department of Planning and Environment 2015, *Drayton South Coal Project (SSD 6875) Secretary's Environmental Assessment Report*, p.62

may draw the attention of visiting clients, adding a further reminder of the relative close proximity of the mine.

6.1.6 ROAD NETWORK

In order to access coal resources in the Blakefield pit, it is proposed to relocate a section of Edderton Road and its intersection with the Golden Highway. Following the completion of the realignment by the fourth year of the project, the existing section of Edderton Road would close to public vehicles. In the public hearings, written submissions and during the Commission's meeting with Muswellbrook Shire Council, concern was raised that the realignment would result in efficiency losses to the local road network. The proposed realignment would result in additional travel time of around 3 to 4 minutes.

Council also noted that BHP would also be making adjustments to the Edderton Road alignment further north, to facilitate mining at Mt Arthur. Cumulative travel time increases (from the two realignments) are said to make Edderton Road redundant, as it would be quicker to take the Golden Highway to Denman and then take the Denman Road to Muswellbrook and beyond.

Given the increased travel time and traffic inefficiencies, Muswellbrook Shire Council was of the opinion that alternatives to the permanent realignment of Edderton Road should be considered. As an example, Council suggested Edderton Road could be reinstated to its current alignment, post mining and that any proposed alternatives should be in keeping with the Mine Affected Roads Strategy, which was endorsed by Council on 12 October 2015.

The Commission notes that emergency veterinary vehicles use Edderton Road to transport horses and/or veterinary staff between Coolmore and Darley horse studs and the Scone Equine Hospital during emergencies. While not substantial, the Commission nonetheless acknowledges that the realignment of Edderton Road would result in increased response times to the studs, which could further risk the health of sick or injured horses, with potential for some broader implications for the studs' operations and their capacity to provide the best services for horses in their care.

The Commission is mindful that the mine would be readily visible from Edderton Road until the realignment is completed in the fourth year of the project. Until the realignment occurs, potential clients may access Coolmore and Woodlands studs via Edderton Road at certain times and could be influenced by the views of the mine. As discussed in section 6.1.2, the visibility of the mine may adversely impact on the reputation and image presented by Coolmore and Darley studs.

The Commission finds that the proposed realignment of Edderton Road during the fourth year of mining represents a small risk to the studs' operations, with potential for larger reputational impacts associated with the views of the mine from this thoroughfare, considered earlier in this section.

6.1.7 UNCERTAINTIES REGARDING IMPACT ON EQUINE HEALTH

The Commission received evidence from both sides of the equine health impact debate. On the one hand the Applicant suggested that there is no evidence to connect potential particulate matter (dust) emissions with any potential horse health impacts. On the other hand objectors raised concerns about the potential for horse health to be impacted, or that uncertainties in this regard could affect the reputation of the business of the horse studs.

The Applicant has suggested that the dust produced from the mine would be largely crustal in origin and inert, and at levels well below those measured in a stable. It also suggested that the physiology of horse and human respiratory systems are sufficiently different to discount any concern that human health impacts attributed to particulate matter could also be a cause for horse health impacts.

The Commission received submissions questioning the Applicant's assertion that only crustal dust would reach the horse studs, and that crustal dust would not have health impacts. Submissions suggested that horse and human respiratory systems are sufficiently similar that connections between known human health impacts and potential for horse health impacts cannot be discounted with absolute certainty.

The Commission notes that there is uncertainty in the science in this area. There does not appear to be consensus about the human health impacts of crustal dust. The World Health Organisation notes:

"At present, at the population level, there is not enough evidence to identify differences in the effects of particles with different chemical compositions or emanating from various sources¹²⁷. It should be noted, however, that the evidence for the hazardous nature of combustion-related PM (from both mobile and stationary sources) is more consistent than that for PM from other sources"¹²⁸¹²⁹.

Consequently, the potential for particulate matter to impact on horse health is expected to be equally if not even more constrained by the current limitations of scientific knowledge in this field. The Commission acknowledges the Edinglassie horse stud example put forward by supporters of the mine, nonetheless the success of one horse stud adjoining neighbouring open cut mining operations does not provide sufficient certainty that impacts will not occur on other properties and their horses.

It is extremely difficult to demonstrate with certainty that no impact would occur. The Commission has some sympathy with the challenge this creates for the Applicant. The Commission also acknowledges that the contribution of the proposed mine to the overall cumulative particulate levels is likely to be relatively small. Nonetheless the mine will add to the particulate load in the air shed and may cause the current human health impact criteria to be exceeded on additional days at certain residential receivers associated with the studs.

The Applicant offered to make its equine health expert, Associate Professor Nicholas Kannegieter available to meet with the studs' experts to review any confidential equine health concerns and discuss any points of conflicting opinion that might exist. The Commission considered this request. Ultimately, it has not found any conclusive evidence of horse health impacts. Instead the Commission notes that the particulate emissions from the project may represent a risk to the studs' business reputation rather than just potentially to specific horses. The Commission also notes that competitors in Victoria and New Zealand may claim that there are equine health impacts, for their own advantage, regardless of whether there is any evidence to substantiate it.

The Commission also heard concerns that it risked placing more value on horse health than on the people of the Hunter, and the mining industry in particular. The Commission contends that the relevance of the equine health question relates to the potential impacts on the viability of the studs, the broader implications for the Equine Critical Industry Cluster, and the associated employment and economic contribution of that industry. The Commission finds that the particulate emissions impacts

¹²⁷ Stanek LW et al. 2011, *Attributing health effects to apportioned components and sources of particulate matter: an evaluation of collective results*, Atmospheric Environment, 45:5655–5663.

¹²⁸ WHO Regional Office for Europe 2007, *Health relevance of particulate matter from various sources, Report of a WHO Workshop*, Copenhagen, accessed 28/10/2015, www.euro.who.int/document/E90672.pdf

¹²⁹ WHO Regional Office for Europe 2013, *Health effects of particulate matter: Policy implementations for counties in eastern Europe, Caucasus and central Asia*, p.6, accessed 23/10/2015, http://www.euro.who.int/__data/assets/pdf_file/0006/189051/Health-effects-of-particulate-matter-final-Eng.pdf

are inconsistent with the studs' business image and branding and represent a real risk to the ongoing operations of the studs and the broader Equine Critical Industry Cluster as a whole.

6.1.8 CUMULATIVE RISKS TO REPUTATION OF THE STUDS AND CONSEQUENCES FOR THE EQUINE CRITICAL INDUSTRY CLUSTER

The Commission has carefully considered each of the potential impacts of the mine on the neighbouring horse studs. The Applicant has gone to great lengths to hide the mine behind ridgelines, establish tree screens and provide buffers and offers to relinquish any open cut mining options on areas of its site beyond that proposed in this application.

The Commission has found that the impacts of the mine would generally be accepted in another location in the Hunter Valley. The mine is largely predicted to meet standard blasting and noise criteria and would not exceed the air emission criteria at the surrounding residential receivers sufficiently often to warrant granting acquisition options for those dwellings.

Notwithstanding the concessions of the Applicant and the relatively small predicted impacts, comparative to other open cut mines, the Commission has found that these impacts—mitigated to a reasonable extent—are still in relatively close proximity to the studs. At this proximity, the impacts represent a real risk to the brand and image of the studs, and more importantly to the studs' reputation, and consequent viability in this location.

As noted previously, the Equine Critical Industry Cluster is considered to be highly sensitive to potential mining impacts, mainly because the industry has a carefully managed image of clean, green, bucolic, rural idyll designed to reassure investors of the safe, healthy and caring environment the stud farms provide for their horses. These attributes are consistently found in peak thoroughbred breeding clusters around the world. Indeed images of Coolmore and Darley's other stud farms bear remarkable similarities to the images of their Australian studs. Even Edinglassie Stud, held up as the best example of coexistence between mining and thoroughbred breeding, has a website that makes much of its heritage, connections to the viticulture sector and images of its green tree lined driveway, green irrigated pastures and adjoining river, with photographs carefully framed to hide any evidence of nearby mining.

As one speaker noted in the public hearings, it is unlikely that any premium property or stud farm would feature images of an open cut coal mining in its marketing¹³⁰. Reputation is paramount in the horse business because of the inherent risks associated with horse breeding. As a result, studs are constantly vigilant to customers' concerns, real or perceived¹³¹.

The Applicant, some submitters and the Department's assessment nonetheless contend that the studs would not be impacted to such an extent that they would leave the Hunter Valley. The Commission heard from a number of speakers who highlighted the capacity for horses to adapt to impacts such as those from blasting. The success of Edinglassie horse stud, owned by BHP and operating in close proximity to the Mount Arthur mine, is held up as the model of coexistence between the mining and thoroughbred breeding industries. The Commission has given this some consideration and notes that there are a number of differences between the Edinglassie example and that proposed in this situation under consideration by the Commission.

Edinglassie, Example of Coexistence

¹³⁰ Bell, L 2015, Submission to the Commission

¹³¹ *ibid*

Edinglassie Stud is a broodmare farm, not a full breeding operation comparable to the complex operations of Coolmore's stud farm. Importantly, Edinglassie's ongoing success, reputation and viability is not of major significance to the broader sector, whereas Coolmore and Darley are central to the cluster and key to the maintenance of its standing. Further, there are some key differences between the operations at Edinglassie and those of Coolmore and Darley's Woodlands stud farms. Namely, that:

- the Edinglassie stud is owned by BHP, so:
 - priorities, operations and lines of communication between the stud and the adjoining mine should be able to be set out to ensure a cooperative partnership between the two land uses as they both form part of the one integrated business operation;
 - the stud has the financial backing of a major multinational mining company, so profit and reliance on the whims and perceptions of external investors are less likely to constrain the operations than those of most studs; and
- Edinglassie is a broodmare farm, so it does not undertake live covers, nor does it have mares visiting for very short periods for servicing.

Given these differences it would be much less disruptive for the Edinglassie stud to implement a policy of avoiding horse handling during blast events, should that be deemed necessary for the safety of the farm workers.

Practical Barriers to Relocation and Potential for Replacements

There are said to be economic and practical barriers to the studs relocating and the Department further contends that should the studs leave, there is no reason why the properties could not be used to breed thoroughbred horses in the future, although it acknowledges it is unlikely operators with the international standing of Coolmore and Darley could be replaced.

The Commission is not persuaded by the Department's argument that Coolmore and Darley would not leave the Hunter Valley due to the significant investment in fixed assets that they have made. It is clear to the Commission that the proportion of capital invested in stallions and the return on that capital outweighs the fixed asset investment. The Commission recognises how highly mobile the thoroughbred industry has become. The 'shuttle stallion' concept has driven improvements to transport infrastructure and import and export regulations in relation to thoroughbred horses, enabling these fragile and high valued commodities to be transported around the world with relative ease.

The Commission shares the view, as raised in submissions, that as Coolmore and Darley retain the best stallions it is unlikely that the space in the Equine Critical Industry Cluster would be able to be filled by another stud. The suggestion that some other operator would take over the operations on the properties is not considered likely in the short term, while the mining presence remains. By the time the mining is completed and the site is rehabilitated, the Equine Critical Industry Cluster may have declined beyond repair.

Credibility of the concern raised by the Studs and the Equine Critical Industry Cluster

Coolmore and Darley have made it clear that, in their opinion, the encroachment of mining any closer than that which is currently taking place presents a great risk to their continued operations, the Equine Critical Industry Cluster and the regional economy. The continuing pressure on their businesses from mining interests and the lack of concrete protection provided by policies such as the SRLUP, and related legislation, create a climate of uncertainty that they argue cannot be tolerated indefinitely.

Darley states in its submission:

*'[t]he signal that a recommendation to approve this open cut mining operation would send to our industry is that we are expendable and that economic diversity is not important. It will send a message of planning for the short term and not for the future, not of concern about the next generation or the need to transition to viable and sustainable alternative industries'*¹³².

The wider Equine Critical Industry Cluster has expressed concern at the prospect of losing Coolmore and Darley and does not appear to share the Applicant's confidence that coexistence would be achievable in this location. The Commission heard from a number of others within the Equine Critical Industry Cluster, concerned that the impacts on Coolmore and Darley would affect the wider Cluster. The Scone Equine Hospital also highlighted its considerable investment and growth plans, including investment for a new multi-million dollar veterinary hospital and further diagnostic equipment and infrastructure. However, its submission went on to explain that its investment plans are on hold as the future of the thoroughbred breeding industry remains uncertain¹³³.

The risks of each impact cannot be considered in isolation when the primary risk to the Equine Critical Industry Cluster is one of overall reputation and brand. The main conclusion in this regard is that the thoroughbred industry is based on investors that are weighing facts and perceptions in their decisions and that the uncertainty raises the risk of impact on their perception. The studs and others making submissions have invested significantly in contesting this proposal and this in itself points to the perception risk.

Predicting whether the studs would leave the Upper Hunter should the project be approved is difficult. The studs have given every indication that relocation is a realistic option open to them, and have provided substantial reasoning for taking this position. The risk also increases with each successive mining application that the studs believe threatens their viability.

Possible Consequences

In considering the consequences, it is of great concern to the Commission that the studs are considering leaving the Hunter Valley and that neighbouring states, or offshore locations such as New Zealand, could replace the Hunter Valley as the Southern Hemisphere's peak Thoroughbred Breeding Centre of Excellence. The Commission notes that Darley Australia already has facilities in Victoria, and that Australia and New Zealand have a long history of competition in thoroughbred breeding and racing.

The Commission understands that it was New Zealand's success in importing stallions and competing for a substantial share of Australia's breeding market that prompted a change in Australian regulations, allowing the shuttle stallion concept to flourish locally¹³⁴.

In fact New Zealand Racing lists the attractions for investment in New Zealand's thoroughbred industry as:

- *the high-class horses that are consistently bred here in an environment rivalled by Ireland and Kentucky;*
- *the industry's strong historical, social and administrative base with very few barriers to foreign investment. There is no restriction on foreign ownership of bloodstock in New*

¹³² Darley Australia 2015, Submission to the Commission

¹³³ Scone Equine Hospital 2015, Submission to the Department of Planning and Environment, accessed 23/11/2015, <https://majorprojects.affinitylive.com/public/3614376fe66dc8ec4ae60d81198dc763/Scone%20Equine%20Hospital.pdf>

¹³⁴ Presnell, M 2004, 'Why shuttle stallions can take the money and run', *Sydney Morning Herald*, 19 March, accessed 4/11/2015, <http://www.smh.com.au/articles/2004/03/18/1079199364084.html>

Zealand. Bloodstock can readily be exported from New Zealand to virtually any country in the world with minimal quarantine requirements; and

- *by international standards, low costs of production, sales preparation and training and a well established base of professional skills¹³⁵.*

The 2013 review noted that if the studs did re-locate it is probable that they would remain in the Southern Hemisphere to maintain the dual breeding season advantages that come with being part of a global breeding industry. It is also probable that either Victoria or New Zealand would be the preferred destinations as both have established and developed equine clusters, allowing the studs to retain their customer base¹³⁶.

Coolmore and Darley's Woodlands have been found to be key to the sustainability of Equine Critical Industry Cluster in the Upper Hunter. The likely effects of the studs relocating would be that the cluster would suffer to a significant extent and enter a potentially terminal decline.

Relative Economic Contribution

Each industry makes a significant economic and employment contribution to the region, the state and ultimately to the nation as a whole.

While mining is a far bigger sector, the mining industry is not heavily reliant on this one mine. The same cannot be said of NSW's thoroughbred breeding industry, the standing of which is integrally connected to the quality of the stallions it stands, a significant portion of which are in the hands of Coolmore or Darley in the Upper Hunter.

Both the NSW Mining Industry and the NSW Thoroughbred Horse Breeding and Racing Industry are significant contributors to the state economy in terms of employment, direct expenditure and flow-on effects. Both industries employ a similar number of people, approximately 21,000 full time equivalent. The mining industry understandably has a higher total direct expenditure figure of approximately \$13.6 billion, and the approximately \$2 billion total direct expenditure of the NSW Thoroughbred Horse Breeding and Racing Industry is not insubstantial.

In more regional terms, the Hunter thoroughbred breeding sector, of which Coolmore and Darley are pivotal establishments, employs 1,103 workers (with approximately 265 full time equivalent jobs provided by Coolmore and Darley's Hunter operations) and has a total direct expenditure of approximately \$341 million per annum. The Drayton South mine project is predicted to employ 500 people and have a total direct expenditure of \$131 million per annum over its 15 years of operations.

Conclusion

The Commission is of the opinion that the Equine Critical Industry Cluster needs to be valued and actively protected by Government to ensure the long-term sustainability of the thoroughbred breeding industry in NSW and that a diverse economy is encouraged and maintained in the Upper Hunter.

The Commission is convinced of the central importance of both Coolmore and Darley to the Hunter thoroughbred breeding sector and the broader Equine Critical Industry Cluster. Without these two

¹³⁵ NZ Racing 2015, *Welcome to the NZ Breeding Section*, accessed 4/11/2015, <https://www.nzracing.co.nz/Breeding.aspx>

¹³⁶ Short T and Thomson T 2013, *Potential Impacts of the proposed Drayton South Coal Project on Coolmore and Woodlands horse studs*

international players, the Equine Critical Industry Cluster would face a significant struggle to maintain its position in the global market as investors and the broodmare industry follow the studs' stallions. The remaining equine industry would most likely decline in size and relevance as broodmare agistment contracted, feed demand dropped and specialised veterinary services were not required to the same extent.

The Commission considers that the scenario of the studs leaving the Hunter is the critical issue for the decision maker to weigh up in considering whether to approve the project. Clearly there is uncertainty around the studs' claims that they would relocate. There is also uncertainty about whether the project, if approved, would proceed at the scale and timing the Applicant has proposed, for the full 15 years. The risk of putting a long term and sustainable industry into a long term decline and value reduction needs to be weighed against a project with potentially immediate and tangible employment and community benefits, arguable over-all economic benefits, and a relatively short 15 year lifespan.

In this regard, the Commission has found that there is a broader public interest imperative to maintain diversity within the region's economy. The proposal does not just threaten the viability of two neighbouring horse studs, but by virtue of the significance of those studs, it places the wider Equine Critical Industry Cluster under threat. Further the reputational damage to the region's other sectors must also be considered, as collapse of one sector, on account of the impacts of mining have the potential to damage both the region and NSW's reputation for quality agricultural production and a clean health environment, with implications for both the Hunter's viticulture and tourism industries.

6.1.9 COEXISTENCE

What is coexistence in a planning sense?

The concept of land use coexistence has been raised in written submissions, during the public hearings, in the Applicant's EIS and in the Department's Preliminary Environmental Assessment Report. The Commission has considered what is meant by land use coexistence and how such a principle sits within the land use planning system.

Land use planning, implemented through planning instruments and policies, involves the regulation of land use in an efficient way to manage land use conflict. Coexistence is an outcome whereby different land uses can occur in proximity to one another. More importantly, those land use types should each be sustainable and should not pose any significant threat to the success or longevity of the other.

The Commission finds that in the context of land use coexistence, it is the role of the planning system to establish planning instruments and policies that:

- facilitate certainty for the community, industry and decision makers;
- recognise land use types that are critical to a local area, a region or the State and any potential conflict that may arise between these land uses;
- provide the strategic support and a policy basis for the outcome of co-existence to be achieved; and
- identify the range of tools or mechanisms required to effectively implement the strategic policy and achieve coexistence.

In some cases, mitigation measures can be used to ensure coexistence can occur. For example in urban areas residential and non-residential uses will often require the control of hours of operation to ensure co-existence. However, there are many examples of areas where land use types are not able to coexist. They will often be separated through the use of exclusionary zoning or transitional

areas that might support light rather than heavy industry or intensive uses. This effectively creates a buffer between the conflicting uses.

Coexistence of coal mining and horse studs in the Hunter?

There has been considerable debate about the ability of the proposed mine to coexist with the Coolmore and Darley horse studs. The existing coal mine operations at Mount Arthur are setback approximately 6.5km from the boundary of Coolmore and Darley horse studs along the Golden Highway, with a smaller distance to the Hunter Valley Operations at Jerrys Plains. Coolmore and Darley are of the opinion that, although not ideal, the existing arrangements provide adequate separation for their thoroughbred breeding operations and open cut mining operations to coexist.

On the other hand, the Applicant is of the view that the proposed 1km setback from the final stage of mining operations at Drayton South to the property boundary of Coolmore and Darley is sufficient to manage any potential tangible and physical impacts of the mine on the horse studs ¹³⁷.

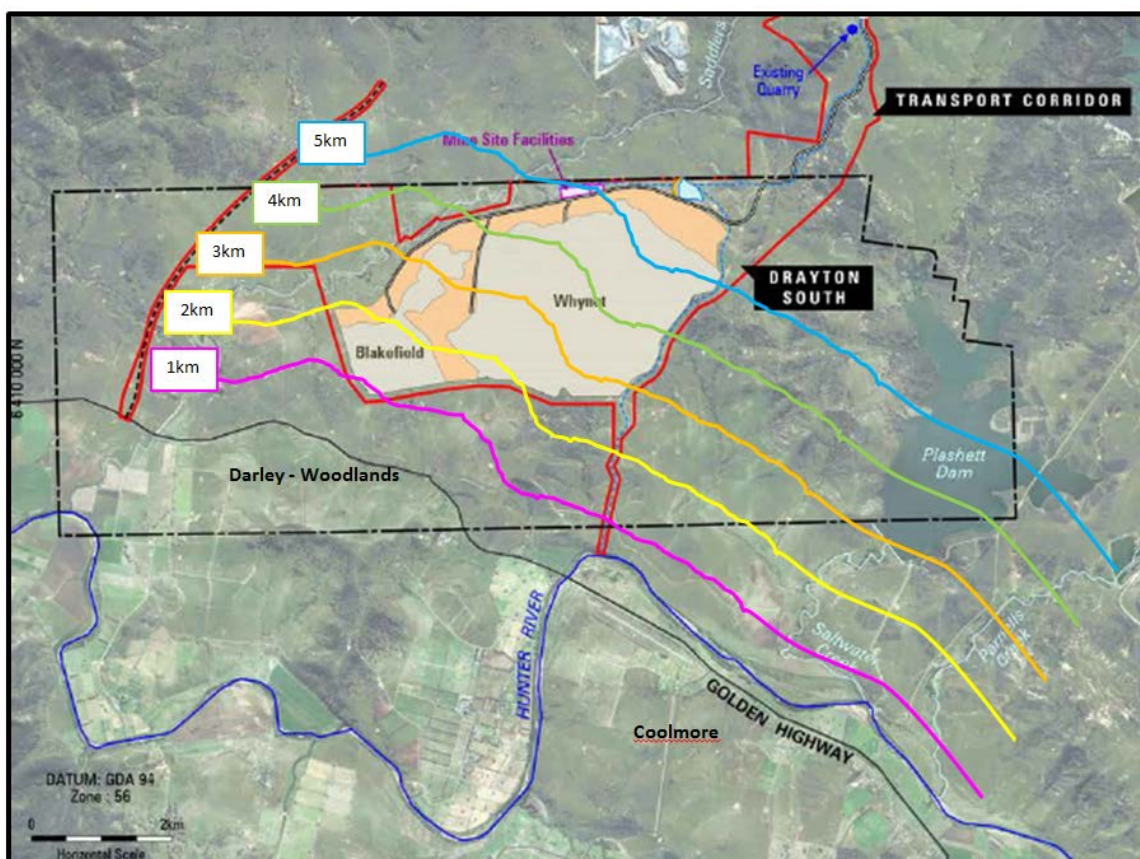


Figure 3: Distances from the Property Boundaries of Coolmore and Woodlands

The Commission is mindful that extending mining operations into the existing pastoral area presents an increased reputational risk to the horse studs, which depend on reputational excellence and visual presentation, and may also adversely impact on the scenic and historical characteristics of the agricultural district. The Commission also acknowledges the importance of the mining industry for the region. However, the Commission considers that for some agricultural land uses close proximity of an open cut coal mine cannot be considered to be viable coexistence where both land uses can prosper. Accordingly, conflict between these permissible land uses is inevitable without an adequate buffer as the detriment to prosperity is most likely to fall on the agricultural land use in both the

¹³⁷ The Applicant 2015, Meeting between the Applicant and the Commission, 28 October 2015

short and long term. Where the benefits of the mine do not clearly and significantly outweigh such potential impacts, the Commission considers that an exclusionary zoning or buffer approach would provide the greatest certainty and transparency.

As outlined in section 5, the Commission notes that there are existing NSW policies and legal instruments, including the Mining SEPP, the SRLUP and the Muswellbrook LEP, which recognise the conflicting land uses of agricultural land and mining operations. These items also acknowledge the significance of both these land uses to the prosperity of the Upper Hunter. However, the Commission is of the view that these policies, while establishing the principle of land use conflict, do not provide the planning tools, such as a buffer or exclusionary zoning, for managing this land use conflict to achieve coexistence.

The SRLUP states that the key planning tool for resolving land use conflict between mining and agricultural land is the gateway assessment process, outlined in the Mining SEPP. A gateway certificate is required for proposed mining development on biophysical strategic agricultural land (BSAL) or on Critical Industry Cluster land. A small portion of the subject site was identified as containing BSAL and the Commission notes that a conditional gateway certificate was granted by the Gateway Panel on 2 April 2015. As outlined in Clause 2 of the Mining SEPP, the aims of the gateway assessment process are:

- (i) to recognise the importance of agricultural resources, and*
- (ii) to ensure protection of strategic agricultural land and water resources, and*
- (iii) to ensure a balanced use of land by potentially competing industries, and*
- (iv) to provide for the sustainable growth of mining, petroleum and agricultural industries.*

As part of the determination of the gateway certificate, the Gateway Panel is required to consider the relevant criteria outlined in Clause 17H of the Mining SEPP. For proposed development on BSAL, such as the subject project, the relevant criteria only aims to ensure that the proposed development will not significantly reduce the agricultural productivity of BSAL. The Commission notes that the criteria does not require the Gateway Panel to consider the proposal's compatibility with adjoining land uses (even if those uses are an identified Critical Industry Cluster) or the project surrounds in the determination of the gateway certificate. As such, issues of potential land use conflict are unlikely to be addressed.

Given that it is not in the relevant criteria, the Gateway Panel did not provide consideration to the adjoining Equine Critical Industry Cluster land to the south west of the subject site or other surrounding agricultural land uses in its determination of the gateway certificate for the proposal. As a result, any possible land use conflict between the proposed mining operations and agricultural uses has not been adequately managed. This is contrary to the aims of the gateway assessment process in that the adjoining Equine Critical Industry Cluster land has not been provided adequate protection and as a result, is likely to be adversely impacted by the proposed development.

In order for the gateway assessment process to achieve its aims, the Commission is of the view that relevant criteria under Clause 17H of the Mining SEPP for consideration by the Gateway Panel should be expanded to ensure that the proposed development is able to coexist with surrounding land uses. Specifically, the Gateway Panel should consider if a proposed development would continue to allow for the sustainable growth or continued ability for any adjoining Critical Industry Cluster to prosper. Should the proposed development adjoin or be within the vicinity of Critical Industry Cluster land, the Gateway Panel should consider whether this critical industry land is adequately protected to ensure the balanced use of land within the region.

The Commission notes that there are Australian examples of where effective land use planning tools have been implemented to protect sensitive land uses or regions of significance and to provide greater certainty to the community of future development.

In NSW, there are several examples of planning buffers which prescribe a numeric distance between conflicting land uses to mitigate land use conflict. In the Mining SEPP, the carrying out of coal seam gas development is prohibited on or under land within a coal seam gas exclusion zone or land within a buffer zone. The coal seam gas buffer to an exclusion zone is defined as land within 2 kilometres of a residential zone, future residential growth area land, additional rural village land or Critical Industry Cluster land.

The Draft NSW Planning Guidelines for Wind Farms require that if written consent is not received from all existing landowners within a 2km radius of the proposed turbines, additional assessment is required. The additional assessment requires the Applicant to demonstrate that there are no unreasonable impacts on landowners in terms of noise, visual amenity or landscape values as a result of the windfarm. This gives fair warning to any developer, that seeking approval for turbines within this buffer may be more challenging and more likely to be found unacceptable.

The Commission notes that the 2 kilometre buffers imposed for coal seam gas and wind farms could be considered a precedent for managing land use conflicts. However, it is important to remember that any buffer will need to factor in the relative sensitivities and impacts of each land use on a case-by-case basis. In regards to this application, the Commission considers that the two land uses are at opposite extremes of the spectrum. It is hard to think of any land use more openly disruptive of the landscape than an open cut coal mine, nor one more sensitive to its amenity impacts than these two studs that invest so heavily in fostering a bucolic character.

Consequently, the Commission believes any buffer would need to be significantly greater than the 2 km provided for coal seam gas and windfarm proposals. In this regard the Commission notes that other states provide some useful examples of protection measures for areas with significant amenity sensitivities comparable to the Coolmore and Woodlands sites.

In South Australia, the Barossa Valley and McLaren Vale regions are provided with statutory protection from incompatible urban development in the *Character Preservation (Barossa Valley) Act 2012* and *Character Preservation (McLaren Vale) Act 2012*. These districts have been recognised as having special character values, including scenic, heritage and tourism attributes, which are significant to the regions' viticultural, agricultural and associated industries. To protect and enhance each region's sense of place, it is required that all development within the vicinity of the region be assessed with special consideration to the character values of the region, as outlined in the Acts. The Acts also limit land division within each district to minimise the potential conflict between agricultural land and urban development. These Acts are one of a number of planning measures that have been successful in protecting and enhancing the character of the Barossa Valley and McLaren Vale. The Commission is of the view that character values of the Equine Critical Industry Cluster within the locality should be considered in any deliberations around the required buffer to be established between Coolmore and Darley horse studs and mining operations.

The Margaret River region, one of the most significant wine production and tourist regions of Western Australia, has been provided with a buffer from coal mining operations. Under Western Australia's *Mining Act 1978*, the Minister is able to terminate or refuse applications for mining if he or she is satisfied on reasonable grounds that it is in the public interest to do so. In 2012, the Western Australian state government terminated all pending applications for coal exploration and issued a ban on coal mining over a 230 square kilometre zone within the Margaret River region. The Environment Minister stated that "the decision provides the people of the Margaret River with

certainty that the State Government recognises the uniqueness of the region, both from an environmental and social perspective”¹³⁸. The Commission is of the opinion that the area around the horse studs has some similarities to the Margaret River region in that the industry it supports is connected to (and benefits from) the landscape character and has significant social, economic and environmental value to both the locality and state. The Commission recommends that the buffer should aim to protect these values.

The need for strategic planning to better manage the competing land uses, particularly between mining operations and agricultural land, was raised by speakers at the public hearings. The Commission believes that this is a regional priority for the Hunter. The Commission considers the current policy context for mining adjacent to Critical Industry Clusters would benefit from greater clarity around the matter of planning for effectively addressing land use conflict, in particular buffers. At a minimum, a set of guidelines should exist identifying the relevant considerations to guide the determination of appropriate buffer zones where mining is proposed in close proximity to a critical industry cluster or other sensitive land use. This may extend so far as establishing similar preservation areas to the examples noted above.

While it would obviously not be appropriate to exclude mining from the Hunter region, as has been done in the Margaret River region, the Commission considers that there are some areas currently free of significant mining impacts that warrant protections, to maintain these other core pillars of diversity within the regional economy. As well as protecting sensitive land uses, clear, prescriptive protections would provide greater certainty for both industry and the community on future development and assist the NSW Government with land use decision-making.

The Commission notes that the SRLUP is in its first iteration and is due for a comprehensive review by September 2017. The Commission considers that any strategic review or update of the planning framework is an opportunity to outline clear and effective planning tools that achieve greater certainty of coexistence between conflicting land uses in the Hunter. These tools must then be implemented through the relevant environmental planning instruments, including the Mining SEPP and Local Environmental Plans. As part of the review process, extensive consultation should be undertaken by the NSW Government with relevant stakeholders, including representatives from the mining industry, agricultural industries and government agencies, including the Joint Organisation of Hunter Councils.

6.1.10 FINDINGS AND RECOMMENDATIONS

The Commission finds that the mine poses risks to the reputation, and to a lesser extent the operations, of the Coolmore and Woodlands Studs, with potentially catastrophic consequences for the wider Equine Critical Industry Cluster, should Coolmore and Darley elect to leave the region. This conclusion is not taken lightly, however on balancing the evidence and merits of the proposal before it, the Commission has been unable to reconcile the opposing view points presented to it or to find any practical mitigation option or management measure that would satisfy it that the longer term future of the studs could be assured within such close proximity to open cut mining.

The Commission recommends that:

1. The application for the Drayton South open cut coal mine should not proceed.

¹³⁸Government of Western Australia 2012, ‘State says no to Vasse Coal proposal’, *Media Statements*, accessed 20/10/2015, <https://www.mediastatements.wa.gov.au/Pages/Barnett/2012/02/State-says-no-to-Vasse-Coal-proposal.aspx>

2. Greater clarity and planning certainty needs to be provided to the mining industry, the community and other industries that exist within mining regions. NSW Planning and Environment, NSW Department of Industry's Division of Resources and Energy and other relevant government agencies need to collaborate to develop a strategic framework for the coordinated release of exploration licences and a suite of effective planning tools to provide reasonable exclusion zones or buffers to protect other industries and sensitive land uses within those parts of the state that are rich in coal, gas and/or mineral reserves. In particular,
 - a. resources need to be allocated to allow relevant Departments to undertake the work required to:
 - i. identify sensitive land uses and resources (be they important agricultural land, water resources, places of special Aboriginal cultural significance or of significant conservation value) that warrant protection from mining; and
 - ii. to determine appropriate buffers for those land uses and areas of other significant value;
 - b. the Gateway process needs to be strengthened and its remit widened to ensure it has the capacity to identify and prevent significant land use conflicts from progressing.

3. The importance of the Equine Industry Cluster, its sensitivities to intensive development and the landscape character of its central operators, including the Coolmore and Woodlands studs, needs to be acknowledged with the development and enforcement of appropriate buffers, exclusionary zones or preservation measures to safeguard this important industry.

The Commission notes that the Strategic Regional Land Use Plan for the Hunter prepared in 2012 identified and highlighted the importance of the Upper Hunter's Equine and Viticulture Critical Industry Clusters. Further strategic planning work is needed to address current conflicts and deliver planning protections to safeguard both the Upper Hunter Critical Industry Clusters from incompatible land uses, thereby providing greater certainty for all sectors and potential land uses in the region.

7 OTHER CONSIDERATIONS

Notwithstanding the findings of the previous section, the Commission has been asked to assess the merits of the project as a whole, having regard to all relevant NSW Government policies. The Commission has also been asked to take into account the issues raised in submissions and any other information provided during the course of the review.

The Commission has considered very carefully the issues raised in submissions and the other information provided by the Applicant, the Department, the Environmental Protection Authority and the NSW Department of Industry's Division of Resources and Energy in the course of its review. Issues of note are discussed in this section.

7.1.1 EXTENSION OF THE EXISTING DRAYTON MINE PITS

The Commission notes that the proposal includes some additional mining within the existing Drayton Mine site. The Commission has considered this proposed mining and is satisfied that the additional extraction of 1.4 million tonnes of coal from the Drayton pit would have minimal additional impacts and would provide some short term extension of employment for the mine's existing workforce.

The additional extraction from the east pit would disturb approximately 20 ha of land, including the Industrial Dam and some areas of previous mine rehabilitation. Water in Industrial Dam is proposed to be redirected to the southern part of the eastern pit.

A further 9 ha of land on the northern and western edges of the North pit would be disturbed, to extract the remaining coal from that pit. 7 ha of land on the edge of the South pit would be removed, to facilitate additional extraction of coal from that area.

The conceptual mine plan for the Drayton pits assumed significant quantities of rejects and tailings would have been used to backfill parts of the Drayton pits. The plans also appear to suggest that mining in the three pits would be actively occurring throughout at least the first 5 years of mining. The Commission understands that parts of the Drayton site, including the East (South) Void are on land owned by AGL Macquarie.

The Drayton Mine landform and rehabilitation outcomes will need to be reconsidered in light of the reduced material available to backfill the pits, and given the complex land ownership and management arrangements. Nonetheless, the Commission is satisfied that the additional mining in the north, east and south pits would have minimal impacts on the overall landform and rehabilitation outcomes for the site, and with some further details and appropriate conditions, the proposed mining in the Drayton pit should be able to be approved.

7.1.2 HERITAGE AND CULTURAL LANDSCAPE

The SRLUP recognises that the Upper Hunter is rich in both Aboriginal and historic cultural heritage that mining growth has the potential to further impact on known and yet-to-be identified cultural heritage places, objects and landscapes. The significance of the cultural heritage of the project site and its surrounds, comprising both heritage structures and the landscape, is described in the Applicant's EIS and further detailed in some of the submissions received by the Commission.

Non-Aboriginal Heritage

The Non-Aboriginal Heritage Impact Assessment (HIA) submitted with the application focuses on both heritage structures and heritage landscapes. The HIA identifies the land on the southern side of the project area as being part of the broader historic thoroughbred horse breeding landscape that is significant to the course and pattern of the history of NSW. The field surveys undertaken by the Applicant identified 10 heritage items within the project boundary or surrounding area that had the potential for direct or indirect impacts as a result of the project. These heritage structures have their own heritage value and also contribute to the thoroughbred cultural landscape of the area.

Heritage Structures

The Plashett Homestead, Edderton Homestead, Strowan Homestead, Arrowfield Cottage and the Woodlands Homestead are listed in statutory environmental planning instruments as being significant to the environmental heritage of the area. The Woodlands Homestead, located on the Darley property, has been identified in Muswellbrook LEP and in the *Hunter Regional Environmental Plan 1989* as having particular significance to the agricultural and thoroughbred cultural landscape of the state. The Woodlands Homestead is considered to reflect the earliest phase of Hunter region development. Socially and scientifically, the property is also of state significance for its very rare potential to reveal information which could contribute both to an understanding of thoroughbred horse breeding and cattle raised over a period of one hundred and fifty years, and to the lifestyle of the wealthy initial settlers of the Hunter Region land.

Although these heritage items are outside of the project disturbance footprint, the Applicant has identified that ground vibration and over-pressure from blasting may have the potential to impact

on the structural integrity of these heritage items. The Commission notes that the Department has included a number of conditions to manage and avoid blasting impacts on the heritage items.

In addition to establishing blasting structural criteria, the conditions require the Applicant to prepare and implement a Historic Heritage Management Plan for the project. This plan requires the Applicant to undertake a dilapidation survey of the homesteads and cottage, subject to landowner access arrangements, which would record the structural integrity of the items prior to works blasting being performed at the project site. Conditions of the items would then be monitored over time. The Commission notes that there is no responsibility for the Applicant to rectify any damage to these heritage items as a result of the project. The Commission is of the view that if damage is identified which is considered to require rectification, the damage shall be rectified or a satisfactory agreement for rectification of the damage is to be made with the owners of the affected structure as soon as possible. All costs incurred should be borne by the Applicant.

The Applicant has also identified that significant visual impacts would occur for the life of the mine from viewing points at Edderton Homestead, located on land owned by Hunter Valley Energy Coal Pty Ltd. Edderton Homestead was constructed in 1908 and has regional heritage significance related to its associated with the expansion of the wool industry in the Upper Hunter and unique architectural style. The Commission notes that if the rehabilitation works are carried out, the landscape would be significantly altered with different topography, vegetation and other environmental conditions. The Commission is of the view that the visual impacts of the mine on Edderton Homestead would result in the degradation of the character and sense of place of the area, which would adversely impact on the heritage aesthetic qualities of the item.

Although not listed or protected under statutory documents, the Fence and Nissan Hut with Stockyard have local heritage significance to the area. These items are located within the project footprint and would be destroyed as a result of the project.

Cultural Landscape

Although the conditions may manage or prevent impacts on the structural integrity of the heritage items, the Commission acknowledges that the surrounding landscape and continuing land uses contribute significantly to the cultural heritage values and character of the area. The landscape of the site and the land to the south and south west can be described rural in character with undulating to relatively hilly topography, comprising a series of ridges between the catchments of Saddlers Creek on the north west and the Hunter River to the south¹³⁹. These natural elements within the landscape are of cultural significance for their aesthetic, historical, social and scientific values and create a unique and sensitive landscape character.

The landscape of the locality reflects the long history of using the land for agricultural uses, including irrigated cropping, intensive grazing, grape growing and breeding of thoroughbred horses. Many of these uses are founded on the deep, alluvial soils deposited by ancient and also recent flooding events and the adjacent supply of permanent water¹⁴⁰.

The Commission notes that in 1985, the National Trust of Australia listed the Muswellbrook-Jerry's Plains Landscape Conservation Area (MJPLCA) as having particular significance to the cultural landscape¹⁴¹. The MJPLCA aims to protect the scenic values of the flat alluvial flood plain associated with the Gunter and Goulburn Rivers and incorporates the edge of the Wollemi National Park to the

¹³⁹ PAC 2013, *Drayton South Coal Project Review Report*, Appendix 5, p. 6

¹⁴⁰ *ibid*

¹⁴¹ Anglo American 2015, *Environmental Impact Statement*, Appendix P

south and the slopes of the northern side of Jerrys Plains. To protect the high scenic and cultural values of the MJPLCA, the National Trust of Australia recommends that protections, in the form of appropriate land use zoning within and surrounding the area, should be established. In particular, open cut mining should not be permitted.

The Commission acknowledges that the area's listing by the National Trust of Australia offers no statutory protection. However, the Commission agrees with the National Trust of Australia that protections, such as appropriate land use zoning, should be implemented to protect and maintain the landscape due to its cultural significance to the area.

The Commission notes that the Department has recommended conditions to protect the cultural landscape of the area. These conditions relate to the rehabilitation of the site to woodland, increased planting within the proposed buffer area and ensuring that works are carried out in accordance with the Australian Standards. The Commission is of the view that further protection should be provided for the landscape and has considered potential measures in section 6.1.9.

Aboriginal Heritage

The project site is the traditional land of the Wonnarua people. The Commission acknowledges that the land contains 194 identified Aboriginal sites and 4,519 Aboriginal artefacts that contribute to the cultural landscape of the area. The Commission notes that the project has significant direct and indirect impacts on a large number of these sites and items. The Commission acknowledges that the Aboriginal people have a special connection to the land and that the Wonnarua people would experience significant loss if Aboriginal sites and artefacts within the project area are relocated or destroyed.

During the Public Hearing, the Commission was presented with an array of new information relating to the consultation process with Aboriginal stakeholders and on Aboriginal archaeological and cultural heritage. During the hearing the Commission heard that the project site may contain land where a massacre of Aboriginal people occurred. The Commission was also told that the land contains a song line that leads to an area that is of special significance to the Aboriginal women. As a result, the Wonnarua people have a significant cultural connection to the project site and its surrounds and that an application under the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* would be lodged to protect the land.

The Commission notes that the Office of Environment and Heritage (OEH) has previously provided advice to the Department stating that the Aboriginal heritage assessment and consultation for the project was undertaken in accordance with applicable guidelines and the requirements of Part 6 of the *National Parks and Wildlife Act 1974*. Nonetheless, the Applicant's assessment focuses on the tangible artefacts, with substantial effort put into walking transects over the site, and categorising the assembled 4,519 into artefact type, distribution within the topography and landform of the site, and scientific significance. The Environmental Impact Statement's attention to the wider, less tangible, cultural landscape and context provided by the Aboriginal cultural heritage values associated with the area is comparatively limited.

Given the new information received during this review process, the Commission recommends that the Department seeks confirmation from OEH about the adequacy of the consultation process with Aboriginal stakeholders, should any activity on the Drayton South site proceed. The Commission considers that all aspects of the site's history need to be included and addressed within the Heritage Impact Statements. Further consideration of the Aboriginal cultural significance of the project area would be required was the project likely to proceed.

While not a determinative issue for the Commission in its overall recommendation on the project, the Commission acknowledges that open cut mining in the Hunter Valley has had significant impacts on the wider landscape and associated Aboriginal cultural heritage values of the valley. In this regard, strategic consideration of cultural landscapes and places within areas of significant mining would help to identify priority areas for protection and provide scope for the consideration of cumulative landscape changes and impacts. This in turn might provide a more sophisticated Aboriginal cultural heritage assessment process, giving greater attention to existing OEH guidelines and Burra Charter requirements for consideration of the significance of Aboriginal cultural heritage values of an area, to properly examine not only the physical artefacts but also the wider cultural landscape connections and the interplay between these elements.

7.1.3 BIODIVERSITY

The project would disturb approximately 1,447ha of native vegetation, including approximately 270ha of listed Ecological Communities under the *NSW Threatened Species Conservation Act 1995*, comprising 4 Endangered Ecological Communities and one Vulnerable Ecological Community. Three threatened plant species have also been found within the proposed disturbance area along with habitat for at least 21 threatened or migratory birds or bats, with the potential for the spotted tailed quoll and squirrel glider to also be present within the site. Impacts on biodiversity are proposed to be offset, and the proposed rehabilitation plan for Drayton South would include 2,232 ha of native vegetation, including 1,514 ha of Endangered Ecological Communities, as well as 1,127 ha of mine rehabilitation areas proposed to be restored to Narrabeen Foothills Slaty Box Woodland and Central Hunter Box-Ironbark Woodland (both listed ecological communities under the *NSW Threatened Species Conservation Act 1995*). At the Public Hearing, some members of the public raised concerns about impacts of the mine on biodiversity, particularly threatened species and endangered ecological communities and the adequacy and location of the offsets proposed to be provided.

In its meeting with the Commission, Muswellbrook Shire Council raised concern that although the clearing of vegetation would be undertaken within its Local Government Area, the biodiversity offsets are within a different Council's Local Government Area. The Commission acknowledges this point, that the clearing of vegetation, without it being replaced in a similar location, may detract from the character of the area.

The Commission notes that the OEH has reviewed the threatened biodiversity assessment and proposed offsets for this project in accordance with the NSW Biodiversity Offsets Policy for Major Projects using the Framework for Biodiversity Assessment. The Commission accepts that the proposed offset package is able to meet the current transition provisions of the biodiversity offsets policy. In normal circumstances the Commission would be supportive of the OEH's recommended conditions of consent, which have been adopted by the Department. Given the Commission's other concerns with the application, the biodiversity impacts add to the cumulative impact on the region. Given Council's concerns for the limited remaining native habitat within the Muswellbrook LGA, the Commission notes the native vegetation on the Drayton South site may be an appropriate offset site for some other mining impacts in the LGA.

7.1.4 REHABILITATION COMMITMENTS AND LIABILITIES

Concerns have been raised in public submissions and in the Public Hearing in relation to rehabilitation works and the final voids both at the existing Drayton mine and the Drayton South mine proposed to be left post mining.

The Commission sought clarification on a number of the rehabilitation and landform issues acknowledging there are a range of potential rehabilitation and landform scenarios that would be implemented depending on which of the various options and agreements in place are progressed.

The Commission received a comprehensive response from the Division of Resources and Energy, see Appendix 5.

The existing consent for the Drayton Mine expires in 2017, at which time four final voids would remain. The Division of Resources and Energy advised that it anticipated that over time, these voids will fill with water up to the post mining natural ground water levels. Subject to a commercial agreement with AGL Macquarie, the East South Pit void could potentially be used as an emplacement area for fly ash from the power stations. The remaining area would generally be rehabilitated with the intent to create a landform in keeping with the surrounding natural topography and be suitable for cattle grazing. Areas of native woodland would be established to form corridors between existing ecological offsets and biodiversity areas.

The Commission agrees with the Applicant, the Department and the DRE that if the proposal was to be approved and proceed to be developed, it would result in improvements to the current mine closure strategy and final landform at Drayton mine. The key improvements include:

- backfilling the North Pit void using additional coarse rejects and select overburden material generated by the project;
- reducing the size and depth of the East (North) Pit void by preferentially emplacing tailings within the void;
- consolidating all residual void capacity towards the southeast of the site, therefore optimising the potential for future use of these voids;
- minimising the risk of spontaneous combustion events by covering and capping higher risk coal rejects and tailings from the Greta Coal Measures;
- reducing the surface water catchments draining to final voids; and
- minimising steep topographic profiles to provide a stable, undulating final landform in keeping with that of Mt Arthur mine and the surrounding natural landscape.

Rehabilitation at the Drayton South site would result in one final void within the Whynot pit and the rehabilitation of the rest of the site to woodland. The final landform of the mining area would incorporate principles of micro-relief, creating rolling hills and natural features to improve its integration with the surrounding landscape. The woodland rehabilitation is proposed to cover 1,127ha of area and comprise 471ha of the Central Hunter Box-Ironbark Woodland EEC and 656ha of the Narrabeen Foothills Slaty Box Woodland community. The woodland rehabilitation, coupled with the offset areas, is proposed to create over 1,700ha of woodland in the immediate vicinity of the project site.

The Commission has also considered the environment and landform outcomes that would be achieved should the Drayton South mine commence operation, but cease operating part way through the proposed 15 year mine plan. The DRE has advised that in this scenario, operations would need to be rehabilitated to the standard set by the conditions of consent. If the mine was to cease operations during this period, the DRE would oversee its rehabilitation to the landform objectives in the consent conditions. The Commission notes that during the life of the mine operation, the DRE will hold the necessary security to ensure this rehabilitation occurs even if the company was to cease operations.

At the Public Hearings and in written submissions, concern was raised about the final void equilibrium and the stability of the final landform and vegetation due to sodic soils. The Commission is satisfied that the Department's recommended conditions address these issues by requiring the Applicant to prepare a comprehensive Rehabilitation Strategy and Rehabilitation Management Plan to the satisfaction of the Secretary and DRE.

Concern was also raised about the potential salt export via Saddlers Creek after the closure of the mine and the assumptions adopted within the Applicant's assessment on long term final void water and salt balance. The Commission is not convinced that these issues can be addressed via conditions. Further consideration of long term final void water and salt balance would be needed, to provide greater certainty of likely long term impacts of the final void, if the project was likely to proceed.

The Applicant has advised that it is not intending to delay or put off its rehabilitation costs and liabilities at the Drayton Mine. The Commission acknowledges the project would help to improve the rehabilitation outcome at the Drayton Mine, but would nonetheless create further disturbance and leave a final void at the Drayton South site.

The Commission notes that there are still uncertainties about the long term cumulative impacts of final voids across the Hunter Valley, particularly in relation to potential impacts on water resources.

While the rehabilitation proposed at Drayton South is generally accepted to represent best practice, and is a significant improvement on earlier mine plans such as that for the Drayton Mine, which was to leave either 3 or 4 voids depending on the outcome of potential options available to the mine.

While not a reason for refusal, the Commission considers that there is still further room for improvement on mine plan design and rehabilitated landform outcomes. Other Planning Assessment Commission reviews have raised concerns about the long term impacts of final voids, and the cumulative impact of final voids associated with coal mining in the Hunter Valley in particular. A policy to ensure voids are avoided from the initial exploration and design phases of mining work has the potential to significantly improve the long-term rehabilitation outcomes for the Hunter Valley. Some strategic consideration of how to manage the significant number of final voids that will remain upon the completion of current mine plans is also warranted. Consequently, the Commission recommends that:

1. work underway in Government to establish a policy on mining voids should include:
 - a) consideration of whether, and if so, under what circumstances final voids would be acceptable in the rehabilitation plans for open cut mine design in NSW;
 - b) criteria to guide the level of landscape (both landform and land capability) and water impact legacies the state is willing to accept in exchange for the various economic and employment returns provided by mining; and
 - c) guidance on how these should be factored into the mine's cost benefit analysis and wider public benefit considerations for decision makers.

In this context the Commission notes that the existing Drayton Mine includes 4 final voids, each with the potential to form permanent pit void lakes. Any further mining within these pits would impact on the rehabilitation outcomes for these voids. Consequently, the Commission recommends that:

2. the proposed conditions of consent relating to the existing Drayton Mine's rehabilitation should be strengthened to take into account the outcomes of any review of the NSW Government's current policy on final voids, should those additions to the mine proceed.

7.1.5 VOLUNTARY PLANNING AGREEMENT

The Applicant has made an offer to enter into a Voluntary Planning Agreement (VPA) with Muswellbrook Shire Council for the project. The terms of the offer includes the following contributions to Council:

- o \$50,000 per year for road maintenance;
- o \$290,000 per year to be paid into a Community Fund and spent on projects related to the promotion of economic and social health or environmental benefit in the LGA; and
- o \$15,000 a year to help Council monitor the impacts of the project.

The Applicant has also committed to use its best endeavours to engage 3 apprentices each year from within the Muswellbrook Shire, Aberdeen and Jerrys Plains areas, for the life of the project.

In the event the project was to proceed to be approved, both parties should voluntarily settle on the terms of the agreement, prior to that determination. The Commission is of the view the terms of the offer should only be included in the condition once Council has advised in writing that it has accepted the offer. The Commission nonetheless acknowledges conditions often require that the Applicant enters into the agreed VPA with Muswellbrook Shire Council prior to the commencement of construction.

7.1.6 OTHER ISSUES

The Commission is generally satisfied other issues have been adequately assessed by the Department in its assessment report.

8 CONCLUSION

The Commission has considered carefully the application for the Drayton South Coal Project, including the Environmental Impact Statement, Response to Submissions and the further information provided by the Applicant throughout the course of the assessment and review processes. The Commission has found that the application is credible and professional. It responds to the most tangible of those key concerns of previous review and decision makers for the site, and significant elements of the submissions received from neighbouring objectors.

During the course of its review, the Commission received an unprecedented community response to the call for submissions. Over 17,000 submissions were received and the vast majority of the submissions wrote in support of the application. Supporters noted the significant social and economic benefits of the project, particularly the employment opportunities, investment and multiplier effects for the region, the revenue to government from extracting the resource and the other government taxes that would be collected. The deferral of social and economic cost impacts were also highlighted, particularly for those currently employed at the Drayton Mine, which is due to close with the imminent exhaustion of the coal reserves from its approved mining areas.

The Commission acknowledges that the project represents a significant employment opportunity for the local community, particularly those currently employed or supplying the Drayton Mine. The project also has the potential to generate a good revenue stream for the state in the form of royalties and taxes over its 15 year life.

Notwithstanding these benefits, the proposed Drayton South mine would encroach within one kilometre of two highly significant thoroughbred breeding studs, arguably the two most significant studs in the Equine Critical Industry Cluster (itself world renowned, in the same league as Newmarket in the UK and Kentucky in the US). The studs, supported by others in the cluster, argue that the mine would make their continued presence in the Hunter untenable. The Applicant refutes this contention, arguing that the mine would have no tangible impact on the neighbouring studs.

There is a conundrum posed by these entirely opposing views and potentially conflicting land uses. Due to the setback and intervening ridgelines, the actual impacts are likely to be relatively small comparable to other open cut mining operations. Nonetheless the Commission has heard much of the studs' sensitivity to open cut mining, and previous reviews have found that land use conflicts do exist when mining and the peak horse breeding operations are not separated by suitable buffers.

The Applicant argues that the proposal now includes significant concessions to ensure the mine will be set back behind natural ridgelines, and provides a 1.6 km buffer to the operational areas of the studs. The studs argue that:

- the existing mining operations to the north, at Mount Arthur, and to the east, at Hunter Valley Operations, are tolerable;
- the proposed Drayton South mine represents a significant encroachment on the existing buffers to those mining operations;
- the mine would be visible from elevated parts of their properties and from parts of the surrounding road network;
- the mine poses potential operational, health and amenity impacts that are inconsistent with significant thoroughbred breeding operations at Coolmore and Darley; and
- the proximity of the mine and its impacts could cause significant reputational damage, with the real likelihood of forcing the studs to move their operations interstate, or off-shore to a location such as New Zealand.

There are profound differences in the contentions of the two industries and the Commission has found these opposing views to be irreconcilable.

The Commission finds that the studs are highly sensitive to the impacts of open cut mining. Previous work on the importance and sensitivities of the studs remains relevant to this review, notwithstanding the reduction in impacts achieved by increasing the setback by a further 500 m (compared to the 2013 proposal).

“The studs are designed to demonstrate high standards of thoroughbred racehorse production and management in a manicured and cultured landscape that is intended to create an image of quality, safety and luxury conditions for the horses, as well as a display of state of the art breeding environments in a scenic setting. Attributes of the image include clear water, clean air, productive soils, greenness, expansive views and intensive and meticulous attention to detail of almost every visible feature. The sense of the places is that they are deceptively bucolic but are in fact intensively planned, designed, managed and programmed to generate a predictable and high quality product in a setting that projects the image of international thoroughbred breeding underpinning the horse racing industry”¹⁴².

The information provided throughout the application and review process has been unable to satisfy the Commission that the studs would not leave the Hunter Valley as a consequence of the Drayton South mining project. The Commission finds that the Department’s assessment and recommended conditions leave residual uncertainties and the potential for cumulative unacceptable risks to be unmitigated.

The combined reputational risks posed by the mine, including those outlined below, are sufficient to convince the Commission that the threat to the studs and the broader Equine Critical Industry Cluster is real and that the studs may leave the Hunter Valley should the mine proceed.

Blasting would occur up to 5 times a week and could have irreversible impacts on the reputation of the studs should blast gases be visible in proximity to the studs, or should a worker or horse be injured as a result of a reaction to a blast. In this regard, blasting also has the potential to pose significant business operation impacts should it become necessary to avoid horse handling in the lead up to and during blasting.

While air quality impacts are generally expected to comply with current Government standards for mining in NSW, the Commission finds that the particulate and gas emissions impacts are inconsistent with the studs’ business image and branding and represent a real risk to the ongoing operations of the studs and the broader Equine Critical Industry Cluster as a whole

Visual evidence of the mine would largely be screened by the natural ridgeline between the studs and the mine. Nonetheless, direct views of the mine would be seen from elevated parts of the Coolmore and Woodlands studs and from parts of the surrounding road network. Indirect and dynamic views would also be present, with blast plumes, windblown dust and night lighting all potentially reminding clients and visitors of the proximity of the studs. Aerial and satellite images and other internet and media coverage would also highlight the close proximity of mining. Each of these have the capacity to damage the brand and image of the studs, which the Commission has found to be highly important to the sector as a whole and particularly to its peak operators.

Noise impacts are predicted to be small. Nonetheless noise from the mine would sometimes be audible, potentially drawing the attention of any clients on site, serving as a reminder of the close proximity of the mine, or perhaps prompting an individual who was not aware of the mine’s proximity to investigate this further.

¹⁴² PAC 2013, *Drayton South Coal Project Review Report*, Appendix 5, p. 13

In addition to the various impacts of the mine itself, the cumulative presence, expansion and encroachment of mining impacts in the Hunter Valley all contribute to impact on the amenity, image and branding of the studs as well as their operations.

In this case, the Commission does not consider that the land use conflict can be resolved or mitigated if the project were to proceed as proposed. Nor are there any clear mitigation strategies that the Commission could recommend that would allow for the coexistence of the proposed mine and the Equine Critical Industry Cluster to be assured with certainty. Consequently, the consideration of the project effectively comes down to one land use or the other.

The equine breeding industry has a long history in the Hunter region and should represent a sustainable employment sector for the region well into the future. The impact of the industry being diluted or relocating from the region or to another country or state would be significant. The impact would not only be economic, the reputational impact to NSW would also be adverse.

The economic benefits of the project would only be realised in the short term with the maximum life span of the project being 15 years. The Commission concludes there are a range of uncertainties in relation to the project benefits, that the risks to the Upper Hunter Equine Critical Industry Cluster are real and that the risks are likely to outweigh the relatively short term benefits of the mine.

While rejection of the mine would prevent extraction of the coal resource in the Whybrow, Redbank Creek, Whynot and Blakefield seams for now, there are considerable underground coal resources, of a higher quality that may still be able to be exploited at some future date, pending confirmation that this could be done without impacting on the neighbouring studs/land uses.

Moreover, even though the Commission recommends that the Drayton South Coal Mine proposal should not proceed, it notes the Applicant has sought some additional mining within the existing Drayton Pits. The Commission is satisfied this mining at the existing Drayton Mine site is acceptable and should be approved subject to conditions.

The Commission has found that there is an absence of any meaningful planning tool or provisions in place to assess or determine a buffer where a land use conflict with mining operations is likely to occur. This policy gap has left the local community divided by conflict and has created significant uncertainty for all parties involved. The toll on communities and especially on the workers at the Drayton Mine is unacceptable and must not continue. Greater certainty needs to be provided by the planning system. The uncertainty also poses its own risks to the Critical Industry Cluster and resolution of clearer buffers or alternative protection measures is urgently needed. This situation must not continue for land use planning in the vicinity of Critical Industry Clusters.

The Commission has been asked to assess the merits of the project as a whole. While it has found that the mine's proposed proximity to Coolmore and Woodlands is unacceptable it has also considered the other impacts of the project, including those raised in submissions. The Commission found that there are some significant broader cultural landscape values (both Aboriginal and historic) associated with the area, these would warrant further assessment should the project proceed any further. Likewise, and as with any open cut mine, rehabilitation, landform, final void and associated water impacts are significant. While the rehabilitation proposed in this application is generally agreed to represent best practice, the acceptability of the final void and associated risks and impact to water resources remain questionable for any mine in NSW. In this regard, the Commission recommends that further work from the NSW Government is required to define its policy position on the acceptability of final voids. The Commission is generally satisfied that other issues have been adequately assessed by the Department of Planning and Environment.

RECOMMENDATIONS

The Commission makes the following recommendations:

In relation to the current application:

1. The application for the Drayton South open cut coal mine should not proceed.
2. That the part of the project related to the extension of the existing Drayton Mine operations is approvable and should be allowed to progress as it will provide some short term extension of the current employment on the mine.
3. The proposed conditions of consent relating to the existing Drayton Mine's rehabilitation should be strengthened to take into account the outcomes of any review of the NSW Government's current policy on final voids, should those additions to the mine proceed.

On planning:

During the course of its review the Commission has identified a number of areas of the NSW planning framework that could be improved or enhanced, in the context of the issues confronted on this application.

4. Greater clarity and planning certainty needs to be provided to the mining industry, the community and other industries that exist within mining regions. NSW Planning and Environment, NSW Department of Industry's Division of Resources and Energy and other relevant government agencies need to collaborate to develop a strategic framework for the coordinated release of exploration licences and a suite of effective planning tools to provide reasonable exclusion zones or buffers to protect other industries and sensitive land uses within those parts of the state that are rich in coal, gas and/or mineral reserves. In particular,
 - a. resources need to be allocated to allow relevant Departments to undertake the work required to:
 - i. identify sensitive land uses and resources (be they important agricultural land, water resources, places of special Aboriginal cultural significance or of significant conservation value) that warrant protection from mining; and
 - ii. to determine appropriate buffers for those land uses and areas of other significant value;
 - b. the Gateway process needs to be strengthened and its remit widened to ensure it has the capacity to identify and prevent significant land use conflicts from progressing.
5. The importance of the Upper Hunter Equine Industry Cluster, its sensitivities to intensive development and the landscape character of its central operators, including the Coolmore and Woodlands studs, needs to be acknowledged with the development and enforcement of appropriate buffers, exclusionary zones or preservation measures to safeguard this important industry.

The Commission notes that the Strategic Regional Land Use Plan for the Hunter prepared in 2012 identified and highlighted the importance of the Upper Hunter's Equine and Viticulture Critical Industry Clusters. Further strategic planning work is needed to address current conflicts and deliver planning protections to safeguard both the Upper Hunter Critical Industry Clusters from incompatible land uses, thereby providing greater certainty for all sectors and potential land uses in the region.

6. Work underway in Government to establish a policy on mining voids should include:
 - a. consideration of whether, and if so, under what circumstances final voids would be acceptable in the rehabilitation plans for open-cut mine design in NSW;
 - b. criteria to guide the level of landscape (both landform and land capability) and water impact legacies the state is willing to accept in exchange for the various economic and employment returns provided by mining; and
 - c. guidance on how these should be factored into the mine's cost benefit analysis and wider public benefit considerations for decision makers.

7. Within areas of significant open cut mining activity strategic consideration of Aboriginal cultural heritage landscapes and places is needed, to consider cumulative landscape changes and impacts and identify priority areas for protection. This should provide for more comprehensive consideration of the significance of Aboriginal cultural heritage values, not only the physical artefacts that have tended to form the focus of mining assessments, but also the wider cultural landscape connections and the interplay between these elements.

List of Appendices

1. Terms of Reference
2. List of Speakers at the Public Hearing
3. Summary of Issues Raised at the Public Hearing
4. Meeting Notes
5. Substantive correspondence between the Commission and
 - a. The Environment Protection Authority
 - b. The Department of Industry's Division of Energy and Resources
 - c. The Department of Planning and Environment
 - d. The Applicant

**APPENDIX 1
TERMS OF REFERENCE**

Request to the Planning Assessment Commission Drayton South Coal Project

**Section 23D of the *Environmental Planning and Assessment Act 1979*.
Clauses 268R and 268V of the *Environmental Planning & Assessment Regulation 2000*.**

I, the Minister for Planning, request the Planning Assessment Commission to:

1. Carry out a review of the Drayton South Coal Project, and:
 - a) consider the EIS for the project, the issues raised in submissions, the formal response to submissions, and any other information provided on the project during the course of the review;
 - b) assess the merits of the project as a whole having regard to all relevant NSW Government policies, and paying particular attention to the potential impacts on the operations of the Coolmore and Woodlands horse studs; and if necessary,
 - c) recommend further measures to avoid, minimise, and/or manage the potential impacts of the project.
2. Conduct public hearings during the review as soon as practicable after the Department of Planning and Environment provides its preliminary assessment report to the Commission.
3. Submit its final report on the review to the Department of Planning and Environment within 9 weeks of receiving the Department's preliminary assessment report, unless the Secretary of the Department agrees otherwise.



**The Hon Rob Stokes MP
Minister for Planning**

Sydney *13th August,* 2015

APPENDIX 2

LIST OF SPEAKERS AT THE PUBLIC HEARING

DAY ONE - 10 SEPTEMBER 2015

1. Graham Bradley (Anglo American)
Rick Fairhurst
Dr Nicholas Kannegieter
Dr Robert Gillespie
2. Mayor Martin Rush (Muswellbrook
Shire Council)
3. Ruth Rogers
4. Dr James Whelan (Environmental
Justice Australia)
5. Roger Skinner
6. John Goodwin
7. Mayor Wayne Bedgood (Upper
Hunter Shire Council)
8. Joe Clayton
9. Greg Walker
10. Pat Farmer AM (HELP)
11. Charles Jennings
12. Meryan McRobert
13. Shaun Barry
14. Peter O'Brien
15. Jan Davis (Hunter Environment Lobby
Inc)
16. Brett Keeping (Upper Hunter Wine
Makers Association)
17. Tash Hansford
18. Henry Plumptre (Darley Australia)
19. Beverley Smiles (Hunter Communities
Network)
20. Michael Rinkin
21. Lisa Manning
22. Chris Cork (Singleton Chamber of
Commerce)
23. David Whitson (Lake Macquarie
Climate Action Group)
24. Forrest Saunders
25. Anthony Williams
26. Adam Whitley
27. Vin Cox
28. Harry Hobden
29. Georgina Woods (Lock the Gate)
30. Mike Kelly (Muswellbrook Chamber of
Commerce)
31. Craig Benjamin
32. Wendy Wales (Denman Aberdeen
Muswellbrook Scone Healthy
Environment Group)
33. Greg Searles
34. Patrick Cassegrain
35. Sue Milton (Upper Hunter Community
Services)
36. Tom Magnier (Coolmore Stud)
37. Jacqueline Burgin
38. Julie Carroll
39. Peter Stephenson
40. Harry Troy
41. Owen Droop
42. Sharon Veele
43. Tim Duddy (NSW Farmers)
44. Shane Wanstall
45. Mark Flanagan
46. Mikala Brown
47. Trevor Woolley
48. Linda Eaton
49. Gail Denner
50. Samuel Harper White
51. Jim Rapley
52. Dr Cameron Collins (Hunter
Thoroughbred Breeders Association)
53. Lee Watts
54. Bryan Chapman
55. Rebekah Allen
56. Ross Dunn
57. Tony Londero
58. De-Anne Douglas (PCYC)
59. Warrick Desmond Cox
60. Kriston Harris
61. Paddy Oman
62. Brad Hinze
63. Dr Angus Atkins (Scone Equine
Hospital)
64. Nick Hodges
65. Rod Carr
66. Brett Tennent-Brown
67. Dr Andrew McLean
68. Kiwa Fisher
69. Craig Bates
70. Dr Pamela Hazelton
71. John Shewan

DAY TWO - 11 SEPTEMBER 2015

1. John Murray
2. Simon Rock
3. Daniel Krzanic
4. Peter Hodges
5. Todd Mills
6. Stuart Thomson
7. Trevor Woods
8. Kevin Taggart (WTC)
9. Vicky Slater
10. David Horton
11. Judith Leslie
12. Christopher Bart (Australian Heritage Restorations)
13. Virginia Chapman
14. John Thorley
15. Matt Frodsham
16. Michael Wright
17. Frank Butera
18. Kylie Woodham
19. Jonathan D'Arcy
20. Teena Martin
21. Andrew Beatty
22. Kay Monro
23. Michael White
24. Emma Chandler
25. Daryl Guihot

APPENDIX 3

SUMMARY OF ISSUES RAISED AT THE PUBLIC HEARING AND IN SUBMISSIONS

Copies of the publicly available submissions along with the presentations and speeches made during the public hearing (that were later provided to the Commission in written form) are available on the Commission's website, <http://www.pac.nsw.gov.au>. A summary of the issues raised at the Public Hearing and in the written submissions received by the Commission is provided below.

Economic Considerations

- Many local businesses rely on Drayton mine for economic viability.
- Many local businesses rely on the thoroughbred industry for economic viability.
- The project will adversely impact on the economic viability of other industries in the Hunter region.
- The proposal will provide continued employment for over 500 employees.
- The mine could be sold at any time and the jobs provided by the mine are not fully secure.
- If people relocate, house prices in the area will be impacted.
- Local councils will receive contributions from the proposed mine for community facilities and infrastructure.
- The proposal will generate economic benefits for the State through taxes and royalties.
- The mine attracts local and overseas investors.
- Over 75% of Drayton mine employees live locally.
- The Drayton mine has operated successfully for 32 years and has remained profitable.
- Drayton mine employs apprentices and graduates.
- AngloAmerica donates to 362 organisations.
- Staff and contractors employed by Drayton mine are a major social contributor to the community.
- There are high unemployment rates in the Hunter region.
- The renewable energy sector has better long term economic prospects than the coal industry.
- It is not easy to get a new job.
- The value of Coolmore and Darley land will decrease if the mine goes ahead.
- The Applicant previously stated that the project would be economically unviable if it was smaller than the previous application.
- The Commission should focus on the economic impacts of the proposal.
- Australia makes more money from gambling royalties than from mining taxes.
- China's demand for coal is falling, but demand for agricultural products is growing.

Social Considerations

- There are social costs of the mining industry which have not been assessed.
- A social impact analysis for the proposed diversion of Edderton Road has not been undertaken.
- The Applicant has used advertising and signage to gain a social standing.
- There is an increased level of social angst due to offloading environmental commitments.
- Businesses associated with the Drayton mine help train indigenous locals.
- The Upper Hunter Community Services had to provide increased financial assistance and counselling to the community in the last financial year due to increased unemployment.
- Financial stress contributes to family breakdowns and mental health issues.
- Due to downturn in mining sector and people moving away, the Muswellbrook Rugby Club players and supporters are struggling to attract players.

- The Drayton mine and other local businesses associated with the mine supports and sponsors local sports clubs.
- Coolmore employs people of all ages.
- At the end of the project life, most of its workers will be at retirement age.
- There is a community divide.
- Many people are stressed about this application process.
- There is bullying occurring in schools because of the application.
- There is no community division. There is enough respect in the community to not let it become a problem.

Economic Assessment and Peer Reviews

- Cost benefit analysis shows there will be a net economic benefit to Australia.
- Economic benefits in the economic assessment have been overstated and do not outweigh social and environmental costs.
- The independent peer review commissioned by the Department of Planning and Environment supports the Applicant's economic assessment.
- The Division of Resources and Energy supports the project on economic grounds.
- Current price for coal referred to in the economic assessment has been overstated.
- Any change to the price of coal and the assumptions will impact on the economic assessment.
- The economic assessment should be updated to adopt the Federal government's coal price predictions.
- In the economic assessment, it is not clear if the sale costs of coal are included in the production costs.
- Resources at Drayton have been mined faster than predicted and there are concerns about the coal extraction predictions in the economic assessment.
- The economic assessment does not comply with SEARs or the NSW Government guidelines.
- The economic assessment has not considered Coolmore and Darley's economic contribution to NSW or the impact it would have if they relocated.
- The economic assessment values the Australian dollar at \$0.85US.
- Present value of greenhouse gas has been underestimated.
- Has not considered the economic value of Aboriginal heritage.
- Net social benefit has been grossly overestimated.
- The proposal is 40% smaller than first application, resulting in a loss of millions of dollars of revenue.
- Life of project monitoring has been undertaken as a favourable assessment rather than worst case scenario.

Non-Mining Industries

- One industry should not impact intolerably on others.
- Non-mining industries in the Hunter region can co-exist with mining.
- The range of diverse industries contributes to the economic success of the Hunter region and diversification should be promoted.
- Non-mining exports have experienced significant growth in the past year.
- Tourism has overtaken coal to become Australia's second largest export and if the growth continues, it will take over iron ore.
- There is an increased demand for Australian wine in Asia.
- The thoroughbred, tourism, wine and agriculture industries are sustainable. These industries are adversely affected by mining operations.
- Equine and Viticulture Critical Industry Clusters are unique and must be protected and nurtured.

- Coal mines attract tourists.
- Vineyards, such as Rosemount, have been forced to relocate because of mining and many more are under threat.
- Approximately 90% of vineyards in the region are operating at a loss.
- Should there be any further health concerns for the elderly, the aged care industry in Denman and the Hunter region may be impacted.
- Drayton has vineyards planted on its land.
- Dairy and wine industries have fallen through their own accord – through regulations and oversupply.
- The Applicant is willing to commit to not mining in certain areas to protect other industries.
- The proposal has reduced its impact from the original application by setting it back from the boundary set by the Commission previously. Buffer has been doubled.
- There should be more reasonable protection zone for farming, agriculture, viticulture, thoroughbred and other local, non-mining industries. This would achieve greater certainty for mining companies and other industries.

Water Quality

- The proposal will result in improved water quality for Saddler's Creek.
- Final voids will adversely impact on water quality for surrounding water bodies.
- The Saddler's Creek catchment is being reduced. Cumulatively, the three mines in the area remove 26% of Saddler's Creek's catchment.
- The interaction of surface and groundwater is being affected by open cut mining.
- The modelling of groundwater impacts must be redone to include the cumulative impacts of the Mt Arthur mine.
- The Applicant should pay the same price for water as the rest of the community.
- Increased salinity of the Hunter River.

Anglo American's Practices

- The coal in Drayton mine is of a high quality.
- AngloAmerican owns all the land proposed to be mined.
- AngloAmerican has cut a large number of jobs because of the economic downturn.
- There have been twice as many deaths at Anglo American than BHP or Rio Tinto.
- AngloAmerican has no allegiance to Australia.
- The company focus on other areas.

Equine Health

- Under worst case conditions, the air quality at Coolmore and Darley will be equal to that of Kentucky horse studs.
- The air quality in the stables is of a lesser quality than the air quality from the coal mine.
- The air quality from the mines will not irritate horses because it is only crustal dust.
- There will be no impact on equine health in regards to noise, dust, light or vibrations.
- An experiment was conducted in the south of NSW where blasting was undertaken 500m away from horses. The horses did not respond.
- Edinglassie is an example of a successful horse stud coexisting near mines. There are other examples of horse studs and training facilities coexisting near quarries, airports and other mines.
- The experiment used stock horses, not thoroughbreds.
- Pregnant mares are adversely impacted by excess dust and noise from coal mining.
- The Applicant's Equine Health Impact Study does not consider all air pollutants from coal mining on horses.

- The Equine Health Impact Statement has too much emphasis on irrelevant material that is not directly relevant to the effects of coal mining dust on horse health.
- The airways of horses are sensitive to inhaled particulate material.
- There is insufficient evidence to determine that there is no risk to equine health and therefore a precautionary approach should be undertaken.
- There is no published data on the impact of blasting and explosions on horses.
- Due to their genetics, thoroughbreds typically have a greater flight response than other breeds of horses.
- Flight response results in increased stress for the horses, impacting on their learning ability, gut health, immune system and reproductive biology.
- Horses are unlikely to become used to explosions.
- Approval of the project will sanction the largest experiment on equine health ever conducted.
- Spooked horses from blasting and lighting.
- Horses are spooked from thunder.

Coolmore, Darley and the Equine Industry

- The mine is located only 900m within Coolmore fence line, which is insignificant.
- The mine affects the ability to attract clients to the properties.
- No one can guarantee that blasting and other mine operations will go to plan over the next 15 years.
- The existing Drayton mine is 10km from Coolmore.
- The Commission has previously found that this project is too close based on independent expert views.
- The demand for racehorses is growing, especially in China.
- Marketing of thoroughbred horse farms is based on visual amenity.
- The brandscape and reputation of the horse studs needs to be protected.
- Coolmore donates to local industries but does not seek recognition.
- Coolmore employs over 100 permanent employees. Approximately 95% of employees are Australian residents or citizens, who all pay tax.
- Approximately 100 people live on the farm, including 30 kids who attend local schools.
- Coolmore and Darley are significant to the region.
- The horse studs do not want to move because all horse facilities are close by in Scone.
- Out of every 1000 foals, only 300 end up racing.
- If the mine is approved, the horse studs will move to Victoria.
- The equine industry complements wine and food industries.
- Scone Hospital will be hugely impacted if Coolmore and Darley studs leave.
- Thoroughbred industry will continue in 15 years' time, unlike the coal mine.
- Other horse studs are already marketing their areas as mine free and dust free.
- Darley has 350 staff and over 1000 horses.
- Mines and studs do not and cannot co-exist as per the proposal.
- Edinglassie is owned by BHP.
- Investor perception and confidence is impacted by proximity to coal mines.
- There was over \$250m spent on horses last year by Coolmore and Darley.
- The equine industry is fully sustainable and revered around the world and capable of generational change.
- The horse studs do not show any corporate tax receipts in Australia.
- There is a lobbyist representing the horse studs.
- There are examples of horse studs and horse training facilities co-existing near a gold mine and Melbourne Airport, respectively.

- The thoroughbred breeding industry relies on the gambling industry.
- Local businesses, such as farriers, employ apprentices.
- Scone Equine Hospital has started planning a new equine hospital which will allow for new technologies and will cement the industry's name for equine health. However, due to the risks associated with the proposal, practices have been bought in Tamworth.
- Edenglassie is a brood mare farm and does not rely on clients.

Visual Impacts

- Only occasional visibility of mining equipment and will be effectively invisible to its neighbours.
- Mine lighting will be monitored and will have minimal impact on the horse studs.
- All potential visual amenity impacts have been addressed by the mine.
- It is common to see dust clouds in the distance from Darley.
- There are direct, indirect and dynamic visual impacts of the mine from Coolmore and Darley.

Noise

- The coal mine will create noise from blasting and vibrations.
- Mining equipment will be noise attenuated.
- There will be five blasts per week during daylight hours, excluding weekends and public holidays, only lasting for 10 seconds each.
- The blasting guidelines referred to in the EIS only provide limits for structural damage. The EIS has not assessed human and horse comfort from blasting impacts.

Environmental considerations

- Council recommends changes to condition 43 to define micro relief and what it constitutes and the word 'natural'.
- The EIS demonstrates AngloAmerican's commitments to the environment.
- EIS will remove vegetation that provides habitat and breeding ground for flora and fauna.
- Removal of vegetation will result in the fragmentation of vegetation.
- The biodiversity offset package does not achieve suitable biodiversity outcomes and does not provide 'like for like' vegetation.
- The Department has flexibility under the Biodiversity Offsets Policy for major development to not require like for like biodiversity offset packages.
- There should be no final voids as part of the project.
- Biodiversity information and data, provided by OEH, is missing from the Environmental Impact Statement.
- An underground mining proposal would be a better approach to minimize dust and environmental impacts.
- Key purpose of this proposal is to delay the rehabilitation of Drayton Mine.
- Spontaneous combustion and fly ash from the power station is an indicator of the cumulative toxic impact of the coal industry in the area.
- There are high levels of salt concentrations in lakes from coal industries.
- If another company buys Drayton mine, the company will not be liable for the commitments made by AngloAmerican. Best practice and commitments should be written in conditions.
- There will be adverse impacts on box gum woodlands.
- The mine has already undertaken quality land rehabilitation.
- BSAL assessment not undertaken adequately.
- Offsets are located far from impacted vegetation.
- The proposal is not in the public interest due to environmental damage.
- Drayton has complied with strict environmental conditions.

Traffic and Roads

- No material increase in road traffic or truck movements.
- Edderton Road is an essential road by numbers of people in the equine industry and is used by many people from the north.
- There will be additional traffic time and increased traffic movements because of the Edderton Road diversion.
- Should Edderton Road be realigned, the application made to Council under the Roads Act does not have to be applied consistently with any the planning approval.

Health Impacts

- There will be mental health impacts from loss of income, should the mine not be approved.
- Particulate pollution from coal dust has been linked to a variety of health problems, particularly respiratory and lung function issues.
- The national standard for PM₁₀ is 50ug/m³. Many air quality monitoring locations in the Hunter region recorded over the national average in 2014.
- National PM₁₀ standards and NEPM standards will change and be made much tougher in the future.
- There are many aged care residents within the Upper Hunter who will be highly impacted by adverse air quality.
- Coal dust ends up in water tanks.
- The existing mine has an odour.

Comments on the State and Local Government

- Newcastle City Council has withdrawn all support for the coal industry.
- The amendment to the Mining SEPP requires the Commission to provide equal consideration to social, economic and environmental impacts.
- The Department has given no regard to previous PAC recommendations.
- The Strategic Regional Land Use Policy does not protect or offer certainty for Critical Industry Clusters.
- The previous PAC determination advised that a smaller mine would not be viable.
- The Commission should provide appropriate advice to the NSW government to prevent the same proposal from being resubmitted.
- There needs to be strategic land use planning for the region.
- Not all information associated with the project from government agencies has been made available to the public.
- The gateway process should be permitted to refuse proposals.
- The Department supports the project, subject to conditions.

Climate Change

- The planning system does not consider the impact of mines on climate change.
- Coal mining contributes to climate change.
- Fossil fuel and carbon footprint should be considered. Important to consider the next 50 years.
- The natural, social and economic welfare of NSW will be affected by climate change.
- Climate change impacts on health and social service sectors. Most vulnerable are the young, the elderly and those with chronic health problems.
- It should be noted that the proposed mine would contribute to the cumulative impact of coal mining on climate change.
- Greenhouse gas emissions have been understated.

Coal Market, Pricing and Demand

- Coal is a bulk export commodity and the second highest export in Australia. China, India, Indonesia.
- Coal is the second major energy source in the world and predictions show it will continue to be so.
- Coal will grow 1.3% per annum over the next 25 years.
- Coal is needed for energy.
- We should focus on renewable energies rather than coal.
- Other mines can satisfy the demand for coal.
- Coal demand and pricing is in decline.
- Coal mining is still profitable.
- Global position on coal should be considered.
- Mining will be finished in 30 years.
- Mining companies are already cutting jobs and significantly downsizing.

Air quality

- Air quality model method is supported. However data implemented is not supported.
- Air emissions have not included 1.4 Ml production from the existing Drayton Mine, thus emissions are understated for the combined mining operations.
- Air monitoring station D9 has been recorded as an annual average, not a monthly average as required by the EPA.
- Corrosion has not been considered by the Department.
- Data is uncertain about real impacts.
- Coal mine operations emit pollutants.
- Sprays control dust.
- Prevailing wind direction is away from Coolmore.

Heritage

- The Hunter Region has significant cultural significance.
- The project area contains sites and artefacts of high Aboriginal significance.
- The EIS does not comply with the guidelines for Aboriginal notification – the plains clans for Wonnarua have not been consulted.
- Cultural values have not been identified or assessed in the EIS. There has been a focus on archaeological significance, not cultural significance.
- The mines will destroy Aboriginal heritage.
- The assessment is rejected by Aboriginal land elders, the Wonnarua people and the Aboriginal Land Council.
- Protection is being sought for the land.
- There is not enough information about Aboriginal heritage in the EIS to make a decision.
- Elders need to be provided with a voice to point out which areas need to be protected.
- The cumulative impact of the mine on Aboriginal cultural heritage must be considered.
- The EIS does not consider cultural values of the Aboriginal people.
- The Wonnarua traditional people cannot discuss cultural importance because it will breach cultural traditions and laws.
- It is well documented that the loss of documented heritage contributes to mental distress.

APPENDIX 4 MEETING NOTES

Notes of meeting with the Department of Planning and Environment – 26 August 2015

Meeting note taken by: Jade Shepherd	Date: Wednesday, 26 August 2015	Time: 8:30am
Project: Drayton South Coal Project Review		
Meeting place: PAC Offices		
<p>Attendees:</p> <p>PAC Members: Lynelle Briggs AO (Chair), Abigail Goldberg and Ross Carter PAC Secretariat: Jade Shepherd and Megan Webb</p> <p>The Department of Planning and Environment: Mike Young – Director Matthew Sprott – Senior Planner Oliver Holmes – Executive Director</p>		
The purpose of the meeting: For Department to brief the Commission on the project.		
<p>The Department provided the Commission with background of the project and raised the following key issues:</p> <ul style="list-style-type: none"> • The Strategic Regional Land Use Plan for the Upper Hunter and the Mining SEPP aim to protect Critical Industry Clusters from mining. • The Commission sought further information on protections provided to the equine industry in Kentucky and Newmarket. • Independent experts were engaged to review the Applicant’s EIS. • The Department was of the view that the mine is unlikely to impact on equine health, especially with the proposed setback. • The Commission sought further information about the number of employees at Coolmore and Darley horse studs. • The Commission raised public concerns about the proposal being economically viable. The Department highlighted that the mine life span is now 15 years and that the capital investment for the mine has decreased because no new equipment is required. • The Department raised concern that Council may have outstanding concerns about the proposal, especially in regard to the realignment of Edderton Road. 		
Documents: Map of site		
Meeting closed: 9:30am		

Notes of meeting with the Hunter Thoroughbred Breeders Association– 31 August 2015

Meeting note taken by: Jade Shepherd	Date: Monday, 31 August 2015	Time: 2:15pm
Project: Drayton South Coal Project Review		
Meeting place: PAC Offices		
<p>Attendees:</p> <p>PAC Members: Lynelle Briggs AO (Chair), Abigail Goldberg and Ross Carter PAC Secretariat: Jade Shepherd and Megan Webb</p> <p>Hunter Thoroughbred Breeders Association (HTBA): Henry Plumtre – Vice President and Darley Australia representative Paddy Power – Coolmore representative Ross Cole – Darley representative Hellen Georgopoulos – HTBA representative</p>		
The purpose of the meeting: For the HTBA to brief the Commission on the structure of the thoroughbred breeding industry.		
<p>The HTBA briefly noted the following key issues:</p> <p><u>Background</u></p> <ul style="list-style-type: none"> • The Hunter region contains the second largest concentration of thoroughbred horses in the world, after Kentucky, USA. • The thoroughbred breeding industry has expanded in the last few decades from being State based to a national and international industry. • Coolmore and Darley are the amongst the top horse studs in the world, with horses consistently selling significantly above average prices. <p><u>Other</u></p> <ul style="list-style-type: none"> • Concern was raised that the mine would affect the commercial viability of Coolmore and Darley because the 'brandscape' and clients' perception of the horse studs may be altered. • The horse studs have been mapped as a 'Critical Industry Cluster' under the Mining SEPP and the Strategic Regional Land Use Plan for the Upper Hunter. However, the adequate protection from mining, such as buffer zones, has not been provided. • As previously noted by HTBA during consultation for the Strategic Regional Land Use Plan, 8-10kms is considered to be an acceptable buffer between coal mine operations and the horse studs. 		
Documents: Nil		
Meeting closed: 3pm		

Notes of meeting with AngloAmerican – 1 September 2015

Meeting note taken by: Jade Shepherd	Date: Tuesday, 1 September 2015	Time: 7:30am
Project: Drayton South Coal Project Review		
Meeting place: Drayton Mine Offices		
<p>Attendees: PAC Members: Lynelle Briggs AO (Chair), Abigail Goldberg and Ross Carter PAC Secretariat: Jade Shepherd and Megan Webb</p> <p>The Applicant: <u>Anglo American</u> David Diamond Rick Fairhurst David O'Rourke Peter Forbes Jasmine Turner Karine Williams</p> <p><u>Hansen Bailey</u> James Bailey Daniel Sullivan</p> <p><u>Technical Experts</u> Associate Professor Nicholas Kannegieter - Horse Health Expert Dr Robert Gillespie - Economist from Gillespie Economics Drew Collins - Peer Review Economist from BDA Group James Tomlin - Groundwater Expert from AGE Greg Roads - Surface Water Expert from WRM</p>		
<p>The purpose of the meeting: For the Applicant to brief the Commission on the project and for the Commission to undertake a site visit.</p>		
<p>The Applicant gave an overview of the application, including the differences between the previous application and the subject application. The Applicant described current operations on the site, including current employee numbers and its relationship with the community. The Applicant raised the following specific issues:</p> <p><u>Air Quality</u></p> <ul style="list-style-type: none"> • There will be no impact on equine health and air quality will remain within acceptable levels at the horse studs. • The modelling used represents the worst case scenario. <p><u>Noise/Blasting</u></p> <ul style="list-style-type: none"> • There will be no impact on equine health and noise will not exceed current background levels. • The noise modelling used represents the worst case scenario. • Drayton will liaise with landholders to manage and mitigate noise impacts. 		

- In the worst case scenario, the horse studs' maximum blast impacts will be 105dBL. This compares to 118dBL from a helicopter.
- There will be between 5 – 10 blasts per week, with no blasting occurring on Sundays or public holidays.
- The Applicant will consult adjoining landowners to prepare a Blast Management Plan.
- The Applicant is willing to move blasting to avoid special events.

Equine Health

- There will be no impact on equine health.
- The dust in stables is worse than the dust from a mine.
- Edenglassie is located less than 130m from active mining.

Visual

- Project is shielded by natural ridgelines.
- There are no direct views of the mine from operational areas.

Economics

- The demand for coal is growing, particularly in China and India.
- There will be economic benefits to the region through royalties, taxes and voluntary contributions.

Water/Biodiversity

- There will be no impacts on productive aquifers

Site Visit

- The Commission visited the site of the proposed mine and viewed the existing landscape and the boundary of the second ridgeline.

Documents: 'Drayton South Coal Project – Presentation to the Planning Assessment Commission'

Meeting closed: 11am

Notes of meeting with Muswellbrook Shire Council – 1 September 2015

Meeting note taken by: Jade Shepherd	Date: Tuesday, 1 September 2015	Time: 11:20am
Project: Drayton South Coal Project Review		
Meeting place: Muswellbrook Shire Council Administration Building		
Attendees: PAC Members: Lynelle Briggs AO (Chair), Abigail Goldberg and Ross Carter PAC Secretariat: Jade Shepherd and Megan Webb Muswellbrook Shire Council (Council): Martin Rush – Mayor Steve McDonald – General Manager Joshua Brown –Executive Services Manager		
The purpose of the meeting: For Council to brief the Commission on its submission on the project.		
<p>Council noted that it will make its full submission to the Commission during the Public Hearing, but briefly noted the following key issues:</p> <p><u>Traffic</u></p> <ul style="list-style-type: none">• Council raised concern that in the Department of Planning and Environment’s report, there is an error of characterisation about the way the Applicant will deal with the proposed Edderton Road closure and realignment in regards to the permits required under the Roads Act.• Council was of the view that the proposed realignment of Edderton Road may be inefficient and referred the Commission to the Council’s Muswellbrook Mine Affected Roads strategy which considers alternatives to the proposed realignment, including reinstating the road to its current alignment, post mining. <p><u>Economic Assessment</u></p> <p>Council raised concerns about the economic assessment and peer reviews commissioned by the Applicant and the Department, in particular:</p> <ul style="list-style-type: none">• Council is of the opinion that the best economic assumptions about future coal prices come from the Bureau of Resources and Energy Economics, and that the Applicant’s economic assessment should be amended to reflect the Bureau’s assumptions.• Council noted that the Department commissioned Deloitte to review the economic assessment for the project. Council has previously commissioned Deloitte to review the economic assessment submitted for the previous proposal. <p><u>Other issues</u></p> <ul style="list-style-type: none">• Council noted that there is significant rehabilitation work yet to be completed on the current mine site and suggested that the Commission consider adding some staged rehabilitation requirements to be completed before mining could proceed beyond certain points, if it was of a mind to grant approval.• Council was supportive of the rehabilitation conditions recommended by the Department, especially in regards to micro-relief, noting these now represent best practice and should be applied consistently.		

- Council is concerned that offset sites will be outside Council's Local Government Area (LGA) and that there is not adequate environmental compensation within Council's LGA.
- Council raised concern about the effectiveness of 24 hour air quality monitoring and was of the opinion that there should be separate conditions for day time and night time monitoring.

Documents: Council referred the Commission to its Muswellbrook Mine Affected Roads strategy document

Meeting closed: 12:20pm

Notes of meeting with Coolmore – 1 September 2015

Meeting note taken by: Jade Shepherd	Date: Tuesday, 1 September 2015	Time: 1pm
Project: Drayton South Coal Project Review		
Meeting place: Coolmore Australia Horse Stud		
<p>Attendees:</p> <p>PAC Members: Lynelle Briggs AO (Chair), Abigail Goldberg and Ross Carter PAC Secretariat: Jade Shepherd and Megan Webb</p> <p>Coolmore:</p> <p>Tom Magnier – Principal Michael Kirwan – General Manager John Freestone – Head Veterinarian Adrian O’Brien – Stud Manager Elizabeth Headon – Corporate Affairs Sebastian Hutch – Sales and Marketing Manager John Borg – Farm Manger Paddy Power – Business Manager</p>		
<p>The purpose of the meeting: For Coolmore to inform the Commission on key areas of concern on the proposal and for the Commission to undertake a site visit.</p>		
<p>Coolmore raised the following matters:</p> <p><u>Background</u></p> <ul style="list-style-type: none"> • Coolmore provided the history of their operations, including the purchase of their current property. • Coolmore described their current thoroughbred breeding operations and business model. • Coolmore employs approximately 150 people. The majority of employees are Australian citizens. There are more permanent than seasonal staff. • There are approximately 80 residents that live on site. <p><u>Economic Impacts</u></p> <ul style="list-style-type: none"> • The horse stud industry is highly competitive. • The mine will affect client’s perceptions of Coolmore and impact on the brandscape. <p><u>Equine Health</u></p> <ul style="list-style-type: none"> • There is limited literature on the impact of coal mines on equine health because there are no other examples of this juxtaposition in the world. • The horses have a flight risk and are unpredictable. Blasting will increase the potential of flight. Blasting has been likened to thunder. Thunderstorms are a major cause of fatality of horses. • Air quality will affect the respiratory systems of the horses. • Carbon particles are not mentioned in the reports. • There is no literature of the effects of coal mines on horses. • Endotoxin in stables is not related to the air quality of coal mines. <p><u>Site Visit</u></p> <p>The Commission undertook a site visit to view current operations, including foaling units, mare and foal paddocks and the stallion barn. The Commission also viewed the landscape and the existing visual impacts of</p>		

mining operations.

Documents: Maps of the property and literature on equine health titled 'Investigating the Link between Particulate Exposure and Airway Inflammation in the Horse', 'Inflammatory Airway Disease' and 'Correlates between human lung injury after particulate exposure and recurrent airway obstruction in the horse'.

Meeting closed: 2:30pm

Notes of meeting with Darley – 1 September 2015

Meeting note taken by: Jade Shepherd	Date: Tuesday, 1 September 2015	Time: 2:45pm
Project: Drayton South Coal Project Review		
Meeting place: Darley Australia (Woodlands)		
Attendees: PAC Members: Lynelle Briggs AO (Chair), Abigail Goldberg and Ross Carter PAC Secretariat: Jade Shepherd and Megan Webb <u>Darley</u> Henry Plumptre – Managing Director Ross Cole – Darley representative John Sunderland – Darley representative <u>Hunter Thoroughbred Breeders Association (HTBA)</u> Dr Cameron Collins – President Hellen Georgopoulos – HTBA Representative		
The purpose of the meeting: For the Commission to undertake a site visit of Darley Woodlands.		
<u>Site Visit</u> The Commission undertook a site visit to view current operations, the heritage items on site and operational setup. The Commission also viewed the landscape and the existing visual impacts of mining operations. Darley described their current operations and briefly raised the following matters: <u>Economic Impacts</u> <ul style="list-style-type: none">• The mine will impact on clients' perceptions of Darley. <u>Scone Equine Hospital</u> <ul style="list-style-type: none">• The Scone Equine Hospital was looking at expanding their existing operations within Scone. However, due to the risks associated with the proposal, the hospital is now looking at other locations to expand, including Victoria.		
Documents: Maps and information on upcoming events		
Meeting closed: 4:30pm		

Notes of meeting with the Applicant – 28 October 2015

Meeting note taken by: Jade Shepherd	Date: Wednesday, 28 October 2015	Time: 2pm
Project: Drayton South Coal Project Review		
Meeting place: PAC Offices		
<p>Attendees: PAC Members: Lynelle Briggs AO (Chair), Abigail Goldberg and Ross Carter PAC Secretariat: Jade Shepherd and Megan Webb</p> <p>The Applicant: <u>Anglo American</u> Rick Fairhurst – Project Manager Jon Richards – Head of Corporate Affairs <u>Hansen Bailey</u> James Bailey – Director Daniel Sullivan – Senior Environmental Scientist</p> <p><u>Technical experts</u> Associate Professor Nicholas Kannegieter - Horse Health Expert Dr Robert Gillespie - Economist from Gillespie Economics</p>		
The purpose of the meeting: For the Applicant to provide the Commission with further information.		
<p>The following matters were discussed:</p> <p><u>Economics</u></p> <ul style="list-style-type: none"> • The Applicant compared the coal price and exchange rate assumptions used in the Economic Assessment to the assumptions of government agencies. The Applicant indicated that there would be a net social benefit of the project to NSW, using a range of the coal price assumptions. • The Applicant predicts that there will be an increased demand for coal over the next 25 years, especially from South East Asia. • The Applicant noted that the Economic Assessment only considers physical impacts and there are no measurable, physical impacts that cause any economic loss for the horse studs. • The Commission requested further information on the costs for the rehabilitation of Drayton and Drayton South mines. • The Commission noted that during the former application for the Drayton South mine, the Applicant stated that the mine would be economically unviable if the mine was reduced in size. Given that the subject proposal is smaller than the previous application, the Commission asked for further detail on how the proposed mine is economically viable. The Applicant explained that the proposed mine has reduced excavation and operation costs. The scope of the mine has also been reduced from the previous proposal. These factors result in the proposal being economically viable. <p><u>Coexistence with Horse Studs</u></p> <ul style="list-style-type: none"> • The Commission asked how the Applicant would manage its relationship with the horse studs to 		

conduct blasting and other physical impacts at appropriate times. The Applicant indicated that the horse studs would be invited to be part of the Community Consultative Committee.

- The Commissioned asked the Applicant why it was of the view that the proposed 1km setback is sufficient between mining operations and the horse studs. The Applicant indicated that there would be no measurable or tangible impacts on the horse studs as a result of the mine.
- The Applicant indicated that it would commit to a non-mining buffer within the 1km setback. However, the buffer would not exclude underground mining.

Equine Health

- The Applicant showed the Commission videos of blasting occurring near horses in Berry.

Documents: N/A

Meeting closed: 3:30pm

APPENDIX 5

SUBSTANTIVE CORRESPONDENCE BETWEEN THE COMMISSION AND:

- a. The Environment Protection Authority**
- b. The Division of Energy and Resources**
- c. The Department of Planning and Environment**
- d. The Applicant**