

APPENDIX A

DRAYTON SOUTH COAL PROJECT RESPONSE TO ANGLO AMERICAN'S RESPONSE TO THE SCENIC AND VISUAL IMPACT ISSUES RAISED IN THE PLANNING ASSESSMENT COMMISSION'S REPORT

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FOR
COOLMORE AUSTRALIA
AND
DARLEY AUSTRALIA

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EXECUTIVE SUMMARY

This report has been prepared in response to the scenic and visual impact issues raised in Anglo American's response to the Planning Assessment Commission's (PAC) report, *Drayton South Coal Project Review Report*, December 2013, and the two reports commissioned by the PAC by Mr Terry Short, *Potential Impacts of the Drayton South Coal Project on Coolmore and Woodlands Horse Studs*, November 2013, and Dr Richard Lamb, *Visual Impacts of the Proposed Drayton South Coal Project*, November 2013.

This report addresses the seven key scenic and visual impact issues:

1. LANDSCAPE AND CULTURAL VALUES

The scenic quality and agricultural productivity of the Upper Hunter River Valley, in the area between Jerrys Plains and Denman, renders this area to be one of the most valuable landscapes in NSW. This area has an almost unique combination of very deep and fertile soils, an abundance of clean water, varied topography from river flats to steeply undulating hills, a mild climate and a very healthy environment. The extraordinary scenic qualities of the area are substantially due to the close proximity of the Wollemi National Park.

This area has a long and rich cultural history relating to pastoral land uses and Thoroughbred breeding, which dates back to the 1820s. These two land use activities have worked in concert for nearly 200 years in this part of the Hunter Valley. Open cut coal mining which commenced in Muswellbrook in 1944, has always remained on the periphery of this area of the Hunter Valley.

It is this rare combination of scenic qualities, high value agricultural productivity and cultural heritage, that has attracted two of the world's leading Thoroughbred horse breeding studs to locate in this part of the Hunter Valley. The Hunter Valley is considered to be one of the three international Thoroughbred breeding centres of excellence, alongside Newmarket in the UK and Kentucky in the USA. This Thoroughbred breeding area also forms part of the NSW Government's Thoroughbred Critical Industry Cluster in the Upper Hunter Valley.

Anglo American has consistently failed to recognise the very high significance of these landscape values, and in particular their importance to Coolmore and Darley, the Thoroughbred breeding industry, to the valley as a whole, NSW and Australia.

2. IMAGE AND REPUTATION

An attractive and well ordered landscape is a fundamental component of international Thoroughbred breeding studs of the calibre of Coolmore and Darley. Studs in the Hunter Valley follow the precedent established in the UK and the USA, of presenting the stud in the best physical form possible. It is an essential component of their image, reputation and therefore directly influences the viability of the businesses.

Thoroughbred studs use this landscape presentation to demonstrate the overall quality of the operation and allows clients to see the bloodstock in the best possible conditions. The high quality landscape also reflects the high standard of agronomic practices that are necessary to achieve peak productivity from their properties, and peak performance from their bloodstock.

Open cut coal mining is one of the most incompatible land uses that could be neighbours to a Thoroughbred breeding stud. Open cut coal mining is the antithesis of the Thoroughbred breeding stud as it presents a landscape that has been subjected to the most destructive and most unattractive man made land uses in the Hunter Valley.

In addition to the open cut and overburden emplacement activities, the risk of dust and even toxic gases emanating from blasts is very high and would appear to be not infrequent as evidenced by

Anglo American's record at Drayton and BHP's record at Mt Arthur. Noise and vibration also create negative impacts for the stud's clients, and the 350 staff members and their families. The movement of numerous mining vehicles, and in particular heavy machinery, on the public roads, some of which block the passage of other vehicles, are a stark reminder of the wider impacts of these mines. Even worse for the studs would be an event such as the current Hazelwood Coal Mine fire in Morwell, Victoria, which burned for about 45 days.

Incidences such as these would cause a major and multidimensional problem for the studs. This could have a significantly deleterious effect on the studs' operations, their reputation and ultimately their business. Anglo American's record of non-compliances at Drayton, as documented on the EPA website, is of great concern for both Coolmore and Darley; should the proposed Drayton South mine be approved.

3. PROXIMITY TO EXISTING MINES

The existing open cut coal mines and associated infrastructure including the Bayswater Power Station are at a considerable distance from Coolmore and Darley and far enough away to not be a major intrusion on the primary view catchment of the two studs. Mt Arthur, for example, is generally 8-10km away from these two studs.

The three closest open cut mines, Drayton, Mt Arthur and Hunter Valley Operations have mostly progressed in either a northerly or easterly direction, which has generally moved them away from the two studs. The lack of visible mining activity within an approximate 8 – 10km radius of the valley around Jerrys Plains, maintains the scenic and visual integrity of the land around the two studs. An open cut mine which would come as close as 400-700m of the two studs, as proposed by the Drayton South Coal Project, would be a major and significant impact on the scenic and visual integrity of Coolmore and Darley.

4. THE HOUSTON BUND

The bund associated with the Houston Pit is proposed to be a massive earth structure which would extend over 1km in length, the equivalent of 2 Sydney Harbour Bridges, and be up to 80m high. This dam-like structure will be clearly visible from a large visual catchment area, extending from east of Jerrys Plains to the ridge where the Coolmore and Darley boundary is located.

Large areas of Coolmore and parts of Darley, would be exposed to the construction of this bund. Anglo American claims that the rehabilitation of the bund will reduce its high visual impacts by the end of the 8 month construction period. However, this report demonstrates that the true visual impact of this bund will extend for up to 6 – 12 years. This period represents 6 to 12 breeding cycles for the studs which is too long for this level of impact on the stud's operations, reputation and business viability.

5. VISUAL IMPACTS FROM TRIG HILL LOOKOUT

The Trig Hill Lookout provides panoramic views over the Woodlands property and the surrounding districts as far as the Barrington Tops mountain range to the north. The lookout was used by Anglo American as one of a number of viewpoints on Woodlands, to assess the visual impacts of the proposed mine and it was presented as a photomontage in the Visual Impact Assessment report which was appended to the Environmental Assessment (EA).

Anglo American failed to acknowledge both in the EA and in any subsequent documents, that this photomontage depicts less than half of the actual extent of the mine that would be potentially visible. A full panorama photomontage presented in this report demonstrates that much of the Whynot

Pit and possibly some of the Houston Pit would be visible from the lookout. Apparent oversights by Anglo American in their assessment work like this, raise questions about the credibility of the assessment of the impacts and the effectiveness of the proposed mitigation measures.

6. VEGETATION SCREENING ALONG THE GOLDEN HIGHWAY

The proposed use of dense screen tree plantings along the mine site boundary and immediately adjacent to the Golden Highway, to reduce visual impacts, will not remove the impact entirely.

Screen plantings along public roads in the Hunter Valley are becoming synonymous with open cut coal mines which need to hide their high visual impacts. The Golden Highway west of Jerrys Plains, has an open character which creates attractive views across the undulating pastoral landscape. A 4km tree screen would be a significant contrast and change from the current character that would produce a negative effect for travellers on the Highway.

It is questionable whether Anglo American can maintain a 30m wide band of trees and shrubs for over 4km along the highway for the full 27 year life of the project. This concern is based on the ineffectiveness of existing tree screens on the Drayton South site, and Anglo American's past performance on rehabilitating parts of the Drayton mine which the Department of Planning found to be inadequate as reported in the Newcastle Herald (05.03.2014). Extending this planting beyond the proposed mine's visual catchment, into the Saddlers Creek valley, seems to suggest that these trees are being planted to screen future mine extensions to the west.

7. LANDSCAPE CONSERVATION AREA

The existence of the National Trust listed Muswellbrook – Jerrys Plains Landscape Conservation Area over the area which incorporates part of the Drayton South open cut mine area has not been acknowledged in any documents prepared by Anglo American. Approximately 23% of the proposed mining and overburden emplacement areas, including the Houston Pit Bund, are covered by the Landscape Conservation Area. In addition, almost half of the total Project Area (47%) lies within the Landscape Conservation Area. The extent of the mine covered by this conservation area is significant and the impact assessments have not incorporated these landscape values into the assessments.

Almost all of Coolmore and Darley are included in the Landscape Conservation Area, confirming the importance of the scenic and cultural values of these landscapes. Despite requests from Coolmore for Anglo American to prepare a Visual Catchment Map to demonstrate the total area visually affected by the mine, and in particular the Houston Pit Bund, Anglo American have failed to produce one. Landscapes of such high value and high visual sensitivity deserve to be mapped in order to more accurately predict the levels of visual impact and design appropriate mitigation measures.

The lack of acknowledgement of the existence of the Landscape Conservation Area is significant oversight by Anglo American. The importance of the scenic and cultural landscape values of this area have not been adequately taken into account in the project's environmental assessment.

CONCLUSION

The deficiencies of the assessments in the areas identified above, demonstrate the incompleteness of Anglo American's environmental assessments, particularly in the areas of scenic and cultural landscape and ultimately visual impact assessment. More thorough research and more comprehensive assessments were necessary before the true impacts of this proposed open cut mine could be properly considered. In light of the deficiencies identified above and the significant risk that this mine poses to Coolmore and Darley, this proposal should not be approved.

I. INTRODUCTION

This report has been prepared in response to the scenic and visual impact issues raised in Anglo American's response to the Planning Assessment Commission's (PAC) report, *Drayton South Coal Project Review Report*, December 2013, and the two reports commissioned by the PAC by Mr Terry Short, *Potential Impacts of the Proposed Drayton South Coal Project on Coolmore and Woodlands Horse Studs*, November 2013 and Dr Richard Lamb, *Visual Impacts of Proposed Drayton South Coal Project*, November 2013.

This report addresses the following key scenic and visual impact issues:

- Landscape and Cultural Values
- Image and Reputation
- Proximity to Existing Mines
- The Houston Pit Bund
- Visual Impacts from Trig Hill Lookout
- Vegetation Screening along the Golden Highway
- Landscape Conservation Area.



Figure 1 - Deep & Fertile Alluvial Soils



Figure 2 - Abundant Clean Water

2. LANDSCAPE AND CULTURAL VALUES

The two studs are located in some of the most fertile alluvial land in the Hunter Valley, downstream of the confluence of the Hunter and Goulburn Rivers. This location benefits from the combined alluvia of both rivers creating a unique combination of sand and clay based alluvial soils being derived from their diverse and contrasting catchments. Ross Watson noted in his presentation to the PAC that this part of the Hunter River valley is one of Australia's premium agricultural areas, possessing alluvial soils with uniquely high levels of the major nutrients and trace elements [Figure 1].

In addition to the deep and fertile alluvial soils, these properties are blessed with an abundance of clean water for irrigating the pastures and watering the stock from both surface water and ground water [Figure 2].

These elements, combined with a up to 10km buffers from polluting industries, such as open cut coal mines, and the close proximity of the Wollemi National Park, part of the Blue Mountains World Heritage Area, provide a very clean and healthy environment for farming and grazing livestock and particularly for breeding Thoroughbred horses [Figure 3].



Figure 3 - Healthy Environment

These properties also exhibit an excellent combination of flat alluvial land and undulating hills and ridges which are ideal for breeding and growing young horses, as the flats are ideal for mares with young foals and the hills and slopes are ideal for developing strong bones and muscles in the yearlings [Figure 4].

Combining this valley landscape with the rugged and beautiful backdrop of the Wollemi National Park creates an idyllic landscape which is an essential ingredient in the studs' business models and is linked directly to branding and therefore, reputation [Figure 5].

The Hunter Valley Thoroughbred Critical Industry Cluster and in particular, the operations of Coolmore and Darley, are considered one of the 3 international centres of excellence in the Thoroughbred breeding industry due to their high quality facilities and their bloodstock's performance at the sales and on the race track. As the principal destination for the champion European and US stallions during the Northern Hemisphere's winter, Coolmore and Darley play a vital role in this large scale and international industry.



Figure 4 - Rolling topography



Figure 5 - The highly scenic landscapes of Coolmore (top) and Darley Woodlands (bottom) with the rugged escarpment of the Wollemi National Park in the background

Combining these natural attributes of the area with the significant cultural heritage values of the two properties, both of which were established in the early 1820s, increases their intrinsic value individually and to the region. Darley is based at the Woodlands property and Coolmore on the Arrowfield and Strowan properties, all of which have connections back to historically important pioneering families who were instrumental in establishing the Jerrys Plains area. Both the historic Woodlands and Arrowfield properties have a long history of breeding champion Thoroughbred race horses [Figures 6 and 7].

In her Heritage Report dated October 2013 and her presentation to the PAC, Sharon Veale points out that it is not only the historic buildings on these properties that are significant but also their intrinsic relationship to the wider landscape which is the reason that they exist. She points out that this cultural landscape has been ignored by AECOM in their Non Aboriginal Heritage Impact Assessment and therefore it fails to satisfy the Director General's Requirements which required an 'assessment of potential impacts on Non Aboriginal heritage values of the locality related to its settlement by Europeans and its pastoral history'.

She indicates in her report that these cultural landscapes, when subjected to a more comprehensive assessment, would be likely to satisfy the criteria for listing on the NSW State Heritage Register and potentially the National Heritage List.



Figure 6 - Darley Woodlands homestead



Figure 7 - Coolmore's Arrowfield homestead site (left) and Strowan homestead (right)

Ms Veale recognises in her report that coal mining may have a long and proud history in the Hunter Valley however, in this location the heritage values of the existing and historic land uses are considered to be of greater importance. Pastoralism and horse breeding have a long and continuing relationship with this place and they are considered compatible industries that were historically integral to the Australian cattle and sheep industry, as well as to agricultural production.

The land use timeline presented by Anglo American in their Response to the Planning Assessment Commission Report [Figure 8], has a heavily weighted bias to the coal mining industry and does not present a balanced view of the historical development of land uses in this part of the Upper Hunter Valley. The following timeline puts the coal mining industry into a more balanced perspective when compared to the development of the pastoral industry in this area [Figure 8]. This timeline is not intended to be a comprehensive depiction of all of the key historical events, however it does provide a wider perspective on this subject.

Agricultural land uses including farm crops and grazing has been a continuous activity in the Upper Hunter Valley for nearly 200 years. Thoroughbred horse breeding has been continuously occurring in the valley for approximately 150 years and yet open cut coal mining has only been occurring in the valley for half the time that Thoroughbreds have been there, around 70 years.

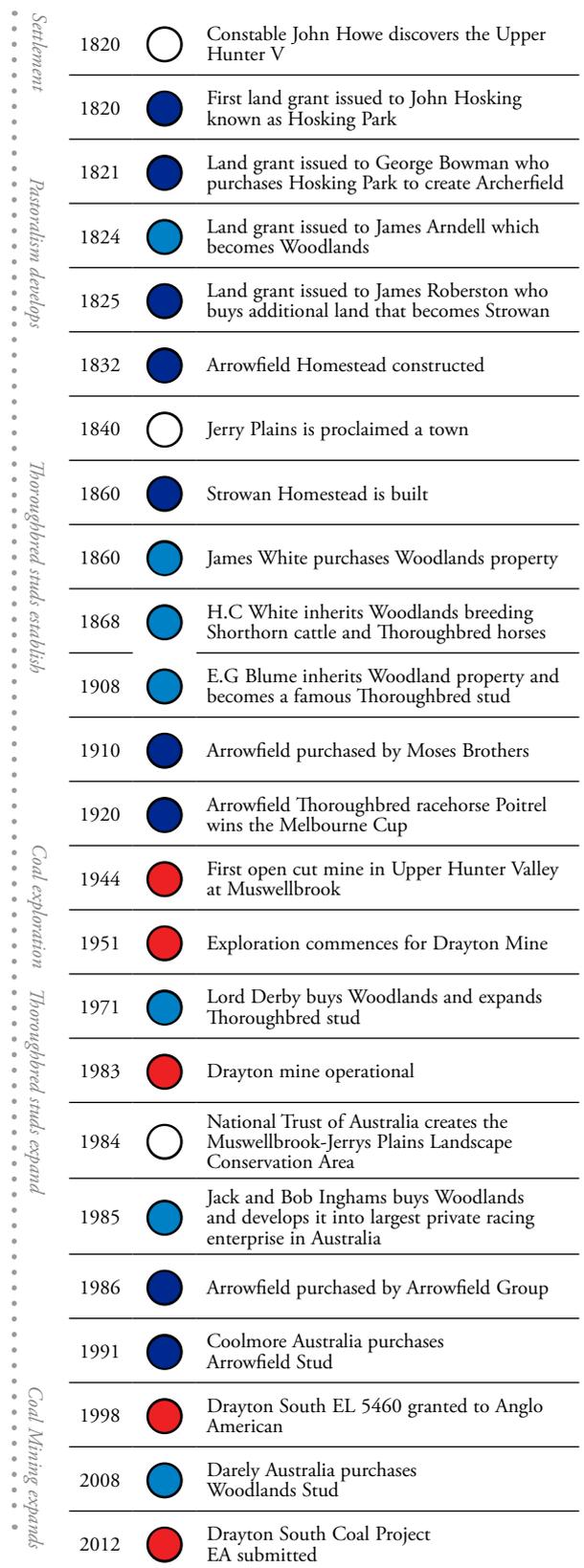


Figure 8 - Timeline of land uses in the Upper Hunter Valley

3. IMAGE AND REPUTATION

Darley and Coolmore have both deliberately selected these properties for their extraordinary combination of attributes to create two studs of international standing unrivalled anywhere else in Australia. In addition to the distinctive and substantial intrinsic scenic quality of the properties and their surrounding environment, the presentation of the two properties exhibits a very high standard which is a central component of the stud's business model [Figure 9].

Dr Lamb describes the studs as being “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 horses, as well as a display of state of the art breeding environments in a scenic setting.” He goes on to say that “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 Thoroughbred breeding areas project similar combinations of imagery in their somewhat different physical environments (eg Newmarket and Kentucky).”



Figure 9 - Two examples of the carefully planned and well managed landscapes of Coolmore (top) and Darley Woodlands (bottom)

Anglo American and their consultant veterinarian, argue that the landscape is not fundamental to the successful operation of the business. This does not recognise that the considerable expenditure of resources, capital and time involved in creating and maintaining these landscapes by both Coolmore and Darley, and the other Thoroughbred studs in the Hunter Valley, in New South Wales, around Australia and internationally, is an essential component of each of these businesses. The consultant veterinarian either fails to understand or is misrepresenting the business principles of this industry.

The Thoroughbred breeding industry is a highly competitive market where many aspects of the business contribute to a stud's success. Each of these aspects are collectively fundamental in directing investment choices by clients of these studs. The landscape is one of those fundamental aspects of the business model as it not only presents a highly scenic setting for these investment decisions but it also illustrates the successful implementation of agronomy best practice where stock, pasture and crop management meet the highest standards in order to achieve peak productivity from their properties and peak performance from their bloodstock. The landscape is therefore fundamental to the image, reputation and branding of these studs.

Clearly the Thoroughbred industry has recognised the value of creating highly attractive landscapes to their businesses and this has become the worldwide standard. These well designed and managed landscapes can be seen in each of the major Thoroughbred breeding regions of the world as illustrated in the images in Figure 10. These studs also locate themselves in highly productive and attractive areas where the surrounding land uses are compatible with the high standards occurring within the properties' boundaries.



Figure 10 - Examples of Thoroughbred facilities from the other two international centres of excellence for Thoroughbred breeding.

Open cut coal mining in close proximity to a Thoroughbred breeding area is clearly one of the most incompatible neighbouring land uses for these studs. The presence of such an intrusive and damaging land use adjacent to a Thoroughbred breeding stud is contrary to the business model that has been established around the world.

The consultant veterinarian also suggests that “Owner’s perceptions will not be affected by the presence of the mine provided the studs can give full assurance that the mine will not have any adverse impact on the health of the mare or any progeny born or raised on the stud.” It is impossible to see how the studs can give such assurances when they do not control the mining operations and where there is no certainty that incidents will not occur, such as the botched blast at Mt Arthur mine on 19 February 2014 which released toxic fumes and turned the sky orange [Figure 11].

Events such as those occurring at Morwell in Victoria where the Hazelwood coal mine has been burning for several weeks, would also not give the stud’s managers confidence to offer such assurances to clients, staff and their families [Figure 12].

Incidences such as these would create a major and multidimensional problem for the studs particularly when it would not only be possible to see it first hand but also when it is widely reported in both the local and national media. In the case of these kinds of incidences, the impacts on the studs would not only be visual but also adversely affect health and air quality for both people and horses. Exposure to these kinds of incidences would have a significantly deleterious effect on the operation and reputation of both studs, particularly when the mine is proposed to extend to within 700m of the boundary of both Coolmore and Darley, at the Golden Highway and within 400m of the Coolmore boundary , which equates to generally 500m from both properties.

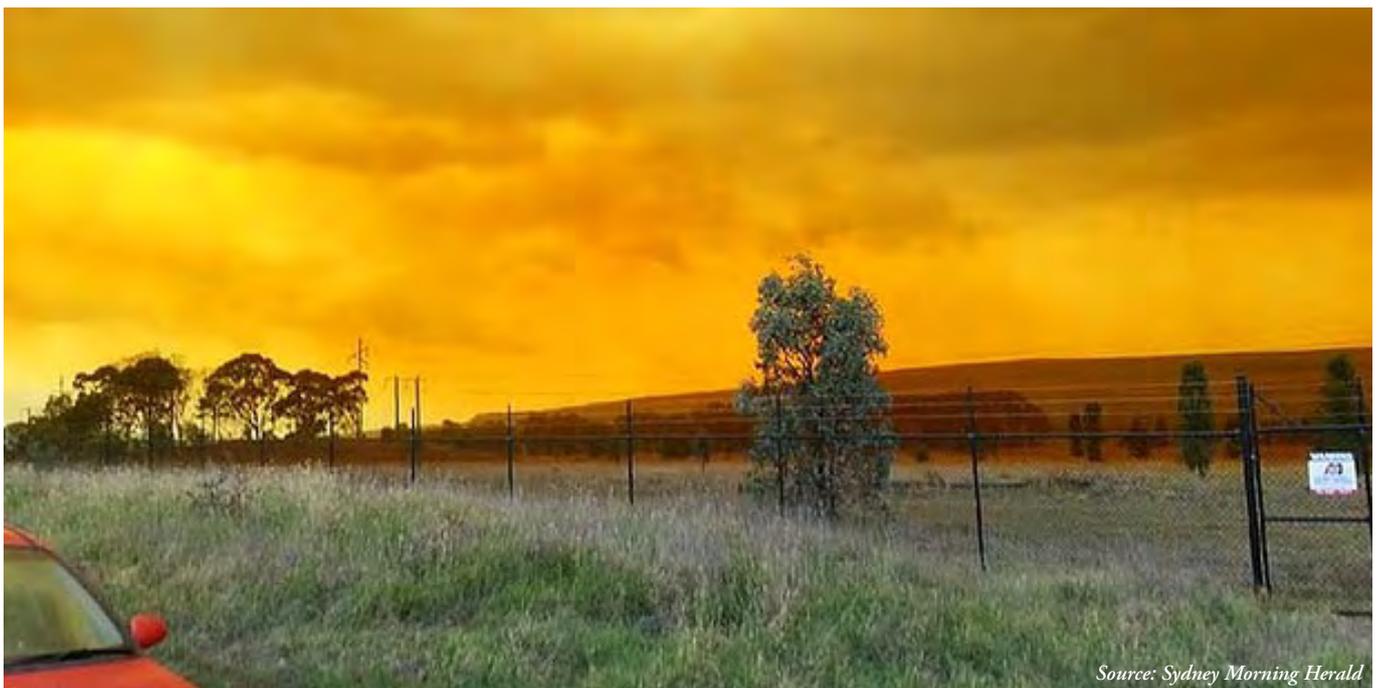


Figure 11 - Highly visible gases emanating from the Mt Arthur Blast - 19/02/2014

Source: Sydney Morning Herald

Based on the available compliance records from the NSW Environment Protection Authority (EPA) over the past 13 years for the Drayton mine, Anglo American have had non-compliances in a range of areas for 10 of those 13 years. This long list of non-compliances includes: airblast overpressures; failure to monitor points, samples and particulate matter; water discharges during high intensity rainfall; air sampling equipment failure; lack of noise compliance and noise exceedences; odours from spontaneous combustion; failure of dust deposit analysis; dust emission exceedences and complaints; exceeding blasting limits and blasts fired outside of time permitted by the licence; and failure to undertake appropriate dust monitoring.

Based on this record at Drayton, Coolmore and Darley cannot be confident that their properties would not be subjected to significant impacts from any, or all, of these kinds of events.

The conclusions in the PAC Review Report correctly state that Thoroughbred horse studs and open cut coal mines are incompatible land uses and that these land uses cannot coexist in close proximity to one another. The report prepared by Mr Short for the PAC, ranks the loss of landscape values as the highest ranked impact on the two studs because reputational value is a component of landscape value and this is of paramount importance to the studs. I agree with this conclusion and it is a demonstrated fundamental factor in all international scale studs throughout the world.



Figure 12 - Highly visible smoke from the Hazelwood Coal Mine fire at Morwell in Victoria.

Source: Skymews

4. PROXIMITY TO EXISTING MINES

Anglo American attempts to argue that the Darley and Coolmore studs are already affected by existing mining operations and the coal fired power stations. As Figure 13 demonstrates, the current and closest mining and power generation operations are a considerable distance from the two studs by comparison to the proposed Drayton South mine. The closest, visible mine is Mt Arthur which is generally 8 - 10km away from the studs. At the boundary between Darley and Coolmore, adjacent to the Golden Highway, the nearest point of mining activity on Drayton South is approximately 700m distant, whereas Mt Arthur Coal Mine is 6.5km, Hunter Valley Operations is 11.8km and the Bayswater Power Station is 12.6km away. The front entrance gate to Darley Woodlands is approximately 8km to the nearest mine workings at Mt Arthur.

As an illustration of the comparative distances from the Darley and Coolmore boundary point to the existing mining and power generation operations of Mt Arthur, Hunter Valley Operations and Bayswater, and the proposed Drayton South mine, the following two images [Figures 14 & 15] demonstrate the relative distances when superimposed over an aerial image of Sydney using Google Maps. If the Darley and Coolmore boundary point was on the Sydney Harbour Bridge; Mt Arthur is the equivalent of being located at Watsons Bay; Hunter Valley Operations would be at Sydney Kingsford Smith Airport and the Bayswater Power Station would be located at Sydney Olympic Park in Homebush. Drayton South however would be located on the forecourt of the Sydney Opera House at its closest point.

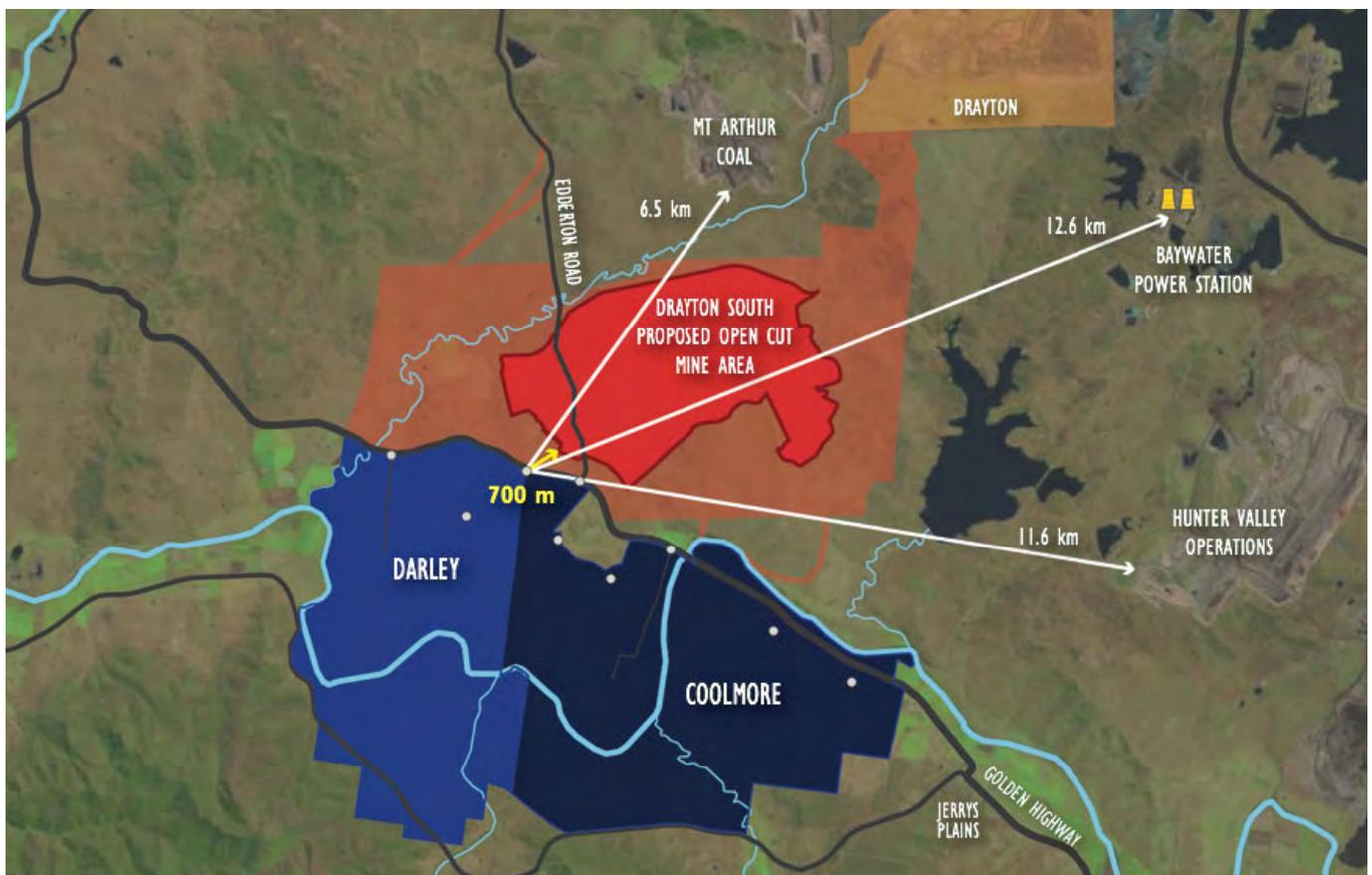


Figure 13 - Proximity of existing mines, the power station and Drayton South from the Coolmore and Darley boundary.

The effect of these mining and power generation operations on the two studs is trivial compared to the effect of having an open cut mining operation come within 700m of this boundary point and within 400m of Coolmore's boundary at its closest point, with underground highwall mining proposed to stop within approximately 30-50m of Coolmore's boundary, adjacent to the Golden Highway at the intersection of Edderton Road.

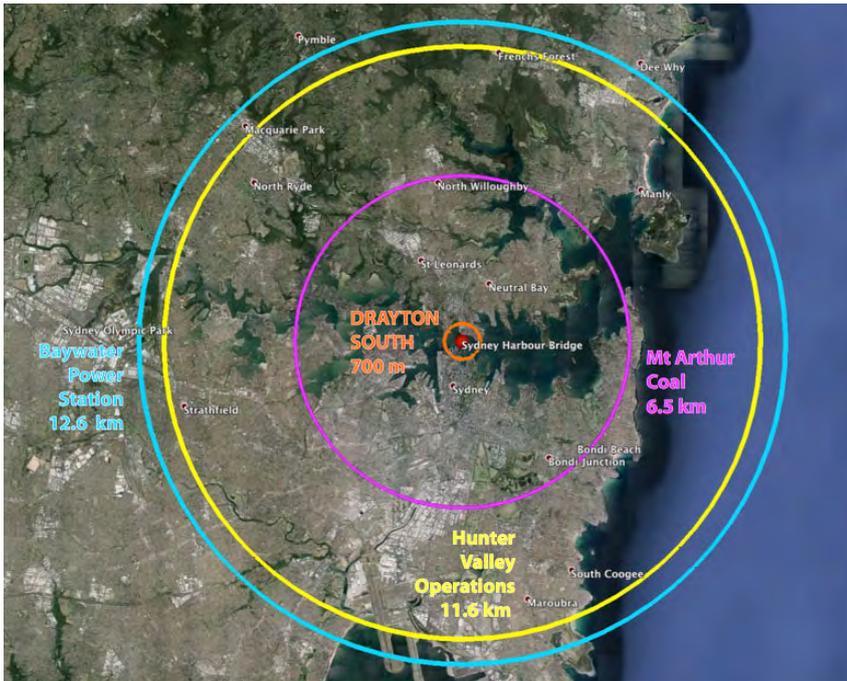


Figure 14 - View proximity comparative distance showing the Coolmore/Darley boundary in red on the Sydney Harbour Bridge, Drayton South in orange, Mt Arthur in purple, Hunter Valley Operations in yellow and Bayswater Power Station in blue.



Figure 15 - View proximity comparative distance showing the Coolmore/Darley boundary in red on the Sydney Harbour Bridge and Drayton South in orange.

The other mines referred to in Anglo American's Response to the PAC's report (Warkworth, Wambo etc) which can be seen by motorists travelling west along the Golden Highway, are approximately 10km distant from Jerrys Plains. This is a tolerable buffer between these mining landscapes and the picturesque landscapes of the Thoroughbred breeding studs. When combined with the contrast in landscape characters (mining and horse studs) and the amount of time elapsed while travelling the distance, the Hunter River valley near Jerrys Plains feels like a different world from the mining landscape around Warkworth.

It should also be noted that the existing mining operations at the nearest three mines of Mt Arthur, Drayton and Hunter Valley Operations have, since the late 1990s, been progressing mostly in a northerly and easterly direction away from the Jerrys Plains locality. Therefore the visual environment surrounding the studs of Coolmore and Darley has been largely unaffected by any changes in mining activity in the general vicinity [Figure 16].

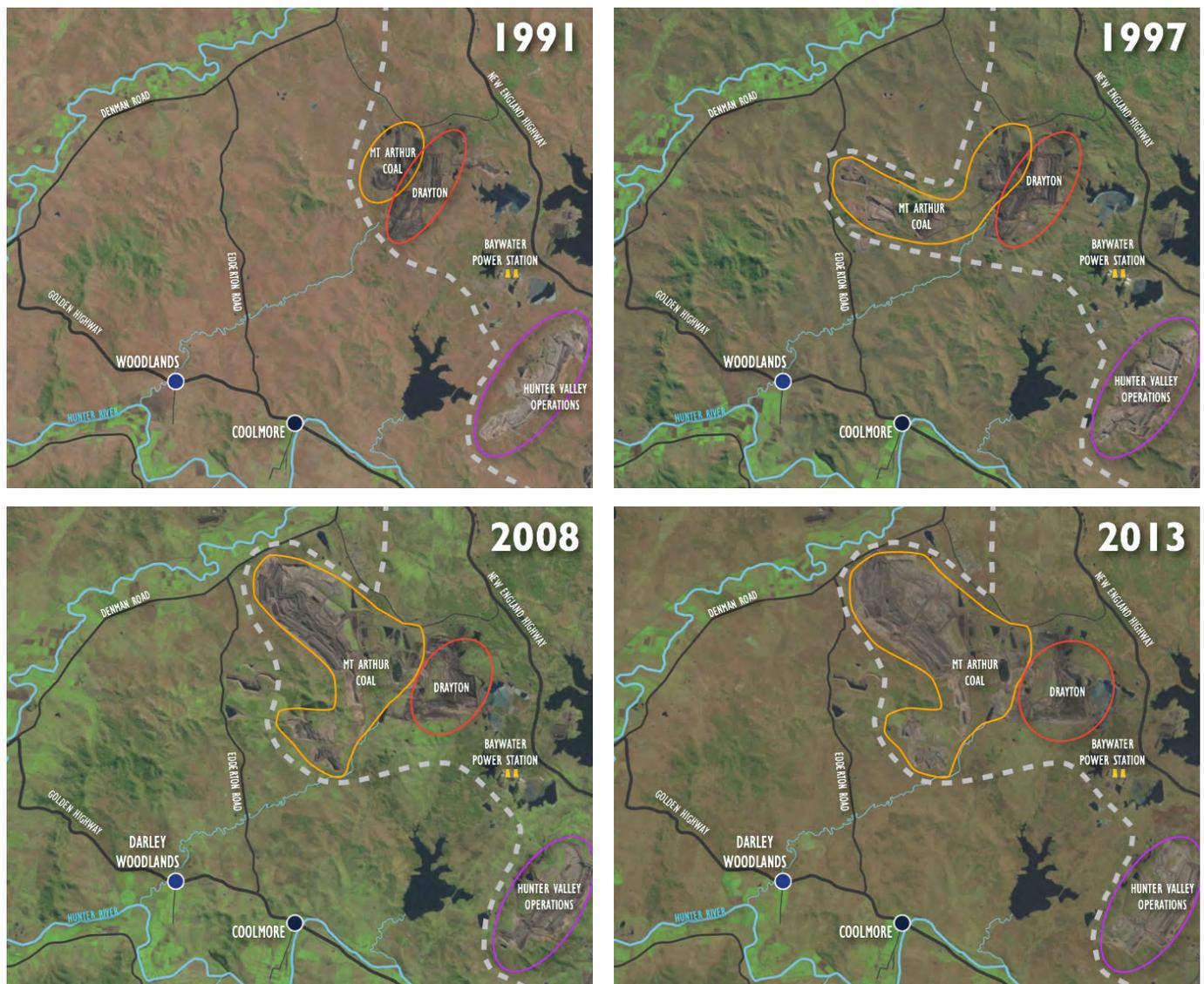


Figure 16 - Aerial photos illustrating the development of the open cut mines at Mt Arthur, Drayton and Hunter Valley Operations between 1991 and 2013. Light gray dashed line represents the approximate extremity of open cut mining and associated mining infrastructure in the area.

The lack of any visible mining activity from within the valley around Jerrys Plains, up to a 10km radius of the locality and the highly scenic river valley landscape with its contrastingly rugged Wollemi National Park backdrop, reinforces its apparent isolation from the mining landscape to the east and the north. This visual separation from the mining areas increases as the motorist travels further west to Denman and beyond.

The visual impact of open cut mine operations at a distance of up to 10km are significantly less obvious to the naked eye when compared to mining within 1 to 2km. This close proximity to the studs' operations is an unacceptable impact.

Anglo American's economic consultant, Gillespie Economics, questions the PAC's reference to Mr Short's finding in his report to the PAC, that open cut coal mining as proposed by the Drayton Coal Project, is not compatible with the Thoroughbred horse studs at Coolmore and Darley Woodlands. Gillespie Economics dispute this statement by citing Kentucky as an example of successful coexistence between coal mining and Thoroughbred breeding studs.

Gillespie Economics have totally misrepresented this comparison between Kentucky and the Upper Hunter Valley. Some basic research would have immediately demonstrated to them the fundamental differences between Kentucky's current conditions in relation to the separation of coal mining and Thoroughbred breeding, and those being proposed by the Drayton Coal Project.

The map presented below [Figure 17] of the State of Kentucky identifies the primary Thoroughbred breeding areas by county (in blue) and the locations of the current coal mining areas (in red) in the State. The greatest concentrations of Thoroughbreds (in dark blue) occurs in 3 counties, Bourbon, Fayette and Woodford, adjacent to the city of Lexington.

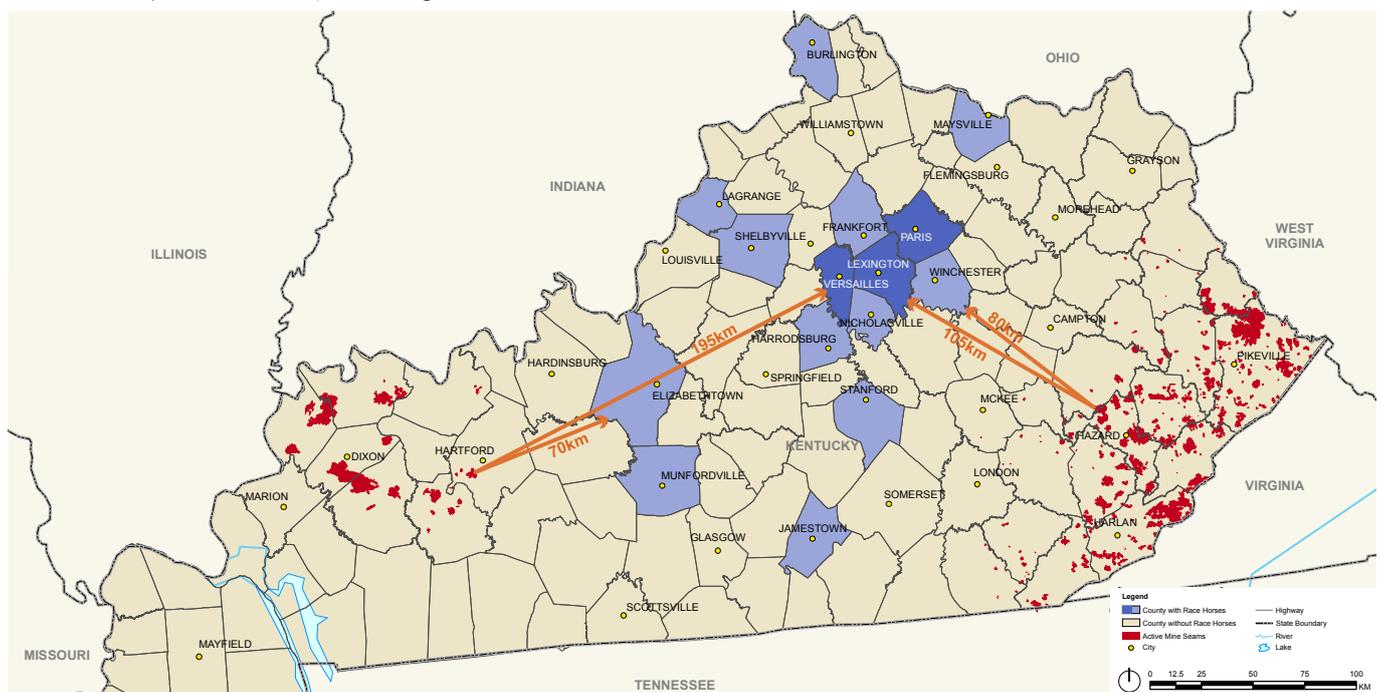


Figure 17 - Map of the State of Kentucky in the USA showing Thoroughbred breeding areas by county and active coal mining and the comparative distances between these locations. Dark blue counties represent the core area of Thoroughbred breeding.

This map [Figure 17] was created using GIS data from ESRI, data from the 2012 Kentucky Equine Survey, and data from the Kentucky Mine Mapping Information System, which is generated by the Kentucky State Government. The 2012 Kentucky Equine Survey refers to Racing Horses that is directly comparable to the term Thoroughbred horses, which is commonly used in Australia.

This map clearly demonstrates that the spatial separation of these two land uses is completely different to the degree of separation being proposed by the Drayton Coal Project to the Coolmore and Darley studs.

In Kentucky, the closest concentration of coal mines to the boundary of the nearest county with Thoroughbred horse studs is about 80km in the east and 70km in the west, and the nearest coal operations to the heaviest concentrations of Thoroughbred studs is about 105km in the east and 195km in the west. The distance between the closest concentration of mines and the centre of Thoroughbred breeding in Kentucky, where both Coolmore and Darley have their studs located, is about 135km.

By contrast, the Drayton Coal Project is proposing to conduct open cut coal mining to within about 500m of the Coolmore and Darley studs, and underground highwall mining right up to the edge of the Golden Highway and potentially within 30-50m of the Coolmore boundary [Figure 18].

There is clearly no comparison between Kentucky and the Upper Hunter in terms of distance separating these land uses, however if the Kentucky example as cited by Gillespie, were recognised as the most appropriate buffer for “coexistence,” then the degrees of separation would need to be in the range of 70-135km.

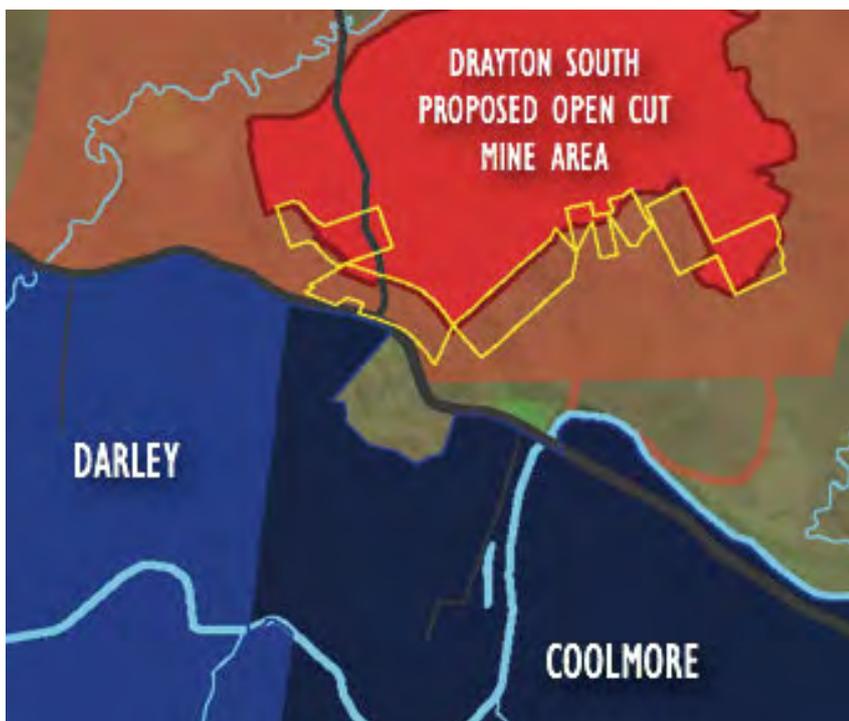


Figure 18 - Proximity of the proposed Drayton South highwall mining areas (yellow outline) to the Coolmore boundary.

5. THE HOUSTON PIT BUND

The Houston Pit Bund is a significant and integral part of the mining operation being primarily an overburden dump which will also be used to obscure some views of the open cut mining operation within Houston Pit and a part of Whynot pit. The Project therefore has not been designed to prevent all views to the proposed mine as stated in Anglo American's response, indeed the exception is a significant one, being the construction of the bund which would be over 1km long and up to 80m high that will be clearly visible from not only many parts of Coolmore and Darley but also the Golden Highway and Jerrys Plains.

This bund would be about the length of two Sydney Harbour Bridges and the equivalent of a 26 storey building which makes it a very large artificial structure in the open rural valley landscape. Dr Lamb states that the bund has little value to the public in protecting it from visual impacts and it has negative impacts on views and the imagery critical to the operations of Coolmore. I agree with Dr Lamb's conclusion.

Coolmore have attended numerous meetings with Anglo American over many years to identify and discuss issues relating to the impact of the mine on its stud operations. It was always made clear to Anglo American that being able to see any part of the mine would be a major issue for Coolmore. Coolmore requested in these meetings that Anglo American abandon plans to mine the Houston Pit area, such as at the Drayton Mine site visit on 23/11/2010 and again in a meeting at Coolmore on 10/05/2011, however Anglo American refused to make this alteration to the mine plan. This was also confirmed in the PAC's Review Report in the Summary of Meetings with Others (Appendix 3) that in their briefing with the proponent it was suggested to them that "Coolmore had requested the Houston Pit be removed from the mine plan, but the proponent did not consider this to be economic."

Coolmore also pointed to the problem of the scale of the proposed visual bund, as originally proposed by Anglo American and insisted that they reconsider the design of this bund numerous times. Having originally been informed by Anglo American that Option 1 was the only design that would work, Coolmore pressed them to investigate other options that a reduced size and new position further away from Coolmore, in order to reduce the visual impact. Option 3 was then presented as the only feasible option which was approximately 1.5km long (3 Sydney Harbour Bridges) and 120m high. Finally after further insistence by Coolmore, Anglo American produced Option 4 which is about 50% smaller than Option 3.

The final bund however, was never Coolmore's preferred option. Coolmore's aim was to demonstrate to Anglo American that there were a number of other feasible options to their original bund design but Coolmore at no time ever endorsed this as its preferred option which was, as always, for the mine to be entirely out of sight and that the Houston Pit to be abandoned. Anglo American did not issue the revised bund plans to Coolmore for review and comment as with previous designs. Instead it was presented as a final design and no further changes were made.

The extreme sensitivity of Coolmore's stud operations to any visual impacts, including the construction of this bund over a minimum of an 8 month period,

is too much impact for Coolmore. Exposure to the mining equipment, large expanses of earth embankments, dust and noise during the construction of the Houston Pit and bund will result in the potential for significant loss of revenue and ultimately reputation as the ideal location with a healthy environment for breeding and raising young Thoroughbred horses, the equine equivalent of elite competitive athletes.

Anglo American states that the Houston Pit bund has been designed to mimic the natural landscape however there are no landforms within the immediate visual catchment of this structure that have an almost flat ridge crest, over 1km long, with an evenly graded straight slope facing into the valley. I contend that this landform will maintain an artificial appearance more akin to a large dam wall with scattered vegetation growing on it.

The rehabilitation strategy report prepared by Dr Mark Burns suggests that the earliest that the trees planted on the bund will begin to become apparent would be **around 6 years after planting**. This will mean that the artificial form of the bund will remain very apparent to observers on the Golden Highway, Jerrys Plains, Darley and Coolmore for the 8 months whilst it is under construction and then up to a further 6 years whilst the trees mature.

It will also mean that not only during construction (8 months) will the bund be exposed earth but also at the beginning of the rehabilitation period when Anglo American acknowledges that it would take 1 to 2 months for the cover crop to establish (page 13). Even then it will be a uniform height crop in a bright green colour contrasting with the adjoining grazing paddocks. Anglo American suggests that this 1 to 2 month period represents “rapid” establishment, however from Coolmore’s and Darley’s perspective, this is a considerable extension of time on top of the 8 months of construction, to be exposed to the visual impacts of this bund which the Visual Assessment Report acknowledges will be high during this construction phase.

The bright green cover crop [Figure 19] will remain for 6 to 8 months based on Dr Mark Burns report on Rehabilitation of the Bund, before the trees and shrubs begin to emerge over a 1 to 2 year period. Combining the 8 months anticipated for construction (providing there are no delays to the program), the 1 to 2 months for the emergence of the cover crop and the 1 to 2 years for the trees and shrubs to emerge, the bund will appear as an artificial and obvious constructed embankment for at least 2 years and possibly 3 years. For the first 8 to 10 months it will appear brown with the bright green cover crop progressing up each lift. It will take another 1 to 2 years before the native tree species emerge and another 2 to 4 years before they begin to mature.

The diagram on the next page [Figure 20] illustrates the continuous progression of visual impacts caused by the construction of the Houston Bund which could extend between 6 to 12 years before the rehabilitation reaches maturity and achieves a lower level of impact. This is a long time for the high visual impacts from this artificial and unnatural looking embankment to start to reduce, particularly when this represents 6 to 12 breeding cycles for the studs with all of the associated client visits and activities such as the Stallion Parades, which attract in excess of 5,000 clients and visitors to the studs each year.



Construction .5 to 3 months per lift

Bare earth for 3-5 months which will be prone to dust plumes in windy weather.



Cover crop emergence 1-2 months



Cover crop growth 4-8 months

Uniform bright green cover crop contrasts with the surrounding dry land pastures for at least 8 months.



Native species emerge 12-24 months

Emerging tree species will appear uniform in contrast with the scattered surrounding mature trees.



Maturing of natives 48 months plus

Maturing trees will still retain the uniform size, colour and texture until they start to mature after 6 years.

Figure 19 - Rehabilitation images from Dr. Mark Burns' Report showing gradual changes over a 4 to 6 year period. Colours correspond to Figure 20 timeline on the next page.

It is also very difficult for Coolmore and Darley to have any confidence in Anglo American's promised outcomes in relation to the rehabilitation of the Houston Bund particularly in light of recent revelations that the Department of Planning has ordered Anglo American to improve the standard of rehabilitation at the Drayton Mine (Newcastle Herald 05.03.2014). It was reported that the Department's Compliance report stated that the standard of rehabilitation was inadequate because the land surface was poorly vegetated and the tree cover was sparse and lacking diversity. Anglo American's explanation that the natural geological ground conditions had affected the rehabilitation work is unconvincing given that they have been actively mining the area for 30 years. Will similar excuses be offered if unsatisfactory standards of rehabilitation are identified on the Houston Bund?

Visual impacts of this scale and nature within the setting of almost idyllic rural landscape will have a significant impact on the appearance and perceived character of the Coolmore property and therefore potentially the operations and viability of the business. As the Golden Highway is also the primary access to the Darley Woodlands stud from the east, corresponding visual impacts would affect this stud as well. The mining operation at the Houston Pit represents a major risk to the operation and viability of the two studs as a result of the visual exposure to the proposed bund and the slow process for the high visual impacts to be gradually reduced.

Anglo American have failed to engage in genuine consultation despite numerous attempts by Coolmore to resolve the differences. The bund is grossly disproportionate and out of character with the surrounding landscape and fails to protect its neighbours from the visual impacts. This is clearly too high a risk to the neighbouring studs and applying the Precautionary Principle would support the PAC's recommendation that this mine should not proceed.

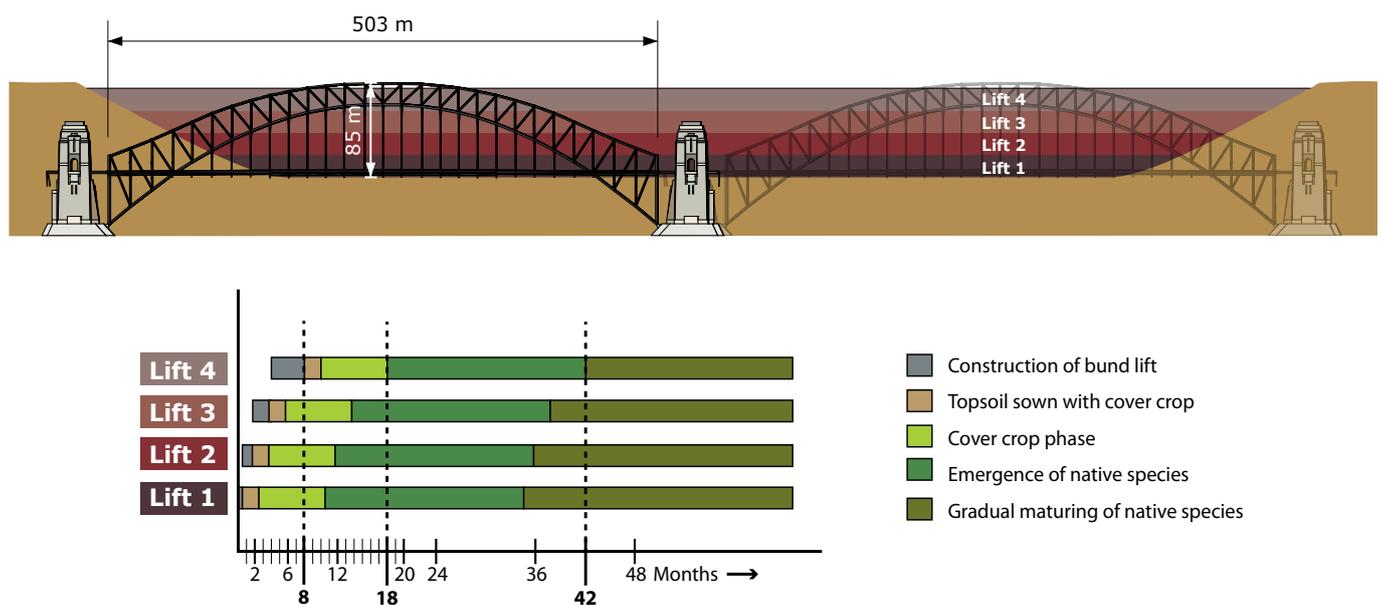


Figure 20 - Graphic representation of the progressive construction and rehabilitation of the Houston Pit Bund.

6. VISUAL IMPACTS FROM TRIG HILL LOOKOUT

The Trig Hill lookout on Darley Woodlands which provides panoramic views over the property and district for Darley’s guests and clients, will no longer be usable once the mine is operational as the Redbank Pit, Blakefield Pit, Whynot Pit and even parts of the Houston Pit and Bund will potentially be visible from this lookout.

Anglo American state in their Response to the Planning Assessment Commission Report (page 14) that the Redbank and Blakefield pits will be visible but fail to mention that much of the Whynot and some of the Houston mining areas will also be clearly visible. Perhaps they are relying on the photomontage presented in the Visual Impact Assessment report, submitted as an attachment to the Environmental Assessment, which purports to depict the view of the mine from Trig Hill. However closer inspection reveals that this image is less than half of the total view that would be exposed to the open cut and overburden dumping operations at Drayton South [Figure 21].

Anglo American’s reports are an inaccurate representation of the facts and are further compounded when they state that the Mt Arthur mining operations are in view from this location but critically, they fail to add that the closest part of the Mt Arthur mine is approximately 8km from the lookout, whereas the Blakefield Pit would be less than 2.5km away, almost one quarter of the distance. At less than 2.5km distance the visual impacts of the mining operation will be significantly higher for viewers and because the majority of the mine would be in view, the lookout would be unusable for its purpose for the full life of the mine, 27 years.



Figure 6.15 Photomontage Trig Hill JVP Visual Impact Assessment



Trig Hill Lookout panorama

Legend
 Approximate extent of visible mining activity

Figure 21 - Trig Hill Lookout Photomontage Comparison: Anglo American’s photomontage (top), approximate full extent of the view impacted by the open cut mine (bottom).

7. VEGETATION SCREENING ALONG THE GOLDEN HIGHWAY

The presence of extensive corridors of dense tree screening proposed by Anglo American along the northern edge of the Golden Highway from Saddlers Creek to just east of the existing Edderton Road intersection, a distance of over 4km, is a concern. It will not only cause the loss of district views to Mt Arthur, a prominent local landmark, as well as the surrounding landscape, but it will alert travellers to the presence of a high visual impact activity which requires screening and thereby potentially create a negative perception of the area's character and landscape quality. Single lines of evenly planted trees stretching across the landscape also create a contrasting element to the open paddocks with scattered trees, highlighting the artificial nature of this activity in this rural environment.

A characteristic feature of the Golden Highway is the open rolling landscape which unfolds to the motorist, revealing and concealing views as the Highway meanders through the landscape. This experience will be truncated by the proposed tree screens immediately adjacent to the road boundary although the ability of the screens to fully obscure the mining operations is in doubt despite Anglo American's reassurances, based on past experience. The landscape within the studs create an idyllic rural landscape with trees arranged in avenues and scattered clumps. Clearly an idyllic rural landscape is not one that has a continuous and monotonous vegetation screen obscuring mining activities and northerly views from the highway for over 4km.

These days dense screen plantings along roadsides in the Hunter Valley are becoming synonymous with open cut mines which need to be hidden because of their visual impact. Anglo American's extended tree screens, planted along the Golden Highway into the Saddlers Creek valley, are outside the visual catchment of the proposed mine and seem to suggest that these trees are planted to screen future extensions of the mine to the west.

Maintaining a 30m wide band of mixed trees and shrubs over many kilometres for the projected 27 year lifespan of the mine, is a big commitment and likely to gradually lose intensity, as the costs and amount of work increases over time. For example shrubs typically have a much shorter lifespan than trees and are more susceptible to the impact of fire as their canopies are much closer to the ground. Grass fires are a real threat to these screen plantings as they can burn at high temperatures and move at speeds of up to 60kph. Fire could result in the visual exposure of the open cut and overburden dumping operations for many years while the replacement planting establishes itself and matures. A fire such as the current emergency in Morwell in Victoria would potentially see these tree screens substantially damaged, if not destroyed, and pose high and unreasonable risks to the studs, the 350 people and families and the valuable bloodstock residing on those studs.

The photos in the report, Response to Visual Impact Considerations, showing examples of roadside revegetation successfully screening mining activities, appear to be of vegetation in the early years as they approach maturity. The issue is, what will this look like in 10 to 15, or even 20 years, when the small trees and shrubs have reached the end of their lives? Ten to twenty years is a common life span for small trees and shrubs and replanting amongst the established trees is not as easy as Anglo American is suggesting as the maturing trees dominate and

out-compete young plants for light, water and nutrients which are the essential elements for growth. This could result in a similar condition that currently exists on the Golden Highway and Edderton Road as illustrated in the following images [Figure 22].

These existing plantings which typically consist of 3-4 rows of mixed tree species in a 20-30m wide corridor, are clearly not as successful as Anglo American is intending the new plantings to be. Based on Anglo American's poor performance rehabilitating parts of the Drayton mine, it is hard to have confidence in the ongoing success of these screens and Anglo American's ability, and even willingness, to maintain a continuous and dense planting for over 4 km for at least 27 years.



Figure 22 - Example of the see-through screen planting on the Golden Highway near the intersection with Edderton Road.

8. LANDSCAPE CONSERVATION AREA

The National Trust of Australia has classified an area including part of the proposed Drayton South mine and most of Coolmore and Darley, as a part of the Muswellbrook-Jerrys Plains Landscape Conservation Area. This Landscape Conservation Area covers an area of the Hunter Valley extending from just south of Muswellbrook to the south of Jerrys Plains [Figures 23 & 24]. It incorporates the alluvial flats and the adjoining slopes which form a primary visual catchment of the Hunter River in this area.

The Reasons for Listing are cited as both Aesthetic and Social:

Aesthetic:

The lush cultivated alluvial flats of the central Hunter and lower Goulburn Rivers present a magnificent view, with the wide valley floor of majestic scale bounded by low hills to the east and west and the rugged escarpment of the Wollemi National Park to the south.

Social:

This area contains many of the high quality properties and large pastoral estates which contribute to the great rural wealth of the Hunter Valley.

The listing describes these two values in greater detail in Appendix A & B, as well as a brief description of the Geology and Landform in Appendix C. In Appendix A Scenic Values, it makes the important point that; *Overall the area provides continuous vistas of pleasant landscapes, with no intrusive elements.* This condition still exists throughout most of the Jerrys Plains area today.

The Recommendations presented in the listing are as follows:

The high scenic and cultural qualities of the listed area should be protected through appropriate Environmental Protection zoning under a LEP. Open cut mining of the alluvial flats should not be permitted. Should it be necessary for open cut mining of the non alluvial lands, the aesthetic and social values of the Classified area should be recognised in the mining operation and the rehabilitation programme.

It is a major oversight on behalf of Anglo American and their environmental, heritage and visual assessment consultants that this listing was not identified in the Environmental Assessment, or the supporting technical studies, or the subsequent reports responding to the EA submissions and the PAC report. Assuming that it was an oversight, it casts doubt on the quality of their work for this project and their credibility. It also renders their assessments of the impacts of the project on this area highly questionable and the mitigation measures inadequate as the landscape exposed to mining activities should have been afforded a higher level of sensitivity befitting a Landscape Conservation Area listed for its Aesthetic and Social values.

While the Trust's listing of this area has no legislative control, it does establish and emphasize the recognition of the importance of the aesthetic and social values of the valley. The National Trust of Australia, as a community-based, non-government organisation, committed to promoting and conserving Australia's indigenous, natural and historic heritage, is well regarded for its advocacy work and its custodianship of heritage places and objects. As such, the listing of the area as a Landscape Conservation Area by the National Trust is a major oversight and should not have been ignored.

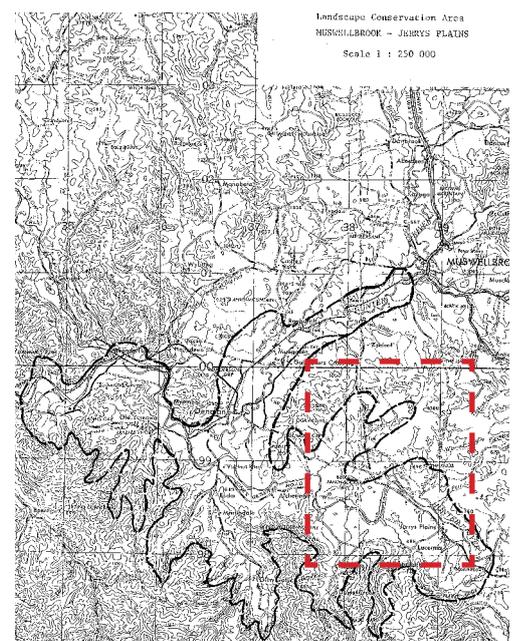


Figure 23 - Map attached to the National Trust Listing showing the Muswellbrook - Jerrys Plains Landscape Conservation Area.

Significantly the parts of the mine which occur within the Landscape Conservation Area are a substantial portion of both the Blakefield Pit and the Houston Pit, including the Houston Bund. The presence of the Houston Bund in the Landscape Conservation Area is highly significant to the impacts on this part of the Landscape Conservation Area. This is an enormous man made structure that is proposed to be up to 80m high and over 1km long. It will fill the existing valley between Plashett Knob and the ridge to the east like a large dam. Other activities in these areas include the construction of mine infrastructure, haul roads, dams and the realignment of Edderton Road, and also any future mine extensions. The total area of the Drayton South mining and overburden emplacement areas which is overlapped by the Landscape Conservation Area is approximately 380 hectares which is approximately 23% of the total mining and overburden emplacement areas for the mine.

It should be noted that large areas of the Drayton South Project Area, outside the mining and overburden emplacement areas, occurs within the Landscape Conservation Area including the Saddlers Creek valley and areas south of the main ridgeline towards the Golden Highway. The total area of the Drayton South Project Area which is overlapped by the Landscape Conservation Area is approximately 2,163 hectares or approximately 47% of the total Project Area.

The presence of the Landscape Conservation Area should not have been excluded from Anglo American's EA for the proposed Drayton South Mine and as a result the proposal and its EA cannot be considered adequate and should not be approved.

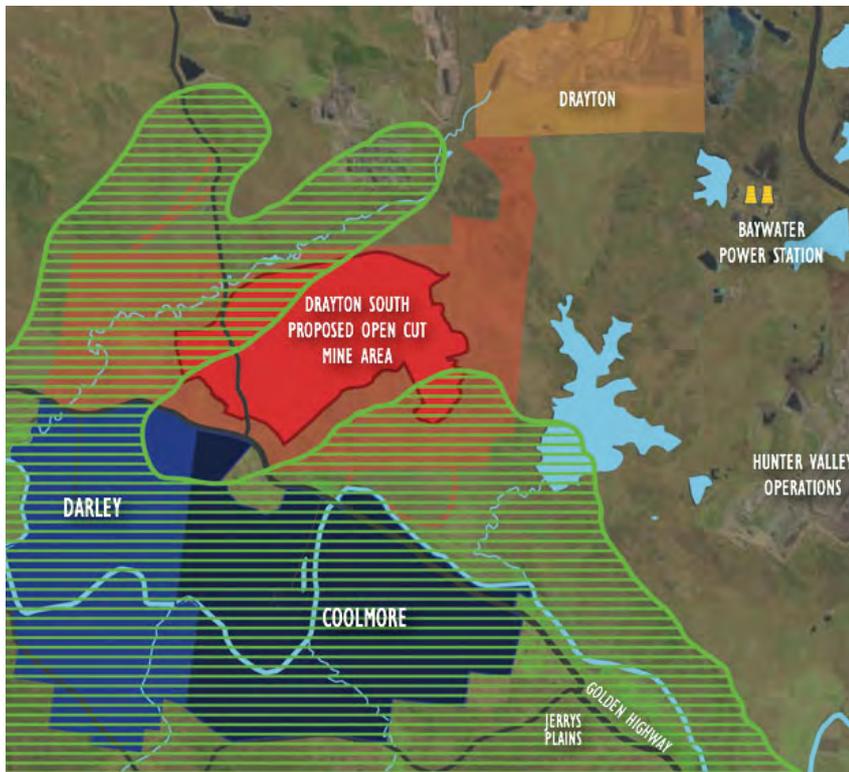


Figure 24 - Plan of the Drayton South Mine with the Muswellbrook - Jerrys Plains Landscape Conservation Area superimposed in the green hatch.

Furthermore, the visibility of the Houston Bund extends over a considerable part of the Landscape Conservation Area from areas to the east of Jerrys Plains across the valley to the ridge which includes the Trig Hill Lookout at Darley to the west.

This is a considerable area and despite Coolmore requesting, on numerous occasions (eg in a letter from Coolmore to Anglo American dated 23 December 2010), that Anglo American prepare a Visual Catchment Map of the areas of the valley that would be exposed to not only the Houston Bund, but other areas of the mine; they have failed to provide such a plan. A Visual Catchment Plan is a common tool used in the process of evaluating visual impacts of a development proposals. For example, a recent proposal for a modification to the Mt Arthur mine included a Visual Catchment Plan to assist in the assessment of the visual impacts of the proposed changes.

It is essential that the assessment of a new mine, in an area where mining has not occurred before, and which is located within a Landscape Conservation Area, should have a Visual Catchment Plan prepared in order to confirm the extent of the area impacted by the mine. As a demonstration of the potential area visually impacted caused by the Houston Bund, a Visual Catchment Plan has been prepared using Google Earth and the proposed mine information from the EA [Figure 25]. This generally shows the areas from which the Houston Bund would be visible. This may not be as accurate as one that could be prepared by Anglo American using their detailed Digital Terrain Model and 3D mine plan, but it does indicate that a substantial area is likely to be impacted at varying levels, by the Houston Bund. This does not include other potential visual catchment areas from other locations of Drayton South's proposed open cut mine area.

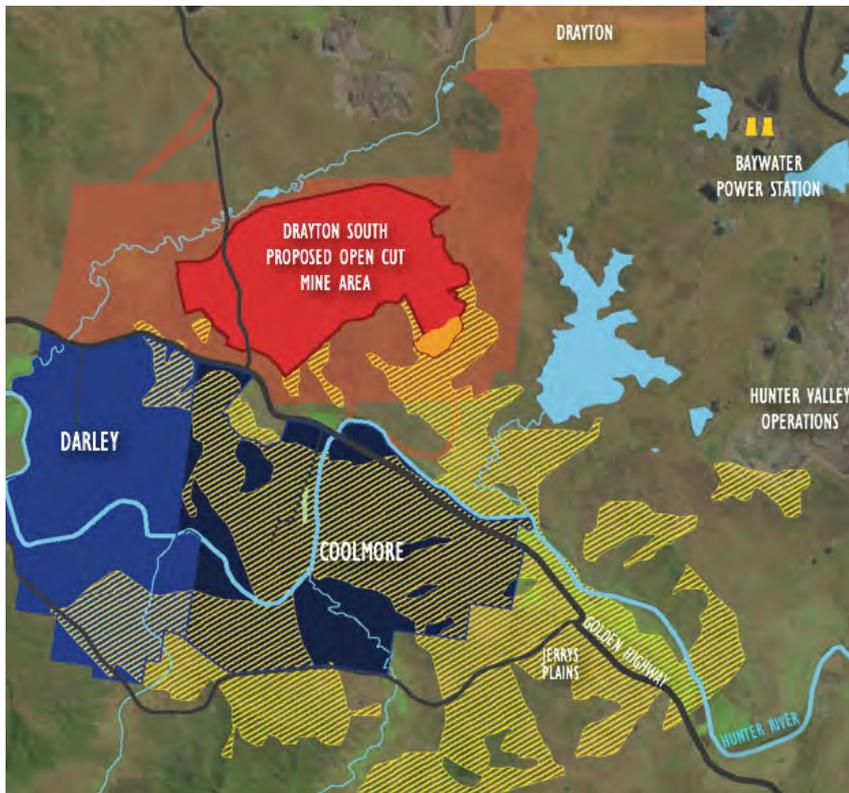


Figure 25 - Plan showing the potential visual catchment of the Houston Pit Bund in the yellow hatch.

9. CONCLUSION

Anglo American has consistently failed to recognise the extremely high levels of visual sensitivity that exist for the two Thoroughbred breeding properties of Darley and Coolmore. They have also failed to recognise that the visual impacts extend far beyond those areas within the properties of both Darley and Coolmore. Dr Richard Lamb in his report to the PAC, has clearly demonstrated that this visual sensitivity and the subsequent impacts extend well beyond their immediate boundaries. He considers that these visual impacts are of considerable significance and are likely to impact adversely on both Coolmore and Darley.

Both Darley's and Coolmore's clients and staff, as well as the 350 people and families that reside on the stud farms, will be exposed to both direct and indirect visual impacts within the boundaries of the two properties and when travelling to and from studs from a range of locations. In addition, the residents of the Jerrys Plains area and motorists on the Golden Highway and the realigned Edderton Road will also be impacted by this mine being constructed and operated in this previously unaffected area of the Hunter Valley.

These impacts will not be limited to seeing the open cut pits and overburden dumps, including the Houston Pit Bund but also dust and potentially coloured gas plumes emanating from blasting which is likely to occur up to 10 times per week, as well as large mining equipment being transported along the local roads. The continuous screen plantings along the Golden Highway and Edderton Road will also signal the presence of the large and visually unattractive activities occurring behind the planting. The demolition of this part of the Hunter Valley landscape will potentially be exposed to these motorists during the 27 year life of the mine when the plantings thin out due to age, lack of maintenance and/or the result of drought, disease or fire.

The unique combination of natural attributes both on the properties and in the adjoining areas makes this a place of special significance from a productivity and scenic landscape point of view. These attributes combined with the carefully planned and managed cultural landscapes of the two properties represent an essential part of the stud's image and therefore the marketing of the two businesses. It therefore follows that any impact on this landscape which affects the productivity and/ or visual character of the area, will directly impact on the studs' reputation and potentially their business.

The current coal mines and related infrastructure are located at sufficient distance such that their impacts and affects are tolerated by the two studs and this situation has remained largely unchanged for many decades. The proposed Drayton South mine, if approved, would completely change this situation and the full range of impacts from the surface mining operations would be brought to within about 500m of the studs' boundaries. The underground highwall mining would come right up to the Golden Highway and therefore the studs' boundaries. Such close proximity to such a destructive land use would be unacceptable for Coolmore and Darley.

The Houston Pit will be an unacceptable intrusion into the valley which will have a direct visual impact on the operations of both Coolmore and Darley. The overburden dump which is positioned to progressively screen the mining activity within the pit is a mining activity which will be exposed to a wide range of viewpoints from east of Jerrys Plain across the valley to the Trig Hill Lookout.

The visual impacts of this 1,095m long by 79m high earth mound will remain high for years, while the various stages of rehabilitation continue well beyond the projected 8 month construction time. It could be as long as 6 to 12 years before the bund begins to blend into the landscape but even then its straight crest and flat graded face will continue to contrast markedly with the surround, steeply undulating topography. Exposure to high visual impacts for an extended period of time would be untenable for the business operations of both Coolmore and Darley.

The assessments of the impacts in Anglo American's EA documents demonstrates a lack of consistency and thoroughness that is essential for a project of this scale and levels of impact. The visual impacts of the mine from the Trig Hill Lookout have been grossly underestimated and the photomontage from that location is very misleading. The true impact of the mine from this viewpoint extends across the whole mine and yet the Visual Impact Assessment report only assesses the Redbank and Blakefield Pits, dismissing the exposure to the Whynot and Houston pits as "more distant" and "may be available". At the same time they suggest that the view of the Mt Arthur mine reduces the visual sensitivity and yet it is up to 8-10km away. If approved, Drayton South will ensure that this lookout is unusable for at least 27 years, if the current program is met.

The reliance on vegetation screening immediately against the Golden Highway for over 4 km, including in areas around Saddlers Creek where screening of the mine is not necessary due to intervening topography, is a poor visual outcome for this major public road. This is the primary access route for both Coolmore and Darley and the presence of a continuous band of trees and shrubs immediately adjacent to the northern side of the road will immediately alert drivers to the presence of a damaging land use, attempting to be obscured by the vegetation. The effectiveness of this screen cannot be guaranteed as a range of events could trigger the loss of part or all of the screen such as in the case of wildfire, drought or disease, not to mention the requirement for ongoing maintenance over the 27 year lifespan of the mine.

A critical omission from the EA reports and all of the subsequent documents is the existence of the National Trust Listing of the Muswellbrook - Jerrys Plains Landscape Conservation Area. This Landscape Conservation Area covers almost half of the Project Area (47%) and almost a quarter of the open cut and overburden areas (23%). Given the importance of the cultural landscape of this area, as identified by Sharon Veale, and its potential to be listed on the State Heritage Register and even the National Heritage List, the non Aboriginal heritage and visual assessment reports prepared for Anglo American are clearly deficient and cannot be considered adequate.

This oversight, along with the other failings identified, provides no confidence regarding the overall accuracy of Anglo American's EA and as such the precautionary principle should preside over this project. If the PAC is supposed to make their determination based on the evidence it has before it, then that evidence should be a fully complete and assessed project. Anglo American's proposal continues to be a work in progress and the information provided by Anglo American cannot be relied on and the project should be rejected.

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