HTBA
HUNTER THOROUGHBRED BREEDERS ASSOCIATION

The Secretary
Department of Planning, Industry and Environment
4 Parramatta Square
12 Darcy Street
Parramatta NSW 2150

Email Transmission: Lauren.Evans@planning.nsw.gov.au

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MOUNT PLEASANT OPTIMISATION PROJECT – SSD 10418

The Hunter Thoroughbred Breeders Association (HTBA) represents over 200 industry participants, including thoroughbred breeders and suppliers of equine support services. The Hunter Valley's Thoroughbred Breeding Industry is Australia's premier breeding industry, and produces over half of all thoroughbreds born each year in Australia. It is a multi billion dollar industry and Australia's largest producer, supplier and exporter of premium thoroughbreds. It is acknowledged as one of only three international centres of thoroughbred breeding excellence in the world. The thoroughbred industry is an important employer of hundreds of thousands of Australians (directly and indirectly) throughout our value chain regionally, in NSW and across the nation. Further information on our industry is presented in Attachment 1 to this submission.

HTBA **formally objects** to the Mount Pleasant Optimisation proposal for the reasons outlined in this submission and **calls on the NSW Government to undertake a full cumulative impact assessment of air quality and water security prior to the consideration and/or commencement of any further mines in this region.**

NEED FOR CUMULATIVE IMPACT ASSESSMENT

A fundamental concern in the Upper Hunter, and with this project in particular, is the significant impacts on the environment, surrounding land uses and the community, particularly impacts on air quality and water security due to mine related activities.

The lack of any appropriate comprehensive cumulative assessment for this project as required by the Secretary's Environmental Assessment Requirements (SEARs) and NSW Guidelines[1] is a significant omission and a major concern to the Upper Hunter community who wears the brunt of mine related planning decisions.

The NSW Government, in its *Assessing Cumulative Impacts Guide*, clearly states that:

"it seeks to strengthen the assessment of the cumulative impacts of development in NSW both at the project level and at the strategic level, and to ensure that the cumulative impact assessment undertaken for projects is meaningful and leads to better decisions on projects and effective strategic action to address cumulative impacts."[2]

[1] Planning Secretary's Environmental Assessment Requirements – The Mount Pleasant Optimisation Project – SSD – 10418; General Requirements p1 "*an assessment of the likely impacts for all stages of the development, including any cumulative impacts …*"
[2] Ibid p 7

"effective assessment and management of cumulative impacts is critical to protecting the things that matter to the community in NSW and ensuring ecologically sustainable development. … the NSW Government has a comprehensive framework in place to manage cumulative impacts."[3]

Clean air, clean and secure water sources, a peaceful environment and landscape, good health and wellbeing – are the things that matter to the Upper Hunter community.

Given the significant omission of any appropriate cumulative assessment of the impacts of this project, **we call on the Department of Planning, Industry and Environment (the Department) to either require the Proponent to undertaken such a cumulative assessment or for the Department to commission an independent expert to prepare the relevant cumulative assessment and require the Proponent to pay for this assessment**, as proposed in the *Assessing Cumulative Impacts Guide*.[4] **At a minimum this should be done for air quality and water impacts of mining operations in the region, past, present and future before any new projects are considered**.

The requirement for a comprehensive and rigorous cumulative impact assessment of this proposal is further heightened by the fact that the development consent under which MACH operates, was originally granted in 1999. No mining took place under this DA for some 18 years until MACH purchased the title from Rio Tinto. Despite significant mining activity commenced by others during the intervening 18 or so years, no proper, authoritative cumulative environmental impact assessment was undertaken before MACH energy was granted a five year extension to the DA to 2026. At that time we advised that MACH Energy's MOD 3 proposal did not reflect the true or future intentions of the Proponent – a statement that has proven to be correct.

It is our fervent view that the NSW Government must uphold key principles of the EP&A Act, its policies and commitments to avoid land use conflicts, protect the environment (including land, water, air and biodiversity), protect natural and cultural resources, sustain communities and culture to improve people's quality of life (particularly health) and protect people from major hazards and risks.[5]

MOUNT PLEASANT OPTIMISATION PROJECT

Based on the preliminary advice we have received we also offer the following reasons and comments in support of our opposition to the Mount Pleasant Optimisation Project and why this project should be rejected:

1. **Flawed economic analysis** which overestimates the benefits and underestimates the costs of the proposal, biasing results in favour of the project - including, but not limited to:
    - Benefits from coal production based on ideal rather than realistic production schedules and assumptions that should, more accurately, reflect prevailing market conditions;
    - Unrealistic externality impacts which are either under-estimated or not assessed at all – including impacts of visual, noise, air quality and water;
    - Greenhouse gas emissions which are not estimated in a manner that reflects the full cost of the mine (due to low applied values and externalizing over 99% of the cost);
    - Analysis that assumes impacts are less than base case or mitigated despite the significant increase in coal extraction and operating life of the mine;
    - Very conservative assumptions used to evaluate Stage 1 and 2 greenhouse gas emissions which in turn do not reveal the true cost of these emissions;
    - No effort made to value the legacy impact of fugitive emissions;
    - Externalising nearly all of the costs of greenhouse gas emissions which does not align with the

[3] Ibid, p 4
[4] Ibid, p18
[5] Ibid, p 4-5

NSW Government's policy position on greenhouse gases;

- Lack of quantification of any costs associated with noise, air quality, biodiversity, and heritage impacts of the proposal;
- Lack of quantification of the impact of this proposal on the Equine Critical Industry Cluster;
- Questionable quantification of the royalty stream to be derived from this project;
- Inflated company income tax assumptions;
- Lack of assessment and quantification of operational risks associated with the project.

2. **Mine plan which poses significant & unacceptable risks and impacts**, including:
   - Prolonged adverse environmental impacts for a further 22 years;
   - Increased intensity of generation of noise, air quality pollutants, blasting and water impacts;
   - Significant increase of more than 110 metres over and above the current approval to the Eastern overburden stockpile to a total height of 360m – causing significant visual impacts visible from the towns of Muswellbrook, Aberdeen and the New England Highway;
   - Single continuous mining pit (by some 5.75km and deeper than currently approved in the Northern pit by 85 metres – increasing groundwater impacts compared to the current approval;
   - Creation of a final void which will take some 300 years to fill and 500 years to achieve equilibrium as well as increased salinity year upon year;
   - Construction of two additional mine water dams with potential impacts to pollute clean water catchments and downstream flows in Sandy Creek;
   - Doubling of capacity of the tailings dam, which will be materially different in design and operation to that originally proposed, with consequent impacts on ground and surface water systems;
   - Underestimation of potential noise impacts – including through daily rail movements and the doubling of blasts per day compared to the current approval (representing a 60% increase in total weekly blasting);
   - Operating and capital costs which appear to be at the lower end of the cost curve for mines in the Hunter Valley – biasing the assessment in favour of the mine;
   - Lack of any commitment to reduce off-road diesel emissions.

3. **Air Quality Impacts exacerbating an already dangerously dusty environment**:
   - Lack of a robust and responsible cumulative air quality assessment;
   - Data sets that have been assessed in isolation rather than on a cumulative basis - this in itself is recognition that cumulative impacts will exceed acceptable standards;
   - Flawed background air quality parameters incorrectly attributing air quality impacts (both PM10 and PM2.5) to other mine operations or non-mine sources;
   - Implausible suggestions of no predicted air quality exceedances despite a doubling of mining output (and associated dust and air pollution) and contemporary data relating to the diminishing air quality in both Muswellbrook and Aberdeen since Mt Pleasant commenced operations in 2016/17 which demonstrate continuing trends towards exceedances of annual and 24 hour criteria for both PM 10 and PM 2.5;
   - Calculations of direct fugitive (Scope 1) emissions which are potentially incorrect by a factor of 5 (when compared with National Greenhouse Accounts factors) with no explanation provided to justify this discrepancy. No site specific data to account for sampling derived in 2012 (when the site was not operational). **The Department must request and make public the Rio Tinto internal memo of 2012 used by the Proponent to justify reducing greenhouse gas emission factors;**
   - Lack of clarity and accuracy around the measurement of Scope 2 emissions;

- The impact of all emissions (Scope 1, 2 and 3) on NSW's commitment to the Paris Agreement and NSW Government stated policies (including NSW Government's Net Zero Plan) particularly with respect to "*taking decisive and responsible action on climate change and fast tracking emissions reduction over the next decade and prepare the State to take further action in the decades to follow*"[6];
- At least 13 privately owned properties will potentially bear the impacts of exceedances of 24 hour average PM10 levels, affecting their property values and potentially triggering acquisition. This proposal exacerbates rather than mitigates an already dangerously dusty situation due directly to the Proponent's operations;
- Total Suspended Particles (TSP) for the Project range from 4,000 to 7,000 tonnes per year for 26 years. Surrounding mines are estimated to each emit up to 12,000 tonnes of TSP for these same 22 years. This is significant and unacceptable particulate matter being emitted into the atmosphere surrounding Muswellbrook and Aberdeen;
- The method of dust suppression proposed by the Proponent primarily relies on water applications to unsealed surfaces, stockpiles, coal hoppers and conveyor transfer points. This practices is not sustainable (particularly during droughts; and given existing stressed water systems and water scarcity) and certainly not best practice. Further it suggests that the measured PM10 levels may be significantly higher on a 24-hour basis with significantly more exceedances that are masked when averaging on an annual basis.

4. Deficient Water Analysis – Detrimental Generational Legacy:

Groundwater

- There is no comprehensive cumulative groundwater analysis. This masks and underestimates the true nature of groundwater impacts due to dewatering activities of various mines which will not be obvious for hundreds of years leaving a detrimental legacy for generations to come;
- Significantly underestimated combined effects on the Hunter River Alluvium, given the proximity of this and surrounding mines to the highly productive aquifer , with potentially significantly larger impacts than individual assessments suggest;
- Significant discrepancies between surface water balance and groundwater budget;
- Significant omissions in the Proponent's assessment of potential groundwater impacts during and post mining including:
  - Lack of any appropriate analysis of the potential risk to groundwater and groundwater quality as a result of water storage structures – such as waste dumps; fines emplacement areas; storage dams etc;
  - No assessment of current Mine Water Dam, Mine Water Dam 2, and Mine Water Dam 3, Fines Emplacement Area or Tailings Dump/s within the Groundwater Conceptualisation and Numerical Flow Model;
  - Each of these features represent significant potential contributors to groundwater recharge and significant potential sources of groundwater contamination.
- Impacts on groundwater and aquifer flows to the Hunter River and Sandy Creek due to poorly assessed and estimated impacts of potential mine related leakages;
- Unassessed potential impacts on groundwater dependent ecosystems (such as the Forest Red Gum Grassy Open Forest – Plant Community Type 618);
- Improbable conclusions suggesting no dewatering related drawdowns will occur despite evidence (including Figure 5.8 of the EIS water assessment) clearly showing the presence of a water table aquifer through the lease boundary and given this area will be dissected and removed as a result of this open cut mine;
  - Figure 5 indicates significant drawdowns (in excess of 100 metres) attributable to the Mt Pleasant Optimisation project alone;
  - This further highlights the significant problem with both the conceptualisation and

[6] NSW Net Zero Plan – Stage 1 2020 - 2030

groundwater modeling undertaken by the Proponent.
  - When combined effects of surrounding mines are observed, dewatering depths could exceed 200 metres.
- The area covered by the depressurized zone is vast and underlies the Hunter River, Sandy Creek (to the west), Kindgdon Ponds and Saddlers Creek (to the south). When considering the potential impacts of this project and the number of surrounding or proposed mines in the immediate area, it is astonishing that the total cumulative effects of depressurisation are considered acceptable by the Proponent in its EIS.

Surface water

- The surface water assessment lacks sufficient detail with which to assess key elements of the proposal.
- Based on currently available information it is not possible to make a fully informed decision regarding the water-related risks and potential impacts associated with the proposed project.
- Key hydrological information relied upon is over10 years old. In the ensuing period there have been significant changes in understanding regarding potential climatic/hydrologic risks associated with water resources generally and within the Hunter Valley specifically. As an illustration of the significant change in understanding and need for updated assessment, the Greater Hunter Regional Water Strategy (NSW DPI, 2018) has identified that:
  - Mine-related reductions in the base flows and also climate change, greatly increase the risk of drought.
  - Climate variability is much greater than has been observed.
  - The Upper Hunter is likely to experience less rainfall than previously used for water supply security estimates.
  - Climatic conditions similar to those experienced in the 1940s would see General Security allocations reduced to zero for approximately 12 consecutive years.
- Within this context, we find that there is significant uncertainty and lack of clarity in the available information, and specifically the information supporting the proposed project:
  - Project water balance assessment (based on outdated information over 10 years old) does not consider more recent, significant climatic/hydrologic conditions and updated understanding of the Hunter River catchment water supply scheme;
  - There is no indication that any form of model calibration or validation against real-world data has been undertaken;
  - There is no consideration of climate change impacts on project water supply, water management or flooding risks;
  - There is no clear or realistic understanding of the actual risk of events such as an uncontrolled or “emergency” spill from site as this is limited to a single “annual exceedance probability” over the life of the project;
  - There is a lack of meaningful consideration of the implications of a changing climate on both the sensitivity of the surrounding environment and water resources, as well as the viability of the Project itself along with the attendant risks associated with water security and potential for operational interruptions;
  - No meaningful assessment of flooding impacts.
- The post-Project plan represents an unacceptable legacy for the State and community.
  - The proposed approach leaves open mine pits which will gather water and become hyper-saline over time;
  - There is no meaningful assessment of the real risks and impacts of leakage/seepage of this water into the surrounding groundwater and surface water over the years to come.

- The final void management concept of leaving the voids open acting as a groundwater 'sink' - i.e. no outflows from the void, with inflows balanced by evaporative losses over time creates significant implications which include:
  - The formation of three (3) large volume, hyper-saline water bodies, located upstream of the alluvial aquifer which has been classified as 'highly productive' by the NSW Government via groundwater vulnerability mapping;
  - No confidence in model accuracy and representativeness.
  - It is not possible to properly assess with any confidence that significantly different final void behaviours could occur compared with those currently reported (e.g. higher final void levels), with associated risks and impacts to local and regional surface and groundwater resources.
- The site water balance is based on climate for the 1892-2012 period only and does not include the most recent ~10 years of climate/hydrology data.
  - The most recent 10 years represents a significant period of climatic and hydrologic variability, including several historically extreme dry years, which cannot be justifiably dismissed or ignored when considering supply and management risks over the next 25-30 years.
- The description of held water entitlements is based on an assumption of all entitlements available/held by the mine operator being available for mining use at all times. It is also unclear how (or whether) the availability of water under General Security Entitlements (GSE) has been incorporated into the assessment.
  - Available Water Determinations for GSE within the Hunter system are highly variable and do not support uninterrupted supply during dry to very dry climatic conditions.
  - It is unclear if the impacts on surrounding agricultural properties, also relying on these resources has been adequately assessed, and/or whether water entitlements are over-estimated.
- The reporting of "annual exceedance probability" as the only measure of risk of potentially high impact events such as uncontrolled discharge to the receiving environment is potentially misleading and gives an unrealistic impression of actual risk/probability over the proposed project life.
- The reported project water supply/management and (in particular) quantified values for water movements onto, within and off the project site are seemingly based on a summary of previous assessment outcomes, rather than any updated, project-specific analysis and understanding.
- There have been a number of significant water supply -related studies undertaken specifically for the Hunter River system over the past several years which show critical outcomes for any activities relying on water that have not been recognised or accounted for within the project assessment. Of particular note, the Greater Hunter Regional Water Strategy, developed by the NSW Department of Industry, makes the following key findings:
  - Drought security was confirmed as the primary economic risk facing the Upper Hunter. This risk extends to all sectors, including urban, agriculture, mining and power generation;
  - Analysis of historical rainfall patterns shows that droughts have been under-estimated in the Upper Hunter and a stronger variation in rainfall occurs across the Greater Hunter region;
  - A repeat of the 1940s drought (the worst on record) would see general security water allocations reduced to zero for approximately 12 consecutive years.
  - Analysis of the variability of climate indicates that the 1940s drought may occur on average 1 in 40 years;
  - Reductions in the base flows of rivers have occurred, and will continue to occur, as mining intercepts surface runoff and lowers groundwater levels near rivers;
  - The proposed closure of Liddell Power Station in 2022 will not significantly mitigate the risk of failure of supply to water users in the Hunter Regulated River.
- The above clearly indicates the need for a contemporary, thorough and rigorous understanding and assessment of the water supply risks associated with any project, particularly the proposed Mt Pleasant Optimisation project.

- Lack of assessment of cumulative impacts: Herron et al (2018) in their regional impact assessment indicate potentially significant risks to hydrological conditions, within the Mount Pleasant project area and surrounding catchment located within specifically delineated zones of potential change (reproduced in Figure 1, noting Mount Pleasant is located to the immediate west and north of Muswellbrook).
- Directly relevant assessment outcomes of Herron et al (2018) include:
  - Modelling that indicates potentially large changes in flow regime in Wyong River, Loders Creek, Saddlers Creek, Wollar Creek and a number of ephemeral creeks, with some of the areas predicted to be impacted the most (eg. "50% chance of exceeding an increase of more than 200 low flows days per year") associated with Dartbrook and surrounding projects.
  - Changes in water availability in the Hunter Regulated River at Greta are very likely (greater than 95% chance) to exceed 5 GL per year, but very unlikely to exceed 12 GL per year, over the period 2013 to 2042 – with implications for water security and supply reliability.
- In this respect, it is important to note that the proposed Mount Pleasant Optimisation Project will contribute to the extension and movement of the existing zone of hydrological impact.
- **In our view, the water related risks and impacts of this proposed project (including cumulative impacts and impacts on surface and groundwater sources) have not been comprehensively assessed as required by the SEARs and NSW Government policy and should be the subject of a comprehensive cumulative assessment prior to the consideration and determination of this proposal.**

Figure 1 – Zone of potential hydrologic change (Source: Herron et al. 2018)

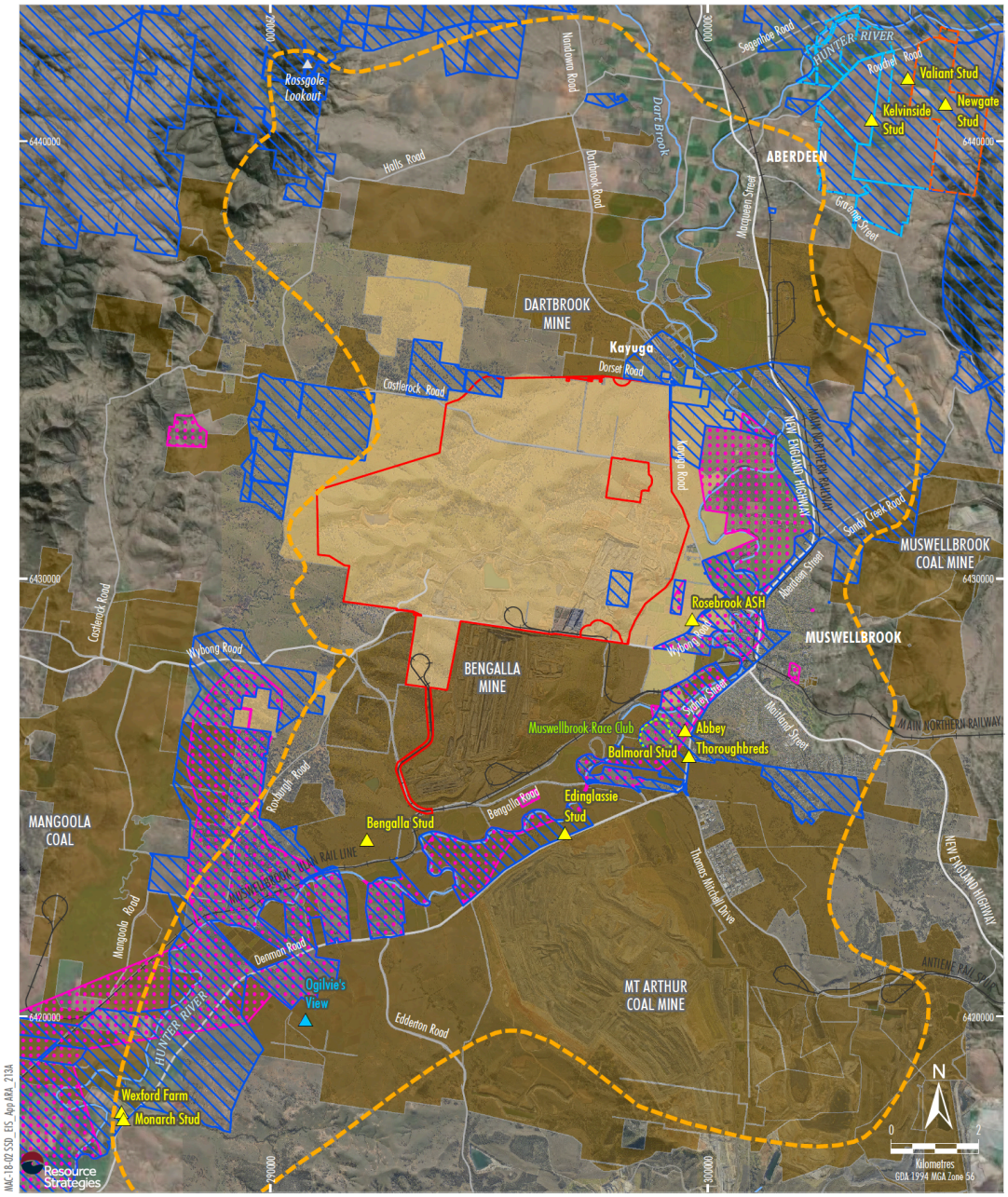
5. Unacceptable, Unavoidable & Deleterious Visual Impacts

- The Mount Pleasant Operation is located in the Upper Hunter in close proximity to the towns of Muswellbrook and Aberdeen and Upper Hunter thoroughbred breeding operations.
- The Hunter Valley is defined to the north by the Barrington Tops National Park and to the south by the Wollemi National Park with the Hunter River flowing through fertile alluvial floodplains between these ranges.
- The importance of the Hunter River landscape, that includes and surrounds the Mount Pleasant site, is internationally acknowledged as an area of unique agricultural, cultural, scenic and visual importance.
- Open cut coal mining has the largest impact of any land use in a rural setting and given its close proximity to towns and international thoroughbred breeding operations in the Upper Hunter it is recognised as one of the most incompatible, intrusive and damaging land uses.
- The proposed Mount Pleasant Operation is located as little as 2km from towns and will visually impact many sensitive receivers including residential dwellings, schools, shops and will be visible from roads, including the New England Highway.
- It will represent the closest and most visually impactful mine operation in the area, bringing mining to the front door of our towns, impacting existing panoramic views across the Hunter Valley and permanently and negatively impacting the current cultural and scenic landscape while dissuading future investment in the region (particularly in thoroughbred breeding and tourism activities).
- Only 3 viewpoints have been considered by the Proponent's visual impact assessment (VIA) with no discussion of the impact on the wider landscape across public and private domains which has existed for more than two decades.
- This is a serious omission in the current VIA. **The Department must require the Proponent to present further analysis of all potentially affected viewpoints (public and private across both towns, Aberdeen and Muswellbrook and surrounding land uses) including photomontages to properly compare current approved landforms in 2026 versus the proposed expansion (with and without development) and simulations (including the depictions of shortened views for the town's residents and the alteration of sunsets and layered blue hills changing colour throughout the day).**
- The proposed waste rock emplacement landform will dramatically change the landscape character, and reduce views to between 2 and 4km instead of the current 20+km to distant hills and the horizon.
- The proposed "waste rock emplacement landform" or overburden dump will be 6km long and 360m high and run parallel to the New England Highway. This is a massive visual impact that is totally unacceptable. It will damage and irreversible change the character and landscape of the Upper Hunter.
- The Proponent's suggestion that "effective rehabilitation" will achieve "very low to unperceivable" visual impacts in the long term is not believable. Not only because of the permanent damage and fundamental change to the existing rural character and landscape this mine proposal will create, but also because it relies on favourable weather patterns for in excess of two decades to assist the establishment and growth of the rehabilitation.
    - A severe drought followed by bushfire (as we have recently experienced) would suggest that questions are raised about the efficacy and resilience of this suggested rehabilitation strategy, in addition to the serious limitations associated with a 6km long 360 m high waste rock emplacement legacy.

- The Proponent's VIA dismisses the dust, fugitive blast gases, noise, and smell impacts emanating from the mine for over two further decades of mine operation as not significant and manageable during normal operations of the mine. We respectfully disagree.
- Past experience of these mine impacts on people living and working around and near open cut mines indicates that this will not be the case and that the significant increase in mining operations proposed will have direct, indirect, static and dynamic impacts on residents, rural operations and visitors to the area.
- **The massive scale of the visual impacts of this proposed project alone are a strong case for its refusal.**

6. Equine Critical Industry Cluster

- As evidenced by the Proponent's own analysis, (including Figure 4 of the Mount Pleasant Optimisation Project – Agricultural and Land Resources Assessment reproduced below) mapped critical equine industry cluster strategic agricultural land is located within and surrounding the mining lease boundary.
- This Equine Critical Industry Cluster has been recognised by the NSW Government and internationally, nationally and state significant. The ECIC land has been mapped and promised heightened protection (for current and future growth) by the NSW Government and protected from coal seam gas mining.
- The most proximate privately owned thoroughbred studs in the near vicinity are Godolphin (Kelvinside Property), Newgate studs. They and all other proximate studs and broodmare farms will be directly affected by this proposal – including but not limited to threats posed by dust, noise, blasting, water, and reputational risks to their operations and future investment attractiveness of the surrounding region.
- The Proponent's EIS does not adequately assess the potential impacts on these thoroughbred breeding operations and the equine industry cluster as a whole emanating from this proposal.



LEGEND

- Mining Lease Boundary (Mount Pleasant Operation)
- Primary Visual Catchment Boundary
- Equine Enterprise
- Viticulture Enterprise
- Muswellbrook Race Club
- Kelvinside Stud (Darley Australia Pty Ltd)
- Newgate Stud (Newgate Farm Nominees Pty Ltd)

Strategic Agricultural Land

- Equine Critical Industry Cluster
- Viticulture Critical Industry Cluster

Relevant Mine Owned Land

- Mount Pleasant-controlled
- Other Mine-controlled

Source: MACH (2020); VPA (2020); NSW Spatial Services (2020)
Orthophoto: MACH (2020); Esri, DigitalGlobe (2020)

MACHEnergy

MOUNT PLEASANT OPTIMISATION PROJECT

Equine and Viticulture Enterprises in the Vicinity of the Project

Figure 4

7. Unacceptable Impacts that cannot be avoided, mitigated or managed

- We remain concerned with the potential and significant impacts of this mine on cultural and aboriginal heritage in the region.
- Further we are conscious that the significant risks posed by this proposed development cannot be avoided, mitigated or managed and once the damage is done it will be irreversible.
- In this regard, we note that the Mount Pleasant Operation has breached their consent conditions consistently over the past three years (where audits are available on the Protection of the Environment Operations register).
- These breaches included 10 breaches of PM10 air quality not being monitored continuously, dust breaches triggering a shut down of the operation; seepage from environmental dams; and a $15,000 fine following a botched blast releasing toxic fumes which the EPA described as "vile and offensive" and contained nitrogen oxides which could be harmful to people's health. As was publicly reported, "this incident was predictable and preventable and the community should not have been impacted in this way."
- Details of these breaches can be found at: https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?id=20850&option=licence&range=POEO%20licence&searchrange=
- These are not the actions of a responsible mine operator and they demonstrate clear examples of unacceptable risk associated with mining, particularly in close proximity to towns and other agricultural activities.

8. Diversification & Transition

- This proposal runs counter to many Government policies articulated in the Strategic Regional Land Use Plan for the Upper Hunter, the Hunter Regional Plan 2036 and the Government's Net Zero Plan – and indeed the Government's Strategic Statement on Coal Exploration and Mining in NSW.
- This is particularly the case in regard to the protection of the Hunter's equine critical industry cluster and the need for:
  - The protection of the environment,
  - Diversification and regional resilience,
  - An need to end land use conflicts,
  - Balanced and responsible development,
  - A transition away from coal to more sustainable energy sources and reducing emissions, including from coal mining, to achieve the Government's commitment to net zero emissions, and
  - The application of the principles of Ecologically Sustainable Development, particularly with respect to inter-generational equity.
- In our respectful submission, this proposal does not represent responsible development, is not in the public interest and should be refused.

Yours sincerely

Dr Cameron Collins
President

Attachment 1

THE HUNTER VALLEY'S THOROUGHBRED BREEDING INDUSTRY

The Hunter Valley's Thoroughbred Breeding Industry is one of only three international centres of thoroughbred breeding excellence in the world alongside Kentucky in the USA and Newmarket in the UK.

It is the largest agricultural industry and employer in the Hunter region – supporting some 6,000 jobs in the Hunter and contributing over half a billion dollars of value added to the region every year. [7]. The industry is vertically integrated, interdependent and concentrated in a critical mass in the Upper Hunter Valley. It contributes over $5billion to the national GDP and $2.6 billion to NSW economy every year. Tables outlining the state and regional economic significance of the industry is included at the end of this attachment.

The industry is recognised by the NSW Government as being of state and national significance and one of two critical clusters in the Hunter Valley (equine and wine). NSW Government policies, including the Upper Hunter Strategic Land Use Plan and the Hunter Regional Plan 2036 both recognise the importance of the industry and prioritise the protection of the Equine Critical Industry Cluster to allow for expansion of the industry[8].

The impacts of this proposed mine (direct and indirect, static and dynamic) will affect the nearby towns of Muswellbrook and Aberdeen, the local landscape and topography, adding to the cumulative impacts of mining in this area, including its environment, character and reputation.

The global thoroughbred breeding industry is extremely competitive and investment is highly mobile. Reputation and brand are paramount to attracting investment and retaining clients. This is reflected in every aspect of a world scale stud's appearance and operation – from the approaches, surrounds, locality and throughout every acre of the stud's operation.

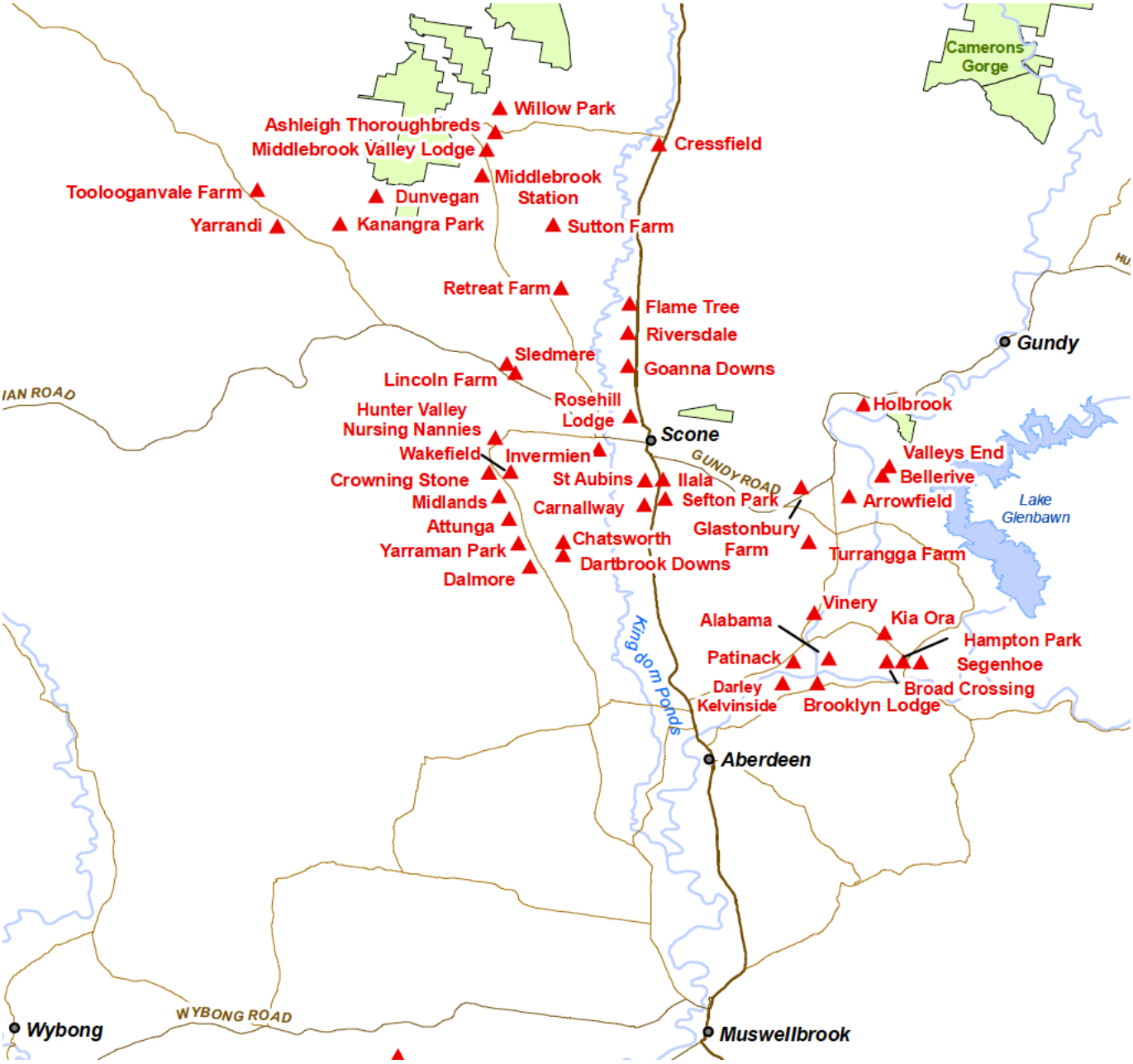
The production of elite equine athletes requires a unique operating environment combining scenic landscape, plentiful clean water, clean air, rich soils and a varied undulating terrain to produce and develop young equine athletes into the champions of the future.

Many studs and broodmare farms, including Godolphin's Kelvinside stud farm, the Newgate Stud, Arrowfield Stud, Kia Ora Stud and Vinery Stud are located in the Upper Hunter Valley, including the Segenhoe Valley, where all of the above characteristics are present.(map below). Any threat to this environment (perceived or real) will threaten the fundamental basis of the business model upon which this industry is based.

[7] See also IER 2014 Report *Size and Scope of the NSW Racing Industry,* commissioned by the NSW Government http://www.olgr.nsw.gov.au/pdfs/racing/NSWRacingStudy_lowres.pdf

[8] See for example*, Hunter Regional Plan 2036*, p 70 Regional Priorities

MAP OF THOROUGHBRED BREEDING STUD AND BROODMARE FARMS UPPER HUNTER (NEAR ABERDEEN)



HUNTER VALLEY THOROUGHBRED BREEDING INDUSTRY ECONOMIC SIGNIFICANCE

Internationally Significant	
1 of 3	International Centres of Thoroughbred Breeding Excellence in the World – alongside Kentucky in the USA and Newmarket in the UK
1 of 2	Recognised and mapped critical industry clusters in NSW and recognised as internationally significant by NSW Government (2012).
Largest	Concentration of thoroughbred studs in the world outside Kentucky USA
Largest	Australian producer & supplier of premium thoroughbreds
Largest	Australian exporter of premium thoroughbreds, representing:
Nationally significant	
$5b	Contribution to national GDP annually
230,000	Jobs generated and sustained nation wide
Critical Industry Cluster	Recongised by NSW Government as nationally significant industry; mapped and legislated critical industry cluster in 2012/13; protected from coal seam gas mining (2012/13); and earmarked for heightened protection generally.
State Significant	
Critical Industry Cluster	Recongised by NSW Government as State significant industry; mapped and legislated critical industry cluster in 2012/13; protected from coal seam gas mining (2012/13); and earmarked for heightened protection generally.
$2.6b	Contribution to NSW economy annually
53,696	People employed or participating in thoroughbred breeding and racing in NSW
34,000	People directly involved in breeding, racing or training in NSW
21,837	Thoroughbred owners in NSW
134	Racing Clubs in NSW
$175m	Investment in NSW Racing infrastructure underpinned by the quality of bloodstock & racing product produced in the NSW Hunter Valley

HUNTER VALLEY THOROUGHBRED BREEDING INDUSTRY REGIONAL SIGNIFICANCE

Regionally Significant	
55% +	Of the $2.6b total value added occurs in regional NSW
Largest	Agricultural industry in the Hunter Valley:
2 times	The value of irrigated agriculture
4.5 times	The value of dairy
10 times	The value of meat and cattle
200	Stallion and Broodmare farms
Sophisticated	Network of equine support industries dependent on Hunter Valley stud farms – including farriers, fodder producers, saddlers, equine transport companies and the Southern Hemisphere's largest equine veterinary practice, Scone Equine Hospital
Significant Regional Employer	
42,586	Employees and participants in regional NSW:
• 5,745	in the Hunter
• 10,159	in Sydney
• 5,633	in Western Sydney
• 9,693	in Mid North Coast, Central Coast, Illawara, Southern Inland and South Coast
• 11,356	throughout the rest of regional NSW
Significant Regional Investor	
$5b +	Invested in the Hunter Valley's thoroughbred breeding industry in the past 10 years (and rising)
85%	Of breeders' operational expenditure occurrs within the local region.

SOURCE: IER Pty Ltd Report 2006; IER Pty Ltd Report 2014, Marsden Jacob Associates Report 2014, Australian Stud Book

HUNTER VALLEY THOROUGHBRED BREEDING INDUSTRY
HUNTER AT A GLANCE

Hunter At A Glance	
470	Breeders
5, 745	Employees and Participants*
6	Race Clubs
78	Race Meetings – including the only Saturday Stand Alone meeting in regional Australia
595	Races
3,080	Racing Club Members
100,416	Attendances
$564.6m	Value added injected in the local economy by the thoroughbred breeding & racing industry

* Participants are the lifeblood of the industry. They provide investment, time, skills and passion that underpins the horse racing industry in the State.

Source: IER Pty Ltd, Size and Scope of the NSW Racing Industry, 2014

HUNTER VALLEY THOROUGHBRED BREEDING INDUSTRY
SYDNEY AND WESTERN SYDNEY AT A GLANCE

Sydney At A Glance	
10,159	Employees and Participants
3	Race Clubs
66	Race Meetings
494	Races
7,550	Racing Club Members
291, 858	Attendances
$11.1 billion	Value added injected into the economy by the thoroughbred breeding & racing industry

Western Sydney At A Glance	
5, 633	Employees and Participants
1	Race Club
76	Race Meetings
392	Races
8,149	Racing Club Members
237, 411	Attendances
$321.9 million	Value added injected into the Western Sydney by the thoroughbred breeding & racing industry

* Participants are the lifeblood of the industry. They provide investment, time, skills and passion that underpins the horse racing industry in the State.

Source: IER Pty Ltd, Size and Scope of the NSW Racing Industry, 2014