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#### SUBMISSION

#### HUNTER VALLEY OPERATIONS – ENVIRONMENTAL IMPACT STATEMENT

HVO NORTH OPEN CUT COAL CONTINUATION PROJECT

HVO SOUTH OPEN CUT COAL CONTINUATION PROJECT

#### SSD APPLICATION NUMBERS:

SSD – 11826681

SSD – 11826621

## EXECUTIVE SUMMARY

Coolmore Australia welcomes the opportunity to comment on Hunter Valley Operations (HVO) Environmental Impact Statement (EIS) for both HVO North and South, State Significant Development Application Numbers SSD – 11826681 and SSD – 1182662.

Coolmore is one of the two leading, thoroughbred breeding and racing operations in Australia and the world, at the epi-centre of the Hunter Valley's Equine Critical Industry Cluster and is located at Jerrys Plains, some 3km only away from the HVO Open Cut Continuation Project.

Coolmore is not opposed to mining and does not make a practice of objecting to mining proposals unless they directly impact our operations.

Based on the limited time we have had to review over 5,000 pages of this EIS, the information contained in the EIS and advice from our experts, we currently object to the HVO Project.

The fundamental reasons for our objection include a lack of detail upon which we can assess potential impacts; significant air quality, noise and blasting impacts which will directly and demonstrably impact on our properties and operations; serious surface and groundwater impacts, including breaches of the Aquifer Interference Policy; [add visual comment]; and the lack of cumulative assessments that would aide a proper assessment of this Project.

We have had constructive dialogue with representatives of HVO and trust we can continue that dialogue to help shed light or resolve concerns we have with the Open Cut Continuation Project.

The following presents information on our operations, comments on our environmental and operational concerns and requests further information which we trust will be provided in the course of this assessment process to enable the adequate assessment of this EIS and an informed decision.

## 1. COOLMORE AUSTRALIA

### 200 Year Heritage

Thoroughbred breeding has a proud, revered, and continuous heritage at the Coolmore site (formerly known as the Arrowfield estate) dating back nearly 200 years.

The site was settled and lived in by first settler and horse breeder George Bowman in 1824. By 1912 the property had been purchased by the Moses brothers, Fred and William, a leading pastoral family who saw the pastoral, agistment and horse breeding potential of the farm and developed it into one of Australia's premier studs producing champion thoroughbred racehorses, champion sires and world class mares.

### Leading Operation on Prime Agricultural Land

Today, the Coolmore stud farm consists of almost 10,000 acres of strategic agricultural land – Equine Critical Industry Cluster – including over 5,000 acres of irrigated river flats, undulating paddocks and pastures that are amongst the highest quality in Australia.

Coolmore Australia is part of the Coolmore global thoroughbred horse-breeding and racing operation one of the world's largest commercial thoroughbred breeding enterprises with stud farms in Australia, Ireland and the USA.

Coolmore Australia directly employs up to 150 people of whom some 92 reside on the farm in 60 residences. These employees have made Coolmore a permanent home for their young families.

Coolmore trades with over 160 suppliers in the Upper Hunter. Coolmore and its resident family community are an integral part of the fabric and history of Jerrys Plains and the Upper Hunter region.

The farm is also home to up to 1000 individual horses and up to 800 head of cattle at any given time.

Some of Australia's greatest ever racehorses have been raised and grazed on Coolmore including the 1920's Melbourne Cup winner Poitrel, 1920's champion racehorse and sire Heroic, to modern day champion racehorses and champion sires such as Fastnet Rock, Redoute's Choice, Pierro and Winx (the horse that stopped the nation).

### Epi Centre of Australia's Breeding and Racing Operations

Coolmore, together with our neighbour Godolphin, represents the largest areas of prime agricultural land in the Hunter region and the largest breeding and racing operations in Australia and globally. We are THE market leaders both in Australia and world-wide.

In Australia our operations represent some 50% of the market – measured by our progeny in the sales rings and on the racecourse. The progeny of our stallions are highly successful, highly valuable and coveted by domestic and international breeding and racing interests domestically and internationally.

Our operation is recognised by the NSW Government as state significant. At least five Independent Planning Assessment Commission panels have recognised the critical importance of our operations (and Godolphin's) to the functioning of the equine critical industry cluster (Equine CIC). We are recognised as the "epi centre" of the thoroughbred breeding industry in NSW and Australia, "pivotal" to the sustainability of the Upper Hunter Equine CIC and "the most important of all core businesses within the Equine CIC" because of our size and market share. We are the largest international scale thoroughbred studs in Australia and have economic and reputational significance to the region, NSW and Australia.

### Protection from Open Cut Mining

For these and other reasons, Independent Planning Assessments have concluded that international thoroughbred breeding operation and open cut coal mines are incompatible in close proximity and have recommended we should be afforded "total protection" from the impacts of mining.

## 2. HVO CONTINUATION PROJECT

The Hunter Valley Operations Continuation Project (HVO) North and South operate as one integrated complex under 2 separate approvals. Our submission relates to State Significant Development applications for both HVO North and South.

Broadly, HVO is seeking State Significant Development (SSD) approval to:

- Expand life of current approvals:
  - i. HVO North: from end of current approval in 2025 to 2050 (25 years);
  - ii. HVO South: from end of current approval in 2030 to 2045 (15 years);
- Continue mining across the complex to optimise resource recovery from the existing operations by:
  - i. extracting coal from deeper seams at HVO North by mining through previously mined areas and within the extent of the existing mining tenements;
  - ii. extending the life of mine at HVO South to enable improved mine sequencing outcomes.
- Extract an additional 400 Mt of ROM from deeper seams and increase mining between the West and Mitchell Pits and Carrington Pit.

In its EIS HVO describes this application as a continuation of their brownfield's operations, within the context of low intensity cattle grazing as the prevailing agricultural land use of the locality.

HVO acknowledges that Coolmore's horse paddocks (and therefore operations) are located some 3km from their operations and concludes that their expansion is not predicted to result in significant adverse impacts on surrounding agricultural land.

Preliminary advice received from experts in the fields of mining, air quality, water, noise blasting, and visual impacts suggest that the HVO Open Cut Coal Continuation Project could result in significant and unassessed environmental and operational impacts.

While we are committed to working with the company and the Department to better understand the impacts of this proposal, based on the information at hand, we currently oppose this application for the reasons set out in this submission.

### 3. ENVIRONMENTAL IMPACTS

Air quality, water quality and security, noise, blasting and visual impacts are significant matters for our operations, the health and safety of our people and horses, for our clients and their investment decisions, and our reputation.

Coolmore and the Upper Hunter's Equine CIC operates on the basis of a "clean, green and serene" business model to produce the best equine athletes on the best land in Australia and the world. Any threat to the environment in which we operate, particularly by open cut coal mining in close proximity, could have devastating impacts on our operations and our industry.

Within the short period of time we have had to comment on the HVO Open Cut Coal Continuation EIS we provide the following concerns and trust that every effort will be made by the Department, Departmental agencies and HVO to address them so that we and the public are better informed of the potential impacts of the HVO Open Cut Coal Continuation project prior to determination.

#### 3.1 Deficiencies in Mining Data Prohibits Proper Evaluation

The HVO EIS presents the impression that this Project is "business as usual" yet there is a very significant increase in mining intensity at HVO North (the closest to Coolmore) the impacts of which have not been fully revealed nor adequately assessed in terms of their impacts to our operations.

There is a very significant increase in the EIS Annual Material Movement when compared to current activity levels. On overburden alone, the annual increase by Year 18 of the Project will be a 79% increase from the 2022 forecast. Figure 7.1 in HVO's EIS Main Report presents a graph for overburden waste but no figures on an annual basis are presented and it is not clear to us how the EIS assessment, including in this particular case, complies with the SEARs requirements.

In order to assist in the evaluation of this Project, including flow on impacts to air quality, noise and blasting, HVO should provide the following information:

- Separate production schedules for HVO North and HVO South and Combined in both tabular and graphical format showing yearly production data;
- All coal data should be shown in tonnes;
- Equipment lists should be made available showing planned numbers and types of equipment annually for the current operation (2022) and for the 5 EIS assessment years (ie Years 3, 7, 18 and 22).

It is not clear why HVO is not applying best practice to all Project equipment such as:

- Noise attenuation; and
- best diesel particulate emissions reduction technology.

These should be minimum standards upon which all mining companies should operate in today's environment – particularly when they are operating in close proximity to towns and sensitive operations such as ours.

### 3.2 Air Quality Impacts

#### PM<sub>10</sub> and PM<sub>2.5</sub> Exceedances

It is well documented that air quality in this region is already poor. 24 hour background PM<sub>10</sub> exceeds, or is close to, the current 24 hour NSW Impact Assessment Criterion (IAC) for PM<sub>10</sub> of 50 micrograms per cubic meter.

There are no PM<sub>2.5</sub> monitors in the Jerrys Plain area. Our expert's advice, based on long term comparative PM<sub>2.5</sub> and PM<sub>10</sub> at Singleton, Camberwell and Jerrys Plains, the 24 hour and annual PM<sub>2.5</sub> concentration in Jerrys Plains are similar to other parts of the Hunter Valley and are already close to or exceeding the 24 hour NSW PM<sub>2.5</sub> of 25 µg/m<sup>3</sup> and the current annual NSW IAC PM<sub>2.5</sub> of 8 µg/ m<sup>3</sup> for all receptors in the Jerrys Plains area all year.

It is very concerning to note that the Project intends to release 14,616 tonnes of Total Suspended Particles (TSP) of dust every year and release some 4,917 tonnes of PM<sub>10</sub> and 764 tonnes of PM<sub>2.5</sub> every year. We cannot comprehend how an open cut coal mine project could be allowed to contribute such a significant amount (between 12 – 25%) of annual PM<sub>2.5</sub> concentration.

Monitoring Site D119 is the closest to Jerrys Plains and shows constant results at, or close to, the IAC limits for past ten years. HVO attributes this to “bush fires and dust storms”. However, the 2021 & 2022 data sets are missing. It is unclear why the 2021 data is not available, as these would provide a clear indication of the quality of the air in and around the coal mining towns in the Upper Hunter post bushfires and dust storms.

The HVO EIS identifies a property in Jerrys Plains (receptor 308) that, as a result of this project, will have increased air quality impact risks and has been identified and earmarked as qualifying for air quality acquisition rights. It should be noted that this is an indicator of the potential impacts on Coolmore.

Jerrys Plains sensitive receptors R308 and R321 are now predicted to be impacted by fine particles (PM<sub>10</sub> and PM<sub>2.5</sub>) with a peak at Year 11 of the Project. These receptors now qualify for the VLAMP acquisition criterion. (Refer Table 8-4 EIS). Can HVO advise why the Project’s dust emissions and impacts cannot be managed for 11 years given the significant impact this will have on neighbouring properties including our own?

We note that 24-hour PM<sub>10</sub> ambient air quality at Jerrys Plains has exceeded criterion limit every year from 2013-2020 except 2016. And exceeded six times in 2013 and 2014. This is not an acceptable situation for the residents of Jerrys Plains.

#### Questionable Assumptions

Figure F1 of Appendix F in the Jacobs Air Quality Assessment report uses 2014 as the baseline reference and representative year. In this Figure HVO maintains the background as constant for the life of the 25-year continuation. This requires explanation as it does not seem a credible assumption upon which to base air quality assessment. Specifically, please advise which emission sources have been included in



this assumption over the life of the Project and why HVO emissions remains exactly the same as in 2014 for the total project to 2050?

The claims that ROM per annum is fairly constant over the life of this project, in contrast to the significant amount of waste and overburden and its impacts on air quality, dust emissions and the exponential release of gasses as mining deepens, need to be clarified and supported by detailed data broken down year on year.

The predictive dispersion modelling for the Project is not anticipated to change the outcome (that is, 1 to 6 days of exceedance of PM10 criterion limit). (Refer Table 8-10 EIS). Does this outcome change over life of the Project? Are more exceedances expected?

#### Deficient Mitigation

HVO primarily relies on water applications to unsealed surfaces, stock piles, coal hoppers and conveyor transfer points to suppress dust emissions. This is not best practice and data from current HVO mine activities has demonstrated that current practices are deficient. Given contemporary environmental standards, and the challenges of droughts, water conservation and climate change, HVO should be required to apply best practice emissions mitigation in all its operations.

Tables ES-1 and 8-9 in EIS present best practice air quality management for HVO. Furthermore, the EIS refers to HVO Air Quality and Greenhouse Gas Management Plan AQ-1 and a Reactive mitigation plan AQ-2. These define best practice and past performance.

The EIS states that the potential for exceedances is expected to be managed using existing management measures as demonstrated by HVO's air quality compliance history. Given past performance, why is HVO not using best practice management techniques and technologies to mitigate the Project's emissions?

Is water sufficient and appropriate to suppress dust emissions? Are the suppression efficiencies nominated supported by evidence? Please provide more information on this matter.

Best practice water sprays on ROM coal hoppers and fabric filtration on drilling rigs have not been implemented. Why not?

We understand that HVO appear to have accepted that their dust management plan is not effective enough and now operate a water tank cleaning and inspection program for private residences because of the amount of dust contamination being emitted from their mining operations. Is this correct?

### Greenhouse Gas Emissions

Scope 1 and 2 Greenhouse gas emissions as currently calculated in the HVO EIS for this project alone are significant (calculate by HVO to be equivalent to 1.26 bt of CO<sub>2</sub> equivalent) and have been underestimated as these emissions have been predicated on a 0.05t CO<sub>2</sub>e/t ROM as opposed to the National Greenhouse Account factor for this application of 0.061t CO<sub>2</sub>e/t ROM.

In addition to being underestimated, no measures have been proposed to minimise Scope 2 emissions.

Emission intensities increase as deeper seams are mined. Refer Tables 9-3 and 9-4 of EIS. Has this been accounted for in Scope 1 fugitive emissions?

### Lack of Cumulative Assessment

The HVO EIS, has not assessed the cumulative air quality impacts of this project in addition to other mining projects in the region, will cause. HVO maintains that while cumulative air quality impacts will be exceeded, the Project-only contribution will not be the reason for the exceedance.

The Hunter community hears this all too often. It is not credible, plausible or trustworthy. And the constant air quality alerts and exceedances tell a very different story. Residents and surrounding landholders deserve, and have a right to, know what the cumulative air quality impacts of this proposal will be.

It is concerning to note the EIS states that the "Project represents a brown field mining proposal that aligns with the strategic direction and policy objectives at a local, state

and national level". We question the validity of this statement given air quality in the Hunter Valley has diminished significantly (Refer Table ES-1 EIS).

### 3.3 Surface and Ground Water

A preliminary review of the HVO EIS surface and groundwater assessments reveals that they lack sufficient detail to assess key elements of the proposal. Based on currently available information, it was not possible for our experts to make a fully informed decision regarding the water-related risks and potential impacts of the Project.

#### Surface Water

To help improve our and others' understanding of these risks and potential impacts it would be helpful if the Department requests HVO to address the following:

- Baseline assessment to be contemporised and extended to include 2022 data. Currently key climatic and hydrological information relied upon is 10+ years old (up to 2012 only).

By assessing the predicted Project water balance and water management system performance only for pre-2012 climate data there is a material likelihood that the risks of insufficient Project water supply are under-estimated (i.e. due to under-estimate of the frequency, severity and duration of droughts into the future) as well as similar under-estimate of the risk of excess water beyond the water management system design/expectations. This has implications for Project water supply and water management system sufficiency.

- Contemporise water assessments to take account of well-documented, ongoing changes in the climate and hydrology of the Hunter River catchment. In order to provide sufficient understanding of climatic/hydrological conditions the Project will experience over the proposed extended life, the following should be addressed/assessed:
  - Mine-related reductions in Hunter River base flows;

- risks of drought and depletion of Glenbawn Dam water storage (also should be included in any water supply and water management assessment)
- Clarify the assumptions underpinning GSE availability within the assessment. (It is noted that climatic conditions similar to those experienced in the 1940s would see General Security allocations reduced to zero for approximately 12 consecutive years)
- More detailed information should be provided on risk of supply shortfalls and associated operational interruptions. For example:

The last paragraph in Appendix G “Water Balance Model Technical Background” states:

*“ ... the Project is heavily reliant on water extraction from the Hunter River during dryer years, with the entire HSE allocation typically being exhausted, however GSE allocations remain. There is therefore risk that if GSE allocations are reduced (due to low inventory in Glenbawn Dam), there is potential for water supply issues.”*

This is in contrast to the overarching water assessment reporting (EMM, 2022) which states:

*“The proposed WMS for the Project is predicted to maintain a sufficient water supply for the operation and discharge capacity to prevent flooding of operational areas of the mine”*

- More detailed information on the reasoning and consequences of the proposed approach to leave open mine pits which will gather water and become hyper-saline over time should be provided together with an assessment of the risks and impacts of leakage/seepage of water from open mine pits into the surrounding groundwater and surface water over the life of this legacy.
- An assessment of a series of potential final void behaviour scenarios which could occur compared with those currently assumed (e.g. higher final void levels), to

allow for an assessment of the associated risks and impacts to local and regional surface and groundwater resources.

- According to HVO's EIS, the final void management concept is to leave the voids open and acting as a groundwater 'sink' - i.e. no outflows from the void, with inflows balanced by evaporative losses over time. The implications of this conceptual plan includes the formation of two large hyper-saline water bodies.
- More detail on potential flooding levels as they relate to the final open voids and whether exclusion bunds required during the operational phase will remain post-operation.
- Clearer flood mapping/cross-sections showing estimated flood levels and final open void levels to demonstrate risk of breach/inflow of Hunter River flow into the open voids during large to extreme flow events. Any risk of uncontrolled inflow in the open voids would represent a major environmental issue for both the operational life of the Project as well as long-term post-closure.

## Groundwater

The HVO Open Cut Coal Continuation Project has the potential to have direct and indirect effects on groundwater resources including:

- Changes to watertable and piezometric head in the immediate and surrounding area, with potential cumulative impacts due to neighbouring approved projects;
- Changes to groundwater quality;
- Changes to groundwater levels at third-party bores;
- Changes to interaction with surface water, including baseflow and river leakage to groundwater, which may affect aquatic ecosystems and/or habitats; and
- Direct and indirect effects on Groundwater Dependent Ecosystems (GDEs).

## Breach of the Aquifer Interference Policy

Maximum Cumulative Drawdown due to Climate Change results for the Hunter River and Wollombi Brook alluvials reveal potential drawdown of in excess of two (2) metres within the alluvials which contravenes drawdown limits of the NSW Aquifer Interference Policy (AIP). It should also be noted that the HVO EIS Water Assessment Report also indicates cumulative drawdowns in excess of five (5) metres. (Figure 8.1 shows the predicted drawdown on the Wollombi Brook Alluvium and reports a peak cumulative Drawdown of up to 5 metres) also in contravention of the AIP. This drawdown is attributed to the continued extraction of groundwater from the Lemington Underground Mine.

The use of “approved only” model scenario and “incremental drawdowns” in this respect confuses the reader and it is not clear what the likely impacts of a maximum of 2 or 5 meters within the alluvials of the Hunter River and Woollombi Brook would be, other than significant and a breach of the AIP. The lack of cumulative analysis is concerning as the realistic drawdown could be significantly more if the cumulative drawdown of approved mines was assessed. Consequently, in our view, the use of the term “incremental drawdown” serves to highlight that, not only does this Project result in a serious breach of the AIP, the potential impact reported in the EIS does not indicate the full potential impact of this project to the alluvial aquifers.

## Surface and Groundwater Interaction

The HVO EIS presents confusing information on the conceptual relationship between the alluvials and the Permian stating in the Executive Summary that the “alluvials are effectively disconnected from the Permian with water levels maintained within the alluvium by rainfall recharge and river leakage” but modelling showing river flows and base flow losses increase every year for the modelling period (2025 – 2051). The scenario of the Hunter Regulated River – Upstream Gennies (Zone 6) revealing the total loss to river flow equates to 394 ML/year and a loss to alluvial groundwater of 389 ML/yr and demonstrating a clear relationships between the Alluvial Aquifer and the Permian.

## Groundwater Use and Monitoring

Given the length of HVO operations, definitive groundwater use is not known for the HVO mine sites as models have been constructed and calibrated on seemingly unconfirmed inflow figures.

It is not clear why groundwater monitoring before 2000 has not been included in the EIS. This raises questions whether this is purely an oversight, or due to a lack of information of the groundwater conditions in this area. Given the importance of understanding the project's long term and cumulative impacts to groundwater it would be helpful if HVO could provide statistics that confirm actual groundwater use and historical groundwater monitoring data.

## Final Voids

We note that water salinity in the Final Voids is predicted to equate to the salinity of seawater after 1000 years and eventually become hypersaline.

Given the significant and long term legacy of final voids, it would be helpful if HVO could advise the Department, ourselves and the community of the feasibility of filling in final voids to mitigate environmental impacts.

## 3.4 Noise and Blasting

Noise and blasting are significant concerns for Coolmore, particularly given the proximity of the HVO Open Cut Coal Continuation Project to Coolmore's operations at Jerrys Plains. Our concerns include, but not limited to, the health and welfare of our staff, the families that reside on our property, our horses and the impact noise and blasting could have on our day-to-day operations and the view of our clients.

In their EIS HVO has identified six (6) new sensitive receptors near Jerrys Plains that will be affected by noise and blasting and that are not currently entitled to voluntary mitigation rights. 5 of those sensitive receptors are on Coolmore property, three of which house farm residents and their families.

It is of significant concern to Coolmore that HVO's EIS demonstrates non-compliance with operational project noise limits and does not acknowledge the existing ambient

noise levels and the impacts of increasing ambient noise levels by 10 – 15 dB during night time operations.

### 3.5 Visual

The extension of mining activity for up to a further 25 years will ensure that both indirect and dynamic visual impacts will continue to be experienced by workers and clients at Coolmore as well as along the Golden Highway. This will include dust and fumes from blasting, dust from vehicles moving around on the exposed mine site, as well as mining vehicles continuing to use the local road network. The Visual Impact Assessment does not specifically address these impacts.

Further from our preliminary review the Visual Impact Assessment does not adequately assess all the potential visual impacts on our property. HVO has not prepared any photomontages that assist us in this regard. Also, we are not confident that the viewpoint locations chosen adequately represent potentially visually affected locations.

Given the above we are concerned that the Project could have direct visual impacts from various properties on Coolmore and that elevated areas on our property, could now have direct views of the HVO Continuation Project operations.

Areas on our farm that may experience direct visual impacts include:

- Houses on the ridge south of the Golden Highway;
- Elevated areas on Coolmore which are used as sites from which clients can see an overview of our operations;
- Potentially views of the Parnells tailings dam along the alignment of Panrells Creek.

HVO South and specifically the Riverview Pit, is now located very close (around 150-200m) to the Golden Highway and is identified as an area for “proposed mining” in Figure ES4 on page 6 of the EIS Main Report. This means that there will be mining for up to an additional 15 years in this highly exposed location which would subject Coolmore, its clients and staff to ongoing direct visual impacts.

The Viewshed plans included in Appendix S Visual Impact Assessment are difficult to decipher. These require greater clarity and it would be helpful if the Proponent could



work with us to calibrate a viewshed analysis that corresponds with actual viewpoints on our property that could be impacted by the Project.

Despite the Coolmore residences being elevated above the Golden Highway, the Visual Assessment has selected a viewpoint (No. 12) at a much lower point on the Highway. More elevated viewpoints need to be assessed so that we can be more aware of any direct visual impacts on sensitive receivers.

A viewpoint on the Golden Highway adjacent to the Riverview Pit should also have been assessed as the views into the mine extend along the Highway for approximately 3km and the screening vegetation planted along the boundary is inadequate to obscure the views.

It is clear from our Preliminary analysis that HVO's Visual Impact Assessment:

1. does not adequately address the Project's life of mine visual impacts;
2. does not address indirect or dynamic visual impacts;
3. presents inadequate viewpoint location selection to adequately assess visual impacts on our property;
4. no photomontages or even cross section and elevations have been provided to demonstrate HVO's assertions about the degree of visibility of the mine's proposed activities; and
5. fails to identify adequately the potential impacts on Coolmore as a key sensitive receiver in the valley.

We respectfully request that all of these issues are addressed by the Proponent as a matter of priority.

Yours Sincerely,

  
Paddy Power

Business Operations Manager