

Reply to: Georgina Woods
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30 October 2025

Re: Wilpinjong Coal Mine Mod 3 - Pit 8 Extension (SSD-6764-Mod-3)

Thank you for the opportunity to make this submission.

Lock the Gate Alliance is a network of over 120,000 farmers, Traditional Owners, conservationists and community members from across Australia, affected by and concerned about the impacts of coal and unconventional gas mining. We live and work in the communities affected by these industries and undertake research, advocacy and support to protect the environment, cultural heritage and society from damage. Many of our members are regionally-based, and are also experiencing first-hand the consequences of the global warming that has already occurred.

We object to this modification.

Wilpinjong Coal Pty Ltd is proposing to modify its currently approved coal mine to extract an additional 14Mt of ROM coal by extending Pit 8, in exchange for avoiding previously approved mining areas Cumbo Creek corridor and the Rocky Hill Complex. While the proponent claims this would reduce the footprint of mining by about 50 ha we consider that this application is not substantially the same development as that which was originally approved and that it is part of the larger expansion project the company intends to undertake eastwards beyond Pit 8.

Although the modification report frames the avoidance of Cumbo Creek corridor and the Rocky Hill Complex as an environmental gain, it appears that the decision to extend Pit 8 will facilitate a future extension of Wilpinjong Coal Mine as foreshadowed in the Modification Report. These areas could have been excluded without the need for the proposed Modification. Moreover, the avoidance of direct impacts to the Rocky Hill exclusion area and two Aboriginal cultural heritage sites of medium-high scientific significance will not protect them from the indirect impacts of blasting, as these sites are located within approved extraction areas or directly adjacent to proposed mining operations. Further expansion through two additional pits is being referred to in public material by the company as "Stage 2" while this project is "Stage 1" of the mine's expansion plans. The Department is presumably aware of these larger plans and must not allow administrative loopholes in the planning system to be exploited by this company to avoid the public scrutiny of the Independent Planning Commission. Refuse this modification and instruct the company it will need to lodge a new development application for its expansion plans.

This project is not a modification and must be refused consent by the Department. It will have serious and irreversible impacts on the Large-eared pied bat and Regent honeyeater. It will have unacceptable impacts on other threatened bats. It will have an unacceptable impact on five Aboriginal sites of medium-high significance, which will be destroyed as a result of this modification. This is an unacceptable harm that must not be granted consent.

This project will also make an unacceptable further contribution to global warming and the proponent has failed to describe or account for this impact in the assessment material. We note that a proportion of the downstream emissions from Wilpinjong mine occur within NSW, since it supplies Bayswater power station. The impact of these emissions should be accounted for in the economic impact assessment along with the Scope 1 and 2 emissions. The material provided for the assessment of this project fails to meet the needs of the assessment the Department must conduct in accordance with the Court of Appeal decision in DAMSHEG and the EPA Large Emitters Guide. In any case, it is clear that the scale of greenhouse gas emissions attributable to this project are sufficient to refuse consent.

Biodiversity impacts

This application would impact 145ha of native vegetation, including 20ha of forest/woodland communities and 125ha of derived native grassland within an overall footprint of 148.1ha. Most of the vegetation to be impacted (120.5ha) comprises state significant Critically Endangered *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (Box Gum Woodland TEC), of which 5.6ha meets the listing criteria for the EPBC-listed CEEC. Two other nationally significant vegetation communities that would be impacted include 3ha of Critically Endangered *Central Hunter Valley Eucalypt Forest and Woodland* and 4.1ha of Endangered *Grey Box Grassy Woodland*. No threatened plant species were identified within or around the proposed development footprint. Given that over 80% of Box Gum Woodland has already been cleared in NSW, the additional loss of a further 120ha is highly significant.

The BDAR (Appendix F) concluded that the Modification would significantly impact the Large-eared Pied Bat, Eastern Cave Bat and potentially the Regent Honeyeater, Koala and Pink-tailed Legless Lizard which were not recorded within the development footprint during surveys. Other threatened fauna species that were recorded within the footprint that would be directly or indirectly impacted include Brown Treecreeper, Hooded Robin, Diamond Firetail, Corben's Long-eared Bat and Glossy Black-cockatoo. Although neither the Regent Honeyeater nor the Swift Parrot were recorded, this is not unexpected as they are both nomadic species whose occurrence is unpredictable and coincides with major flowering events around the state.

The development footprint and surrounds also support a high diversity of woodland birds including Black-chinned Honeyeater, Hooded Robin, Grey-crowned Babbler, Varied Sitella, Dusky Woodswallow, Diamond Firetail, Speckled Warbler, Little Lorikeet and Brown Treecreeper. This application would directly and indirectly impact habitat critical to the survival of the nationally-significant Brown

Treecreeper (south-eastern)¹, Hooded Robin (south-eastern)² and Diamond Firetail³. Despite the BDAR claiming that the development footprint is highly fragmented, the presence of such a high diversity of woodland birds indicates that areas within and around the footprint are intact and well vegetated but are subject to cumulative direct and indirect impacts from mining operations.

Threatened bats

The proposed development footprint and surrounds support a high diversity and number of bats (see Figure 4-3a in the Mod report), providing roosting and foraging habitat for up to 15 species, five of which are threatened at the state and/or national levels. Two rocky knolls estimated to contain 9.6ha of known and potential breeding habitat for the Large-eared Pied Bat and Eastern Cave Bat would be destroyed as a result of the Mod. The Modification report claims that the known and potential maternity roosts for these two species will be avoided by excluding the Rocky Hill area even though it is located within the approved operational area for Pit 8. The geotechnical assessment (Attachment 8) reports that ground disturbance would approach to within 30m of Rocky Hill and to within less than 30m of adjacent mapped rocky habitat. It is therefore highly likely that known bat roosts will be significantly impacted by noise and vibration associated with this application, despite assurances to protect them.

The Eastern Cave Bat is listed as Vulnerable under the NSW *Biodiversity Conservation Act*. The species has low roost fidelity but has very selective microclimate requirements during the breeding season. This species is at the western extent of its range in the area, with few records observed west of Ulan Road. Threats include loss of rocky roosting habitat, clearing of foraging habitat near roosting/breeding sites and damage to roosting/maternity sites from mining operations.⁴ However, the SAIL report (Attachment 7) describes the impacts from blasting as temporary and claims that, once mining ceases, bats “would be able to return to the caves post impact.” One anecdotal observation is provided in support of this claim.

The Large-eared Pied Bat has high roost fidelity and very selective microclimate requirements during the breeding season. The BDAR and SAIL reports conclude that damage to rocky habitat from blasting and other indirect impacts would be minimal and temporary. Conservation advice notes that the Large-eared Pied Bat was uplisted to Endangered in 2023 due to its restricted geographic distribution and the continuing decline in its extent of occurrence (EOO) and area of occupancy (AOO).⁵ Approximately 27% of its habitat was impacted by the 2019-20 Black Summer fires with 10%

¹ DCCEEW (2023). Conservation Advice Brown Treecreeper (south-eastern)
<https://www.environment.gov.au/biodiversity/threatened/species/pubs/67062-conservation-advice-31032023.pdf>

² DCCEEW (2023). Conservation Advice Hooded Robin (south-eastern).
<https://www.environment.gov.au/biodiversity/threatened/species/pubs/67093-conservation-advice-31032023.pdf>

³ DCCEEW (2023). Conservation Advice Diamond Firetail.
<https://www.environment.gov.au/biodiversity/threatened/species/pubs/67093-conservation-advice-31032023.pdf>

⁴ NSW OEH (2024). Profile - Eastern Cave Bat.
<https://threatenedspecies.bionet.nsw.gov.au/profile?id=10829>

⁵ DCCEEW (2023). Conservation Advice Large-eared Pied Bat.
<https://www.environment.gov.au/biodiversity/threatened/species/pubs/183-conservation-advice-15112023.pdf>

being subject to severe fire. The advice also states roosting habitat in close proximity to foraging habitat is likely to be critical for the survival of the species. It names interference with Large-eared Pied Bat roosts by energy extraction and mining developments as a key threat to the species that is likely to have major consequences.

The proposed extension would result in a net loss of breeding and foraging habitat and therefore a reduction in the area of occupancy for the threatened Large-eared Pied Bat and Eastern Cave Bat whose cave habitats, according to Principle 4 of the SAI, cannot be recreated in offset areas. The statement on p. 105 of the Modification report that the “amount of cliffline habitat available in the surrounding landscape suggests potential habitat (roosting and breeding) is abundant in the local area” is entirely unsubstantiated and makes the assumption that all caves are equally suitable for roosting/breeding and/or are unoccupied. In fact, microhabitat conditions within maternity caves are very specific for both species.

Regent Honeyeater and Swift Parrot

The proposed removal of 549ha of Regent Honeyeater and Swift Parrot habitat from neighbouring Moolarben OC3 mine was considered by the Conservation Programs, Heritage and Regulation Group (CPHR) to meet the criteria for Serious and Irreversible Impacts (SAII).⁶ The direct and indirect impacts of this modification application must be assessed in the context of the cumulative loss of habitat and increased disturbance associated with the Ulan and Wilpinjong coal mines that cannot be mitigated or offset. It is the role of the expert consultant to provide impartial advice that the consent authority can then use to decide SAI and we are concerned that the SAI report is not providing this.

The national recovery plan for the Regent Honeyeater lists ongoing clearing of woodland and forest containing the key eucalypt species preferred by Regent Honeyeaters as a major threat.⁷ Figure 5 in the SAI report appears to show that the Wilpinjong Mod 3 proposal is located within Mapped Important Habitat for the Regent Honeyeater. The Mudgee-Wollar area is also identified as a key breeding area for the species; although the SAI report claims that this may no longer be the case, it is still listed as a key breeding habitat on the NSW government website as of 2024.⁸ Using the lack of sightings to state that “0% of the total NSW population” would utilise the development footprint demonstrates incorrect interpretation of Mapped Important Habitat which assumes species’ presence without the need for survey. The lack of records should not be taken to mean that the habitat is unsuitable. Confusingly, the SAI report surmises that the current very small honeyeater population would not visit the Mod 3 site but that “if the population improves, then it is more likely that Regent Honeyeater individuals would once again visit this locality.” This seems to confirm that the habitat is currently suitable for honeyeaters.

⁶ DCCEEW (2025). Maules Creek Continuation Project – Environmental Impact Statement. Letter to DPHI dated 18 August 2025.

⁷ Dept of Environment (2016) National Recovery Plan for the Regent Honeyeater (*Anthochaera phrygia*) <https://www.dcceew.gov.au/sites/default/files/documents/national-recovery-plan-regent-honeyeater.pdf>

⁸ NSW OEH (2024). Profile - Regent Honeyeater.

Despite the above, SAII report claims that because Mod 3 would not clear Mapped Important Habitat and that it does not impact Regent Honeyeaters. When a similar argument was made for Maules Creek Continuation, CPHR cautioned that suitable habitat found outside Mapped Habitat should not be undervalued and that “all associated PCTs where ecosystem credits apply should be considered as potentially suitable important habitat.” The national recovery plan for the Regent Honeyeater states, “an ongoing loss of habitat will likely impact the ability of the birds to disperse widely” and that “it is possible there are not enough interconnected patches of habitat to allow unhindered movement.” Mod 3 would remove habitat patches that provide connectivity to Munghorn NR and Goulburn NP. The incremental loss of dispersal corridors and foraging resources associated with the Moolarben/Wilpinjong/Ulan mine complexes is likely to have a significant cumulative impact on the Regent Honeyeater population.

The SAII report proposes the progressive rehabilitation of cleared land with species typical of Box Gum Woodland as mitigation for the critically endangered Regent Honeyeater that faces an extremely high risk of extinction in Australia in the immediate future. Moreover, it reported that research undertaken by Heinsohn (2022)⁹ and Watson (2011)¹⁰ indicates that restoration techniques “are not yet able to increase the carrying capacity of current protected areas to support Regent Honeyeaters over the long term.”

The SAII report argues that competition with Noisy Miners attracted to newly created habitat edges will have a significant impact on Regent Honeyeaters and indicates that a control program would act as an effective mitigation measure. However, research undertaken by Beggs (2020) indicates that culling Noisy Miners resulted in immediate recolonisation of the treatment sites. While the abundance of Miners was reduced at treatment sites, it remained 3-4 times higher than at control sites.¹¹ The author concluded that culling is not an effective management option.

The recovery plan for Swift Parrot notes that habitat loss and alteration due to residential and industrial development as a threat.¹² Comments above in relation to the SAII assessment for Regent Honeyeater also apply to the Swift Parrot. Although the Mod 3 site is not located within Mapped Important Habitat, CPHR advice that “all associated PCTs where ecosystem credits apply should be considered as potentially suitable important habitat” applies. The cumulative habitat loss from the Moolarben/Wilpinjong/Ulan mine complex on this species has not been assessed even though CPHR considers that clearing associated with Moolarben OC3 meets the SAII criteria for Swift Parrot and Regent Honeyeater.

⁹ Heinsohn et al (2022) Population viability in data deficient nomadic species: What it will take to save Regent Honeyeaters from extinction. *Biological Conservation*: 266

¹⁰ Watson DM (2011). A productivity-based explanation for woodland bird declines: poorer soils yield less food. *Emu* 111(1): 10-18

¹¹ Richard Beggs (2020). “Declining small woodland birds: is removing noisy miners the answer?” PhD thesis available via Threatened Species Recovery Hub.

¹² DCCEEW (2024). National recovery plan for the Swift Parrot.

<https://www.dcceew.gov.au/sites/default/files/documents/national-recovery-plan-swift-parrot-2024.pdf>

Indirect impacts of blasting vibration and noise

Page 102 of the BDAR states that indirect impacts of blasting vibration could “destabilise caves, crevices, cliffs and rocks,” but relies on an initial geological assessment of surrounding caves and anecdotal observations of bat activity to conclude that blasting, noise and light will have a temporary and minimal impact on threatened bats. The Initial Assessment of Geological Feature Sensitivity (Attachment 8) discussed results of preliminary inspections of cliffs around approved Pit 8 and three cave sites close to it, and of cliffs within 100-200m of the proposed Pit 8 extension. The two cave sites Rocky Hill, located 247m from Pit 8, and Slate Gully, a maternity roost located 131m from Pit 5, were inspected as they have been exposed to blasting activity and are located close to existing monitoring stations. Although distance from the blasts to the monitoring stations is provided in Table 5, those from monitoring stations to the caves were not stated. Table 2 indicates that many of the sites inspected are described as “blocky” or “very blocky” which the report cautions “may become more susceptible to impact from natural processes where loosening and minor damage has occurred due to blast vibrations.”

Although inspections included a major rockfall that occurred in late 2023 between Pits 3 and 7 and noted fresh rockfalls at Rocky Hill sites 1 and 2 and Slate Gully mine adit, the assessment concluded that these were not due completely or even partially to blasting activity even though Appendix 8 claimed that it was difficult or impossible to distinguish natural degradation from blasting damage. The initial assessment concluded that the performance objective that “any degradation associated with blast vibrations is considered to be indistinguishable from natural degradation,” has been met. Clearly, this performance objective is not fit for purpose since the observation methods used are too crude to detect the difference between natural and blast-induced degradation or to detect the cumulative impact of blasting on the acceleration of natural processes.

The Slate Gully abandoned mine adit appears to be collapsing coincident with mining activities and topsoil stripping encroaching to within 100m of it.¹³ Management measures to prevent future collapse have been ongoing since 2019. Monitoring undertaken between 2017 and 2024 indicates that Eastern Horseshoe-bat numbers roosting in the adit dropped from approximately 50 in 2017 to an all-time low in 2023, followed by a slight increase to nine individuals in 2024. Bat activity before and after blasting showed mixed results, again indicating that the impact of blasting on bats is unknown.

The nominal vibration criteria of 25-80 PPV applied to the Blast Management Plan poses a high risk of damaging “sensitive” geological features including bat roosting caves, Aboriginal rock art and historical mine adits. The Initial Assessment of Geological Feature Sensitivity (Attachment 8) is only concerned with geological damage to caves caused by blasting and does not examine any other criteria (e.g. the impact of noise and vibration on sensitive sites, fauna disturbance) that may render sandstone caves and overhangs unusable by sensitive threatened species. It admits that it is very difficult to predict damage levels due to many compounding factors including geology, rock mass,

¹³ Peabody (2024). 2024 Annual Review Wilpinjong Coal Mine.

geography and blast frequency, amongst other things. It then goes on to recommend a vibration upper limit of 50mm/s for most sensitive sites based primarily on estimates of Rock Mass Rating. This is despite the fact that Rocky Hill sites 1 and 2, that were rated as “fair to good” and “good,” had both experienced recent rockfalls. The maximum PPV recorded near the Slate Gully monitoring stations was 34.37mm/s although an earlier recording of 76.41mm/s was discounted as a “data entry error.”

The literature review of blasting damage to caves both in Australia and internationally summarised in Appendix B of the geological feature assessment does not demonstrate a clear correlation between PPV and cave damage. While some damage may occur at PPVs in the range of 25-450mm/s, damage may also occur at lower PPVs while no visible damage may be detected at even higher PPVs. However, it is evident from the graph on p. 20 that 50mm/s is a critical threshold where damage begins to be detected, whereas no damage has been recorded below 25mm/s. Bullen (2013, in Bat Call WA 2021) noted that vibration levels of 25-50mm/s “might be expected to damage historical mines and/or cause local collapses.” Table 2 in Singh and Narendrula (2015) confirms that 50mm/s is a critical threshold where minor damage is first detected for underground excavations.¹⁴ The authors also caution that there “is no proven practical approach to the definition of blasting requirements based on rock mass characteristics.”

The list of observed PPV precedents in sedimentary Australian environments presented in Table 4 of the geological assessment does not indicate distance to the nearest sensitive site. The broadbrush comparisons do not recognise Wilpinjong Mod 3 and Moolarben OC3 as unique mining operations creeping incrementally closer to more and more mapped rocky habitat. It is also important to note that the Miralga Creek project that involved blasting levels of 85-100mm/s near bat caves was undertaken based on evidence from one expert that, even though Ghost Bats may abandon caves while operations are ongoing, they are likely to return post-mining as long as the structural integrity of the caves are maintained.^{15,16}

The blasting assessments admit that there are no regulatory requirements for vibration limits or noise levels for natural landscapes. The lack of standard criteria and the uncertain impacts of blasting on sensitive sandstone caves in surrounding mapped rocky habitat demands that a precautionary approach be taken. Blasting trials aimed at determining upper vibration limits for bat roosting caves are not discussed in any of the Modification documents. Agency comments for the Moolarben OC3 project which is similarly surrounded by rocky habitat in Munghorn NR, cautioned that a vibration limit of 50mm/s risks disturbing and potentially destroying bat roosting habitat and recommended that a 500-m setback be implemented between the mine boundary and rocky habitat.¹⁷ Overseas researchers conducting blasting trials in the vicinity of environmentally and culturally significant cave

¹⁴ Singh P & R Narendrula (2015). The Influence of Rock Mass Quality in Controlled Blasting. Paper presented at the 26th International Conference on Ground Control in Mining.

¹⁵ Martin D (2020). Assessment of blasting at Miralga Creek Project - preservation of Ghost Bat habitats post mining activities. Report prepared for Atlas Iron.

¹⁶ Bat Call WA (2021). A review of ghost bat ecology, threats and survey requirements. Report prepared for DAWE.

¹⁷ DCCEEW (2024). Moolarben OC3 Extension Project – Response To Submissions (SSD-33083358). Letter to DPHI dated 25 June 2024.

complexes recommended that vibration limits should not exceed 12mm/s over buffer distances ranging from 135-350m (Mesec et al. 2018¹⁸; Birch et al. 2016¹⁹; West Virginia DEP 2006²⁰).

Blasting trials undertaken near bat roosting caves in the Pilbara recommend a maximum vibration limit of 10mm/s with buffers varying in size depending on the site-specific circumstances (Wood 2021²¹; Martin 2015²²). Notional blasting vibration criteria recommended in the Modification Report risk damaging the integrity of sensitive sandstone caves and mine adits and disturbing bats to the point where they abandon roosting and maternity caves, including those in the Rocky Hill exclusion area. Attachment E in the BDAR attempts to provide evidence that blasting does not cause bat disturbance in caves located within 500m of the mine site. It was concluded that surveys undertaken between February and March 2024 that coincided with a single blast originating from Pit 8 and 11 blasts from Pit 6, did not indicate any noticeable differences in bat activity. However, as bat forage within two or more kilometres from roosting caves, nocturnal surveys are not a reliable indicator of behavioural response to diurnal blasting and do not indicate any clear patterns. Long-term studies that monitor cave use prior to, during and up to several years post-mining are required to determine the impact of blasting and other indirect impacts of mining on bat disturbance and cave use.

The indirect impact of noise on bats is discounted in the BDAR as being minimal and temporary. However loud sporadic noises also have the potential to significantly impact sensitive fauna species by causing them to avoid habitat adjacent to mining operations. The Mod 3 project noise trigger level based on passive use for recreational areas within the National Parks estate is 48dB(A). Agency comments relating to Moolarben OC3 recommend that a noise limit of less than 50dBA should be adopted for natural areas based on a review by Shannon et al. (2016)²³: "*Shannon et al. (2016) documented two decades of global research which has shown noise levels of 40 dBA can start to impact terrestrial wildlife with 20% of studies showing levels under 50 dBA showing impacts on wildlife.*"

Unproven mitigation measures

The proposed avoidance measures are inconsequential as can be seen from Table 14 and 15 in the Mod report that indicated avoidance of 0.05ha of mapped rocky habitat for SAll species Eastern Cave Bat and Large-eared Pied Bat. The report clearly states that the decision to directly impact the two rocky knolls as part of Mod 3, even though they contain known and potential bat roosts and threatened Box Gum Woodland and Grey Gum Woodland, was based solely on the efficiency and

¹⁸ Mesec J et al. (2018). Reducing the adverse effects of blasting on the cave ecosystem near the future exploitation field Grandusa. The Mining-Geology-Petroleum Engineering Bulletin. DOI: 10.17794/rgn.2018.4.4

¹⁹ Birch et al. (2016). Blasting in proximity to a World Heritage site - a success story. Pp. 139-145 in Hunger, E. and Walton, G. (Eds.) Proceedings of the 16th Extractive Industry Geology Conference. EIG Conferences Ltd, 194pp.

²⁰ West Virginia Department of Environmental Protection (2006). Report of potential effects of surface mine blasts upon bat hibernaculum.

²¹ Wood (2021). Greater Brockman Proposal Noise and Vibration Impact Assessment. Report prepared for Rio Tinto.

²² Martin D (2015). Scientific evaluation of fauna sensitivity to blasting: Koodaideri Iron Ore Project, Pilbara. Paper presented to the 11th International Symposium on Rock Fragmentation by Blasting held in Sydney NSW, 24-26 August 2015.

²³ Shannon et al. (2016). A synthesis of two decades of research documenting the effects of noise on wildlife. Biological Reviews of the Cambridge Philosophical Society 91(4): 982-1005.

costs of coal recovery. Although presented as a positive environmental outcome, it is clear that the exclusion of Rocky Hill and the Cumbo Creek Corridor does not represent a significant loss of coal resources when weighed against “opportunities to develop a future Wilpinjong Coal Mine State Significant Development extension proposal.”

The proposed mitigation measures are experimental and some are subject to considerable uncertainty and time lags before they can be deemed successful or otherwise. Sandstone specialist species including bats and reptiles, are listed under SAII Principle 4 which means that they require habitat components that cannot be recreated within offset sites. The BDAR disputes this accepted fact and claims that there is no evidence that abiotic habitat cannot be recreated, only that it has not been attempted and highlights the use of mine adits by Large-eared Pied Bats as an example of bats using artificial structures. Although mines and even buildings, bridges and culverts are utilised by roosting bats, they may not provide the microclimate conditions necessary for successful breeding. Therefore the construction of artificial roosts specifically for threatened bats is unproven and should not be considered as a mitigation measure or an offset within the development footprint or stewardship sites.

Although there may be the potential to rehabilitate derived grassland into a woodland that meets the criteria for Box Gum Woodland, this may not be easily achieved. Conservation advice for this community notes that restoration pathways are more likely to be successful in cases where the understorey is depleted but the overstorey is intact or where there are elements of both remaining.²⁴ It also reports that, while decades-old restoration projects may attract similar suites of bird fauna as are found in remnants, this does not apply to other fauna groups. Even if it was possible to restore mature flowering trees in derived grassland, this would take decades and could not be achieved given the steep extinction trajectories of Regent Honeyeater and Swift Parrot.

Surface water

The Mod report claims that impacts to surface water will be localised, minor and temporary. The Aquatic Ecology Assessment (Appendix G) states that Mod 3 would remove unnamed drainage lines thereby reducing the amount of ephemeral aquatic habitat within the development footprint. The capture of runoff during mining would also reduce habitat availability to aquatic flora and fauna both onsite and downstream in the Goulburn River. The assessment claims that this impact is not significant as drainage lines are degraded and poorly connected, but it does not assess this in the context of cumulative impacts, including reduced baseflow and excised catchment areas.

Appendix G describes both Wollar and Wilpinjong Creeks as being degraded by land clearing and agricultural activities but does not mention the impact of three large mines in the area. Neither creek provides habitat for species of conservation significance, but both support pollution-tolerant macroinvertebrates and exceed default water quality trigger levels for conductivity, turbidity and pH

²⁴ Conservation Advice White Box - Yellow Box - Blakely's Red Gum grassy woodlands and derived native grasslands. <https://www.environment.gov.au/biodiversity/threatened/communities/pubs/43-conservation-advice.pdf>

levels at almost all sampled sites. Wilpinjong is described as ephemeral despite periodic releases from a water treatment facility and supports riparian habitat in good to very good condition as well as Class 2, Type 1 fish habitat. Wollar Creek is heavily modified and has a more regular flow regime, but also supports riparian habitat in good to very good condition.

The Mod report concluded that Mod 3 is likely to have a negligible impact on baseflow and to result in a minor and temporary reduction in catchment areas for both Wilpinjong and Wollar Creeks. The aquatic ecology assessment concluded that baseflow reduction would have a negligible impact on aquatic fauna. However Wollar Creek would be impacted by groundwater drawdown of approximately one metre which would result in a loss of 8.4ML/year during mining and 13.9ML during early recovery post-mining. The frequency of low flow days is predicted to increase for both Wollar and Wilpinjong Creeks. This is referred to as a temporary impact, although baseflow gains are not expected to occur until 2063 when key climate projections, outlined on p. 131 of the Mod report, predict hotter temperatures and reduced rainfall under both low and high emissions scenarios. Climate-driven water shortages combined with mining-induced groundwater drawdown and reduced runoff are likely to have a severe cumulative impact on local waterways and aquatic ecology, potentially impeding fish passage.

The aquatic ecology assessment claims that the only potential aquatic groundwater dependent ecosystems in the area are associated with the Goulburn River. It also concludes that Mod 3 impacts to subterranean GDEs would not be “measurable.” However, these findings are contradicted by the Groundwater Impact Assessment (Appendix D) that states that there are 15.3ha of land mapped in the BoM Atlas as high potential GDEs that may be impacted by groundwater drawdowns of up to one metre. It recommends that further assessment of this area is required but it is not clear why survey work was not undertaken as part of the Mod application or why reports contradict each other.

Cultural heritage impacts

Mod 3 will have direct and indirect impacts on significant Aboriginal cultural heritage within and adjacent to the disturbance footprint. The ACHA (Appendix H) reports that since 2006, there have been 61 Aboriginal heritage assessments undertaken that have uncovered approximately 1,095 sites and potential archaeological deposits (PADs) in the local area. Of the 70 new sites discovered as part of the ACHA, the 12 that would be disturbed within the footprint comprise nine of low significance and three of moderate-high scientific significance. Two other sites are located within 100m of the proposed surface disturbance and are at risk of indirect impacts. Two of these, WCP1129 and WCP1143, are located immediately adjacent to the disturbance area.

We refer the Department to observations provided by the then Office of Environment and Heritage for the Bylong Coal Project:

“Notwithstanding the mitigation actions of previous mine projects and those of the proposed Bylong Coal Project, Office of the Environment and Heritage is concerned that harm to

Aboriginal cultural heritage is approaching unacceptable thresholds for the region. Unless adequately compliant with a measured conservation regime, an imbalance of this scale may have permanent intergenerational consequences.”²⁵

That advice was given eight years ago. The Department must stop this ongoing loss of cultural heritage by mining damage. The three rock shelters within the disturbance footprint and the two that would be avoided are of significance “as places of focussed habitation that may contain a wealth of cultural material including rock art, hearths, lithic artefacts, and utilised faunal bone.” The five sites have the potential to contribute greatly to our knowledge of Wiradjuri culture and its expression in the area.

Although direct impacts to WCP1129 and WCP1143 have been avoided, they are both at risk of damage or destruction from vibration associated with blasting. Mitigation measures including fencing and signposting will not protect these sites from blasting or undermining. The nominal vibration criteria of 80 PPV applied to Aboriginal rock art poses a high risk of damaging rock shelters. Due to the lack of standard criteria, the uncertain impacts of blasting on sensitive sites and research that shows that vibration levels of 25-50mm/s can cause damage to caves and mine adits, a precautionary approach is required. If it cannot be demonstrated that the two significant sites outside the disturbance footprint will be protected from vibration impacts, then it must be assumed that five Aboriginal sites of medium-high significance will be destroyed as a result of this modification. This is an unacceptable harm that must not be granted consent.

Greenhouse gas emissions and climate change

Mod 3 would generate an additional 25Mt CO_{2-e} of Scope 3 emissions which represents an increase of about 35% of downstream greenhouse emissions for the approved project. This is a material escalation of impact and given that it is proposed to occur over the next decade, when global average temperature rise and its consequences may exceed tipping points, this additional mining area is clearly not “substantially the same development” as the Extension project that was assessed and approved in 2017. The material provided does not meet the requirements of the Large Emitters Guide. The proponent fails to nominate emissions reduction goals, does not propose an emissions pathway consistent with New South Wales’ goals, does not provide an offset strategy and makes no mitigation commitments.

Moreover, the failure of the documents to address the impacts of downstream greenhouse gas emissions on the environment and the economic and social impacts in the locality means that the Modification report does not meet the requirements of the *EP&A Act 1979* as interpreted by the NSW Court of Appeal in the Mt Pleasant coal mine expansion case.

²⁵ Quoted in IPC Statement of Reasons: Bylong Coal Project. Paragraph 511.
<https://www.ipcn.nsw.gov.au/sites/default/files/pac/projects/2018/10/bylong-coal-project/determination/bylong-coal-project-ssd-6367--statement-of-reasons-for-decision.pdf>