



EPBC Submissions
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RE: Invitation to comment on the Caval Ridge Horse Pit Extension (EPBC 2021/9031)

Thank you for the opportunity to make this submission on the proposed Caval Ridge Horse Pit Extension project (**the Project**). The applicants are BHP Pty Ltd, BHP Queensland Coal Investments Pty Ltd, UMAL Consolidated Pty Ltd, Mitsubishi Development Pty Ltd, QCT Mining Pty Ltd, QCT Investment Pty Ltd and QCT Resources Pty Ltd (**the Proponent**).

Environmental Advocacy in Central Queensland (**EnvA**) is a Central Queensland association with an interest in ensuring that all land use is sustainable and does not significantly impact on the environment. We are particularly concerned about the risks associated with coal mining, coal seam gas and climate change.

EnvA believes that opening new or expanding existing coal and gas projects:

- is contrary to meeting Australia's emission targets and Queensland's emission targets,
- is likely to result in irreparable damage to our local landscape and result in stranded assets,
- will put our local community at further risk of extreme weather such as increasing the intensity and frequency of storms, floods, droughts and bushfires,
- will damage our significant coastal resources including our beaches and the Great Barrier Reef through storm surge and increased coral bleaching events, and
- will further degrade wildlife habitats of state and national significance through both habitat loss and climate change.

The Horse Pit Extension Project overview

The Project is in the Bowen Basin of Central Queensland, 5 km southwest of Moranbah.

Caval Ridge Mine has been operational since 2014 and consists of two open-cut pits, Horse Pit and Heyford Pit. This project will extend the Horse Pit, increasing the disturbance area by 911ha and extending the mine life by approximately 20 years to 2056.

The Project will produce hard coking coal for the export market at a rate of up to 15 million tonnes per annum.

The rail spur, loadout facilities, stockpiles and the coal handling and preparation plant are already available, however some of this infrastructure will require relocation for the project.



Assessment process

The project was [referred](#) for assessment under the *Environment Protection and Biodiversity Act 1999 (EPBC Act)* on 7 September 2021. On 19 November 2021, the Department of Agriculture, Water and the Environment determined the Project to be a [controlled action to be assessed by preliminary documentation](#) with the controlling provisions listed as:

- listed threatened species and communities (section 18 and section 18A); and
- a water resource in relation to a large coal mining development (section 24D and 24E).

Since this decision, the Project became one of the [18 fossil fuel projects](#) that federal Environment Minister Tanya Plibersek agreed to reconsider following a [request](#) by the Environment Council of Central Queensland (ECoCeQ). This reconsideration is in relation to the substantial new information about the impacts of climate change on Matters of National Environmental Significance (MNES).

The Federal Environment Minister is yet to make a decision on the reconsideration of the Project and hence it would be premature to provide an approval until the reconsideration and any challenges to the decision are completed.

Recommendation:

1. That this application be postponed until a decision is made on the reconsideration of this Project by the federal government.

Concurrently with the EPBC Act assessment process, the Proponent submitted an application to amend environmental authority EPML00562013 (EA) issued under the Queensland *Environmental Protection Act 1994 (EP Act)* to incorporate the actions of the Project into the existing approval.

On 4 September, the Queensland Department of Environment and Science issued a decision notice indicating the approval of the amendment of the EA with conditions on the disturbance extent:

- The 680ha void as applied for will not be approved. A 545ha void will be approved.
- The 107ha out of pit dump as applied for will not be approved. An 85ha out of pit dump will be approved.
- 23.4ha of significant residual impacts to Endangered Wildlife – King Bluegrass as applied for will not be approved. A significant residual impact of 12.3ha will be approved.
- 23.4ha of significant residual impacts to Of Concern Regional Ecosystem 11.8.11 as applied for will not be approved. A significant residual impact of 12.3ha will be approved.

Despite these minor reductions to the disturbance footprint, EnvA is strongly opposed to this Project as outlined in our comments below.

Greenhouse gas emissions

The Project aims to commence in 2025 and extend to 2055. The mining schedule indicates extraction of approximately 158.3 million tonnes of coal over the life of the Proposed Project. The total combustion CO₂ emissions for the product coal of the Proposed Project is estimated to be over [440 million tonnes of CO₂](#). This is a significant contribution to current emissions from Queensland's fossil fuel, energy and industry sectors.

There is no assessment of the impacts of the greenhouse gas emissions or the impacts of the emissions on how these align with State or national emissions targets in the application. The application also fails to address how the emissions will be minimised to meet decarbonisation plan requirements when they come into force, or how the project can meet new requirements under the Safeguard mechanism.

We note that item 10 in [Appendix B Additional Information Required – Cross Reference Table](#), the Proponent notes that “Following receipt of Request for Information (RFI) and subsequent discussion with the Department of Agriculture, Water and the Environment (DCCEEW), it is understood that responses to Emissions Information (Total emissions, Emissions Management and Coal Product) were not required as part of the RFI response.”

The relationship between GHG emissions and climate change in Australia was recognised in the 2021 [State of the Environment Report](#), which stated that:

“Warming of the Australian climate, and associated changes in the climate system, are driven by increased concentrations of greenhouse gases in the atmosphere. Changes to the climate are inevitable, based on greenhouse gases that have already been emitted, but further changes in the second half of the 21st century will depend on the level of future global emissions.”

On current trajectories, the impacts of the changes in the climate system will be significantly exacerbated.

In a recent [Queensland Land Court decision](#), Land Court President Fleur Kingham, found that as a matter of law, GHG emissions can be taken into account in applying the principles of ecologically sustainable development and in considering whether the applications are in the public interest. Wherever the coal is burnt the emissions will contribute to environmental harm, including in Queensland. This same court decision notes that the climate science demonstrates that the remaining carbon budget for keeping temperatures to 1.5°C in 2100 will be exhausted in 8 years at the current rate of emission, and to keep temperatures to well below 2°C by 2100, will be exhausted in 15.5 years.

As noted in the assessment process section above, the federal Environment Minister agreed to reconsider 18 fossil fuel projects in light of substantial new information about the impact of climate change on MNES. The Minister made a decision on three of these projects, and her decision on two of these projects is currently being challenged by ECoCeQ in the [federal court](#). A decision on this challenge is expected later this year and may provide further legal precedence that climate change is a significant consideration in relation to impacts of MNES as has been identified in many species’ recovery plans and reports on the threats to the Great Barrier Reef.

This Project will contribute to an increase in the current rate of emissions and consequently will result in a failure of Australia and Queensland to meet emission reduction targets and our responsibilities under the Paris agreement.

The economic benefit of any development is also vulnerable to climate change impacts itself, including the risk that it may not be able to operate at optimal levels for its full expected lifespan due to factors including increased frequency of extreme weather events and changes to water availability as a result of prolonged droughts. The risks of any fossil fuel based-development’s assets becoming stranded will likely continue to increase throughout the development’s lifespan as a result of global policies and international action on climate change.

The financial, legal, and fiscal risks and costs of climate change have also been well articulated. Further emissions of GHGs into the atmosphere will cause financial, legal, and fiscal risks and costs, which must be set off against any economic benefits of any development that will further contribute to the accretion of GHGs into the atmosphere.

This proposal will contribute to an increase in the current rate of emissions and consequently will result in a failure of Australia and Queensland to meet emission reduction targets and our responsibilities under the Paris agreement.

EnvA remains interested and concerned about the management of emissions while there is continued approval of new and expanding coal mines and believe it is a matter of public interest that information on emissions and an assessment of these emissions on all Matters of National Environmental Significance (MNES).

Recommendations:

2. That the Proponent provides further information on projected emissions and proposed methods of reducing emissions as requested in the RFI.
3. That the detail on the percentages of thermal and metallurgical coal, and the characteristics and classification of coal are provided.
4. If there was a decision to no longer require the Proponent to provide estimated scope 1, 2 and 3 emissions, and an assessment of coal quality as requested by DCCEEW, we would appreciate a statement of reasons as to why this decision was made.

Ground and surface water

The Project is in the Isaac River catchment in central Queensland. Several tributaries of the Isaac River flow through the project area including include Horse, Caval, Cherwell and Nine Mile creeks.

The project proposes controlled releases of mine-affected water into Cherwell Creek. During significant rainfall events uncontrolled spills several sediment dams and dams containing mine-affected water into Horse, Caval, Cherwell and Nine Mile creeks may also occur. These releases will change water quality in the receiving environment which may impact:

- environmentally significant aquatic species in these creeks and downstream in the Isaac River, including the white-throated snapping turtle and the Fitzroy River turtle,
- groundwater-dependent ecosystems supported by the local alluvial aquifers, especially riparian vegetation, and
- stygofauna present in the Isaac River alluvium.

The [Independent Expert Scientific Committee](#) (IESC, 2022-134) identified key areas in which additional work is required to address the key potential impacts, as detailed in this advice. These are summarised below.

- Expanding the surface water quality monitoring program to sample Horse, Caval, Cherwell and Nine Mile creeks where controlled and uncontrolled releases (including spills from sediment dams) may occur. Sampling locations should include the point of release, a downstream sampling point within 500 m of the release point and an appropriate sampling point further downstream. The sampling network should also include suitable reference sites on each creek, monitor all releases or spills to ensure water quality objectives (**WQOs**) are met, and specify a trigger action response plan which is able to initiate timely action to prevent or rectify impacts.
- Derivation and adoption of local WQOs for surface and groundwater quality or the adoption of [default guideline values](#) based on the 95% species protection level for 'slightly to moderately disturbed' ecosystems. Current WQOs for some analytes significantly exceed the default values, and analytical techniques with greater sensitivity need to be adopted.
- Further analysis and assessment are needed of the potential cumulative impacts to surface water quality and downstream biota. The IESC notes that Caval Ridge Mine has an agreement with several other mines in the region to share water-related information and thus is well placed to undertake such work with the partners of the agreement. Potential cumulative surface water impacts at the catchment scale are not clearly understood or managed across multiple mine sites concurrently which increases the risk of cumulative impacts to EPBC Act-listed species within the catchment.
- Additional work is needed on assessment of the presence and susceptibility of GDEs to impacts from the project. This work includes the assessment of how the uncertainty in the groundwater modelling predictions of drawdown may alter evaluation of the project's

potential impacts on terrestrial GDEs, and stygofauna sampling within the alluvial sediments of the Isaac River and the lower reaches of Cherwell Creek.

[Appendix Q Request for Information Addendum](#) provides the cross references for how these matters have been addressed.

These matters have not been specifically addressed but rather than responded to in numerous sections of the Proponent's [2023 preliminary information](#), and hence it is difficult to assess whether these matters have been adequately addressed. From our assessment, we offer the following observations:

- In relation to the surface water quality monitoring program, it appears that the Proponent is relying on the existing REMP monitoring for the existing Caval Ridge coal mining operations, to a standard required under the approved EA. It is unclear if this monitoring program has addressed the concerns raised by the IESC or if the water quality program has been extended to include monitoring not limited to Horse, Caval, Cherwell and Nine Mile creeks.

EnvA considers this is essential as the extension will impact on the floodplains associated with these creeks and the quality of water downstream within the largest water catchment entering the Great Barrier Reef World Heritage Area.

- In relation to the adoption of water quality analytical techniques with a greater sensitivity, it appears that the Proponent has relied on the Receiving Environment Monitoring Program report (REMP; Gauge, 2021). This REMP noted that "above guideline values generally occur both upstream and downstream of mining" (see response 2.15 of [Appendix Q Request for Information Addendum](#)).

We believe that this is not a suitable response. While historical water quality data was within acceptable limits defined by outdated Queensland Water Quality Guidelines (2000 - over 20 years ago), there has been significant focus on the management of water quality entering the Great Barrier Reef environment and a commitment from the federal Environment Minister to prevent further extinctions of threatened species.

- In relation to the need for an analysis and assessment of the potential cumulative impacts to surface water quality and downstream biota and groundwater dependent ecosystems, we note that there is an increasing numbers of coal projects within the Isaac River catchment. This leads to a high potential for cumulative impacts on the water resources of the region, including alluvial and Permian [groundwater resources and the Isaac River](#).

The cumulative impacts of contaminated water release from many coal mines in the catchment may affect multiple species listed as MNES under the EPBC Act such as white-throated snapping turtles (*Elseya albagula*), Fitzroy River turtles (*Rheodytes leukops*) and several species of groundwater-dependent vegetation.

The Proponent has identified the requirement for additional surface water drains and sediment dams to manage runoff with the majority of these sediment dams designed to overflow to Horse Creek during significant rainfall events and one expanded sediment dam to overflow to Caval Creek. It is expected that any overflow would be in conjunction with high rainfall and flow, which would dilute any contaminants in the receiving environment.

Coal mine water releases are regulated through Environmental Authorities, although the cumulative impacts from multiple mines of these releases is not considered. Just in the last wet season in Central Queensland, there have been [multiple and concurrent mine water releases](#) from mines within the same catchment area. New and expanding coal mines will result in further simultaneous releases directly flowing into the Reef catchment area which must be considered in relation to water quality taking into account the cumulative impacts of multiple releases.

Recommendations:

5. That the Proponent specifically addresses the concerns raised by the IESC in a current context and adequately addresses the suitability of water quality monitoring.
6. There is a thorough assessment of the cumulative impacts of modified water quality on MNES in downstream environments from waterway dependent species, groundwater dependent ecosystems through to the Great Barrier Reef taking into account the likelihood of concurrent releases from all nearby coal mines.

Threatened species and communities

The disturbance footprint for the Project is approximately 900ha comprising the Horse Pit Extension, an out of pit dump, a dragline crossing and associated infrastructure.

Vegetation

The Proponent has identified seven regional ecosystems within the disturbance footprint, of which three are listed as 'endangered' and one is listed as 'of concern'. Of particular concern to EnvA are the proposed impacts on endangered brigalow ecosystems, eucalyptus and brigalow woodlands and king bluegrass ecosystems.

These vegetation communities have been subject to historic clearing for agriculture and mining. The removal of over 520 ha of threatened vegetation communities which cover more than half of the project area must be considered clearly inappropriate if the government is serious about protecting and managing threatened species before they become extinct.

Fauna

This Project will impact on 60 native fauna species (5 frogs, 37 birds, 7 mammals and 11 reptiles) through the loss and fragmentation of important habitat. Of significance is the impact to the habitat of conservation significant species including the:

- ornamental snake (*Denisonia maculata*),
- squatter pigeon (*Geophaps scripta scripta*),
- Australian painted snipe (*Rostratula australis*), and
- echidna (*Tachyglossus aculeatus*) habitat.

Of concern is that koalas or greater gliders were not identified in the fauna assessment, despite having previously been identified at Caval Ridge and nearby Saraji East and Peak Downs coal mine sites.

Page 38 of the [Caval Ridge Coal Mine Project Ecological Assessment \(2009\)](#) indicates that "there are over 100 records of the koala from previous surveys indicating that there is a substantial population" at the Caval Ridge mine site prior to the development of the mine site. Likewise, koalas and greater gliders have been recorded as present prior to mining activities at nearby Saraji East, Olive Downs, Grosvenor, Lake Vermont, Winchester South and Peak Downs coal mine sites.

The koala and greater glider have recently been reclassified as endangered due to ongoing habitat clearing and the impacts of climate change. The approval of new and expanding coal mines will only see more fauna species be added to the endangered list unless appropriate controls are implemented to prevent the loss of habitat and ensure that emissions can be reduced to levels consistent with Australia's commitment to the Paris agreement.

Cumulative impacts on threatened species and communities

There is no assessment of the cumulative impacts on threatened plants and animals within the application. The example of the apparent loss of koala populations in the broader area is an example of why there must be a proper assessment of the cumulative impacts of habitat loss on species and communities associated with new and expanding coal and gas facilities.

Offsets

The proponent is required to identify and secure suitable offset areas due to significant residual impacts on

- King bluegrass (*Dichanthium queenslandicum*) habitat; and
- Ornamental snake (*Denisonia maculata*) preferred habitat.

An area of the Inderi property has been identified as an offset location for king bluegrass offsets. EnvA is concerned that this is not a suitable offset area as no king bluegrass was recorded in the May 2021 survey (page 159 and 160 of the 2023 preliminary documentation) despite moderately suitable habitat identified. The Proponent notes that active management makes it “likely” to support king bluegrass within the duration of the offset. Active re-establishment is proposed, but this is risky and does not adequately offset the certain loss of king blue grass in the Project area and does not deliver an overall conservation gain.

Croydon Station has been identified as an offset area for the ornamental snake. An area of approximately 260ha was identified as suitable habitat for the ornamental snake although no individuals were recorded, and the bio condition score appears to be low and represents the minimum area required.

Offsets are typically of minimal success, short duration, and certainly do not address the cumulative impacts from the loss and disturbance of habitat in areas such as the Bowen Basin.

Recommendation:

7. The Proponent provides detailed information on the cumulative impacts on all threatened species and communities identified from the Caval Ridge mining lease.
8. The Proponent provides an alternative offset for king bluegrass, or details specific performance criteria and provides a significant bond should the re-establishment of king blue grass fail.

Rehabilitation and final landform

The Proponent notes that a Progressive Rehabilitation and Closure Plan (PRCP) is under preparation. The application provides only a concept of the rehabilitation goals. This is a critical consideration in determining the impacts of the proposal both in the short term and the long term.

Of concern, the Proponent is proposing to leave void of approximately 545 hectares. This is a huge area of land and represents well over half of the area to be disturbed.

The Proponent’s modelling indicates that the salinity of the water will significantly increase following the mine's closure due to the constant inflow of saline groundwater. The water is projected to reach a salinity level exceeding 35,000µs/cm within a century which is unsuitable for livestock or agricultural uses.

This does not accord with best practice or even leading practice in mine rehabilitation and will leave a stranded asset that will continue to impact on the local environment.

The proponent also claims that “The Project addresses the welfare of future generations while realising economic benefits. The welfare of future generations has been considered through minimising disturbance, building beneficial infrastructure and a postmining landform. The Project aims to preserve, where possible, the ecological value areas and has designed the project footprint to minimise impacts as reasonably practicable”.

In the assessment of the options for the final landform, the Proponent has clearly placed economic gain as more important than the protection of the local environment, water quality in

the Great Barrier Reef catchment and inter-generational equity. Specifically, the Proponent argues that it may not be economically feasible to either backfill the void or even reduce the size of the void.

Recommendations:

9. The Proponent is required to backfill and rehabilitate all pits rather than retaining a huge void with high salinity water which will continue to significantly impact on the broader Central Queensland environment well after the mine is closed.

Conclusion

EnvA is of the view that this Project does not provide a reasonable assessment on which to base a decision that the mine 'stacks up'. The proposal demonstrates that the Proponent's economic gains are considered more significant than the impacts to the environment and the lasting social impacts of leaving a polluting stranded asset.

The production of approximately 160 million tonnes of coal over the extended 20-year production schedule of this project has been justified as an opportunity to contribute to "Australia's position as a primary global producer of high-quality coking coal products, contribute to the local economy through local employment and contribute royalties to the State of Queensland". The lack of emissions estimates and an assessment of the coal quality flies in the face of this argument.

EnvA believes that the current approved metallurgic coal extraction in the region adequately meets the requirements to meet market demand and the local economy for a number of decades.

The cost to the Queensland and Australian government in recovery from climate induced severe weather events, and the cost to many other industries from environmental harm (i.e. tourism associated with the Great Barrier Reef) far outweighs any economic benefit to the community that would stem from this Project.

Summary of recommendations

Our strong view is:

- That this application is refused on the basis that the environmental impacts are significant and not in line with meeting legislated emission reduction targets or BHP's own commitments to emission reductions.

The alternative:

- The assessment of this application be postponed until a decision is made on the reconsideration of this Project by the federal government.
- The Proponent provides further information on projected emissions and proposed methods of reducing emissions as requested in the RFI.
- The Proponent provides detail on the percentages of thermal and metallurgical coal, and the characteristics and classification of coal are provided.
- The Proponent specifically addresses the concerns raised by the IESC in a current context and adequately addresses the suitability of water quality monitoring.
- Proponent provides a thorough assessment of the cumulative impacts of modified water quality on MNES in downstream environments from waterway dependent species, groundwater dependent ecosystems through to the Great Barrier Reef taking into account the likelihood of concurrent releases from all nearby coal mines.

- The Proponent provides detailed information on the cumulative impacts on all threatened species and communities identified from the Caval Ridge mining lease.
- The Proponent provides an alternative offset for king bluegrass, or details specific performance criteria and provides a significant bond should the re-establishment of king blue grass fail.
- The Proponent is required to backfill and rehabilitate all pits rather than retaining a huge void with high salinity water which will continue to significantly impact on the broader Central Queensland environment well after the mine is closed.

Thank you again for the opportunity to provide comment on the proposed Caval Ridge Horse Pit Extension Project.

Yours sincerely,



Dr Coral Rowston

Director

Environmental Advocacy in Central Queensland