

Notice

Environmental Protection Act 1994

Information request

This information request is issued by the administering authority under section 140 of the Environmental Protection Act 1994 to request further information needed to assess an amendment application for a site-specific environmental authority.

To: Hail Creek Coal Holdings Pty Ltd;
Marubeni Resources Development
Pty Ltd;
Sumisho Coal Development
Queensland Pty Ltd

Level 44, 1 Macquarie PI Sydney
NSW 2000

By email transmission only

ATTN: Alan Shaw, Alan.Shaw@glencore.com.au

Our reference: EPML000661913

Further information is required to assess an application for environmental authority

1. Application details

The amendment application for a site-specific environmental authority was received by the administering authority on 11 January 2024.

The application reference number is: **A-EA-AMD-100576264**

Land description: ML 4738 and ML 700026

2. Information request

The administering authority has considered the above mentioned application and is writing to inform you that further information is required to assess the application (an information request).

The information requested is provided in Appendix 1 below.

3. Actions

The abovementioned application will lapse unless you respond by giving the administering authority -

- (a) all of the information requested; or
- (b) part of the information requested together with a written notice asking the authority to proceed with the assessment of the application; or
- (c) a written notice –
 - i. stating that you do not intend to supply any of the information requested; and
 - ii. asking the administering authority to proceed with the assessment of the application.

A response to the information requested must be provided by 16 September 2024 (the information response period). If you wish to extend the information response period, a request to extend the period must be made at least 10 business days before the last day of the information response period.

The response to this information request or a request to extend the information response period can be submitted to the administering authority by email to CRMining@des.qld.gov.au.

If the information provided in response to this information request is still not adequate for the administering authority to make a decision, your application may be refused as a result of section 176 of the *Environmental Protection Act 1994*, where the administering authority must have regard to any response given for an information request.

4. Human rights

A human rights assessment was carried out in relation to this decision/action and it was determined that **no human rights are engaged by the decision.**

If you require more information, please contact the department using the contact details provided below.



Signature

15 March 2024

Date

Scott Sullivan
Department of Environment, Science and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Business Centre Coal
PO Box 3028, Emerald QLD 4720
Phone (07) 4987 9320
Email: CRMining@des.qld.gov.au

Appendix 1: Additional information

Item	Relevant Document section	Matter	Information required
Environmental Values			
1	Surface water	<p>As per the <i>Environmental Protection Regulation 2019</i> (EP Reg), the site must continue to implement effective environmental strategies with regards to water, including specific performance outcomes.</p> <p>Moreover, since this EA amendment is a major amendment for a mining activity located within the GBR Catchment; the Reef Discharge Standards may apply.</p> <p>Whilst the amendment application does not propose a new release point for mine affected water, Table 31 states that: “<i>There are no changes to the authorised frequency or volume of mine affected water releases from HCOC as a result of the Project...., however the impacts (flow) will continue for a longer timeframe, with flows directly downstream slightly elevated following significant rainfall event.</i>”</p> <p>The supporting information does not confirm that the existing mitigation and management measures can achieve the performance outcomes for water as per the EP Reg and whether Reef Discharge Standards apply.</p>	<p>The applicant must:</p> <p>(a) Provide justification that how the existing management actions will be suitable for the proposed expansion. Otherwise, provide updated Water management Plan (WMP) including water balance model, Erosion and Sediment Control Plan (ESCP), and receiving Environment Management Plan (REMP) that include consideration of the proposed expansion.</p> <p>The ESC plan must include locations and descriptions of all proposed erosion and sediment control measures.</p> <p>(b) Provide more details about how the expected longer (duration) and elevated (volume) flow will impact the total volume of mine affected water released, including details of:</p> <ol style="list-style-type: none"> i. Identification of potential sources of dissolved inorganic nitrogen (DIN) for the proposed amendments. ii. Assessment of the additional sediment attributed to the amendments proposed in HCM, and generation of sediment-laden water. iii. Volumes of additional mine affected water generated as a result of longer and elevated flow.
2		<p>Hail Creek is a defined watercourse and is proposed to be diverted. The application states that a detailed design of diversion will be prepared by an appropriately qualified person and submitted to department for endorsement prior to construction.</p>	<p>The applicant must:</p> <p>(a) Confirm whether the diversion will be permanent or temporary;</p>

	<p>In the absence of information about functional design and whether the diversion will be temporary or permanent it is not clear whether relevant outcomes for the creek diversion as stated in <u>Guideline: Works that interfere with water in a watercourse for a resource activity</u>, will be achievable or not.</p> <p>This information is required to determine environmental impacts of the watercourse diversion due to proposed expansion.</p>	<p>(b) Provide functional design details of Hail creek Diversion; and</p> <p>(c) Undertake assessment of diversion to demonstrate that the outcomes stated in <u>Guideline: Works that interfere with water in a watercourse for a resource activity</u> will be achievable.</p>
3	<p>In section 8.3.3 of the supporting document, erosion and scouring potential exceeded the ACARP Guideline criteria for all 5 diversions (4 drainage features and 1 watercourse diversion). The application stated that TUFLOW modelling, to determine erosion and scouring potential, was based on the <i>depth-averaged</i> approach and are therefore appropriate for use as indicative information only.</p> <p><u>Depth specific modelling</u> is required to accurately analyse stability of proposed diversions.</p>	<p>Provide depth specific TUFLOW modelling that will demonstrate erosional and scouring stability of the proposed diversions.</p>
4	<p>Residual void modelling over a period of 200 years following closure and with 100 different sequences of rainfall showed sufficient capacity below spill level i.e. freeboard. Freeboard was calculated as difference between the equilibrium void lake level and the minimum void crest elevation/spill level. Considering that equilibrium is a range and not the exact value, it is unclear what the values are presenting in column 4 of Table 9-3 in the supporting document. If it is maximum level, it is also unclear what level of event (or circumstance) was used to calculate the maximum level.</p>	<p>Provide clarification that for each of the final voids, at anticipated maximum (as opposed to equilibrium) levels, sufficient capacity remains in each void to avoid overtopping (and floodwater ingress) during defined weather events (e.g. 0.1% AEP).</p>
5	<p>In the supporting document, the approval of the proposed amendment will increase the total mine pit footprint extent by 22% (from 2,873ha to 3,511ha).</p> <p>The water balance model showed that negligible change is foreseen in the predicted storage volumes within the pit if the extended footprint scenario were to be approved. Excess water accumulating in the proposed Homevale Pit will be transferred to the Eastern Release Dam; the largest surface storage at HCM. Surface dam levels are stated to be maintained with sufficient freeboard to ensure limited potential for spilling or overtopping. When the dam levels rise above this, excess water, which cannot be discharged in accordance with the controlled releases</p>	<p>Provide a water balance model that will demonstrate that the storage capacity of surface dams, pit voids and temporary water storages (Ramps 3 and 5) during <i>operational phase</i> and <i>under significant weather events</i> (i.e., 0.1% AEP) will still be sufficient if the extended footprint scenario were to be approved.</p>

		<p>requirements, will be transferred to Ramp 3 & 5 for temporary storage.</p> <p>There is a lack of information about the storage capacity of surface dams, pit voids and temporary water storage (Ramp 3 and 5) <i>during operational phase</i> and under significant weather events (i.e., 0.1% AEP).</p> <p>This information is required to assess the surface water management system for the current operations and the remaining LOM.</p>	
6		<p>Assessment of flood modelling (Figure 39 – supporting document) shows that with the proposed expansion, peak flood levels for 0.1% AEP will extend beyond the HCM boundary and specifically in the biodiversity corridor in the north of ML4738. No Impact assessment has been provided in this regard.</p>	<p>Provide details of impacts of peak flood levels modelled under 0.1% AEP scenario (>285m AHD) on the biodiversity corridor of HCM.</p>
7		<p>By looking at Figure 40, there are areas where peak flood levels are also >250m AHD. These areas coincide with the confluence point of Schammer Creek with Hail Creek immediately east of Main West Pit and the Hail Creek diversion around Homevale Pit. The application lacks details about how afflux with peak flood levels higher than existing conditions will impact HCM water infrastructure and management.</p>	<p>Provide details about impacts of afflux with peak flood levels higher than existing conditions (as identified in point a above) on HCM water infrastructure and management.</p>
8	Ground water	<p>Based on national studies, the riparian corridors of Hail Creek, Bee Creek, Middle Creek, and some channel sections, have been designated high-moderate potential aquatic and terrestrial GDEs.</p> <p>It has been assumed that given their ephemeral nature, and low likely potential of deeper-rooted vegetation to access groundwater due to the depth to groundwater along the riparian zones being ~2-10m, no impacts on surface and/or terrestrial GDE's have been determined.</p> <p>However, there have been no field studies to confirm the presence of terrestrial GDEs in these areas, their level of dependence on groundwater and their resilience or potential sensitivity to changes in groundwater levels.</p>	<p>The applicant is required to:</p> <ul style="list-style-type: none"> (a) Undertake field studies to groundtruth the presence of terrestrial GDEs against the national GDE Atlas; and (b) Determine the level of dependence of groundtruthed GDEs on groundwater and their resilience or potential sensitivity to changes in groundwater levels due to proposed expansion.
9		<p>Table 5-15-2 of Appendix C provides details of monitoring bores. The table provides information in relation to the bores but does not provide the history of water level and water quality data available</p>	<p>Provide an updated Table 5-15-2 which details the history of water level and water quality data available for each bore and the current status of each bore.</p>

	<p>from the bores. It also does not note the current status of each bore (e.g. existing or abandoned).</p> <p>This information required for an understanding of what data is available to support the conceptualisation and the numerical groundwater model development.</p>	
10	<p>Section 11-1 of Appendix C states that: <i>“HCOC has a Groundwater Management Plan which sets out their current groundwater monitoring program. This program is designed to detect anticipated mining related impacts on groundwater levels and changes in groundwater quality. Figure 11-1 shows the current groundwater monitoring bore network for HCOC as presented in their Groundwater Management Plan (note that more detail is provided within Section 5.1 on HCOC groundwater monitoring). There are currently 16 bores which are monitored at the frequency, and for the parameters, outlined in Table 11-1.”</i></p> <p>Figure 11-1 is a useful map as it provides the locations of all the monitoring bores discussed. There should however be a list of the 16 bores currently being monitored.</p>	<p>Provide a table in Section 11 of Appendix C which identifies the 16 bores currently being monitored.</p>
11	<p>The contours of water level elevations provided, are useful but the data points used to develop the contours are not provided.</p> <p>It is important to understand how much of the groundwater contouring and therefore interpreted groundwater flow direction is supported by actual data. The plotting of data points on the contours would greatly enhance this understanding and provide more confidence in the simulated and predicted contours provided by the model.</p>	<p>Provide updated figures 5-7 and 5-8 in Appendix C with the known data points, which were used to develop contours, marked on the figures.</p>
12	<p>Section 2.4.2 of Appendix D states: <i>“All of the water courses in the Project area are highly ephemeral and dry for most of the year. Therefore, the river cells representing water courses were simulated in the model as being dry and were assigned a stage height of 0.0 m, effectively making them act as drain cells.”</i> Based on this statement, it appears that the model cannot simulate recharge to the alluvium via the watercourse.</p> <p>In section 3.6, calibration hydrographs are provided for alluvial bores GWMB13A, GWMB14A, GWMB12A and GWMB22A. In each</p>	<p>Review the issues associated with accurately modelling the alluvium and:</p> <ul style="list-style-type: none"> (a) Update Table 7-2 of Appendix D accordingly. (b) Provide updated information on how these limitations in the existing modelling are likely to impact predictions of mining impacts on alluvial groundwater and creek flows.

		<p>case the generally flat model simulated water level is unable to match the seasonal trends in the observed data. It seems likely that the inability of the model to simulate recharge from the creek in high flow periods is contributing to these poor matches.</p> <p>The inability of the model to model the alluvium in a manner that it is conceptualised is also evident from the statements provided below (Appendix D):</p> <ul style="list-style-type: none"> • Section 3.7.1 states: <i>“A net outflow of 0.66 ML/d from the model occurs due to baseflow seepage to drainage systems although the creeks are ephemeral, and this is considered to be a feature of the model over predicting water levels in the area of some drainage features. All the watercourses in the model domain are ephemeral and only flow occasionally in response to surface runoff. When they do occasionally flow, they will be “losing” i.e., creek flow will be seeping into the creek bed.”</i> • Section 3.8 states: <i>“The combination of uncertainty in the thickness of the alluvium (and thicker than actual representation within the model), and the general overprediction of groundwater elevations will result in simulated saturation of the alluvium levels in locations where it is actually thin and unsaturated.”</i> • Section 4.6.2 states: <i>“As discussed in Section 2.4.2, the creeks within the model domain were set up with a stage height of 0.0, which means they are simulated as gaining systems (i.e., negative net flow). Comparing the river flow budgets for the creek in the Proposed against the Approved Scenario indicated insignificant change (<0.05 ML/day) in the net flow in the creeks due to HCOC Extension. However, all the creeks within the model domain are ephemeral and flow only in response to significant rainfall runoff events and will lose water to the underlying alluvium when they do flow. The small “outflow” to river cells in the simulations results from a general over prediction of groundwater levels by the model and is not considered an accurate simulation of baseflow to the ephemeral creeks represented in the model.”</i> 	
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		<p>Due to the model being unable to model the alluvium in a manner that it is conceptualised, any predicted impacts of mining on the alluvium would be considered to contain significant limitations.</p> <p>It is to note that Table 7-2 of Appendix D states: “<i>Extent of modelled alluvium consistent with mapped extent of alluvium near pits and along Hail Creek. Additional data on alluvium thickness could be used to update future versions of the model.</i>” And: “<i>The model provides a close fit to groundwater levels in alluvium, generally within 5 m of observed levels. However, there are only a few bores monitoring the alluvium. Additional monitoring would verify the presence/absence of groundwater in the alluvium and provide more information on the thickness of the alluvium in the Project area.</i>”</p> <p>Table 7-2 has very limited suggestions as to how to deal with number of limitations in relation to the modelling of the alluvium, as noted throughout the report.</p>	
13		<p>Section 3.6.4 of Appendix D states: “<i>The bores immediately near the water hole are GWMB30B, GWMB29, GWMB24A, GWMB24B and GWMB28A and are all screened in the FCCM.</i>”</p> <p>Calibration Hydrographs are then provided for each of these bores where they are identified as Rewan bores.</p> <p>It seems likely they are all Fort Cooper Coal Measures bores based on other information in the report, but clarification is required.</p>	<p>Review section 3.6.4 of Appendix D and clarify which formation bores GWMB30B, GWMB29, GWMB24A, GWMB24B and GWMB28A are monitoring.</p>
14		<p>The executive summary of Appendix E states: “<i>KCB Australia Pty Ltd (KCB) has been commissioned by Glencore to undertake a hydrogeological assessment of the Brumby Water Holes, to support Hail Creek Open Cut’s Progressive Rehabilitation and Closure Plan (PRCP) and subsequently for the proposed Environmental Authority Major Amendment Application.</i>”</p> <p>The mention of the <u><i>Environmental Authority Major Amendment</i></u> application in this paragraph is the only mention in this report of that application. There is no mention of the updated numerical groundwater model used to support that application and described in Appendix D.</p> <p>Moreover, section 2.2.1 states: <i>The objective of this localised study was to supplement the site-wide hydrogeological assessment and groundwater modelling that SLR has undertaken for the HCOC</i></p>	<p>Provide advice as to which SLR numerical groundwater modelling was used to support the KCB modelling described in Appendix E (Brumby Waterhole) and what impacts this is likely to have.</p>

		<p><i>PRCP.” And: “SLR’s groundwater modelling predictions are used as boundary conditions for the localised BWH model.”</i></p> <p>Section 6.1 Model updates for predictions state: “<i>Variable heads at the boundary of the focused model where it interacts with the SLR model (Figure 6.1) were updated to represent the time-variant heads predicted by SLR (Figure 6.2).</i>”</p> <p>The concern is whether the SLR numerical groundwater modelling including the proposed additional pits has been used to inform the KCB Brumby Waterholes small scale model, or has the SLR PRCP numerical groundwater model, without the proposed additional pits, been used.</p> <p>Two of these proposed additional pits, Homevale Pit and Exevale North Pit are located adjacent Brumby Waterholes.</p> <p>There appears to be no confirmation in Appendix E that this updated SLR modelling was used.</p>	
15	Air	<p>As per Queensland Resource Industry Development Plan (June 2022), decarbonisation commitments are critical to achieve Queensland’s emissions reduction targets for 2023 and 2050. The application does not provide any information regarding the contribution of the proposed extension on greenhouse gas (GHG) emissions and what abatement targets and strategies are in place to manage those emissions.</p> <p>Due to the nature of mining methods (open cut) and types of coal being produced, there are high chances of fugitive emissions during the operations.</p> <p>There are reports (EMBER 2023, Sadavarte et al., 2021) which have stated that HCM has much higher fugitive methane emissions reported to regulators.</p> <p>For this application the proposed GHG emissions from the expansion must be accurately calculated. This information is required to demonstrate decarbonisation commitments as per Queensland Resource industry development plan (June 2022).</p>	<p>The applicant must:</p> <ul style="list-style-type: none"> (a) Identify background GHG emissions that would include emissions from current project and nearby activities or sources that are not resulted from the project but may emit GHG (point source or diffuse) including naturally occurring (potential or actual) sources. (b) Use best-practice methods to calculate the projected GHG emissions from the proposed expansion and increased LOM, including: <ul style="list-style-type: none"> i. an inventory of projected annual Scope 1 and Scope 2 emissions for each GHG over the life of the project; and ii. an estimate of annual Scope 3 GHG emissions for the life of the project. <p>When estimating fugitive emission, it must be noted that Method 2 within National Greenhouse</p>

			<p>and Energy Reporting Act 2007 (NGER Act) uses emission factor (EF) that is almost three orders of magnitude lower than the default Method 1. The calculation method chosen must be justified.</p> <p>(c) Proposed management practices applicable to the GHG emissions that will be generated as a result of the proposed amendment, including any abatement measures that will contribute to Queensland’s climate targets.</p> <p>(d) Identify risks and likely magnitude of impacts to environmental values, including:</p> <ul style="list-style-type: none"> i. a comparison of projected activity-specific emissions intensity with industry average emissions intensity; and ii. a comparison of expected project GHG emissions with the remaining global (IPCC 2018), national and state emissions budget.
<p>16</p>		<p>Monitoring data available from the <u>existing air monitoring network</u> was used to determine impact of the proposed expansion on air quality. Assessment of potential air related impacts (dust generation) from the proposed amendment was undertaken <u>qualitatively</u>.</p> <p>Sensitive receptors R1 (4 km south of amendment Area 4) and R2 (8 km south of amendment area 4) appear to be at risk of impacts from poor air quality due to the proposed expansion, given:</p> <ul style="list-style-type: none"> (a) Predominant air direction in east-southeast and south-southeast; (b) Expansion of Carrinyah pit in south (amendment Area 4); and (c) Absence of any dust deposition gauge in the entire southeast part of HCM. 	<p>The applicant is required to re-evaluate the <u>suitability of existing air monitoring network</u> for proposed expansion by:</p> <ul style="list-style-type: none"> (a) Considering prevailing wind direction; (b) Absence of any air monitoring station in southeast where R2 is present; and (c) Increased proximity of amendment Area 4 to R1. <p>Otherwise, provide <u>quantitative assessment</u> (i.e., updated air dispersion modelling) of potential air impacts from the proposed expansion. In this regard, <u>Guideline Application requirements for activities with impacts to air</u> is a useful resource.</p>

		The supporting document states that: <i>“whilst there have been some measured exceedances of dust deposition levels and PM10 ambient air quality objectives, these were all measured at locations close to the current mining activities.”</i> However, no evidence has been provided to demonstrate the absence of any adverse effects of these exceedances to the sensitive receptors.	If a change in impact to sensitive receptors is determined, provide information on how potential release of air emissions will be managed to prevent or minimise adverse effects on environmental values.
17	Noise	In section 2.2 of Appendix G, baseline noise monitoring carried out in 2014 and at R1 was considered for the current proposed expansion. The justification was given as (a) low background noise measurement in 2014, and (b) no significant development in the vicinity of R1 since 2014. More details are required to justify the applicability of 2014 Noise assessment at R1 due to this proposed expansion and by considering remaining sensitive receptors.	Provide more details about the applicability of the 2014 Noise assessment at R1 due to this proposed expansion and by considering remaining sensitive receptors (i.e. R2, R3 and Homevale National Park).
18		As per Appendix G, <i>“The cumulative noise impact assessment completed for the Project identified that the predicted contribution of mine noise from SWC will have no material effect on the received mine noise levels at the Fort Cooper Homestead.”</i> The noise assessment presented in Appendix F does not provide details of cumulative noise impacts on other sensitive receptors (i.e., Kemmis Creek station, Carrinyah Station). Also, there is no evidence of ‘no material effect’ on the received mine noise level at the Fort Cooper Homestead.	Provide details of cumulative noise impacts on all sensitive receptors. Also provide evidence of absence of any material effect of proposed expansion on the received mine noise level at the Fort Cooper Homestead.
19		Appendix F states, <i>“The assessment has modelled total HCOC noise with the proposed Carrinyah Pit and Exevale Pit extensions from two (2) representative operational mining scenarios based on mine plans for the Year 2033 and Year 2036”.</i> As per Table 10 of Appendix G, Year 2033 is chosen to assess the initial progression into the project extension area and Year 2036 is chosen to assess the final stages of mining. As detailed in IR item 4.2 below, the proposed expansion seems to increase the LOM to 2044 and hence Year 2036 will not be representative of final stages of mining. Moreover, the statement above does not include	Pending response to IR item 4.2 below, re-evaluate the final Year for noise modelling. Also, provide justification that noise impacts from the development of Homevale Pit have been considered in the assessment process.

		reference to noise impact assessment from the development of the new Homevale Pit.	
20		<p>As per Appendix G, the highest predicted LA1 noise level at R1 exceeded by 3dBA than the existing EA noise limit of 30dBA. The applicant has proposed to increase EA noise limit to 35dB to be consistent with MMC.</p> <p>The MMC are generic conditions and site-specific EA limits must always take precedence over generic MMC. Any suggestions to change EA limits must be supported by sufficient justification to demonstrate that there will be no material impact of modified EA limits on environmental values (noise).</p> <p>Moreover, no evidence has been provided to demonstrate the absence of any adverse effects of these exceedances to the sensitive receptors.</p> <p>It is to note that background noise levels from 2014 were used for this proposed expansion. Though background noise may not have changed since then, the project has changed in terms of size/layout and hence updated quantitative noise assessment is required to ensure absence of any adverse impacts on environmental values of noise.</p>	Provide updated noise assessment, including that for background noise, to demonstrate that the proposed amendment and exceedance in noise level at R1, particularly, will have no adverse effects on environmental values of noise.
21		It is also noted that both air and noise assessment has not been carried out for Homevale National Park. A 'National Park' meets the definition of 'sensitive place' under the EA and must be considered in the air and noise assessment for this amendment application.	Provide details on the extent to which Homevale National Park has been considered in the air and noise assessments.
22	Waste management	HCM manages sediment laden water from disturbed areas by channelling it through sediment dams and over grassland filters. No information has been provided about the expected amount of additional sediment laden wastewater to be generated from the proposed expansion and the capacity of existing sediment dams to accommodate the additional input.	<p>Provide details that will confirm:</p> <ul style="list-style-type: none"> (a) The additional amount of sediment laden water to be generated from the proposed amendment; and (b) Whether the existing management strategies and infrastructure are sufficient to manage the additional sediment laden water. <p>It is noted that response to this item could be supported by an updated ESCP, and response to s41AA requirements under the EP Reg (IR item 2.1).</p>

24		<p>As per section 15.2.2 of supporting information: <i>“Inert construction and demolition waste will be disposed of on site within an active pit and will be progressively buried. The waste disposal will not intersect with an aquifer.”</i></p> <p>More details are required to demonstrate that that current waste management plan is adequate to manage increased volume of waste generated and that in-pit disposal will not intersect with aquifer.</p>	<p>Provide more details that will demonstrate that the waste to be disposed of within an active pit will not intersect with an aquifer, such as the sites waste management plan.</p> <p>Cross-sectional diagrams of the voids and groundwater at equilibrium must be provided (see item 2.5 below).</p>
Post closure and rehabilitation			
24	Non-use management areas (NUMA)	<p>The supporting document states that the proposed amendment will comply with Table H1 of the EA and the PRCP submitted to the department on 30 October 2023. The transitional PRCP for the HCM is currently under assessment with the department.</p> <p>This application is proposing for the new Homevale Pit to be retained as a NUMA. For each proposed NUMA, the applicant is required to state the reasons the area cannot be rehabilitated to a stable condition. Land is a NUMA only if—</p> <ul style="list-style-type: none"> (a) Carrying out rehabilitation of the land would cause a greater risk of environmental harm than not carrying out the rehabilitation; or (b) The risk of environmental harm as a result of not carrying out rehabilitation of the land is confined to the area of the relevant resource tenure and is in public interest; <p>An options analysis to demonstrate that the area has been minimised and the NUMA has been located to minimise risks to the environment will also be required. In addition, any expansion to an existing site must also demonstrate how it has been designed for closure.</p>	<p>The applicant must provide:</p> <ul style="list-style-type: none"> (a) Justification of a NUMA in accordance with section 126D(2) of the EP Act; and (b) An options analysis to demonstrate that the area has been minimised and the NUMA has been located to minimise risks to the environment will also be required.
25	Post Mining land use (PMLU)	<p>For undisturbed areas, the application is proposing grazing PMLU. Details on the pre-mining land use for undisturbed land should be provided and considered when recommending a PMLU. This is especially important for the biodiversity corridor located in the north of ML4078 which has high elevation and native vegetation. Slopes >15% are not suitable for grazing and PMLU of native ecosystem is more appropriate and acceptable for undisturbed areas containing native vegetation.</p>	<p>Provide a map showing pre-mining land use within undisturbed areas and include that information in the final site design map. The PMLU for undisturbed areas must be consistent with pre-mining land use.</p>

26	Land use of Kemmis Pit	<p>The final land use of Kemmis Pit, as NUMA or PMLU, is not clear. The supporting document states that the proposed amendment will comply with Table H1 of EA and the PRCP submitted to the department on 30 October 2023. The final landform Figure provided along with application shows Kemmis pit area as PMLU (grazing), however, in the proposed PRCP application it was a NUMA.</p> <p>This information is required to clearly determine rehabilitation and post closure outcomes for the land.</p>	Provide clarification about the proposed outcome for Kemmis Pit, i.e. NUMA or PMLU.
26	Progressive Rehabilitation and Closure Plan (PRCP)	<p>Section 14 of supporting document states that: <i>“The PRCP details all closure and rehabilitation plans for HCOC, which will be applicable on Proposed Disturbance Areas once approved. The PRCP will be updated post approval of EA amendment.”</i></p> <p>The transitional PRCP for the HCM was submitted on 30 October 2023 and is currently under assessment with the department. The application lacks details about how changes to the final landform due to the proposed amendment will support the rehabilitation outcomes as detailed in the PRCP.</p>	Provide evidence that rehabilitation objective for the HCM can achieve the goal of self-sustaining, non-polluting, safe, and stable, after the proposed disturbance.
28	Final landform design	Further details about design of residual voids (e.g. slope angles, depth of void, water levels at equilibrium) are required to ensure that those voids will be safe, stable, and non- polluting.	Provide cross-sectional diagrams of residual voids to further detail the design of void (including slope angles, depth of void, water levels at equilibrium).
Biodiversity matters			
29	Homevale National Park (HNP)	<p>The application does not provide detailed assessment of likelihood of significant impacts to the HNP due to proposed amendment.</p> <p>HNP is a protected area and is located immediately east of the Project area. Under section 8(2) of the <i>Environmental Offsets Act</i> (2014), an impact on a protected area is significant <i>if a prescribed activity results in a reduction in the natural or cultural values of all or part of the protected area.</i></p> <p>The proposed amendment has potential to reduce natural value of part of HNP by impacting the connectivity of high-quality Koala Habitat and BWH.</p> <p>For details about impacts on Koala habitat, see IR item 4.2 below.</p> <p>In regard with BWH, the proposed extension to Exevale pit will bring open cut mining within 500m of BWH. As per section 9.3.8.1 of EAR, drawdown in the fort cooper coal measures (FCCM) will</p>	Provide detailed assessment of impacts of proposed expansion on HNP by considering impacts on Koala habitat (connectivity) and BWH.

		<p>propagate from the mining area toward the BWH with a maximum predicted incremental drawdown of approximately 1.1m, 0.9m and 0.75m at the location of the lower, middle and upper pools of BWH, respectively.</p> <p>More details are required to determine the impact of loss of Koala habitat (connectivity) and BWH drawdown on HNP.</p>																							
30	Koala	<p>Considering Koala habitat quality, the previous assessment (EcoSM, 2015) identified only RE 11.3.25 as 'high quality' Koala habitat, with other areas considered 'lower quality.'</p> <p>RE 11.3.25 is an ecosystem that fringes water courses and is certainly of high value to Koalas. However, other Regional Ecosystems (REs) are important too.</p> <p>The value of the Koala habitat at each of the proposed pits can be inferred from:</p> <ol style="list-style-type: none"> 1. The REs mapped at each proposed pit location. 2. The modelled suitability of those REs as Koala habitat (Runge <i>et al.</i> 2021). <table border="1" data-bbox="577 853 1263 1193"> <thead> <tr> <th>Proposed Amendment area</th> <th>Regional Ecosystems¹</th> <th>Approximate Area²</th> <th>Suitability³</th> </tr> </thead> <tbody> <tr> <td>Area 2</td> <td>11.9.9</td> <td>139</td> <td>Very High</td> </tr> <tr> <td rowspan="2">Area 3</td> <td>11.9.9</td> <td>70</td> <td>Very High</td> </tr> <tr> <td>11.4.2</td> <td>70</td> <td>Medium</td> </tr> <tr> <td rowspan="2">Area 4</td> <td>11.9.2</td> <td>207</td> <td>Medium</td> </tr> <tr> <td>11.9.7</td> <td>207</td> <td>Medium</td> </tr> </tbody> </table> <p><small>¹ Regional Ecosystems 11.9.9, 11.4.2 are dominated by tree species identified as important to Koala in the Brigalow Belt (Youngentob, K.N, Marsh, K.F., Skewes, J. (2021). A review of koala habitat assessment criteria and methods. Department of Agriculture, Water and the Environment, Canberra)</small></p> <p><small>² From pit areas stated in application (Figs 15-17) – these areas will differ from the total area (599.55 ha) calculated as significant residual impact due to the habitat criteria applied. Includes inlaying riparian ecosystems along waterways.</small></p>	Proposed Amendment area	Regional Ecosystems ¹	Approximate Area ²	Suitability ³	Area 2	11.9.9	139	Very High	Area 3	11.9.9	70	Very High	11.4.2	70	Medium	Area 4	11.9.2	207	Medium	11.9.7	207	Medium	<p>Provide detailed impact assessment of Koala habitat using:</p> <ol style="list-style-type: none"> (a) The proposed additional areas, (b) Protected areas within the mining lease, (c) State biodiversity corridor, and (d) The full extent of Hail Creek where it bisects the mining lease. <p>To do this, undertake seasonal surveys based on best-practice methods. The survey results must adequately assess Koala presence/use of the site.</p> <p>Further detail about connectivity of remnant habitats within the final landform are also required.</p>
Proposed Amendment area	Regional Ecosystems ¹	Approximate Area ²	Suitability ³																						
Area 2	11.9.9	139	Very High																						
Area 3	11.9.9	70	Very High																						
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Area 4	11.9.2	207	Medium																						
	11.9.7	207	Medium																						

		<p>³ Runge, C.A., Rhodes, J.R., Lopez-Cubillos, D.S. 2021. Mapping Koala habitat for greater Queensland report. NESP Threatened Species Recovery Hub Project 4.4.12 report, Brisbane.</p> <p>In addition, Koala habitat in the northern section of the mining lease intersects a Statewide Biodiversity Corridor that recognises an important east-west linkage that includes HNP. This corridor contains tracts of continuous remnant vegetation and wildlife refugia (BPAACA report & BB-BPA Expert Panel Report v2.1). Habitat loss and fragmentation in this northern section of the mining lease, where proposed amendment Areas 1, 2, and 3 are situated, would weaken this important linkage, and effectively isolate the habitat that remains in the central section of the mine site along Hail Creek.</p> <p>More recently, WildNet recorded Koala in the southern part of the mining lease in October 2019. Clearing of proposed amendment Area 4 would weaken the remaining connectivity in the southern part of the mining lease, effectively severing the southern end of Hail Creek from HNP. As these areas will remain voids, there is also little prospect of connectivity being restored.</p> <p>The extension would also result in loss of connectivity with remaining habitat along Hail Creek, black ironbox habitat offset areas, and glossy black-cockatoo habitat.</p> <p>Survey effort during previous ecological assessment (EcoSM, 2015), <i>covering approximately 25 - 30ha (4%)</i> of the above areas in <i>one season</i>, was inadequate to establish either Koala use of the proposed pit sites or the value of the Koala habitat that occurs there.</p> <p>A detailed assessment is required to make sure that there will be no significant impact on Koala habitat and numbers from the proposed expansion.</p>	
31	Australian Painted Snipe (APS)	<p>APS is a threatened fauna species listed under the NC Act. Its habitat was found during previous assessments (EcoSM, 2015). The current assessments did not identify any APS habitat and hence this species was not considered for impact assessment.</p> <p>No justification and/or explanation has been provided about why it is not present anymore whilst its habitat existed previously.</p>	<p>The applicant is required to:</p> <ul style="list-style-type: none"> (a) Provide details of the evidence used to determine Australian Painted Snipe habitat is not present within impact area; and (b) Based on the results from (a), provide impact assessment of proposed expansion on Australian Painted Snipe

<p>32</p>	<p>Offsets</p>	<p>Section 7.2 of the supporting document, states that the proposed expansion will impact upon Matters of State Environmental Significance (MSES) and MNES (national significance).</p> <p>Section 7.2.3 states that: <i>“After the initial survey of the proposed mine plan SLR identified potential opportunities to avoid impacting certain environmental values. HCC has adopted these recommendations where appropriate. The initial mine plan included an area of 707.3 ha which was then reduced to 687.7 ha. Details of the reduction as a mitigation measure are included in section 6.2.4.”</i></p> <p>This section appears to have been omitted from the supporting document.</p> <p>Section 16 of the supporting document states that <i>“From impact assessment conducted by SLR (2023b), development of the Proposed Disturbance Areas is likely to result in a significant residual impact (SRI) to MSES and a significant impact (SI) to MNES. Environmental offsets will be required through the State and Commonwealth approvals process.”</i></p> <p>SLR (2023b) has determined the impacts of proposed expansion on MSES and MNES but does not detail the mitigation measures. Consequently, the opportunity to ‘avoid’ the impacts under the principles of the Offsets Act, has not been clearly demonstrated.</p> <p>Under section 14 of the Environmental Offsets Act 2014 (Offsets Act), <i>‘The administering agency may impose the offset condition only if satisfied ... (b) all reasonable on-site mitigation measures for the prescribed activity have been, or will be, undertaken.’</i></p>	<p>To satisfy the requirements of the Offsets Act and the department’s consideration to impose an offset condition on the EA, the applicant is required to:</p> <ul style="list-style-type: none"> (a) Justify how impacts to prescribed environmental matters (PEMs) will be or have been avoided; and (b) Where impacts cannot be avoided, provide details of how impacts to each PEMs will be mitigated – and why avoidance is not reasonable.
<p>33</p>		<p>After considering if avoidance and mitigation measures are adequate (item 4.4), the department will need to consider if an offset is a suitable outcome should an SRI remain for any PEMs. As per section 3.6 of the <u>General guide for the Queensland Environmental Offsets Framework</u> the department must have a high level of confidence that a suitable offset can be selected, designed and managed, to achieve a conservation outcome and maintain the viability of the PEMs to be offset.</p>	<p>The applicant is required to provide:</p> <ul style="list-style-type: none"> (a) Additional details of the availability and viability of land-based offsets for each impacted matter to deliver a conservation outcome. <p>The available offset area must demonstrate the known sightings of the species and that the landholder is willing and able to implement conservation management to improve the conservation outcome for the species population within the proposed offset area.</p>

			<p>(b) Pending the response to (a), provide an assessment of the area in hectares (ha) of each PEMs which is available to be used as an offset in the bioregion and subregion.</p> <p>Areas available for offsets include those which contain the PEMs in question, are on freehold or leasehold land, not already protected, are not at risk from completing land uses (e.g. mining, quarrying or forestry) and are not otherwise inappropriate for use as an offset area.</p> <p>The assessment must include a spreadsheet and shapefiles of lot-on-plans identified as suitable for offsets and available to deliver a conservation outcome.</p>
34		<p>In section 16.1 of the supporting document, a referral under the <i>Environmental Protection and Biodiversity Act 1999</i> (EPBC referral) <u>will be</u> made to the commonwealth regarding the MNES (Squatter pigeon (southern) and Koala).</p> <p>The details of the outcomes of this referral whether the activity will be considered as a controlled action requiring offsets under EPBC or not are required for assessing the amendment application.</p> <p>Note: <i>Where the Commonwealth has not decided regarding impacts to overlapping PEMs, the department (DESI) is required to assess impacts to PEMs. The applicant can seek to remove the offset requirement from the State approval once a decision has been made at a federal level. Otherwise, if a SRI is identified, then the department must impose offset conditions.</i></p>	<p>Provide details of referral made to the Commonwealth Department of Climate Change, Energy, the Environment and Water to determine the need of offsets.</p>
Proposed amendment			
35	ABC mapping	<p>The proposed ABC mapping for categorising the disturbance areas, lacks clarity and does not align with current practices and the existing EA.</p> <p>The application is proposing to disturb an additional 685ha of areas marked as Category B where no mining activities are permitted under the current approval (Condition A1 of EPML000661913). To achieve this, the application is proposing to reconfigure Figure 1 of EPML000661913 by marking the proposed additional 685ha area as Category A (where mining activities are permitted).</p>	<p>The applicant is required to provide:</p> <p>(a) Revised EA mapping to spatially delineate mine domains instead of current ABC maps;</p> <p>(b) Legends to the map about the disturbance footprint, enclosing the details about the domains (pits, minor infrastructure, overburden dumps etc.); and</p>

		This reconfiguration to categorise disturbance is ambiguous and the department requires further clarification on actual disturbance and layout reconfiguration in terms of mine domains rather than ABC disturbance categories.	(c) Details about the total area of disturbance for each domain instead of the ABC categories.
36	Area of proposed expansion	The total proposed area of disturbance for the expansion is not consistent between different sections of the supporting document. For example, section 2.0 stated the area is 687.43ha whilst Table 25 states 638ha.	Address the inconsistency in proposed total and individual areas (ha) of disturbance in the application supporting document and appendices.
37	Life of Mine (LoM) and Run of Mine (ROM)	Section 1.1 of the supporting document states that the proposed amendment " <i>is not seeking to increase the mine's existing annual tonnage limit nor extend mining operations (due to end 2040).</i> " However, as per section 5.4 of Appendix B (Surface Water Impact Assessment Report), " <i>the proposed mining schedule will extend the operational life of the CHPP from 2035 to 2043.</i> " Also, Table 28 shows 2044 as the 'Extended footprint (2037-2044)'. Similarly, whilst the proposed amendment is not seeking approval for increase in extraction rate (20Mtpa), the total extraction of ROM coal and impact of proposed expansion on this total tonnage are unknown.	The applicant is required to provide information regarding the: (a) Number of years added to the current LOM of 2040; and (b) Number of additional tonnes of ROM and product coal that will be produced by the expansion.
38	Haul Road realignment – Driver safety	In section 5 of the supporting document, realignment of the haul road (amendment Area 5) is being proposed to improve driver safety by providing safer access. Insufficient information has been provided to demonstrate that how the realignment will provide safer access as compared with the haul road's current alignment. This information is critical since the road re-alignment will disturb 2.16ha of declared offset area (2017 Ironbox).	Provide more details about how haul road realignment will improve driver safety by providing safer access.
General			
39	Spatial files	The application has not provided any spatial files for the current disturbance and proposed amendment.	The applicant is requested to provide spatial files for current and proposed disturbance with details of domains. The spatial files must include layers for PEMs (MNES and MSES) and surface drainage features.
40	Missing documents	Various documents have been referenced within the supporting document as evidence to support the application but they have not been summarised, nor been provided with application. The documents include:	Provide these documents. Also summarise the relevant and key findings of these missing documents within the supporting document and appendices.

		<ul style="list-style-type: none">• Trigger Action Response Plan• Rehabilitation Management Plan• Erosion and Sediment Control Plan• Annual Rehabilitation and Closure Plan• Water Management Plan• Emergency Management Plan• Noise and Vibration Management Plan• Waste Management Plan• Hydrocarbon Management Plan• Tailings management plan	
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