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 application for a proposed PRC plan.*

To: Coronado Curragh Pty Ltd
Level 33, Central Plaza One, 345 Queen Street
Brisbane City QLD 4000

ATTN: Margaret Stewart, mstewart1@coronadoglobal.com
Per email transmission only

Our reference: C-EATPRCP-100318294, EPML00643713

Further information is required to assess an application for a PRCP schedule

1. Application details

The application for a proposed PRC plan was received by the administering authority on 20 October 2022.

The application reference number is: C-EATPRCP-100318294.

Land description: ML1878, ML1990, ML700006, ML700007, ML700008, ML700009, ML80010, ML80011, ML80012, ML80086, ML80110, ML80112, ML80123, ML80171.

2. Information request

The administering authority has considered the abovementioned 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 attachment 1 'additional information required for proposed PRC plan'.

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

Queensland Government

ii. asking the administering authority to proceed with the assessment of the application.

A response to the information requested must be provided by 28 August 2023 (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 176A 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/action.

If you require more information, please contact Lieze Van Ostaeyen (lieze.vanostaeyen@des.qld.gov.au) and Cc CRMining@des.qld.gov.au.



Signature

14/12/2022

Date

Chris Wake
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Coal Business Centre
PO Box 3028, Emerald QLD 4720
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Attachments

Attachment 1: Additional information required for proposed PRC plan

Attachment 1: Additional information required for proposed PRC plan

Provide a revised PRC plan (Rehabilitation Planning Part and PRCP Schedule) that addresses the following Items.

Item	Relevant section (proposed PRC plan and/or PRCP Guideline)	Matter	Information Request
PRC plan			
1	2.2 Baseline Information EA condition G13	Condition G13 in the EA states that, the rehabilitated land must not exhibit any signs of continued erosion greater than that exhibited on representative unmined areas. The PRCP guideline also requires information about the pre-existing land degradation/erosion (PRCP guideline 3.1). The PRC plan does not include information about the pre-existing land degradation.	Provide information about pre-existing land stability.
2	3. Community consultation Appendix A 'Community consultation plan'	The community consultation process focused on engaging with the Department of Environment and Science, traditional owners and one underlying land holder. Figure 2-18 shows 17 underlying land holders. Community consultation is a key component of the PRC plan and is intended to ensure that anyone impacted by proposed rehabilitation and closure activities at the site has an opportunity to provide input to the planning process. Section 7.1.1 of Appendix A refers to a bi-annual 'near neighbours' meeting for the adjacent and underlying land holders. Appendix A, appendix B, refers to a 'near neighbours' meeting on 19/02/2020 and 17/11/2021. The meeting held on 19/02/2020 discussed the Curragh Extension Project, Exploration Program and drill site rehabilitation which does not directly relate to the PRC plan. The other meeting on 17/11/2021 included an introduction to PRCP's.	Clarify if there were two meetings recorded in a two-year period for a bi-annual meeting frequency. If more meetings were held, an update of the community consultation register is required.
3	3. Community consultation Appendix A 'Community consultation plan'	Section 6.2 of appendix A 'community consultation plan' refers to a quarterly meeting between Coronado Curragh Pty Ltd (CCPL) and the Gaangalu Nation People.	Clarify if there were two meetings recorded in a two-year period for a quarterly meeting frequency. If more meetings were held, an update of

		However, the community consultation register (Appendix B) indicates that two meeting were held with Gaangalu Nation People in the period 30/08/2019 to 14/10/2022, that was on: - 30/08/2019, and - 10/05/2022 Section 6.2 states that the key discussion items included: *The potential for returning artefacts to the land, however, this will involve a conversation with the native title applicants and consideration of what the post-mining land use will be.*	the community consultation register is required. Provide further clarification of the impact of the request to return artefacts to the land, on the post-mining land use.
4	4. Post-mining land uses (PMLU)	This section of the Rehabilitation Planning Part would benefit from an expanded explanation of the proposed PMLU (Light Grazing and Open Woodland). For example, will the open woodland vegetation function to support the grazing outcome. Does this result in scattered trees and shrubs throughout rehabilitated areas or are there belts of woodland? Reference sites should be reflective of the final vegetation composition for the PMLU and could be used to describe the PMLU.	Provide clarity about the proposed land use and a reflective reference site.
5	4. Post-mining land uses	According to the PRCP guideline section 3.2, where applicable the rehabilitation planning part must include a land suitability classification for the proposed land. Condition D28 g) of the EA states that all significantly disturbed land is reinstated to the pre-disturbed soil suitability class.	Please include a land suitability classification for the proposed PMLU(s), which is consistent with condition D28 g) of the EA.
6	4. Post-mining land uses	RA7 includes the stable embankments. The first rehabilitation milestone for RA7 is RM12. RM12 shows that rock mulch is applied to the watercourse side slope.	Provide further information on how the watercourse side slope with rock mulch will support a PMLU of light grazing and open woodland. Please also indicate if cattle will still be able to access the slopes.
7	5. Non-use management areas (NUMA)	The proposed NUMA area in Curragh North, depicted on figure 9-2 and 9-3 ‘Curragh North Improvement areas’ does not match the area shown on figure 9-1 ‘Final Site Design’.	Check if all maps, tables, PRCP schedule and spatial data align for

		This is also reflected in the spatial data. The attribute table shows an improvement area of 1499.58ha (that is consistent with RA1) and a NUMA area 126.64ha.	the proposed NUMAs, and adjust when necessary.
8	6.1.2 Hydrology Appendix G 'Groundwater Technical Appendix'	There is an inconsistency in the post-mining equilibrium void lake level (mAHD) presented in Table 4-1 of appendix G ' Groundwater Technical Appendix' and the level presented in Appendix K Table 5 for the voids referred to as 'Main Other' and 'The Void' The details of the differences are: - Main Other, Appendix G, Table 4-1, 127.4 m AHD, Appendix K, Table 5, 135 m AHD - The Void, Appendix G, Table 4-1, 125.7 m AHD, Appendix K, Table 5, 100m AHD	Review the inconsistencies in the post mining equilibrium void lake levels for 'Main Other' and 'The Void' and provide updated information on these voids.
9	6.1.2 Hydrology Appendix G 'Groundwater Technical Appendix'	Appendix G Table 4-1 compares the predicted equilibrium water levels in the voids with the approximate base of weathering. Appendix G, Figures 2-7 to 2-13 are cross sections showing some predicted final void water levels in comparison to the pre-mining groundwater levels but the pre-mining groundwater levels appear to be dominated by water levels in the shallow alluvium and tertiary sediments. Appendix K, Appendix B, provides graphs comparing predicted final void water levels with the spill level for each void. However, there is no comparison of predicted equilibrium water levels in the voids with post-mining water levels in the Rangal Coal Measures to allow an understanding of the potential long-term movement of water from the voids to the Rangal Coal Measures.	Provide a comparison of the predicted equilibrium water level in each void with predicted post-mining water levels in the Rangal Coal Measures at that location.
10	Appendix G 'Groundwater Technical Appendix'	Appendix G, Section 4.2 post mining equilibrium, states: *Based on the geological data reviewed for this assessment it appears that equilibrium void lake levels are generally below the level of base of weathering (Table 4-1). The equilibrium void lake levels in Pit I and Ramp 9 exceed the approximate*	For each final void where the predicted equilibrium void lake level is close to or above the predicted long term groundwater levels in any adjacent geologic unit, provide a cross section showing the void,

		minimum base of weathering at the voids by about 5 m. Where the base of weathering levels are exceeded by the void lake level, the alluvium and weathered rock profile could potentially present preferential pathways for outward seepage of water from the void lakes. However, lower lake levels in adjacent voids will likely act as sinks for any such seepage. Additional information is required where predicted equilibrium void lake levels are close to or above predicted long term groundwater levels in any adjacent geologic unit.	predicted equilibrium void lake level and predicted long term groundwater levels in the adjacent geologic units and discussion of likely movement of water from the void.
11	Appendix G 'Groundwater Technical Appendix'	Appendix G table 2-3 identifies monitoring bores 1529MB, 1534MB, 1538MB and 1539MB as Rangal Coal Measures bores. Appendix G, Appendix C, calibration hydrographs, identifies monitoring bores 1529MB, 1534MB, 1538MB and 1539MB as layer 10 bores in the groundwater model. Appendix G, Table 3-1, identifies layer 10 as representing the Burngrove Formation west of the fault in the groundwater model. There is an inconsistency in the reference to these bores which potentially impacts groundwater modelling and the predictions of the model.	Provide clarification of what geologic unit these bores are monitoring and how they have been represented in the groundwater model.
12	Appendix G 'Groundwater Technical Appendix'	Appendix G, section 4.2 (Recovery modelling) indicates that higher recharge rates have been assigned to the backfilled areas of the voids (spoil). Section 4.2 states: *The groundwater fluxes to the final voids presented in Table 4-1 are total fluxes, including throughflow from spoil (higher recharge over the spoil and drainage into the final void), and groundwater inflow from the Rangal Coal Measures (RCM).* There is no information provided on the recharge rates applied in the recovery modelling or whether these higher recharge rates were applied in the calibration model and predictive model. This information is required to provide confidence in the modelling of the final void water levels.	Provide information on recharge rates applied to the spoil in the calibration, predictive and recovery groundwater modelling

13	Appendix G 'Groundwater Technical Appendix'	Appendix G section 2.3.2 groundwater levels and flow directions, provides hydrographs. However, groundwater level elevation contours based on observed water level data in each formation, are not provided to support discussion on groundwater flow direction. Additionally in this section there is discussion as to how mining has influenced groundwater flow direction in the Rangal Coal Measures. However there are no contours to demonstrate this and there are no long term water levels to demonstrate changed water levels in individual bores, caused by mining. There is also some discussion in section 2.3.4 effects of faulting on groundwater flow, of the likely impacts of faulting on groundwater flow but no groundwater level elevation contours to support this discussion. It is considered that these contours and longer term water level plots, with commentary, are required to provide an understanding of groundwater flow direction and impacts of mining and faulting, as a basis for successful modelling of these conditions.	Provide groundwater elevation contours based on observed data for the major geologic units and long-term water level data for individual bores with associated discussion of impacts to these water levels over time.
14	Appendix G 'Groundwater Technical Appendix'	Appendix G figure 4-2 provides predicted water table contours at the end of recovery. However they relate to no specific model layer. Otherwise, there are no predicted groundwater elevation contours for individual geologic units, provided from any stage of the groundwater modelling. The presentation of groundwater elevation contours at varying periods during mine development for each geologic unit can assist in providing confidence in the final predicted long term groundwater elevation contours and how they might impact final void water levels and quality.	Provide groundwater elevation contours for the major geologic units (clearly identifying which layer of the model they represent) over various time periods of mine development and post closure.
15	6.1.5 Flooding Appendix D 'Concept Residual Void Assessment': Appendix A: Conceptual Residual Void Assessment Preliminary Flood Impact Report (SLR, 2021)	Section 1.4 of the Conceptual Residual Void Assessment Preliminary Flood Impact indicates that more refined assessment of the flood impact is required to inform the PRC plan. Further it was concluded in the same report that an erosion assessment should be conducted following the refinement of the flood modelling as per above (page 437 of the .pdf).	a) Clarify whether the additional flood assessment works were undertaken and provide a copy of the finalised report when completed. b) In conjunction with the abovementioned additional flood

	Appendix J 'Flood Modelling Report' and Conceptual Residual Void Assessment	Section 6.2 of appendix J states for the Blackwater Creek Diversion that the shear stress of 400 N/m3 and velocity of 2.8m/s is not affecting the diversion functionality, however the ACARP threshold guidance for shear stress is 80 N/m3 Section 4.4 of appendix D indicates that velocities modelled against the stable embankment will be typically 3 – 4.5 m/s and that the Stable Embankment will experience erosion in the long term. Given the abovementioned velocity and stress outputs from the initial flood modelling, additional criteria are requested in RM12 for the "stable embankment" such as FoS, failure zone exclusion from watercourse, exclusion from HW failure zone (end wall/highwall also to have FoS >1.5), rock armouring, erosion targets etc.	modelling, provide further evidence to support the ongoing functionality of the Blackwater Creek diversion given the modelled stress and velocity. For example, provide copies of maintenance and monitoring reports/plans/actions undertaken following significant flow events in the past to demonstrate the claim that this diversion is safe, stable and non-polluting as it currently exists. c) Additionally, where risk areas have been identified in the updated flood modelling outputs (such as high velocities against stable embankments) these will need to translate into SMART criteria for specific rehabilitation areas to ensure that the landforms are designed and maintained and result in a stable, safe and non-polluting final landform.
16	6.1.6 Final Voids Appendix D 'Concept Residual Void Assessment', Appendix A: Conceptual Residual Void Assessment Preliminary Flood Impact Report (SLR, 2021) 9.1 Final Site Design – flood plain extent layer	Appendix J – Section 2.2, Table 3 states that a voids in floodplain assessment that meets the requirements of Section 3.4 of the PRCP Guideline was previously undertaken by SLR (this study is appended to Appendix D of the PRC plan). As inferred in the table, for voids identified as NUMAs in a LOD but where no location has been specified, flood plain modelling that excludes artificial features must be undertaken. The results of this modelling must be presented in the Rehabilitation Planning Part to indicate the location of residual voids within the natural flood plain, and to support how the proposed locations of the residual voids will minimise risks to the environment.	To indicate the location of residual voids within the natural flood plain and to support how the proposed locations of the residual voids will minimise risks to the environment - incorporate relevant conclusions and/or recommendations and figures from the Conceptual Residual Void Assessment Preliminary Flood Impact Report into the Rehabilitation Planning Part.

		Please note also, the flood plain extent required on the Final Site Design is intended to be the natural flood plain modelled as per s41C of the EP Regulation (and in accordance with Section 3.4 of the PRCP Guideline).	Update the Flood Plain Extent layer on the Final Site Design to show the natural flood plain (i.e., without artificial features).
17	6.1.8 Cover Design Appendix L 'Geotechnical Investigation and Assessment of Capping'	Limited information has been provided with regards to the design methodology/objectives for rehabilitation of the Old Tailings Dam (OTD) (section 6.1.8.1 and appendix L 'Geotechnical Investigation and Assessment of Capping').	The design objectives of the capping system must to be clarified and be included in RM11 'installation of cover system / cap'. For example, to demonstrate success, criteria may include SMART criteria for phreatic surface level, infiltration rates, cover system materials parameters, compaction rates, drainage objectives etc.
18	6.1.8.2 B Pit TSF Closure Strategy Appendix M 'Pit B Design plan'	The PRC plan and appendix M section 17 acknowledges that the final surface cover of the TSF will be subject to investigation works and detailed assessment and would typically include an assessment of the geochemistry and leaching of the tailings material which would be used in conjunction with detailed cover analysis in determination of the preferred capping philosophy. Pit B is an in-pit TSF which is part of RA1. The milestones for RA1 are: - RM2: Landform Development and reshaping/reprofiling - RM3: Surface Preparation - RM4: Revegetation - RM5: Achievement of Surface Requirements - RM6: Achievement of Light Grazing and Open Woodland RM11 is not included in RA1. The milestone criteria for RM11 should reflect the outcomes of the investigation works and detailed assessment that needs to be carried out and the requirements of section 3.6.2 of the PRCP guideline.	Provide additional information as described in the recommendation section (section 17) of appendix M in order to address the requirements of the PRCP guideline for TSF. It is suggested that a separate rehabilitation area is created for the in-pit TSF to clarify any differences in rehabilitation approach for this area and appropriate SMART milestone criteria for the cover system are included e.g. capping thickness and permeability.
19	6.1.8.3 Proposed Cover Design for all In-Pit TSFs	Section 6.1.8.3 provides a basic overview of the methodology proposed for the in-pit tailings, however the information provided	For the in-pit TSFs, provide additional PRC planning and PRCP schedule milestone information to

		combined with the proposed schedule is not sufficient to demonstrate that these structures will achieve stable condition.	demonstrate that a safe, stable and non-polluting landform will be achieved. For example, expanding on the elements discussed in 6.1.8.2.
20	6.1.9 Geotechnical Appendix N 'Geotechnical Stability Analysis'	Appendix N 'Geotechnical Stability Analysis' presents the results of initial two-dimensional limit equilibrium slope stability analysis in relation to the final landform designs. However, this study was only carried out for 9 pits whereas the PRC plan is proposing 19 pits. Appendix K 'Residual Void Modelling' does address the 19 pits. The PRCP guideline requires a PRC plan that includes detailed information for all voids (for further information see section 3.6.3). Further to the above, there are a number of limitations of the current geotechnical report as cited in section 7.	Provide the necessary information as required under section 3.6.3 of the PRCP guideline for all 19 voids. Provide further information regarding how the recommendations from appendix N section 7 will be implemented as part of the PRCP and if required consolidated into the PRC Schedule. All geotechnical scenarios were completed on dry pits – provide further information as to how anticipated groundwater levels and saturation of geology and spoil will impact geotechnical safety. There are multiple occurrences in the final landform design where there will be final void/pits remaining as NUMAs in the final landform that are close together and have either in-situ or spoil bridges between them. It is unclear in the PRC plan how the stability of these bridge areas has been assessed and whether or not these areas pose a geotechnical risk to the final landform outcomes
21	6.1.10 Revegetation	Table 6-32 of the Rehabilitation Planning Part lists the typical seed mix used for rehabilitation. Table 3 in Appendix E shows the past and	Revise the species mix to include species identified in Appendix 3,

	Appendix E 'Rehabilitation Management and Monitoring Plan'	recent seeding mix and includes species not listed in Table 6-32 of the Rehabilitation Planning Part. As stated in Section 2.5 of the Rehabilitation Planning Part, Buffel grass should be excluded from the rehabilitation seed mix due to its impact on native tree and shrub recruitment. The species mix should be reflective of the reference sites, as described in appendix 2 of appendix E. Additionally, include a description of the regional ecosystem (RE) that the seed mix is drawn from.	Table 3, except for Buffel (*Cenchrus ciliaris*) and ensure that this species mix is reflective of the proposed reference sites. Provide details of the species composition at the references sites to which you are aiming to rehabilitate to. When tabulating the species mix, indicate for each species the relevant categories in the BioCondition framework (i.e., canopy, sub-canopy, native shrubs, native perennial grasses, native other grasses, non-native grasses, native herbs and forbs, non-native herbs and forbs).
22	6.2 Rehabilitation / Management Strategy Appendix E 'Rehabilitation Management and Monitoring Plan'	The PRCP schedule indicates the proposed PMLU for all rehabilitation areas as 'light grazing and open woodland'. However, table 5 of Appendix E shows the proposed post mine land description and distinguish 3 types of final land uses: - Light grazing and open woodland - Open woodland - Open grassland These 3 types are not reflected in the rehabilitation milestones (RM). As an example, section 6.2.4 mentions that out-of-pit tailings will be seeded with predominantly grass species. Which means no trees will be expected. This matches with the table 5 in Appendix E, which describes the post mine land as 'open grassland'. However, this is not reflected in the milestone criteria of the PRCP schedule. Next to that, the spatial data identifies two PMLU types: grazing and native ecosystem.	Cleary describe for each proposed PMLU type: - the spatial distribution (including spatial data), - the rehabilitation and monitoring approach (i.e., species mix, monitoring), - and provide justification and suitability for each PLMU choice. Adjust the rehabilitation milestone / milestone criteria so that they are reflective of the proposed PMLU.

23	6.2 Rehabilitation / Management Strategy Appendix E 'Rehabilitation Management and Monitoring Plan'	Tables 14 and 15 show the performance and completion criteria. - These criteria can be improved to align with SMART principles. For example, the presence of at least 1 *Eucalyptus* species is a performance criteria; however there is no information on how this is measured spatially and temporally (i.e., 1 species per monitoring site, per hectare, across the whole sites, and in year 1, 5, 10, 20 etc) Furthermore, there is no link between the reference site data (which would have multiple Eucalyptus species present, and the performance criteria). - It is expected that revegetation takes several years as it is a long process. Therefore, it might be relevant to breakdown table 14 and 15 in different stages of vegetation regrowth. - As many of the completion criteria have been translated from the Rehabilitation Management and Monitoring Plan to the PRCP schedule, and because the RMMP provides a procedure to demonstrate achievement of the PMLU, it is important to ensure outcomes achieve SMART principles.	Revise the performance and completion criteria in the RMMP and the PRCP schedule to meet SMART criteria principles, with clear spatial and temporal targets, that link to monitoring, reference sites, and progressive rehabilitation over time.
24	6.2.1 Infrastructure	Section 4.2 of the PRC plan states that there are no landholder agreements for the retainment of infrastructure currently in place. However stakeholder consultation indicated that there is a desire to retain certain infrastructure and laydown areas was expressed. For example, the raw water dams, to support the PMLU of light grazing. The administering authority's expectation of rehabilitation relating to built infrastructure is that it will be decommissioned, demolished, salvaged and/or disposed of unless it is being formally retained by the landholder to achieve an appropriate PMLU (for more information see PRCP guideline 3.6.5). Identification of the infrastructure that will be decommissioned or will remain post rehabilitation is required.	Describe the infrastructure that will remain post rehabilitation and the identification of ongoing maintenance requirements. Evidence of agreement is needed for any infrastructure that will be transferred.
25	6.2.2 Water management infrastructure 6.1.11 Water management	CCPL is proposing to leave all water dams and decommission and rehabilitate all the processing dams. A land contamination study will be undertaken for all processing dams.	Identify the areas where there is a potential for contamination and consequently a land contamination

		In the PRCP schedule, RM7 represents the 'Remediation of contaminated land' milestone. This milestone is applied to RA2 'Infrastructure activities requiring a land contamination study' and RA5 'Water infrastructure'. According to the spatial data, RA5 also includes raw water dams. Whereas the PRC plan does not describe undertaking a contamination study for raw water dams. RA2 also refers to RM7. The spatial data gives an indication of the areas that will be subject to a contamination study, however the PRC plan does not explain this. The PRCP guideline requires that if spillage or accumulation of hazardous substances in the infrastructure areas has occurred for an existing operation that may result in contamination of the soil (i.e. oil spills), the management of the residual contamination must be included in the rehabilitation plan.	study would be necessary and desirable. Ensure that commitments in the PRC plan matches the criteria in the PRCP schedule.
26	6.2.5 Final voids	Section 6.2.5 states: *Once the pit wall is reprofiled a bund will be constructed to limit access to the highwall. Fencing and signage haven't been proposed as these require ongoing maintenance and are unsustainable in the long-term.* On the other hand, section 4.2 states: *CCPL are the underlying landholders of majority of the site. Advice from the underlying landholder and grazier is that the land needs three key things to be used for grazing – water, fencing and feed.* And section 8.1 in appendix D 'Concept Residual Void Assessment', states: *As mentioned in section 6.2.1 of this report, there is a significant space from the top of the highwall to the waterbody and SLR is recommending the installation of bunds, fencing and signage to prevent access to the steeper highwalls*. This information is inconsistent.	Please clarify if fencing is required to support the PMLU. In making this decision safety for animals and persons should be taken into account (PRCP guideline section 3.3). Adjust milestone criteria accordingly if required.

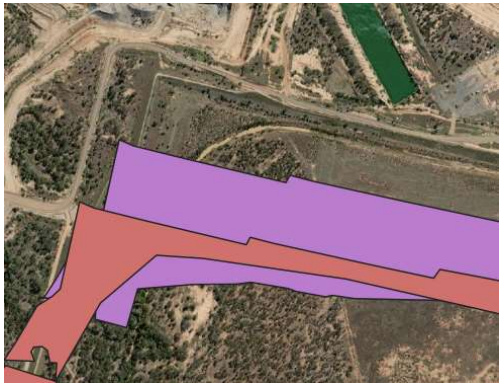
27	6.1.3. Material assessment	The revegetation strategy is to topsoil 65% of the overburden dumps. For the remaining 35%, native tree and shrub species will be planted directly into the overburden. However, the topsoil balance (table 6-19) indicates that there is a surplus of 3,971,478 m³.	Please justify why this approach is chosen given the availability in topsoil and adjust the approach when necessary or explain how the topsoil surplus will be utilised in rehabilitation activities.
28	6.1.3 Material assessment	Waste characterisation undertaken at Curragh Coal Mine indicates that the Tertiary and Permian Material will not be desirable as subsoil and recommends its placement below the root zone. RM3 indicates that only 65% of the overburden dump areas will receive topsoil placement as growth media, and as such it is assumed that this Tertiary and Permian material will be the growth media across 35% of the overburden dump areas.	Clarify topsoil application as per item above and consider including additional milestone criteria for RM3 to address the limitations of the spoil material.
29	6.1.11 Water Management	Two other permanent watercourse diversions (Minnie Creek Diversion and Bonnie Doon Creek Diversion) are proposed to occur, and these are approved by Schedule H of the relevant EA (EPML00643713). It is required that the PRCP Schedule addresses how all areas to be disturbed by mining activities will be rehabilitated to a PMLU. Consequently, these areas must be incorporated into a Rehabilitation Area and assigned relevant Rehabilitation Milestones and Milestone Criteria. The required objectives for permanent watercourse diversions listed in Condition H2 of the EA, provide a basis upon which milestone criteria could be developed for the PRCP Schedule.	Incorporate Minnie Creek Diversion and Bonnie Doon Creek Diversion into the PRCP Schedule. Provide additional commentary in the Rehabilitation Planning Part to support and justify the development of the Schedule as it applies to the diversions.
30	7.5 Rehabilitation trials Appendix E ‘Rehabilitation Management and Monitoring Plan’	Appendix E ‘Rehabilitation Management and Monitoring Plan’, section 3.9 indicates trials are planned for some measures at Curragh North. This section does not address all of the PRCP guideline requirements for trial information (see section 3.7.1). For example: when will the trials commence? According to figure 6-4 in the PRC plan, the steeper slopes (>16%) in Curragh North are proposed to be a NUMA. However the milestone criteria for management areas don’t have a criteria that relates to vegetation.	Provide further clarification about the rehabilitation trials for Curragh North (as per section 3.7.1 of the PRCP guideline) and how this will be transferred across in the management milestones. Clarify if a successful rehab trial for steeper slopes will change the

		Figure 6-3 in the PRC plan indicates that there are also steep slopes (>16%) in Curragh Main. Confirm if the outcomes of the rehabilitation trials in Curragh North will also be applied to the steep areas in Curragh Main. Also confirm if the outcomes of the trials will impact the size of the NUMAs vs PMLU areas?	NUMAs area in favour of the PMLUs?
31	9.2 Rehabilitation / improvement areas Appendix C 'Blackwater Creek Diversion Monitoring and Maintenance Plan' EA condition H2	Blackwater Creek, Minnie Creek and Bonnie Doon Creek are crossing through the Curragh mine site. The proposed PMLU for all rehabilitation areas is 'light grazing and open woodland'. Riparian areas and nearby creeks may require a different rehabilitation approach and it is suggested that consideration be given to a PMLU outcome the aligns with Creek/riparian areas (i.e., creek diversion, wetland, riparian), and the rehabilitation and reference sites should reflect riparian or creek ecosystems, which provide significant habitat and corridor values.	Consider inclusion of a riparian or creek PMLU for the diversions that is consistent with the EA conditions, or justify clearly why a riparian or creek PMLU is not proposed.
PRCP Schedule			
32	Progressive rehabilitation	According to the schedule, RA2, 3 and 5 become available at 10/12/2051. The current anticipated life of mine is 2042 as per section 2.4 and 2044 as per section 2.1 of the PRC plan. This means that the RA2, 3 and 5 don't become available until 7 years after closure.	Ensure each milestone is commenced as soon as practicable after land becomes available for rehabilitation. Include information to justify timeframes presented.
33	Commencement of the first milestone	The schedule indicates the commencement of the first milestone: - RA5 is RM11 in 2051, and - RA6 is RM12 in 2029 However, RM11 and RM12 respectively are not included in these areas.	Revise the commencement of the first milestone for RA5 and RA6.
34	Commencement of the first milestone	The commencement date (Cell E5 in the .xlsx worksheet) of the first milestone for RA7 is missing in the PRCP schedule.	Include the commencement of the first milestone for RA7 in the schedule.

35	RA1	Rehabilitation areas must be based on the proposed rehabilitation methodology applicable to the PMLU. Land that requires a specific type of rehabilitation strategy cannot be included into a broader area as there will be specific milestone only relating to a specific area of land within the larger area. RA1 represents 11,2543ha of the total 12,689ha rehabilitation areas, or 89% of the total rehabilitation area. According to the PRC plan, 1,264ha have previously been rehabilitated. It is recommended that a separate RA be created for areas that have already been rehabilitated. Also, RA1 contains several different disturbance categories making it difficult to discern whether the milestones will be appropriate for all activities. Breaking down the schedule further into separate RAs per relevant activity would provide more transparency and clarity in the PRC plan and schedule. Additionally, annual milestone completion dates have been assigned against RA1. Consideration should be given as to whether annual periods will provide sufficient time to achieve the relevant milestones, particularly if considering the risks to failing to achieve rehabilitation such as wet weather, the size of rehabilitation areas etc. Further guidance regarding timing impacts for PRCP schedules is provided in the PRCP Guideline (Section 4.1, Step 7).	Split RA1 into new RAs: - Create a new RA that only includes the areas that already been rehabilitated. - Create new RAs that further breakdown the different features on site - Consider risks associated with annual milestone timeframes and revise accordingly.
36	RA1 and RA7	RA1 includes several relevant activities, among which is ‘stable embankments’. Additionally, there is a separate RA (RA7) for ‘stable embankments’	Clarify why not all ‘stable embankments’ are combined in a single RA and adjust the schedule if necessary.
37	RA4 Appendix C ‘Blackwater Creek Diversion Monitoring and Maintenance Plan’	The rehabilitation area for the Blackwater Creek watercourse diversion, has two milestones: 1) RM8: maintenance and diversion, completed in 2016 2) RM9: achievement of open woodland and light grazing (watercourse), proposed to be completed in 2065 RM8 appears to have been completed prior to commencement of the PRCP schedule and should not be included.	Please revise the rehabilitation milestones, including all steps taken in the rehabilitation process for the diversion. Please revise the timeframe for RM9 and update the criteria, meeting the SMART principles and consistent

		The rehabilitation planning part indicates that a minimum groundcover of 75% and weediness of maximum 5% should be achieved in a period of 24 months. The establishment of adequate vegetative groundcover is necessary to achieve acceptable scour resistance within the range of velocity, shear and stream power characteristics predicted. The timeframes for RM9 appear inconsistent with the requirement to establish adequate groundcover. In addition the long-term biodiversity outcomes outlined in the rehabilitation planning part have not transferred across in the milestone criteria for RM9. In order to demonstrate that the diversion achieves land in a stable condition, it will be necessary to include milestone criteria regarding geomorphic characteristics into the Schedule.	with the long-term biodiversity outcomes as described in table 6 of appendix C and geomorphic characteristics of the diversion.
38	IA1 and spatial data	The total size for the NUMA (IA1) is 1499ha according to the PRCP schedule. The spatial data indicate an improvement area of 1499ha (field name FEATURE: IMPRV_AREA) and an additional NUMA area (field name FEATURE: NUMA) of 126ha. This information is inconsistent.	Correct the PRCP schedule and / or spatial data, so that there are no inconsistencies in the proposed size for NUMA areas.
39	IA1 Appendix D 'Concept Residual Void Assessment'	IA1 encompasses two milestones: - MM1, and - MM2 MM2 includes the bund highwall area. According to IA1, this is expected to be completed in 2054, which is 10 years after closure. Appendix D (section 8.1) recommends the installation of bunds, fencing and signage to prevent access to the steep highwalls.	Reassess timeframes for the installation of bunding on the highwall area.
40	Rehabilitation milestone criteria	RM7 requires refinement to ensure that all contaminated land is remediated and rehabilitated (as per EA condition D28). It is acknowledged that contaminated land investigations must be completed as the first step, however additional criteria must be included to ensure all land is remediated effectively.	Consider the reference milestones of Appendix 3 of the PRCP guideline for example, investigate, remove/treat/dispose, validate and

			confirm contamination has been removed.
41	Rehabilitation and management milestone criteria	In several instances, the milestone criteria require surface water or groundwater quality to be in accordance with EA limits. EA limits are often designed with consideration to operational aspects and may not necessarily be relevant in the post mining context. Schedule C of EPML00643713 permits releases of mine affected water to surface water in certain circumstances and in accordance with trigger limits for specific contaminants (upon which further investigation is required to determine what impact the releases had upon the receiving environment). The EA also requires implementation of a Receiving Environment Monitoring Program to identify and describe any adverse impacts to surface water environmental values, quality and flows due to mining activities. Groundwater impacts are similarly approached in the EA and consider operational impacts arising from mining activities. Further consideration as to the relevance of the proposed criteria in the schedule is recommended to ensure criteria will adequately demonstrate land has achieved stable condition. A referential approach, or achievement of applicable Water Quality Objectives is recommended.	Consider whether the rehabilitation and management criteria for surface water and groundwater will adequately demonstrate achievement of stable condition and revise accordingly.
42	Management milestones	The Schedule currently proposes two management milestones with a limited number of supporting milestone criteria. Appendix 2 of the PRCP Guideline provides a PRCP schedule example. In this example, three management milestones are given including MM2 Achievement of surface requirements. It is considered likely that this milestone would be relevant to demonstrate sufficient improvement of the residual voids at Curragh will be achieved. MM3 in the example includes milestone criteria that clearly demonstrate the improvement area will not cause environmental harm outside of the relevant tenure. Another important aspect is demonstration that the residual voids are functioning as groundwater sinks.	Review the management milestones and milestone criteria proposed for IA1 and incorporate additional milestones.

Spatial data			
44	FEATURE AND FEAT_DESC	The domain value ‘PMLU’ in the attribute table represents the non-disturbed area, However PMLU should represent all PMLU areas, which encompasses all rehabilitation areas and the non-disturbed areas. In regards of the NUMA areas. It is unclear what then difference is in the field ‘FEATURE’ between the domain values ‘NUMA’ and ‘IMPRV_AREA’.	Please adjust the spatial data accordingly.
45	Polygons	Some polygons in the spatial data are overlapping. For example: RA4 and RA7. 	Ensure that there are no overlapping polygons in the spatial data.
46	Spatial data validation	Initial spatial data was deemed to be invalid as it doesn’t meet the requirements of the spatial submission guideline (ESR/2018/4337).	Ensure submission of spatial data that meets the requirements of the guideline.