20 November 2023
Attention: Lieze Van Ostaeyen
A/Principal Environmental Officer
Business Centre Coal
Department of Environment and Science

RE: Curragh Mine PRCP Information Request (EPML00643713)

Dear Lieze,

The purpose of this letter is to address the Request for Information (RFI) relating to the Progressive Rehabilitation and Closure Plan (PRCP) for Coronado Curragh Pty Ltd.'s Curragh Mine.

The original PRCP was submitted on 21 October 2022 in accordance with the Transition Notice. On 14 December 2023, the Department of Environment and Science (DES) issued a Request for Information Notice requiring a response by 28 August 2023. A request to extend the information response period was granted by DES on 7 August 2023 with a new response period of 20 November 2023.

SLR Consulting Pty Ltd (SLR), have reviewed the RFI requirements and outlined how these have been addressed below (**Table 1**). An updated PRC Plan and PRCP Schedule have been provided with this letter.

Regards,

Ronnie Lawton
Manager, Environment & Compliance
Cornado Global Resources

Helena Howell
Associate Consultant
SLR Consulting Australia

Item	Section	Matter	Information Request	Response
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.	All information relating to pre-mining land suitability is provided in ***Section 2.2 - Baseline Information***. ***Section 2.2.4 – Soils*** outlines the potential erosion issues relating to soil types across the site. Additional information is not available.

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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.	Curragh endeavours to undertake biannual meetings, however not all are related to rehabilitation. A meeting with the Gaangalu Nation People (The Traditional Owners) was undertaken on 25/09/2023 to specifically address the PRC-Plan, to provide an update on progress and to determine interest in the rehabilitation process. ***Appendix A – Community Consultation Plan*** has been updated to reflect this.
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. 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.*	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 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.	

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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.	Upon advice from DES light grazing and open woodland have been split into two separate PMLUs. However, it has been determined that open woodland would still support grazing when managed efficiently.
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.	All information available has been provided regarding baseline land suitability and capability have been provided in ***section 2.2.5***, however this is not applicable to overburden as the PMLU is open woodland. The criteria proposed in the PRCP Schedule is considered sufficient to describe a successful PMLU.
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.	Stable embankments will be rehabilitated to a PMLU of Fauna Habitat and Ecosystem Services. The stable embankments will have no light grazing or open woodland in its PMLU. Cattle will still be able to access the slopes.

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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'. 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.	Check if all maps, tables, PRCP schedule and spatial data align for the proposed NUMAs and adjust when necessary.	The PRCP schedule, associated spatial data and tables have been updated to align with the proposed NUMAs and PMLUs.
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.	A discrepancy between the SW model and the GW model wrt final water levels in these two these small voids was identified and has been addressed. The GW model now matches the SW model post-mining equilibrium lake levels: Main Other final lake level = 135 m AHD The Void final lake level = 100m AHD Table 4.1 of ***Appendix G – Groundwater Technical Appendix*** and ***Section 6.1.2*** of the PRC Plan have been amended.
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.	Information on recovered groundwater levels is presented in ***Section 4.3*** *and* ***Appendix F of Appendix G - Groundwater Technical Appendix.*** The cross sections presented in ***Section 2 of Appendix G*** have been reproduced in ***Appendix F*** with post-mining groundwater levels including: - Alluvium/regolith - Lower RCM coal seams - Upper RCM coal seams - Equilibrium void lake levels

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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 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.	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, 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.	The cross sections presented in section 2 which pass through multiple final voids have been reproduced in **Appendix F *of Appendix G - Groundwater Technical Appendix,*** with equilibrium void lake levels and post-mining groundwater levels for: - Alluvium/regolith - Lower RCM coal seams - Upper RCM coal seams See also particle tracking Figures 4-5 and 4-6 showing the movement of particles (through different geological layers) for 500 years from the end of mining. All movement is towards the voids which act as net groundwater sinks.
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.	These bores are screened in the RCM. 1529MB, 1538MB, 1539MB moved to model layer 9 – lowest layer of RCM. Bore 1534MB could not be relocated from layer 10 as the RCM is not present in model at that location (numerical model layering is based on the site geological model). Updated calibration stats and hydrographs reflect this change. The impact on calibration is minimal.

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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.	Calibrated spoil recharge rates have been added to ***Table 3-11***. The same recharge rate has been used in the prediction and recovery model; however the spoil area changes over time, influencing the total recharge applied. Recharge rate for spoil: 5.65mm/yr = 1.0% annual rainfall
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.	No additional ("long term") groundwater level data to that previously presented is available. Groundwater contours have been developed using observed data for: Alluvium – Figure 2-16 RCM – Figure 2-18 The data is limited and obviously much of this material has been mined out in close proximity to the monitoring. Given the limited monitoring data we would not have included these plots – generated at the request of DES. The text on the likely effect of faulting is considered reasonable but somewhat of a conceptual argument – there is no hard data to demonstrate the hydrogeological effects of faulting in the coal measures at Curragh.

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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.	Groundwater contour plots have been prepared for pre-mining, end of mining and end of recovery groundwater levels: - Water table - Alluvium - Regolith - RCM overburden - L4,L13 - RCM upper seams - L5, L14 - RCM middle seams - L7, L16 - RCM lower seams - L9, L18 These plots have been provided in ***Appendix E of Appendix G – Groundwater Technical Appendix.***

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15	6.1.5 Flooding Appendix D 'Concept Residual Void Assessment': Appendix A: Conceptual Residual Void Assessment Preliminary Flood Impact Report (SLR, 2021). Appendix J 'Flood Modelling Report' and Conceptual Residual Void Assessment	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). 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.	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 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.	Further recommendation in conceptual residual void assessment is delivered as part of ***Appendix J*** as outlined in ***Section 6.1.5 – Flooding.***

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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. 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).	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 - (i.e., without artificial features).	The LOD identifies the location of the NUMA's therefore the pre-mining flood modelling is not required. Stable embankments are considered part of the permanent landform and not "artificial features".

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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 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.	RM7 'Installation of cover system/cap' (previously RM11) has been updated to include SMART criteria. These criteria relate to the depth of the capping system, undertaking geotechnical analysis and the depth of inert material and are as follows – 1. Installation of cover system is designed and signed off by an appropriately qualified person. 2. The out-of-pit TSF is designed and completed to the following: a. Geotechnical analysis confirms the tailings storage facility (TSF) is geotechnically stable. b. The TSF has been fully encapsulated with a cap of ≥2m of non-acid forming (NAF) material. Additional cover material may be required to maintain final design heights following settlement; c. The TSF maintains a water shedding profile, other than minor ponding. 3. The in-pit TSF is designed and completed to the following: a. At least 1 m of inert material covers the tailings.

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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.	A separate Rehabilitation area (RA8) has been developed for In-Pit Tailings. RM7 outlines SMART Criteria for its cover/capping installation. ***Section 17 of Appendix M - Pit B Design Plan*** was taken into consideration when developing the milestone criteria.
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 combined with the proposed schedule is not sufficient to demonstrate that these structures will achieve stable condition.	For the in-pit TSFs, provide additional PRC planning and PRCP schedule milestone information to demonstrate that a safe, stable and non-polluting landform will be achieved. For example, expanding on the elements discussed in 6.1.8.2.	The criteria and milestones relating to the In-Pit TSF have been reviewed and additional rehabilitation milestone criteria have been provided (RM7) to ensure that the structures will achieve stable condition.

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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	**Appendix N - Geotechnical Stability Analysis** has been updated to include additional cross-section to consider all 19 voids. This includes in-situ and spoil bridges. **Appendix N** has also been updated to include final void water levels in addition to the flood levels. Where appropriate, the PRCP and PRCP Schedule have been updated to account for recommendations made in ***Section 7 of Appendix N***. For example, the erosion assessment is outlined in ***section 6.1.1.1*** of the PRCP. Further recommendations such as the requirement for detailed design work as further geological, geotechnical, and hydrogeological data is collected and interpreted, will be undertaken as a matter of course throughout the life of mine. If significant changes are identified, relevant updates to the PRCP, PRCP schedule and supporting documents will be undertaken.

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21	6.1.10 Revegetation Appendix E 'Rehabilitation Management and Monitoring Plan'	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 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.	Revise the species mix to include species identified in Appendix 3, 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).	Buffel (*Cenchrus ciliaris)* has been removed from ***Table 6-32 Typical Seed Mix.*** Bio Condition Frameworks for each species have not bee provided as part of the species list. It is unnecessary to compare the species list to Bio conditions as it is not expected that rehabilitation will replicate the species composition of reference site communities.

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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.	The Post Mining Land Uses proposed in the ***PRCP Schedule*** have been updated to reflect more closely those outlined in ***Appendix E - Rehabilitation Management and Monitoring Plan.*** Additional post mining land uses of Terrestrial Habitat and Ecosystem Services and Water Courses have been added to the PRCP Schedule.

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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.	A review of the performance and completion criteria outlined in ***Appendix E - Rehabilitation Management and Monitoring Plan*** was undertaken. As a result of the review, the Rehabilitation Milestones and Criteria have been updated to ensure they meet the SMART criteria principles.

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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.	The PRCP allows for removal of infrastructure as there are no formal agreements in place for infrastructure transfers. If infrastructure is to be transferred, formal agreements will be developed prior to transfer.

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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. 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.	Identify the areas where there is a potential for contamination and consequently a land contamination study would be necessary and desirable. Ensure that commitments in the PRC plan matches the criteria in the PRCP schedule.	RM5 (Remediation of Contaminated Land) outlines the following requirements for undertaking a contaminated land assessment prior to remediation of contaminated land – (a) A detailed site investigation (DSI) has been completed where the PSI completed under criterion RM2(a) identifies contamination is present, or is likely to be present, and said contaminated material is likely to result in a risk to human health or cause environmental harm. (b) Where contaminated material is identified under criterion RM7(b), all contaminated material is either: i. Remediated; ii. Removed and disposed of at a licenced facility; or iii. Disposed of as per the Contaminated Land Investigation Document (CLID) and Site Management Plan (SMP). (c) The site suitability statement states the land is not contaminated land and is not unsuitable for the proposed PMLU. (d) Auditor certifies, as per *Environmental Protection Act 1994* (EP Act) (Qld), that all contaminated materials have been remediated, or removed and disposed of.

Item	Section	Matter	Information Request	Response
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.	No Fencing will be installed around the final voids; however, safety bunds are to be constructed around the voids. ***Section 4.2*** relates to the general need for fencing whilst grazing and does not specifically relate to void wall safety.
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 m^3.	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.	The Topsoil balance at Curragh changes each year due to the nature of managing topsoil. At the end of mine life, the Surplus will not be as significant as at present and no topsoil shall be wasted.

Item	Section	Matter	Information Request	Response
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.	During rehabilitation an alternate topsoil strip method is used. Through reducing the competition from grass spp on trees. When topsoil is spread, grass outcompetes trees and as a result, trees struggle to grow. Curragh have successfully directedly seeded trees into alternate topsoil, resulting in an even distribution of trees and grass across the landscape. RM3 has been updated to include the following criteria – *"Amelioration products have been applied where appropriate and required."*
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.	The PRCP Schedule has been updated to include conceptual areas for the Minnie Creek and Bonnie Doon Creek Diversions. These diversions are yet to be constructed and no detailed design has been developed. Upon development of the detailed design and construction of the diversions, the PRCP schedule will be updated with the final areas of disturbance for these diversions. Both diversions have been given the PMLU of watercourse to align with the PMLU of the Blackwater Creek Diversion.

Item	Section	Matter	Information Request	Response
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. 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?	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 NUMAs area in favour of the PMLUs?	The Rehabilitation trials proposed in ***Appendix E - Rehabilitation Management and Monitoring Plan***, have not commenced and no formal planning has been undertaken.

Item	Section	Matter	Information Request	Response
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.	A Post Mining Land Use of Watercourses has been developed for the Blackwater Creek Watercourse Diversion. A Rehabilitation Milestone of Achievement of Stable Condition (Watercourse) (RM10) has also been developed and includes the following – • Groundcover average of >75%. • Proportion of Category 3 restricted invasive plant species and Weeds of National Significance are not >10% of total vegetative groundcover. • Groundcover diversity an average of >6 species. • Median height of plants approximately 125 cm in Zone B1 as per the Blackwater Creek Diversion Monitoring and Management Plan. • Plant diversity an average of >10 species in Zone B1 as per the Blackwater Creek Diversion Monitoring and Management Plan.
PRCP Schedule				

Item	Section	Matter	Information Request	Response
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.	RA2 becomes available 7 years post closure. Infrastructure is being maintained to support the overall rehabilitation of pit and overburden areas. RA2 will be rehabilitated as soon as infrastructure is no longer required to support rehabilitation efforts. RA3 becomes available 7 years post closure. Topsoil stockpiles, roads, tracks and laydown yards are being maintained during the initial years of rehabilitation to support rehabilitation efforts. RA3 will be rehabilitated when it is no longer required to support rehabilitation.
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.	The first RM for RA5 has been updated to RM6 (Rehabilitation of Dams). The first RM for RA6 is RM7 (Installation of Cover system/Cap).
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.	RA7 has been updated and includes RM8 (Stable Embankment development) as its first milestone, commencing in 2045.

Item	Section	Matter	Information Request	Response
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.	The Rehabilitation Areas have been updated and are as follows – • *RA1 (Overburden, Dumps and Ramps) – 9,497 Ha* • *RA2 (Infrastructure activities requiring a contamination study) – 128 Ha* • *RA3 (Miscellaneous Activities – topsoil stockpiles, roads, laydown yards, cleared area) – 464 Ha* • *RA4 (Blackwater Creek Watercourse Diversion) – 156 Ha* • *RA5 (Water Infrastructure) – 65 Ha* • *RA6 (Out-of-Pit Tailings Storage Facility) – 185 Ha* • *RA7 (Stable Embankments) – 367 Ha* • *RA8 (In-Pit Tailings) – 68 Ha* • *RA9 (Existing Overburden Rehabilitation) – 1,653 Ha* • *RA10 (Minnie Creek and Bonnie Doon Watercourse Diversion) – 61Ha* The Improvement Areas have been updated and are as follows – • *IA1 (Voids) – 1,499 Ha*
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.	A review of RA1 and RA7 was undertaken and as a result RA1 only relates to Overburden dumps and ramps. RA7 now relates to all stable embankments.

Item	Section	Matter	Information Request	Response
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. 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.	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 with the long-term biodiversity outcomes as described in table 6 of appendix C and geomorphic characteristics of the diversion.	The rehabilitation milestones for RA4 (Blackwater Creek Diversion Monitoring and Maintenance Plan) have been updated to solely include RM9 (Achievement of Stable Condition) (Light Grazing)) and RM8 has been removed. The SMART principles have been applied to all criteria as deemed appropriate.
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.	The spatial data has been updated and NUMAs now encapsulate an area of 1,499 Ha.

Item	Section	Matter	Information Request	Response
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.	The timeframes relating MM2 have been reassessed and the highwall bunding will now be completed by 2051.
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.	RM5 (originally RM7) has been updated to include criteria relating to the completion of a contaminated land assessment including the completion of preliminary and detailed site investigations as required, and the remediation of contaminated land.

Item	Section	Matter	Information Request	Response
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.	The operational EA limits do not cause environmental harm. As such the following criteria have been transitioned from the EA into RM9 and RM11 of the PRCP Schedule – • *Surface water runoff quality on site complies with the most current version of the contaminant limits in Table C2 and Table C3 in the EA EPML00643713.* • *Groundwater quality complies with the most current version of the contaminant limits in Table C13 in the EA EPML00643713.*

Item	Section	Matter	Information Request	Response
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.	The management milestones MM1 (Landform development and reshaping/reprofiling) and MM2 (Achievement of sufficient improvement) have been updated to provide additional information relating to landform safety and achievement of sufficient improvement.
43	No Item 43 in the RFI			
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.	All Schedule Spatial Data has been updated to meet the requirements of the spatial submission guideline (ESR/2018/4337).

Item	Section	Matter	Information Request	Response
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.	All polygon overlaps have been removed from 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.	The spatial data has been updated to meet the requirements of the spatial submission guideline (ESR/2018/4337).