

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: Whitehaven Daunia Pty Ltd
Level 28, 259 George Street
SYDNEY NSW 2000

ATTN: Brendan Dillon, Manager – Approvals (BDillon@whitehavencoal.com.au)

By email transmission only

Your reference: EPML00561913

Our reference: C-EATPRCP-100844532

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 29 June 2023.

The application reference number is: A-PRCP-NEW-100844527.

Land description: ML1781, ML70115 and ML70116.

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 the attachment to this notice.

3. Actions

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

- (a) all of the information requested; or
- (b) part of the information requested together with a written notice asking the authority to proceed with the assessment of the application; or
- (c) a written notice –

- i. stating that you do not intend to supply any of the information requested; and
- ii. asking the administering authority to proceed with the assessment of the application.

A response to the information requested must be provided by **27 October 2025** (the information response period). If you wish to extend the information response period, a request to extend the period must be made at least 10 business days before the last day of the information response period.

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

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

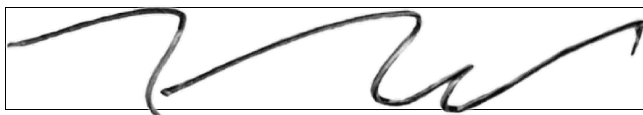
4. Human rights

A human rights assessment was carried out in relation to this decision, and it was determined that **this decision is compatible with human rights**.

5. Review and appeal rights

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. Information about your review rights is attached to this notice. This information is guidance only and you may have other legal rights and obligations.

If you require more information, please contact the department on the telephone number listed below.



Signature

16/04/2025

Date

Ben Byrd
Department of the Environment, Tourism, Science
and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Business Centre Coal
PO Box 3028, Emerald QLD 4720
Phone: (07) 49879320
Email: CRRMining@des.qld.gov.au

Attachments

[Information sheet: Internal review and appeals](#) (ESR/2015/1742)

Attachment 1: Additional information required for proposed PRC plan – Daunia Coal Mine (DCM)

No.	Relevant Section	Matter	Information Requested
Rehabilitation Planning Part			
1	Section 1.1.2 – Mining tenements	This section states that the Red Mountain ML70116 is a joint ML subject to a Joint Tenement Agreement between BMA and Stanmore. Both the DCM and Poitrel Mine EA refer to this ML. Figure 2 shows the ‘Daunia Mine EA Boundary’, which is the area on which ERC decisions and this PRCP has been based. Note that an ERC decision does not constitute an approval of activities under the EA. The EA does not include an authorised disturbance map that reflects this agreement between BMA and Stanmore. The DCM EA and the relevant tenures were transferred from BMA to Whitehaven Daunia Pty Ltd on 29 January 2025.	Provide evidence that there is a current agreement in place between Whitehaven Daunia Pty Ltd and Stanmore for the shared use of ML70116, including details of what activities occur on the ML by each party.
2	Section 1.2.4 – Site hydrology and fluvial networks	No water quality data has been provided in section 1.2.4 of the Rehabilitation Planning Part. Section 3.1 of the PRCP guideline requires the EA holder to provide baseline information with respect to site hydrology and fluvial networks. Background water quality data is important to determine appropriate site-specific water quality limits for monitoring whether the final landform has achieved stable condition.	Provide an updated Rehabilitation Planning Part and/or appendices that includes: • Background/baseline receiving environment water quality monitoring data as an excel spreadsheet using either of the formats provided. • Details on the source and assessment of the data and its applicability to the EVs relevant to the site.
3	Section 1.2.8 – Vegetation communities and ecological data	Section 1.2.8 of the Rehabilitation Planning Part states that most of the site supported non-remnant cleared grasslands with or without Brigalow and/or Poplar Box regrowth. Most of the vegetation was cleared prior to development of the mine. This section refers to 3 pockets of remnant REs remaining based on ground truthing (Endangered RE 11.4.9, Least concern RE 11.5.3 and Endangered RE 11.9.5). It does not discuss the extent of these areas or how this compares with State mapping.	Provide an updated Rehabilitation Planning Part that includes more information about how the composition of the woodland habitat PMLU is consistent with the site’s pre-clearing and surrounding undisturbed REs, including the provision of habitat values.

No.	Relevant Section	Matter	Information Requested
		Figure 10 of the Rehabilitation Planning Part does not depict off-lease REs or habitat, which would assist to understand connectivity of these areas with existing/undisturbed vegetation communities, particularly along drainage lines. This section does not discuss the mapped pre-clearing REs that occurred on the site that have formed the basis of the revegetation species selection for this PMLU in section 6.1.8.7 (Woodland habitat revegetation) of the Rehabilitation Planning Part.	Include details about how the rehabilitation will re-establish/reinforce landscape connectivity. Provide details of the extent of on-site patches of remnant RE and whether their extent is consistent with State mapping. Provide an updated Rehabilitation Planning Part and proposed PRCP schedule that includes: • Revegetation species that target specific REs 11.5.3 and 11.9.2 not a hybrid seed mix. • BioCondition assessment. • Specific weed criteria. • Justification for the proposed groundcover criteria. • SMART topsoil criteria based on site-specific data including topsoil quality. • SMART surface water quality criteria provided based on background surface water data or default WQOs and guidelines. • Include SMART groundwater criteria. • Include SMART criteria for erosion and sediment control measures.
4	Section 3.1.2 – Woodland habitat	Table 22 in section 3.1.2 of the Rehabilitation Planning Part shows that the rehabilitation objective for the woodland habitat PMLU in the EA is for it to have native bushland characteristics. This section adds that these areas will provide connectivity to the existing vegetation adjacent to New Chum Creek. Section 1.2.8.1 (Regional ecosystems) states that recent field surveys (2015) found small areas of remnant and high value regrowth REs 11.4.9, 11.9.5 and 11.5.3 occurring along the northwestern edge of the mine. These are authorised to be disturbed by the mining activity and therefore require offsets. Threatened fauna species such as the Ornamental Snake have been recorded in these REs according to section 1.2.9. The woodland and riparian areas along the Isaac River are known to provide suitable habitat for the Squatter Pigeon. The species selection for the woodland habitat revegetation areas is based on a mix of the dominant representative REs (11.5.3 and 11.9.2) and species that are better adapted to the growth media and the rehabilitated landform, including non-aggressive native grasses. The PMLU is 'woodland habitat', so it needs to contain the components that give it habitat value. To ensure that vegetation is self-sustaining and providing valuable wildlife habitat, thereby helping to promote connectivity, suitable REs need to be selected as targets for the woodland habitat PMLU. Table 22 in section 3.1.2 of the Rehabilitation Planning Part states that the relevant acceptance criteria for the woodland habitat PMLU in the EA have been transitioned into the PRCP schedule as milestone criteria associated with spoil dumps in RA1. On their own, these criteria will not demonstrate how well the RA is performing as 'woodland habitat'.	

No.	Relevant Section	Matter	Information Requested
5	Section 1.4 – Rehabilitation and improvement planning	Section 1.4 of the Rehabilitation Planning Part states that the activities that will require rehabilitation along with the predicted duration and their availability for rehabilitation are provided in Table 12. The disturbance activities have not been identified on a map and their size/extent has not been detailed. There are no specific years nominated for the duration of mining activities and when rehabilitation/improvement has or will commence and is expected to be completed, which would assist with understanding the proposed RAs/IAs and milestones in the PRCP schedule.	Update the Rehabilitation Planning Part to include more specific detail and maps showing the location, area (ha), extent and duration of disturbance activities that will require rehabilitation and nominate years for when rehabilitation will commence and be completed. Also distinguish between the high walls, low walls and void lake areas within the residual void NUMAs on the maps.
6	Section 6.1.8 – Revegetation Section 8.2.2 – Rehabilitation monitoring sites	Section 6.1.8 provides an indicative location of a single woodland habitat reference site that ‘will be’ established. There should be at least three reference sites provided. Suitable reference sites along New Chum Creek are also proposed to be selected for the watercourse PMLU. There is one cattle grazing reference site that has been monitored since 2019 when ‘access permits’ with permanent sites/additional sites to be established in future. There is limited information provided in section 8.2.2 about the rehabilitation monitoring sites. Given that there is 84ha of completed rehabilitation that is progressing toward the cattle grazing PMLU, there should be data available from established rehabilitation monitoring sites and the grazing reference site to demonstrate this. However, no maps showing rehabilitation monitoring locations or reference sites has been provided. This is essential to assess whether these sites are sufficient and suitable. They must be unmodified or ‘best on offer’ not degraded natural systems. An alternative is to use published benchmarks for target REs using the BioCondition framework for the woodland habitat and watercourse PMLUs.	Provide a map in the Rehabilitation Planning Part showing the location of existing and proposed rehabilitation monitoring sites and reference sites. Include justification for the selection of these specific reference sites and their suitability and include rehabilitation monitoring reports or data collected for the areas of completed rehabilitation. Specific details about each reference site are required including but not limited to: • Exact location (coordinates and map). • Groundcover and species composition representative of target RE to be achieved in rehabilitation (woodland habitat/watercourse). • Monitoring methods and measures of success. For more information about methods for assessing native ecosystem mine rehabilitation success, refer to the publications by the Queensland Mine Rehabilitation Commissioner and determine the evaluation method most suitable for this site.

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			The department recommends the use of the BioCondition framework to benchmark rehabilitation to a native ecosystem of target RE and inclusion as milestone criteria for native vegetation PMLUs as opposed to using reference sites.
7	Section 1.2.12 – Underlying landholders	This section identifies BMA as the freehold landowner of the land underlying ML70115 (100%), part of ML1781 and part of ML70116. BMA also leases land from the State on part of ML1781 and part of ML70116. It is noted that the MLs and the EA for DCM were transferred from BHP Coal Pty Ltd to Whitehaven Daunia Pty Ltd, a subsidiary of Whitehaven Coal Pty Ltd (WHC) on 29 January 2025. An update to this section of the Rehabilitation Planning Part is required to confirm if WHC have taken over BMA's interests in this land.	Update section 1.2.12 and Figure 12 of the Rehabilitation Planning Part to reflect the current land holdings for the DCM MLs.
8	Section 1.4.4 – Existing rehabilitation Section 3.1.1.2 – Existing cattle grazing	This section states that there is 102ha of existing rehabilitation completed between 2013 and 2022 that is progressing toward a PMLU of either woodland habitat or cattle grazing. Most of this area (i.e. 84.5ha) has been incorporated into the PRCP schedule in RA4 (Spoil dumps – existing rehabilitation - cattle grazing) as progressing towards RM10 (Achievement of surface requirements – cattle grazing). The remaining 17.4ha area is progressing toward RM5 (Surface preparation) in RA1 (Spoil dumps – woodland habitat). There is no description about specifically when or how the rehabilitation was carried out and no discussion or evidence provided about the results of rehabilitation monitoring to demonstrate that the rehabilitation has been successful/is on a trajectory to being successful when measured against the nominated criteria. There are no details provided about the rehabilitation methods used or the current condition of these areas (i.e. slope, species composition, erosional stability etc.). This information is important to establish if the proposed rehabilitation strategies and measures of success in the Rehabilitation Planning Part are appropriate for informing the milestone criteria.	Provide an updated Rehabilitation Planning Part that includes more information about how the existing rehabilitation was carried out and provide documented evidence in the form of rehabilitation monitoring results and photographs that demonstrate that the existing cattle grazing rehabilitation has achieved the criteria relevant to the proposed milestone stage.

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9	Section – 2 Community consultation Section 4.3 – Community considerations (NUMAs) Appendix F	The proposed residual void NUMAs are located on the freehold properties owned by A.G.H Williams and J.D. and J.L Lloyd as opposed to the EA holder based on Figure 12 and Figure 14 of the Rehabilitation Planning Part. Section 4.3 states that the NUMAs are consistent with the outcomes of consultation with the community. This is not specifically demonstrated in the section that discusses the consultation that has been undertaken to date (section 2.1), especially in relation to the underlying landholders as required by section 126C(1)(c)(iii) of the EP Act for all NUMAs. The Community Consultation Plan is outlined in Appendix F. Section 8 includes the Community Consultation Register, which indicates that the underlying landholders were sent a letter on 29 May 2023 and no feedback was received. The letter (not provided) advised the landholders that the land within the MLs will continue to be available for grazing under existing agreements, landholders and cattle will be excluded from areas while mining occurs, and disturbed land will be rehabilitated to a suitable PMLU or managed as a NUMA as areas become available. Section 3.2.1 of Appendix F suggests that the rehabilitation and closure related engagement that occurred since the PRCP provisions came into effect took place with government departments and traditional owners and not the underlying landholders. Table 3 states that the EA holder will meet with underlying landholders as requested to seek input on the approved PMLUs, NUMAs and rehabilitation methods, however, there is no indication that this occurred prior to the submission of the PRC plan.	Provide an updated Rehabilitation Planning Part that satisfies the requirement of Section 3.3 of the PRCP guideline and s126C(1)(d) of the EP Act for the PRC plan by stating the extent to which the residual void NUMAs are consistent with the outcomes of consultation with the community.
10	Section 3.1.1 – Cattle grazing	Section 3.1.1 of the Rehabilitation Planning Part states that the acceptance criteria from the EA for cattle grazing have been transitioned into PRCP milestone criteria. In order for the rehabilitation to be suitable for sustainable cattle grazing, the post mining land suitability class must be ≤3 or not different from pre-mining if ≥4. The pre-mining land suitability assessment was completed as part of baseline studies and was based on the five land suitability classes defined in the Guidelines for Agricultural Land Evaluation in Queensland (DSITI & DNRM, 2015). The post mining	Revise the proposed rehabilitation strategy and milestone criteria for the cattle grazing PMLU to ensure that the existing and planned cattle grazing rehabilitation achieves stable condition as the leading practice advice for grazing as a post mining land use. Identify and justify the specific attribute limitations to achieving land suitability class 3 or better. Propose criteria suitable for class 3 or better for attributes without

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		land suitability assessment for planned cattle grazing is according to the <i>LSA Framework for Open Cut Coal Mine Rehabilitation 2018</i>, as required by the EA, and presented in Table 20. As reiterated in the QMRC leading practice advice (July 2024) on grazing as a post mining land use, LSA Class 4 land is not suitable for a sustained grazing PMLU but may be grazed for short period with careful management, and is historically grazed in this region. Table 20 specifies the limitations to grazing (i.e. water availability, soil surface condition and erosion) for each land suitability class, however, there is no discussion about which of these may be applicable to the rehabilitation areas at DCM and what specific considerations have been given to the management practices, inputs, technology, to overcome the potential limitations identified to ensure that the rehabilitation achieves stable condition, irrespective of the class or type of grazing enterprise that has been approved. It adds that grazing 'land condition' has been included as an <u>alternative</u> criterion to land suitability class in the final milestone of achieving the PMLU to a stable condition (RM13) for planned cattle grazing rehabilitation (RA2, RA5). While it is acceptable to monitor both land suitability and land condition as outlined in section 8.2.4, the department does not support the use of land condition assessments instead of land suitability as the former reflects the grazing impact on the land and does not consider the intrinsic land suitability for grazing of the rehabilitated landform. Land suitability is required to be determined and reported so that a future land user understands the true limitations of the PMLU. Section 3.1.1.2 states that for existing cattle grazing rehabilitation (RA4), the final milestone of achieving the PMLU to stable condition (RM16) primarily focusses on achieving a grazing land condition of Good (A) or Fair (B). This is inconsistent with the EA, which requires that this rehabilitation achieve the nominated land suitability class.	these limitations and criteria for the limiting attributes appropriate for the limitation to achieve the best possible grazing outcome for the land. The inclusion of land condition may only be used in addition to, not instead of, the land suitability classes, as a measure of success of the different aspects of the PMLU.

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11	Section 4 – Non-use management areas Section 6.3 - Voids	Section 4 of the Rehabilitation Planning Part states that the proposed residual void NUMAs are pre-approved because the outcome for this land (i.e., residual voids) is identified in a land outcome document (LOD) (i.e., condition E9 of the EA) as being substantially similar to a NUMA. The LOD does not state the area or location of the proposed NUMAs, therefore, the PRC plan must include details about how the total area of the NUMAs will be minimized and how their location will minimize risks to the environment as required by section 754(4) of the EP Act. The total proposed NUMA area is 503ha. This area has been minimized through the progressive backfilling of the final voids to completely fill Atlas West, Atlas East, Calypso Central, Skoll and Titan West pits so that only Titan North/Central, Titan East and Pandora remain as residual voids in the final landform. This is inconsistent with section 7.3.2 of the CG's Evaluation Report, which notes that the project proponent made a commitment to continually reassess and redesign the final landform as mining progressed to minimize the final void size from the base case of 360ha to approximately 100ha, which would improve the rehabilitation outcome. The CG was satisfied that the mitigation measures proposed in the SEIS would significantly reduce the final void footprint.	Provide an updated Rehabilitation Planning Part to include more information demonstrating that the total area of land proposed as a NUMA has been minimised to the extent possible and the location and number of NUMAs minimise risks to the environment as per section 754(4) of the EP Act. More detail is required to be included in section 6.3.3 about the options available for minimising final void area and volume, including the total number of voids, to align with the commitments stated in the CG's report, which formed the basis of the mine's approval.
12	Section 4.2 – Minimising environmental impacts	Section 4.2 adds that the NUMA low walls will be vegetated to within 10m above the modelled maximum residual void lake elevation. No justification has been provided for why the revegetated low walls cannot sustain a PMLU of woodland habitat, which would further reduce the total NUMA area. The practice note dated April 2025 for the 'Management of coal mine voids as non-use management areas' published by the QMRC includes the following: <i>'Where final voids have been approved historically, these are allowed to be retained under transitional arrangements and are recognized in a Progressive Rehabilitation and Closure (PRC) plan as part of a NUMA under the EP Act. The most common type of NUMA nominated in PRC plans are for final voids. The area of the NUMA can differ from that of the final void. Some areas of a void, for example, ramps or parts of low walls, may be able to be rehabilitated to stable condition and be excluded from a NUMA.'</i>	Include details about the area (ha) and location of the residual void low walls that will be revegetated and justify why these areas cannot be rehabilitated to achieve a PMLU of woodland habitat.

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13	Section 5 – Voids in flood plains	Section 5.5 of the Rehabilitation Planning Part states that most of the Pandora residual void footprint is located outside of the void in flood plain extent with encroachment of the flood plain only occurring on the north-western portion of the residual void. A landform to the west of the Pandora residual void (an artificial feature not included within the voids in flood plain modelling) provides flood immunity to the void for the rehabilitation flood modelling up to and including the 0.1% AEP event. The flood assessment shows that flood ingress will still occur in a PMF event. There is no specific information about the proposed flood protection landform in any of the sections or appendices of the Rehabilitation Planning Part. The current EA for DCM does not authorise any permanent flood protection levees or diversions.	Provide detailed information, including maps, about the proposed flood protection landform in the Rehabilitation Planning Part to demonstrate how it will be designed to provide the necessary level of flood immunity to the Pandora residual void and will be rehabilitated to achieve stable condition (safe, stable, non-polluting, and able to sustain the PMLU). Include details about what material the flood protection landform will be constructed from, its location, function, design specifications, RPEQ assessment, vegetation and maintenance requirements. Demonstrate that this is an acceptable solution to address the risk of environmental harm as opposed to backfilling this portion of the pit to ensure that the residual void NUMA is located outside of the flood plain.
14	Section 5.3 – Voids in floodplains landform Appendix G – Voids in flood plain assessment	Appendix G of the Rehabilitation Planning Part includes voids in flood plain modelling as required by the PRCP guideline. Flood plain modelling of the landform must be conducted in accordance with the guideline Australian Rainfall and Runoff (ARR, 2019), excluding any artificial features. The ARR methodology provides for the consideration of the impacts of climate change on flood estimation. There is no mention of climate change in Appendix G.	Revise the voids in flood plain modelling in the Rehabilitation Planning Part to include climate change considerations as per the ARR methodology.
15	Appendix D – Hydrogeology Section 4.2 – Other relevant monitoring	In this section of Appendix D Table 4-2 provides details of monitoring bores at neighboring Poitrel mine which are said to have been reviewed to support the hydrogeology assessment. There is no map provided showing where these bores are in relation to the DCM MLs.	Provide a map showing where these bores are in relation to the DCM MLs.
16	Appendix D - Hydrogeology	The discussion in section 4.4 of Appendix D in relation to potential impacts of mining on groundwater level trends is not clear. This section lacks some initial discussion of the historical mine plan, including when mining began in each pit, what seams have	Provide additional information on the historical mine plan, supported by cross sections to assist with understanding of the analysis of groundwater trends.

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17	Section 4.4. – Groundwater distribution, recharge and discharge	been mined or intersected, and if operations have ceased at a pit, and when that may have occurred. The text under Figure 4-7 states: <i>A review of the groundwater elevations in Vermont Seam monitoring bores shows differing responses largely related to proximity to active mining operations. Limited correlation with the rainfall CDFM is evident, whilst some local scale drawdown from mining activities is seen at bore PZ02. A general north to south hydraulic gradient is evident, with highest groundwater elevations of approximately 200 mAHD recorded at bores PZ06 and PZ01 in the north of the DNM Area, and lowest elevations of approximately 170 mAHD recorded at bore MB02P in the south of the DNM Area.</i> This is confusing and potentially misleading as the discussion appears to be about Figure 4-78 and in particular the Vermont Seam. However, PZ02 is said in the text below this paragraph to be screened across the Rangal Coal Measures interburden and overburden, and the Fort Cooper Coal Measures interburden. Similarly, PZ01 (included in the text above in relation to the Vermont seam) is said in the following text to be screened across the Fort Cooper Coal measures interburden. It is important to accurately describe the groundwater gradients using observed water level elevations from bores where the monitored geologic units are clearly understood and consistently reported.	Review the text in section 4.4 of Appendix D regarding the Vermont seam to ensure that the information provided on groundwater gradients is accurate.
18	Appendix D – Hydrogeology Section 7.2.3 – Residual void groundwater inflow	Section 7.2.3 of Appendix D states: <i>Model results indicate that between 96% and 100% of the long-term groundwater inflow to the voids comes via the spoil, originating mainly as local recharge applied to the spoil.</i> Table 7-8 indicates that the equilibrium groundwater inflow rate from natural geological formations to the Titan North/Central void is 5.9 m3/day (2.15 ML/yr). Despite this very small annual rate of predicted inflow, Figure 7-9 (Predicted groundwater levels in the Vermont seam post mining equilibrium), shows significant long-term drawdown in the Vermont seam around this void. A similar assessment could be made in relation to the other two voids.	Provide discussion about the low volumes of predicted inflow rates from natural geological formations in comparison to the long term predicted drawdown in these formations adjacent the voids.

No.	Relevant Section	Matter	Information Requested
		There is no discussion of this issue and whether there is significant predicted long-term movement of groundwater from the Vermont seam to the spoil and into the voids, which is not quantified in the information presented.	
19		Further to section 7.2.3 of Appendix D states, no mapping is provided to identify the spoil areas included in the model. Given the significant percentage of predicted long-term groundwater inflow to the voids coming via the spoil it is important to understand what areas of spoil have been modelled for the post mining period.	Provide a map showing the locations of the spoil areas included in the groundwater modelling.
20		Also, further to section 7.2.3 of Appendix D, there is no discussion provided of future groundwater monitoring needs in the spoil to confirm understanding of groundwater in the spoil area.	Provide some discussion as to future groundwater monitoring requirements in the spoil to support model conceptualisation and numerical modelling.
21	Appendix D - Hydrogeology Section 7.2.4 - Predictive hydrographs	The predictive hydrographs in section 7.2.4 of Appendix D provide predicted groundwater levels at specific locations only. The graphs presented in Figures 7-10 to 7-12 can provide very different information than if the contours in the report are used to estimate elevations of the seam basements and predicted equilibrium groundwater levels at the locations of the water bodies within the voids. Use of Figure 7-10 to 7-12 only can be misleading. The text in section 7.2.4.1 in relation to the predictive hydrographs should provide this qualification.	Review the wording in section 7.2.4.1 of Appendix D to include qualification of the site-specific nature of the information in the predictive hydrographs in comparison to the use of seam basement contours and predicted equilibrium groundwater elevation contours presented in the report.
22	Appendix K – Void closure plan Table 7-5	Figure 7-2 and other figures presented in Appendix K appear to indicate two distinct long term water bodies in Titan North/ Central void. However, the water balance presented in 6.2.2 appears to only provide one water balance for this void. It is not clear how the predicted void water levels at equilibrium relate to the two separate water bodies in the Titan North/ Central void.	Update the Rehabilitation Planning Part to explain how the apparent modelling of a single water body at Titan North/ Central can be interpreted as the two distinct water bodies in that area and how this might impact the predicted relationship between predicted void water levels and predicted groundwater levels as described in the groundwater report in Appendix K, at that location.
23	Section 6.1.2 – Flooding Appendix H – Rehabilitation flood modelling	The figure Appendix A-27 in Appendix H indicates that under a 0.1% AEP flood event, while accounting for climate change, flow depths near the dump and Pandora void can reach up to 3m. The overall flood protection strategy remains unclear. Although the Void Closure Plan in Appendix K of the PRC plan acknowledges minor floodwater ingress (~1,800 ML) could enter Pandora void for a 0.1% AEP scenario and cites a large storage capacity ~26,000–27,800ML, that conclusion applies only to 0.1% AEP events.	Update the Rehabilitation Planning Part to include additional information to verify whether the breakline treatment adequately represents actual conditions as there is no information about the levee or any flood protection or that breaklines represent them.

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	Appendix K – Void closure plan	Deep flows can influence dump slopes, potentially leading to instability. Moreover, the current hydraulic models include breaklines, features that interrupt continuous flow simulation, that seems to prevent extended ingress into Pandora void. These breaklines are designed to mimic physical barriers, however, they may also mask the true extent of water ingress under extreme events.	
24	Appendix H – Rehabilitation flood modelling Appendix K – Void closure plan	Figures Appendix A-16, A-17, and A-18 of Appendix H report that under a PMF event, flow depths near the dump and Pandora void range between 5–8 m, with velocities ≥ 4 m/s and stream power of 150–250 W/m². The Void Closure Plan in Appendix K does not explicitly discuss whether the Pandora void could overflow under PMF conditions—particularly if a consequence category analysis classifies it as “high.” Although it cites “limited flood ingress” for the 0.1% AEP scenario, there is insufficient discussion of how a PMF might produce significantly larger inflows. If tailings or other contaminants were to be placed in Pandora, a “high” consequence rating would typically require a PMF-level design to prevent overflow and any contamination release. The hydrodynamic impact on the Pandora void and the waste landform remains insufficiently evaluated for PMF-scale floods. It is also unclear whether high-velocity flows under such an event would destabilize the dumps or cause water to overtop the void rim. The model’s use of breaklines again seems to artificially limit water ingress to the void. It must be noted that while 0.1% AEP flood mapping may be sufficient for consideration around a void position in flood plain, but for flood susceptibility and risk profile, PMF floods must be evaluated per the PRCP guideline.	Update the Rehabilitation Planning Part to include modelling results with and without the breakline constraints to gauge the actual ingress/overflow risk in Pandora void during a PMF. If the consequence category is “high” (e.g., tailings or elevated environmental risk), design flood requirements may extend to a PMF-level event. Detailed flood protection facilities (e.g. levees) must be demonstrated conceptually to show that Pandora void—pre-approved as a NUMA—remains safe and stable under an extreme flood.
25	Appendix I – Environmental geochemical characterisation and risk assessment of mineral waste	No submitted reports detail water quality in Pandora void or how large flood flows might erode dump slopes. While the mineral waste characterization in Appendix I indicates no major water quality risk under typical conditions, it does not address PMF-scale flood inflows. The risk matrix in Appendix L flags potential contamination from large flooding, and Erosion and Landform Evolution simulations in Appendix J sets	Update the technical studies in the Rehabilitation Planning Part to include targeted water quality monitoring in Pandora void to confirm acceptable water quality especially if an extreme flood event introduces contaminants. Additional assessments of erosional stability on dump slopes under high-intensity flows

No.	Relevant Section	Matter	Information Requested
	Appendix L – Risk assessment matrix Appendix J – Erosion and landform simulations to support waste landform design	design targets to minimize erosion but lacks explicit data on slope response under deep, energetic flow.	should be integrated into the broader risk management framework to mitigate potential scour or slope failure.
26	Appendix K – Void closure plan Appendix L – Risk assessment matrix	Although three NUMAs have been pre-approved, the documents do not explain how Pandora void will remain free from severe flooding under future extreme conditions. The Void Closure Plan in Appendix K claims Pandora’s large capacity (~27,000 ML) is adequate for ~1,800 ML inflows at a 0.1% AEP scenario but does not confirm that a PMF scenario would avoid overflow, particularly if the consequence category is high or tailings are planned. No clear information has been provided on protective measures—such as levees or embankments—for either the waste dump or Pandora void (which may be a NUMA) under 0.1% AEP or PMF conditions. The risk matrix in Appendix L identifies flooding as a potential contributor to geotechnical instability, yet the current documents specify no design interventions beyond general landform shaping. If deep, energetic flows (up to PMF) can destabilise dump slopes or cause void overflow, a consequence category analysis is essential. Such an analysis defines the required design flood event. Although a 0.1% AEP flood is the usual baseline for a levee, the PMF can be mandatory if the consequence category is “high”. Design and management plans for voids must feature explicit flood risk management. Flood protection design, monitoring, and adaptive management strategies are required so that NUMAs i.e. Pandora void, remain stable despite escalating flood scenarios (Environmental Protection Regulation 2019). If tailings (and its release through overtopping) or a higher consequence rating is possible, the analysis should demonstrate PMF-level protection to prevent overtopping and contamination release.	A detailed geotechnical and hydraulic assessment of Pandora void is required, including a full consequence category analysis (ESR/2016/1933; ANCOLD, 2012) to determine whether more robust protections (e.g. levees/embankments) are needed. The closure design must show that Pandora void remains stable under potential PMF conditions if the risk is deemed significant under the consequence category guideline (ESR/2019/4964).

No.	Relevant Section	Matter	Information Requested
27	Section 6.1.3 – Waste characterisation Appendix E - Material characterisation study	Appendix E (Table 8) of the Rehabilitation Planning Part includes a recommendation to bury all saline material to a depth of at least 2m. This is not discussed in the Rehabilitation Planning Part and has not been captured by the proposed milestone criteria.	Update the Rehabilitation Planning Part to include details about the strategy for burying the saline material and how this will be recorded. Include milestone criteria in the PRCP schedule for the cover requirements.
28	Section 6.1.4 – Soil and capping material Appendix E – Material characterisation study	Section 6.1.4.1 of the Rehabilitation Planning Part includes key chemical and physical properties of the soil management unit available for rehabilitation in Table 26. These are based on samples taken from stockpiled topsoil to be representative of the topsoil at the site. Due to the high degree of heterogeneity in topsoil material, individual topsoil stockpiles not included in the study in Appendix E will need to be sampled and characterized prior to use. Erodibility studies indicates that these soils are comparable to most clay topsoil available for rehabilitation in the region. They are suited to all rehabilitation areas provided basic erosion control practices are established and chemical fertility is managed to ensure rapid vegetation growth to maintain surface cover. Any sodicity issues will need to be addressed by incorporating gypsum prior to rehabilitation. Section 6.1.4.3 states that an assessment of the growth media characteristics will be completed by an AQP to determine amelioration requirements. Table 28 shows the growth media depths, amelioration options and surface treatment requirements for the establishment of vegetation for each PMLU. The proposed strategy to rely on recommendations made by an AQP for the development of suitable soils for use in rehabilitation in lieu of setting specific soil quality criteria is not supported. It is also important not to rely on vegetation performance as a surrogate for soil quality as successful vegetation growth is not indicative of long-term nutrient limitations. The as-constructed growth media characteristics, including topsoil and subsoil, must be demonstrated and confirmed by the AQPs. Simply applying gypsum and fertilizer just prior to placement may not demonstrate soil suitability. Section 5.4.1 of Appendix	Provide confirmation in the Rehabilitation Planning Part that consideration has been given to the treatment of soils well before use in rehabilitation to allow time for the ameliorants (e.g. gypsum, organic/compost), fertilizer (i.e. NPK/organic) and microbial activity (nitrifiers) to produce the AQP recommended soil quality criteria. Update the proposed rehabilitation strategy and milestone criteria to specify the characteristics of both the topsoil and subsoil to be achieved and to be consistent with the properties of the target regional ecosystem.

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		E states that <i>‘as a rule of thumb, gypsum will dissolve at a rate of 0.5-1t/ha/year. Hence, there is benefit in applying gypsum at recovery of materials, or as soon as practicable in the rehabilitation program’</i> .	
29		The volume of topsoil available for rehabilitation includes the volumes of topsoil currently stockpiled on site (4,230,744m³) as of May 2022 and the future topsoil to be stripped estimated as 1,183,258m³ (total of 5,513,997m³). The volume of topsoil required for the rehabilitation of 2,219ha is 3,329,214m³ in Table 27. These volumes are inconsistent with section 2.5 and Table 4 of Appendix E; however, it is noted that the latter refers to volumes and areas as of August 2021. The volumes of topsoil required per PMLU are provided in Table 27 of the Rehabilitation Planning Part but not what is available. Table 28 in section 6.1.4.3 of the Rehabilitation Planning Part specifies a topsoil depth of 100mm – 150mm for the woodland habitat PMLU to limit the effects of competition on woodland species from the loads of exotic pasture species. No evidence has been provided to support this statement. The Material Characterisation Study in Appendix E assumes that soil will be placed at an average depth of 150mm. It is not clear if other functional properties required for growth media have been considered when nominating a minimum topsoil depth less than 150mm for the woodland habitat PMLU, including: - Providing sufficient water availability and nutrients for native grasses, shrubs and trees. - Soil structure does not limit infiltration. - ESP that is non-sodic to limit piping and tunnel erosion.	Provide more information in the Rehabilitation Planning Part about the volume of topsoil that is available, and of the topsoil that has been assessed, what volume is suitable for each PMLU for the individual RAs given the fertilizer and ameliorants required for grazing and woodland habitat would be different. Demonstrate that the minimum topsoil depth of 100mm proposed for the woodland habitat PMLU is sufficient to store moisture and sustain vegetation growth. Otherwise, propose 150mm topsoil depths.
30	Section 6.1.5 – Landform design Appendix J – Erosion and landform evolution	Table 29 in the Rehabilitation Planning Part states that batters steeper than 15% are to have rock on the final surface, however proposed milestone criterion RM3b requires rock only on slopes steeper than 20%. It is unclear whether the rock discussed in section 6.1.5 of the rehabilitation planning part and in the PRCP schedule is intended to be the rock-soil mix tested in Appendix J. As Appendix J has been provided to demonstrate that the proposed landforms and treatments can be expected to be	Update the Rehabilitation Planning Part to include a detailed description of the proposed rehabilitation and methodologies to confirm that they are consistent with and informed by the findings of all relevant technical

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	simulations to support waste landform design	erosionally stable, it is necessary that landform design, rehabilitation methodologies, and milestone criteria are consistent with and informed by the findings and recommendations of that assessment.	studies. Ensure that the proposed milestone criteria in the PRCP schedule is consistent. Provide clarification on whether the rock discussed in section 6.1.5 of the Rehabilitation Planning Part and the PRCP schedule is the rock-soil mix discussed in Appendix J or a different material. If different, more information is required to demonstrate how this material is expected to perform as a growth medium and in terms of erosional stability.
31	Appendix E – Material characterisation study Appendix J – Erosion and landform evolution simulations to support waste landform design	Section 3.2.3 of Appendix J notes that in considering “vegetation cover” or “surface cover”, this report specifically considers contact cover of vegetation on the soil surface. It also notes that considerations of surface cover do not include rock. Where rocky materials have had erodibility measured experimentally and those parameters are used in WEPP simulations, then effects of the rock are already accounted for within the parameters used. This means that recommendations related to groundcover are over and above any inherent rockiness present in the material. Groundcover criteria must reflect this by specifying that they are vegetative groundcover levels, consistent with the description given in Appendix J. Figure 2 of Appendix J indicates that the rock-topsoil mix modelled for use on steeper batters is very rocky, and the proposed groundcover criteria would potentially allow that material to remain largely bare and still comply, which would not be consistent with the vegetative groundcover recommendations of Appendix J. If additional surface rock is to be applied to increase erosion resistance (in addition to that already present in the D5:D1 rock-soil mix, for example), it would be necessary to provide a way to demonstrate that the additional rock is in fact additional in order for it to be counted towards any groundcover target. Appendix E notes that only around 25% of the Permian spoil materials have stake durability higher than 70%, indicating that much of the surface rock is unlikely to persist in the long-term. This means that	Provide an updated Rehabilitation Planning Part to include a detailed discussion of how the proposed groundcover criteria reflect the assumptions, findings and recommendations of Appendix J, specifically in relation to the assumptions provided in section 3.2.3 and the inherent rockiness of the material indicated in Figure 2 of Appendix J. If rock is intended to comprise a portion of the groundcover: • Provide justification to demonstrate how this would be consistent with the assumptions and findings of the modelling presented in Appendix J. • Include a discussion of the risk of relying on labile rock to provide erosion protection, with consideration given to long-term stability as rock breaks down. • Provide methodology and additional milestone criteria to demonstrate how additional rock is

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		reliance on surface rock for stability may result in higher than predicted erosion rates in the long term as that rock breaks down. It is also unclear how the minimum of 50% groundcover for the grazing PMLU is consistent with the findings in Appendix J. While Appendix J does not specifically model the stability of slopes at 12% gradient, the findings suggest that 50% cover may be insufficient for stability on slopes with gradient up to 12%.	over and above that already present in the growth media materials. Provide additional technical justification for the proposed surface cover criteria for grazing areas. Justification must also consider the issues described above and demonstrate how the proposed criteria support a grazing land use.
32	Appendix J – Erosion and landform evolution simulations to support waste landform design	The landform evolution modelling presented in Appendix J indicates that there is a risk of gully erosion developing on longer slopes, particularly on steeper slopes using the rock-soil mix growth media. There is no discussion about how this risk will be managed.	Revise the Rehabilitation Planning Part to include a discussion about how the risk of gully erosion identified by the LEM has been managed (e.g. by limiting slope length or increasing vegetation cover). Propose milestone criteria for the management of gully erosion based on the LEM.
33	Section 6.1.5 – Landform design Appendix E – Material characterisation study Appendix K – Void closure plan	No assessment or information has been provided in the Rehabilitation Planning Part to demonstrate that erosion of final void highwalls and end walls will not result in instability or other impacts to the adjacent RA's or critical infrastructure. The material characterization presented in Appendix E and discussions of weathered strata in Appendix K indicates that the upper strata of the final highwalls and end walls are highly erodible, indicating a significant risk of gully erosion occurring on void wall crests and propagating towards adjacent structures and RA's.	Update the Rehabilitation Planning Part to include sufficient detail (including erosion assessment) that demonstrates how void highwall and end wall crest erosion will be managed to prevent impacts to adjacent RA's and structures, with specific consideration given to the highly erodible nature of the weathered upper strata.
34	Section 6.1.6 – Cover design	No information is provided in section 6.1.6 of the Rehabilitation Planning Part about the depth of cover over the course and fine rejects that are disposed of in spoil dumps. The PRC plan must demonstrate the coal waste materials are appropriately covered.	Provide a revised Rehabilitation Planning Part that specifies a minimum depth of cover over coarse and fine rejects placed in spoil landforms, including justification of the selected cover.
35	Section 6.1.1 – Hydrogeology	There is no mention of groundwater quality in section 6.1.1 of the Rehabilitation Planning Part. The PRCP guideline (section 3.6.1) requires that the assessment of hydrogeology considers the groundwater quality within the aquifers, and the current	In accordance with the PRCP guideline Section 3.6.1, the Rehabilitation Planning Part must include a description of the following:

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	Appendix D – Hydrogeology	and potential users of groundwater, including GDEs. There is no comparison of actual water quality data with WQOs in Appendix D, only a discussion about the results. The prediction of water quality impacts from mining activities is necessary to determine appropriate measures for the containment and management of contaminants and potential impacts should they be released to the environment.	- Identify all CoCs from the activity for surface water and groundwater and detail the methodology used to determine the CoCs. The EA includes a full suite of contaminants, but only pH, EC and Turbidity criteria are included in the PRCP schedule. - Describe the source, pathway and fate of contaminants that have the potential to impact environmental values in more detail. - Appropriate water quality parameters and criteria based on potential impacts to the receiving environment and the protection of the applicable EVs.
36	Section 6.1.7 – Water management Appendix D – Hydrogeology Appendix K – Void closure plan	Section 6.1.7 of the Rehabilitation Planning Part describes the water that will be generated by the final landform. The water balance modelling carried out in Appendix K only assesses the final void lakes that will form in the final landform based on runoff from the final void catchment, rainfall/evaporation and groundwater inflows (Appendix D). It does not include relevant information from materials testing, erosion/landform modelling or flood modelling that would inform how the rehabilitated final landform, including spoil dumps, will be free draining/water shedding. Furthermore, this section does not identify the specific CoCs from the activity that may pose a risk to environmental values in the receiving environment. The CoCs should be based on the mining process (dams and seepage), contaminated land and waste characterisation, and should be the same for both surface water and groundwater. This information is required to determine appropriate surface water and groundwater quality criteria and demonstrate that the rehabilitation methods will result in the land achieving a stable condition (i.e. non-polluting). Rehabilitation milestone criteria related to water quality are proposed for the achievement of a PMLU to a stable condition (i.e., RM13, RM14 and RM15). This criterion is the same for each of the PMLUs and includes: Rainfall runoff from rehabilitated areas that report to the receiving environment is not significantly different to upstream values for the following: pH, EC and turbidity as per Daunia Mine PRC Plan, 1 July 2023, v1, Appendix M, Figure 25. To demonstrate that the rehabilitation is non-polluting, surface water quality criteria should also meet nominated water quality criteria in the PRCP schedule for the achievement of surface requirements in RM10, RM11 and RM12.	

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		The purpose of the water quality criteria is to demonstrate that the land surface has achieved a stable condition and is non-polluting. Therefore, whether there are any short term/medium effects from the land surface on the receiving environment surface water. The current runoff criteria are not appropriate as they do not based on SMART principles. Water quality monitoring criteria is lacking details on locations, monitoring frequency, quality characteristics and limits. The criteria should be based on background water quality data or default WQO and guidelines. Surface water quality results from monthly monitoring at (but not limited to) downstream locations during periods of flow over a minimum of 5 years must not exceed the limits nominated in the PRCP schedule.	
37	Section 6.1.8 - Revegetation	Section 6.1.8.5 of the Rehabilitation Planning Part discusses the revegetation species mix for cattle grazing, which will consist of native and naturalized exotic 3P grasses (Table 30) based on what exists at site and those suitable for the topsoil management group. Note that <i>Chamaecrista rotundifolia</i> is considered an environmental weed and should not be used in the grazing species mix due to the risk of it becoming established or worsening in natural environments. There are also no shade tree species proposed in the seed mix for the cattle grazing PMLU. Despite being a rehabilitation requirement for cattle grazing in Table E1 of the EA, section 6.1.8.5 of the Rehabilitation Planning Part states that no seeding or use of <i>Leucaena</i> is proposed at DCM, which is reflected in the seed mix in Table 30. However, the milestone criteria for achieving the PMLU of cattle grazing (RM13, RM14) for RA1, RA2 and RA5 shown at the end of section 6 and in Table 58 (Section 10.3), includes the following requirement: <i>Leucaena</i> >2m high: stem density is <250 stems per hectare (1 per 40m²) mean total area. It is noted that the species list in Table 32 for the woodland habitat PMLU does not include any native legumes in the ground cover.	Update the Rehabilitation Planning Part to remove <i>C. rotundifolia</i> from the grazing species mix and include shade trees. Correct the inconsistencies related to <i>Leucaena</i>. As the substrate will be lacking nitrogen, it is recommended that native ground cover species such as <i>Rhyncosia minima</i>, <i>Glycine</i>, native <i>Desmodiums</i> be included in the species mix for the woodland habitat PMLU. Include native ground cover species in the seed mix for the residual void NUMA low walls.

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		Table 34 does not include any ground cover in the species mix for the residual void NUMA low walls. A native ground cover species is required to achieve erosional stability and to improve post mining land values.	
38	Section 6.3 – Voids Appendix K – Void closure plan	Section 6.3 of the Rehabilitation Planning Part states that the final low wall profile within the NUMA area will remain at angle of repose (i.e. ~37 degrees) with offsets between each dump lift reducing the overall low wall angle to ~21%. When the NUMA becomes available for improvement activities, the low walls will be revegetated down to 10m above the modelled residual void lake elevation to establish a total vegetation cover of ≥30%. The assumptions in section 7.2.4 of Appendix K stated that the effects of surface erosion on the stability of the low walls were not considered in the assessment. No further information has been provided about how it was determined that vegetative cover of 30% would achieve erosional stability on maximum low wall slopes. Appendix J (Erosion and landform simulations) suggests that 30% vegetation cover is unlikely to provide sufficient stability even at a gradient of 25%. It states that at a vegetation cover level of 50%, predicted erosion rates of the low wall batters capped with a rocky alternative growth media consistent with a D5:D1 (rock: topsoil) mix are largely below the target erosion rate of 5t/ha/year.	Revise the Rehabilitation Planning Part to include sufficient detail (including proposed slope geometry supported by appropriate technical assessments) to demonstrate that the low walls will be erosionally stable and that erosion within the NUMA will not impact the adjacent RAs.
39	Section 6.5 – Built infrastructure	Section 6.5 of the Rehabilitation Planning Part states that the EA (condition E19) requires all infrastructure to be removed, unless agreed in writing by the post mining landholder, except when the landholder is the EA holder. Mining infrastructure and services are proposed to be decommissioned and removed if not beneficial to the PMLU. Table 40 lists the infrastructure on the mine but does not indicate what will be retained. Given that the water storage PMLU has not been transitioned from the EA into the PRCP schedule, the assumption is that all mining related water storages will be rehabilitated. WHC became the DCM EA holder on 29 January 2025, however, confirmation is required about whether BHP has transferred ownership of the underlying land to WHC. Figure 12 also shows that most of the mine, including the MIA is owned/leased by parties other than the EA holder.	Update the Rehabilitation Planning Part and the spatial data to identify the specific infrastructure to be retained (if any) in the final landform and the underlying land ownership details/agreements. Provide details about how the infrastructure will provide benefit or improvement to the use of the land once mining has ceased and how it will contribute to the PMLU achieving stable condition. For any infrastructure, services or waste to be retained deeper than 0.5m, demonstrate that the intended PMLU is not compromised, there is no ongoing risk of

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		The proposed milestone criteria for RM1 states that no services, infrastructure, concrete or bitumen will be within 0.5m of the final landform surface. This suggests that below ground infrastructure, services and waste that is deeper than 0.5m will be retained. It is noted that condition D7 of the EA permits certain infrastructure, services and waste to be disposed of on-site in spoil, voids or under the land surface.	environmental harm, the infrastructure is mapped, and all pipelines have been drained/flushed.
40	Section 7 – Risk assessment Appendix L – Risk assessment matrix	Section 7 of the Rehabilitation Planning Part refers to the risk assessment in Appendix L, which was undertaken to identify the risks of a stable condition for the PMLUs not being achieved and to identify the risks of a NUMA causing environmental harm and not being safe and structurally stable. The risk assessment identifies flooding as a risk to the stability of the final landforms but does not include specific design requirements for managing this risk. Furthermore, it doesn't refer to bushfire as being a risk to the woodland habitat PMLU. The risk assessment refers to existing and proposed treatment/controls generally but does not include a specific risk treatment plan with all the elements outlined in the PRCP guideline such as the reason for the treatment option, timing and monitoring requirements, which is intended to link to the monitoring and maintenance program.	Update the risk assessment in the Rehabilitation Planning Part to identify the risks associated with flooding and bushfire in the woodland habitat PMLU areas. Provide a risk treatment plan as outlined in Section 3.7 (Risk assessment) of the PRCP guideline, which includes: • The reasons for selecting the treatment option. • Those responsible for the approval and implementation of the plan. • Proposed actions. • Resource requirements. • Performance measures and constraints. • Reporting and monitoring requirements. • Timing and scheduling.
Monitoring and maintenance			
41	Section 8.2 – Cattle grazing and woodland habitat monitoring	Section 8.2 of the Rehabilitation Planning Part lists the parameters to be monitored for revegetation, groundcover, erosion, weeds, land suitability, and soil quality, and the frequency of monitoring. The monitoring and maintenance activities must link to the outcomes identified in the risk treatment plan developed from the risk assessment to ensure that all actions are undertaken to minimise and mitigate risks.	Cattle grazing: Provide an updated Rehabilitation Planning Part that includes information that justifies the continued use of the current rehabilitation methods and species mixes at the mine for the existing cattle grazing rehabilitation, if they are effective and if not, use this information to propose alternative strategies, appropriate milestone

No.	Relevant Section	Matter	Information Requested
		The department recommends that modified BioCondition benchmark-based monitoring be explicitly used so that milestone criteria can be measured against established benchmarks.	criteria and changes that need to be made to improve the rehabilitation outcomes. Woodland habitat: Adopt BioCondition benchmarks for the woodland habitat PMLU for the target REs 11.5.3 and 11.9.2, or if the methods described in section 8.2 are to be continued: - Identify monitoring sites/ha of rehabilitation and justify how sites were selected to ensure that monitoring site coverage is adequate and representative. - Ensure species richness is separated into native and non-native measures.
42	Section 8.4 – Surface water monitoring	To enable the development of SMART water quality criteria, the location, frequency, quality characteristics and limits need to be provided with the PRC plan. Surface water quality monitoring is proposed to be undertaken for all PMLUs for pH, EC and turbidity. However, the CoCs have not been adequately assessed to determine whether this is sufficient. The quality characteristics should be based on the CoCs. The CoCs should be the same for surface water and groundwater and be based on the mining process (dams and seepage), contaminated land and waste characterization. Limits should be fit for purpose (closure not operation), site-specific and based on Water Quality Objectives, guidelines, and background data for the receiving environment. Aquatic ecosystems are a scheduled environmental value for the receiving environment and must be considered. Background data can be used to determine site-specific limits. For surface water, the 80th percentile of data for upstream/reference sites should be used for physio-chem indicators and the 95th percentile for toxicants. Appendix N provides guidance on the statistical methods and approach to be used for the evaluation of the surface water results for use as milestone criteria. This is not appropriate for closure. This method refers to comparing an upgradient mean to a	Provide an updated Rehabilitation Planning Part that includes appropriate surface water rehabilitation and closure monitoring locations, frequencies, quality characteristics and limits that are fit for purpose and capable of identifying contamination from all rehabilitated areas. Provide an updated monitoring program that specifies the frequency of water quality monitoring at sufficient intervals to consider seasonal variation and be able to gather data to demonstrate a stable condition can be achieved. Provide all monitoring locations and raw water quality data to allow for review of the assessment. Provide the data as an excel spreadsheet in either of the attached formats. Demonstrate how the water quality objectives and ANZG 2018 guidelines have been considered.

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		down gradient mean, which is not a standard approach. The standard methodology (ANZECC 2000 and QWQG) to determine chronic long-term effects in surface water of downstream results is median of downstream results compared to 80 th percentile of upstream results or WQO using a minimum of 24 data points.	
43	Section 8.5 – Groundwater monitoring	No groundwater monitoring criteria has been included in the PRCP schedule. Section 8.5.1 in the Rehabilitation Planning Part states that groundwater quality monitoring will be undertaken at surrender of the EA. Groundwater monitoring and reporting for the PRCP should be done to demonstrate that the final landform can achieve stable condition and is non-polluting. Groundwater monitoring is proposed to be carried out quarterly at the locations in Table 54 and Figure 20, which are to support the assessment of closure conditions. Quarterly groundwater quality and level monitoring is required for a minimum of 5 consecutive years. Further detail is required about the quality characteristics and limits for groundwater quality monitoring. Quality characteristics should be based on CoCs. The CoCs should be the same for surface water and groundwater and be based on the mining process (dams and seepage), contaminated land and waste characterisation. Limits should be fit for purpose (closure not operation), site-specific and based on water quality objectives, guidelines, and background data. For groundwater, the 95th percentile of baseline (ideally pre-mining) data can be used to determine site-specific limits for all indicators (Refer to the DETSI Groundwater Quality Assessment Guideline). Appendix N of the PRC plan provides guidance on the statistical methods and approach to be used for the evaluation of groundwater results applicable to surrender. This approach is not appropriate for closure. The groundwater monitoring locations, quality characteristics and limits to be monitored must be included within tables and figures in the PRCP schedule.	Provide an updated Rehabilitation Planning Part that includes appropriate groundwater monitoring locations, frequencies, quality characteristics and limits that are fit for purpose and capable of identifying contamination from all disturbed areas. Provide an updated monitoring program that specifies the frequency of groundwater quality monitoring at sufficient intervals to consider seasonal variation and be able to gather data to demonstrate a stable condition can be achieved. Provide all monitoring locations and raw water level and groundwater quality data to allow for review of the assessment. Provide the data as an excel spreadsheet in either of the attached formats separate from the data for surface water. Demonstrate how the water quality objectives and ANZG 2018 guidelines have been considered.

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44	Section 8.6 – NUMA milestone monitoring	Monitoring of the void water quality should be included in this section. The results from void water quality monitoring will be required to demonstrate that the proposed NUMA is not causing environmental harm. A list of water quality characteristics (based on CoCs) has not been included in the Rehabilitation Planning Part.	Provide an updated Rehabilitation Planning Part that includes a list of water quality characteristics to be monitored in the residual voids. Provide an updated monitoring program that specifies the frequency of water quality monitoring at sufficient intervals to be able to gather data to demonstrate that the NUMAs are not causing environmental harm.
PRCP schedule			
Rehabilitation Milestone criteria			
45	Infrastructure decommissioning (RM1)	The suitability of any retained infrastructure to support the PMLU must be demonstrated in the Rehabilitation Planning Part and a signed landholder agreement provided if the underlying landholder is not the EA holder. Criteria for ensuring that any retained infrastructure can achieve a PMLU to a stable condition will need to be included in a later rehabilitation milestone.	The department recommends inclusion of the milestone criteria in Attachment A of this IR in the PRCP schedule for RM1. These criteria can apply to both retained and non-retained infrastructure.
46	Identification, remediation and/or management of contaminated land (RM2)	The contaminated land criteria should include hazardous material. Contaminated and hazardous material should be either remediated in-situ or removed/transported to an approved landfill for disposal and waste tracking information recorded and submitted. Land should be included on (if required) or removed from the EMR and/or a site management plan as appropriate. A declaration from a Suitably Qualified Person (SQP) is required to verify that no contamination unsuitable for the PMLU remains. A site suitability statement should confirm that the uses for which the land is suitable align with the PMLUs for the site.	Include additional SMART milestone criteria in the PRCP schedule (refer to Attachment A of this IR) that demonstrate that the land is non-polluting and will be suitable for the nominated PMLUs.
47	Landform development and shaping (RM3)	All earthworks must be completed to final landform design and have engineering design plans. An AQP must certify that the as constructed landform achieves the design criteria for geotechnical stability with a factor of safety (FoS) of ≥ 1.5 .	Revise the proposed milestone criteria in the PRCP schedule to ensure that it reflects the findings and recommendations of all relevant technical studies. Include additional milestone criteria that will demonstrate that the final landform is safe and stable.

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		The nominated slope criteria and erosion controls in the PRCP schedule must be supported by the technical studies in the Rehabilitation Planning Part, which must demonstrate that they will result in erosional stability. The erosion and sediment controls must be installed as per the construction design and verified by an AQP. All landforms must be reshaped to be free draining. Landforms must be constructed so that there will be no runoff from the landform tops onto batter slopes. Appropriate milestone criteria need to be included to demonstrate that the specified depth of cover has been applied to coarse and fine rejects in spoil landforms.	Include milestone criteria for burying saline material at least 2m deep. Refer to Attachment A of this IR.
48	Surface preparation (RM4, RM5 and RM6)	The proposed minimum topsoil depth of 100mm for the woodland habitat PMLU must be further justified in the Rehabilitation Planning Part. It is important for the health and suitability of growth media to be assessed by an AQP as suitable for the PMLU and the target vegetation, prior to placement of topsoil. Fertilizer and ameliorants should be applied as determined by the AQP, prior to seeding. Appendix E of the Rehabilitation Planning Part indicates that it would be possible to develop SMART milestone criteria that set a growth media quality target that must be met for this site.	It is recommended that SMART milestone criteria as shown in Attachment A of this IR are included in the PRCP schedule for surface preparation.
49	Revegetation (RM7, RM8 and RM9)	The proposed milestone criteria in Table 58 of the PRCP schedule for revegetation include a requirement to complete seeding in accordance with the recommended species mix and seeding rates shown for each PMLU in Table 30 (cattle grazing), Table 32 (woodland habitat) and Table 33 (watercourse) of the Rehabilitation Planning Part. The milestone criteria should specify that at least four species of 3P pasture species, two legumes and two shade trees, including at least two native species, from the seed mix to be applied per application area. The seed mix shown in Table 30 includes	The department recommends that the proposed species mix and seeding rates tables be included as separate appendices/tables in the PRCP schedule as the Rehabilitation Planning Part does not get approved. SMART revegetation criteria have been recommended in Attachment A of this IR for inclusion in the PRCP schedule for each PMLU.

No.	Relevant Section	Matter	Information Requested
		preferred pasture species and legumes but does not include any shade trees. Native species should be prefaced over exotic species. There is no reference to minimum seeding rates in the proposed milestone criteria. For the cattle grazing PMLU, the minimum seeding rate should be 16kg/ha of coated seed and 4kg/ha of uncoated legume seed unless adjusted by an AQP based on rehabilitation monitoring results. This is consistent with what has been proposed in section 6.1.8.5 (Cattle grazing revegetation species and seeding rates) of the Rehabilitation Planning Part. The milestone criteria should also specify the target RE(s) for the woodland habitat PMLU. The woodland habitat PMLU is a mixture of species from RE11.5.3, RE11.5.9, RE11.9.2 and RE11.9.5, and RE11.3.25 for the watercourse PMLU as stated in sections 6.1.8.7 and 6.1.8.10 of the Rehabilitation Planning Part. The species mix for the woodland habitat PMLU needs to be refined so that it is not a hybrid mix and targets suitable REs such as RE11.5.3 and RE11.9.2 in different areas, for example, using RE11.9.2 on slopes. The minimum seeding rate for the woodland habitat PMLU and watercourse PMLU should be 6kg/ha of tree species, 4kg/ha of woody understory species and 7kg/ha of grasses and for the lower banks – 5kg/ha of uncoated tree species and 10kg/ha of uncoated ground species. This is consistent with the seeding rates proposed in the Rehabilitation Planning Part except for the upper banks of the watercourse rehabilitation, where the seeding rates are stated as being 3kg/ha of woody understory species and 7kg/ha of grasses. Non-native species must not be used except where they are sterile cover crops. Japanese millet has been proposed for use as initial ground cover.	
50	Achievement of surface requirements (RM10, RM11 and RM12)	The only criteria proposed in section 10 (Rehabilitation milestones) of the Rehabilitation Planning Part to demonstrate the achievement of surface requirements is insufficient as it only relates to % groundcover, which is defined in Table 58 as 'anything in contact with the soil surface, for example, live cover, standing dry cover, organic litter (including leaves, hay, woody debris) or rocks.	Revised milestone criteria for vegetative groundcover that are consistent with the assumptions, findings, and recommendations of Appendix J (including an appropriate definition), should be included in the PRCP schedule.

No.	Relevant Section	Matter	Information Requested
		The rehabilitation milestone criteria for groundcover do not reflect the assumptions and recommendations made in Appendix J of the Rehabilitation Planning Part. Groundcover criteria must reflect these findings by specifying vegetative groundcover levels, consistent with the description given in Appendix J and that will be sufficient for providing stability on nominated slopes. The PRCP schedule does not propose any criteria to demonstrate that rehabilitated areas are erosionally stable. Note that it is the department's position that tunnel erosion is not acceptable on rehabilitated areas as it is not compatible with a safe or stable condition, and gully erosion is not acceptable in any location where there is a risk of exposure of hazardous or dispersive material, in accordance with the advice of the Office of the Qld Mine Rehabilitation Commissioner. The milestone criteria should reflect these expectations. There should be SMART criteria provided for erosion, weeds, soils, surface water runoff and vegetation assessments at this stage to demonstrate that the land is stable, non-polluting and tracking towards achieving the nominated PMLU.	Include appropriate milestone criteria that demonstrate that the necessary controls have been implemented to manage the risk of gully erosion on slopes. SMART milestone criteria are recommended in Attachment A of this IR to be included in the PRCP schedule to demonstrate the achievement of surface requirements.
51	Achievement of post-mining land use to a stable condition (RM13, RM14, RM15)	The proposed milestone criteria in the PRCP schedule are insufficient for demonstrating the achievement of stable condition for the PMLUs of cattle grazing, woodland habitat and watercourse. The PRCP schedule must include SMART erosion and water quality criteria that demonstrate the achievement of a stable condition.	SMART milestone criteria are recommended in Attachment A of this IR to be included in the PRCP schedule to demonstrate the achievement of stable condition.
Improvement milestone criteria			
52	Achievement of final landform design (MM1)	The milestone criteria for MM1 that requires determination by an AQP that the high wall, end wall and low walls are set back to achieve a FoS ≥ 1.5 is insufficient. An AQP should also certify that the high walls and low walls achieve the maximum slope as per the residual void design, that the residual voids are not subject to flood ingress up to and including the 0.1% AEP, the residual voids act as groundwater sinks and predictive modelling confirms there is no risk of overtopping.	Update MM1 in the PRCP schedule to include the recommended criteria shown in Attachment A of this IR relating to residual void area, maximum slopes, water management and flood mitigation. Proposed appropriate values for inclusion in the criteria.

No.	Relevant Section	Matter	Information Requested
		Backfilling of voids should also be completed where relevant for flood mitigation. High wall landforms must prevent the flow of floodwater into the void, be geotechnically stable when floodwater is against the batter and prevent seepage flow of floodwater into the void. Low walls should be free draining into the void lake. The milestone criteria must also consist of the maximum area of each residual void that cannot be exceeded.	
53	Achievement of surface requirements (MM2)	The proposed milestone criteria for MM2 includes safety bund, fencing and signage. The bunding should be confirmed to be geotechnically stable by AQP and be beyond 10m of the area that may be affected by void instability. Reference should be made to the application of seed to the low walls 10m above the maximum residual void lake elevation using the seed mix contained in a table within an appendix of the PRCP schedule.	Revise MM2 in the PRCP schedule to include the application of seed and the seed mix for the residual void NUMA low walls as recommended in Attachment A of this IR.
54	Achievement of sufficient improvement (MM3)	The proposed milestone criteria for MM3 include 30% total vegetation cover on the low walls, certification by an AQP that the residual void is safe to humans and livestock, and that the residual void will not present an unacceptable risk of environmental harm. The risk of gully erosion occurring on void wall crests and propagating towards adjacent structures and RAs has not been adequately addressed. NUMAs must be managed in accordance with best practice and must not cause impacts to adjacent rehabilitated areas. No milestone criteria have been proposed to demonstrate that low walls within the NUMA have been reshaped to an erosionally stable gradient. The AQP should certify that the predictive modelling and void water quality modelling re-run at mine life against the final landform demonstrates that the residual voids will continue to act as groundwater sinks, each void will retain flood immunity and water quality will not cause harm to the surrounding environment. The high wall landform has been certified as designed and constructed as specified, a geotechnical assessment demonstrates a negligible probability of wall failure, slippage or rock fall. Each void must meet the residual void design criteria. Safety	Update the management milestone criteria in the PRCP schedule to demonstrate that necessary controls and treatments have been implemented and that erosion within the NUMA will not impact adjacent RA's. Refer to the milestone criteria recommended in Attachment A of this IR and propose appropriate values for inclusion.

No.	Relevant Section	Matter	Information Requested
		bunding, fencing and signage should be certified as installed, appropriately located, fit for purpose and in good condition.	

ATTACHMENT A: DETSI recommended standard milestone criteria for draft PRCP schedule

NOTE: These are the standard recommended milestone criteria for a PRCP schedule current at the time of issuing this information request. Further specific, additional or alternative criteria may be suggested for the site following receipt of a response to the information request and may change during the decision stage depending on the requirements for this site.

Rehabilitation Milestone	Rehabilitation Milestone Criteria
Infrastructure decommissioning and removal	a) With the exception of any infrastructure to remain as part of the post-mining land use (PMLU) or required for rehabilitation activities, or where infrastructure is agreed to be retained by the landholder as evidenced by a signed landholder agreement, the following are complete: i) All services disconnected, terminated and removed. ii) All buildings and associated infrastructure dismantled and removed offsite. iii) All hardstand, concrete areas and roads (bitumen, blue metal, aggregate etc.) removed. iv) All fencing that is not part of PMLU requirements removed. v) All pipelines drained and removed. vi) All waste removed. vii) All surface water drainage infrastructure removed. viii) All drillholes, bores, sediment ponds and sumps decommissioned. ix) All machinery and equipment removed from site. x) All dams dewatered and desilted. xi) Watercourse crossings and culverts removed.

	b) All infrastructure to be retained onsite must achieve stable condition. c) Assessment of mine water dams is completed by an Appropriately Qualified Person (AQP) and identified sediment and water management actions completed.
Identification, remediation and/or management of contaminated land	a) Contaminated Land Investigation Document completed in accordance with the <i>Environmental Protection Act 1994</i>, including a site investigation report, and, where required, a Validation Report and/or a draft Site Management Plan. b) Contaminated and hazardous material either remediated in-situ or removed/transported to an approved landfill for disposal and waste tracking information recorded and submitted. c) Validation testing confirms that contaminated and hazardous materials have been removed or remediated successfully. d) Contaminated land assessment is completed by a suitably qualified person (SQP) indicates that no contamination unsuitable for the post-mining land use remains or is occurring. e) A site suitability statement from a SQP confirms the uses or activities for which the land is suitable, align to the approved PMLUs for the site. f) Land is either included (if required) or removed from the CMR/EMR.
Landform development and shaping	a) All earthworks completed to final landform design and have associated engineering and design plans. b) Erosion and sediment control systems are installed as per the construction design and verified by an AQP. c) AQP certifies that as constructed landform achieves design criteria for geotechnical stability with a Factor of Safety (FOS) ≥ 1.5. d) Landform shaped to be gently sloping characteristic of the natural landform and reinstates natural drainage lines. e) Disturbed natural watercourse bed and banks returned to a profile similar to the pre-disturbance condition. f) Disturbed slopes not steeper than X (<i>as recommended in WEPP/LEM</i>) g) Landforms are constructed such that there will be no runoff from landform tops onto batter slopes. h) Landforms are reshaped to be free draining. i) AQP certifies that saline material is buried at least 2m deep within the spoil.

Surface preparation	a) Topsoil placed at a minimum of 150mm in areas where topsoil has been previously removed. b) Prior to placement of soil material for rehabilitation, growth media health and suitability must be assessed and certified by an AQP as suitable for the PMLU and target vegetation and to determine the need for amelioration and fertilizer prior to seeding. c) Where growth media health and suitability assessments identify that the growth media criteria below are not met, a recommendation is made for ameliorants and fertilizer prior to seeding to meet the following: i. EC $\leq$4 dS/m ii. Soil pH $<$5.5 and $<$8.5 iii. Exchangeable Sodium Percentage (ESP) $\leq$6% iv. Emerson aggregate test (EAT) $>$3 v. Organic carbon $\geq$1% vi. Ca/Mg ratio $>$2 d) Ameliorants such as fertilizer, gypsum and/or organic matter applied at rates determined by an AQP. e) Ripping on contour if compaction relief is required.
Revegetation	1. General: a) Seeding completed using seed mix and sowing rates as described in this schedule or as amended for additional native endemic species as recommended by an AQP and certified as suitable to achieve stable condition. b) Appropriate erosion controls installed/placed and functioning as designed (as per AQP report) to ensure plant establishment is not significantly impacted from erosive events. 2. Cattle grazing PMLU:

	a) Completed seeding in accordance with the species list and seeding rates shown in Appendix X – Species list and seeding rates for cattle grazing PMLU. b) At least four species of 3P pasture species, two legumes and two shade tree species established, including at least two native pasture species from Appendix X – Species list and seeding rates for cattle grazing PMLU. c) Minimum seeding rates of 16kg/ha of coated pasture seed and 4kg/ha of uncoated legume seed used, unless adjusted by an AQP based on the results of rehabilitation monitoring. d) Stock exclusion fencing has been established to prevent stock from grazing newly seeded areas. 3. Woodland habitat PMLU: a) Completed seeding in accordance with the species list and seeding rates shown in Appendix X – Species list and seeding rates for woodland habitat PMLU. b) Minimum seeding rates of 6kg/ha of tree species, 4kg/ha of woody understory species and 7kg/ha of grasses used, unless adjusted by an AQP based on the results of rehabilitation monitoring. c) The species chosen should reflect target REs 11.5.3 and 11.9.2. d) Non-native seed, except for sterile cover crops must not be used. 4. Watercourse PMLU: a) Completed seeding in accordance with the species list and seeding rates shown in Appendix X – Species list and seeding rates for watercourse PMLU. b) Minimum seeding rates: c) Upper story and mid banks - of 6kg/ha of uncoated tree species, 4kg/ha of uncoated woody understory species and 10kg/ha of uncoated grasses and
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	other ground cover species used, unless adjusted by an AQP based on the results of rehabilitation monitoring. d) Lower banks – 5kg/ha of uncoated tree species and 10kg/ha uncoated ground species. e) The species chosen should reflect the target RE 11.3.25. f) Non-native seed, except for sterile cover crops must not be used. 5. Independent AQP has certified the achievement of this RM.
Achievement of surface requirements* <i>(*Some criteria in this RM may be included as final milestone criteria for achieving stable condition instead (and vice versa), depending on the timing for when they will be achieved).</i>	1. General: a) Species used in revegetation remain present and show evidence of natural recruitment. Evidence of flora recruitment from rehabilitation monitoring data. b) AQP certifies that: i) No evidence of erosion classified as ‘moderate’ or ‘severe’ as defined in Table X – Erosion classification framework (NCST, 2009). ii) Mass movement is absent. iii) Tunnel erosion is absent. iv) All other erosion requiring intervention has been remediated and does not impact the PMLU. v) Average erosion rate of <5t/ha/year within a maximum erosion rate of <10t/ha/year. vi) Any and all gully erosion: 1. Is isolated, linear, discontinuous and restricted to primary or minor drainage lines 2. Does not exceed 1 m in depth at any point 3. Does not expose or risk exposing environmentally problematic materials

	4. Cause is known and has been resolved 5. Established and persistent vegetation cover at the head of the gullies 6. Is in a stabilised state, demonstrated by monitoring data over a 5-year period 7. Does not provide a safety hazard within the context of the PMLU; and 8. Does not impact the stability or performance of engineered drainage features. c) Weed presence is less than 5% of total vegetative groundcover and is being appropriately managed. d) Absence of ecosystem altering weeds. e) Surface water runoff collected from rehabilitated areas is non-polluting and complies with Table X – Surface water quality limits. f) Soil testing complies with the following: i) EC ≤4 dS/m ii) Soil pH <5.5 and <8.5 iii) Exchangeable Sodium Percentage (ESP) ≤6% iv) Emerson aggregate test (EAT) >3 v) Organic carbon ≥1% vi) Ca/Mg ratio >2 2. Cattle grazing PMLU: a) Vegetation groundcover is ≥70% (<i>or as per WEPP/LEM</i>) established and self-sustaining consisting of species listed in Table X – Species list and seeding rates for grazing PMLU.
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	b) At least four species of 3P pasture species, two legumes and two shade tree species established, including at least two native pasture species present, per hectare (averaged). 3. Woodland habitat PMLU: a) Vegetation groundcover is $\geq 80\%$ on slopes $> 15\%$ (or as per WEPP/LEM) b) Vegetation groundcover is $\geq 50\%$ on slopes $\leq 15\%$ (or as per WEPP/LEM) 4. Watercourse PMLU: a) Vegetation groundcover is $\geq 80\%$ on slopes $> 15\%$ b) Vegetation groundcover is $\geq 50\%$ on slopes $\leq 15\%$ c) Watercourse vegetation meets the following: i) Species richness: 1. ≥ 2 native trees, 2. ≥ 2 native shrubs 3. ≥ 2 grass species ii) Tree canopy cover $\geq 13\%$. 5. Independent AQP certifies achievement of this RM.
Achievement of PMLU to a stable condition*	1. General: a) Safety hazards in the rehabilitation area are not significantly different to surrounding unmined landscapes subject to the same land use. b) The land is structurally and erosionally stable. c) Restricted invasive plants (as defined in the <i>Biosecurity Act 2014</i>) comprise $\leq 5\%$ of vegetation groundcover. d) Topsoil and subsoil physical, chemical and biological properties are not limiting vegetation cover performance (e.g. nutrient availability, drought, stress).

	e) Certification from AQP that the landform is geotechnically stable and achieved a factor of safety of ≥ 1.5. f) Final landform survey confirms no built structures remain other than those that form part of a landholder agreement/statement. g) No evidence of scouring, overtopping, sedimentation or destabilisation in or associated with erosion and sediment control structures and engineered drainage structures. h) Contaminated Land Investigation Document (CLID) completed in accordance with the EP Act, including: i) Site Suitability Statement confirming the suitability of the property (all lot/plans within the MLs) for the PMLUs ii) Audit Certification iii) Site Investigation Report and where required, a Validation Report and/or draft Site Management Plan. iv) Removal of land from the EMR where possible. i) All results from stream sediment quality should be monitored at, but not limited to, downstream monitoring sites, undertaken twice a year (at end of wet season and end of dry season) complies with ANZECC/ARMCANZ (2000) Interim Sediment Quality Guidelines – low for a minimum of 5 consecutive years. j) Surface water quality results monitored monthly during flow at, but not limited to, downstream locations specified in Table X – Surface water monitoring locations, must not exceed the limits in Table 2 – Surface water quality limits, for a minimum of 5 consecutive years. k) If the surface water quality exceeds the criteria above, the applicable upstream/reference site result must be compared to the downstream site result; and the quality result measured at the downstream site must be equal to or less than the quality result measured at the applicable upstream/reference site.
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	l) For a minimum of five consecutive years groundwater quality must be monitored quarterly at, but not limited to, compliance bores/locations specified in Table X – Groundwater monitoring locations, for all quality characteristics listed in Table X – Groundwater quality limits. m) Groundwater quality results must not exceed the limits in Table X – Groundwater quality limits, for 3 consecutive results. n) Groundwater level is monitored quarterly, and all results must not exceed the Level Thresholds outlined in Table X – Groundwater level thresholds, for a minimum of 10 consecutive years. 2. Cattle grazing PMLU: a) Land suitability class assessed by an AQP and certified as having achieved a post-mining land suitability class of 3 or better for cattle grazing, or not different from pre-mining class if class 4 where the rehabilitation is in accordance with Short (2023). Class 4 is only accepted if the limitations are water availability, soil nutrient or sub-soil erosion. b) For any Class 4 land suitability areas, land condition is assessed as Good (A) condition for non-grazed areas, or Good (A) or Fair (B) condition for grazed areas, for 5 consecutive years using the Grazing Land Management ABCD land condition framework. 3. Woodland habitat PMLU: a) A Biocondition assessment has been completed by an AQP using the methodology outlined in the latest version of the Queensland Herbarium's 'BioCondition Assessment Manual'. b) The BioCondition assessment complies with the PRCP benchmark for the PMLU in Appendix X – PRCP Benchmarks for rehabilitation areas. 4. Watercourse PMLU: a) Geomorphic index score: greater than or equal to upstream and downstream values (Index of Diversion Condition method).
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	b) Groundcover: c) >15% slopes must achieve ≥80% vegetation groundcover. d) ≤15% slopes must achieve ≥50% vegetation groundcover. e) Watercourse vegetation meets the following: f) Riparian vegetation index score: greater than or equal to upstream and downstream values (Index of Diversion Condition method). g) Species richness: h) ≥2 native trees, i) ≥2 native shrubs; j) ≥2 grass species; k) Tree canopy cover ≥ 20%. l) Median tree canopy height ≥10m. m) Recruitment of at least two woody perennial species in ecological dominant layer. n) All results from stream sediment quality should be monitored at, but not limited to, downstream monitoring sites, undertaken twice a year (at end of wet season and end of dry season) complies with ANZECC/ARMCANZ (2000) Interim Sediment Quality Guidelines – low for a minimum of 5 consecutive years. o) Aquatic ecology (i.e., aquatic habitat and riparian vegetation) health monitoring is undertaken every 3 years, which shows a progressive improvement, or is similar to, other ephemeral watercourses in the region. p) Independent AQP certifies the achievement of this RM. 5. Certification from an AQP that the area has achieved stable condition.
Improvement Milestone	Improvement Milestone Criteria

Achievement of structural stability (MM1)	a) The maximum area of each residual void NUMA must not exceed the following: i) Pandara void – Xha ii) Titan North/Central void – Xha iii) Titan East void - Xha b) Highwall landforms must: i) Prevent surface or seepage flow of floodwater into the void ii) Be geotechnically stable when floodwater is against the creek-side batter iii) Not be constructed with dispersive material iv) Have maximum X% slopes with rock for scour protection. c) The final design for highwall landform must be completed by an AQP based on the latest flood modelling and materials data prior to construction. d) Final residual voids are not subject to inundation from floodwaters up to and including the 0.1% AEP. e) The high-wall, end-wall and low-wall achieve a FoS ≥ 1.5 within the NUMA extents as determined by an AQP. f) A minimum distance of 50m is to be designed between the residual void crest and the toe of the safety bund, where against an external perimeter mining lease boundary. g) The location of the voids and associated safety bunds does not cause instability or degradation to the land outside the NUMA. h) Residual voids must not overtop. i) An AQP demonstrates with water quality, water level and modelling data, that the residual void/s act as groundwater sinks post-closure. j) Independent AQP certifies achievement of MM1.
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Achievement of surface requirements (MM2)	a) Competent safety bund or equivalent landform in place to prevent access to the residual void, at the geotechnical set-back distance of a minimum of 15m. b) The safety bund is accordance with engineering requirements including: i) Constructed from non-weathered, non-dispersive dumped rockfill; ii) a minimum 2m in height; iii) a minimum of 4 m base width; and iv) 1 in 3 batters. c) Fencing erected, where required to prevent access to the residual void, around the perimeter of the safety bund. d) Safety signage (design in accordance with Australian standard) is erected at 100m intervals along the fence. e) A minimum distance of 25m is to be designed between the residual void low-wall crest within the NUMA and the safety bund or equivalent landform in MM2 a). f) Independent AQP certifies achievement of this MM2.
Achievement of sufficient improvement (MM3)	a) The highwall landform has been constructed in accordance with the final design. b) Appropriate safety infrastructure at the geotechnical set-back distance has been installed to prevent access to the NUMA. c) The residual void is safe to humans and livestock. d) The water level and quality in the void do not and will not cause environmental harm to the receiving environment, as demonstrated by groundwater level, quality monitoring and modelling. e) Voids retain flood immunity, supported by flood modelling re-run at end of life and calibrated against the final landform. f) The residual void will not present an unacceptable risk of environmental harm.

	g) Erosion of the landform within the NUMA area will not negatively impact on the stability of any adjacent rehabilitation areas, or their ability to sustain their PMLU. h) Monitoring and maintenance of exclusion fences and bunds to be carried out to ensure they remain effective. i) NUMA low walls down to 10m above the modelled maximum residual void lake elevation revegetated as per Table X: Species and seeding rates for NUMA low walls and achievement of $\geq 50\%$ (<i>or as per WEPP/LEM</i>) total vegetative cover. j) Independent AQP certifies achievement of MM3.
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