

# Notice

## *Environmental Protection Act 1994*

### Information request

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*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: Stanmore SMC Pty Ltd  
Level 32, 12 Creek Street  
Brisbane City QLD 4000  
*By email transmission only*

ATTN: Monique Roberts-Thomson

Email: monique.roberts-thomson@stanmore.net.au

Our reference: EPML00963013

### **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 1 July 2024.

The application reference number is: C-PRCP-100680335

Land description: ML70116 and ML4749

#### **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 attached in **Appendix 1: Additional information required for proposed PRC plan.**

#### **3. Actions**

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

- (a) all of the information requested; or

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

Should the information request require an EIS process or applicant to submit a progressive rehabilitation and closure (PRC) plan then it must be completed and submitted.

A response to the information requested must be provided by 28 April 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](mailto: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 **the decision is compatible with human rights.**

If you require more information, please contact Business Centre Coal on the telephone number listed below.



Signature

28/10/2024

Date

Cate Puschmann  
Department of Environment, Science and Innovation  
Delegate of the administering authority  
*Environmental Protection Act 1994*

**Enquiries:**  
Business Centre Coal  
Phone: 07 4987 9320  
Email: [CRMining@des.qld.gov.au](mailto:CRMining@des.qld.gov.au)

## Appendix 1

Provide a revised PRC plan (including PRCP schedule) that addresses the following matters:

| Item                                | Relevant Section of PRC Plan, Schedule and/or PRCP Guideline                                           | Issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Required Information                                                                                                                                                                                                                                                                                                                             |
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| <b>Rehabilitation Planning Part</b> |                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                  |
| <b>1</b>                            | <p>Section 3.1.2.4 – Site Hydrology and Fluvial Networks</p> <p>Section 3.6.1.7 – Water Management</p> | <p>Section 3.1 of the PRCP guideline requires the EA holder to provide baseline information with respect to site hydrology and fluvial networks. This includes presenting background water quality monitoring data for the receiving environment and identifying Contaminants of Concern (CoC) relevant to the mining activities and waste characterisation at Poitrel Mine.</p> <p>The relevant waterways and their environmental values as well as an overall description of the water quality as assessed during the <i>Poitrel Coal Mine Project EIS</i> (2005) is presented in section 3.1.2.4 of the PRC plan however no baseline water quality data is included.</p> <p>Similarly, the CoC are not clearly identified. The contaminant pathways are described in section 3.6.1.7.2, and Table 53 in section 3.6.1.7.1 outlines the potential sources and mechanisms of contamination, with potential contaminants broadly identified as ‘suspended solids’, ‘dissolved solids’, ‘+/- pH’, ‘hydrocarbons’, ‘pathogenic microorganisms’, ‘hazardous or toxic products’ and ‘metals’. Section 3.6.1.3 – Waste characterisation suggests that sulfate, aluminium,</p> | <p><b>1.1</b> Provide an updated Rehabilitation Planning Part that includes:</p> <ul style="list-style-type: none"> <li>a. background/baseline receiving environment water quality monitoring data; and</li> <li>b. a description of potential CoC from the activities at Poitrel Mine and the methodology used to determine the CoC.</li> </ul> |

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|          |                                                                                           | <p>arsenic, copper, manganese, molybdenum, nickel, selenium and zinc may be of concern however does not explicitly identify any of these as CoC.</p> <p>Sufficient information regarding the baseline receiving water quality monitoring data and the relevant CoC is required to determine the appropriate water quality characteristics and limits for surface and groundwater monitoring and the suitability of monitoring locations. This information is also required to demonstrate that the proposed rehabilitation methodologies will result in the stability and non-polluting state of the final rehabilitated landform.</p>                                                                                                          |                                                                                                                                                                                                                                                            |
| <b>2</b> | Section 3.1.4.1 – Relevant Activities Requiring Rehabilitation                            | <p>Section 3.1 of the PRCP guideline requires the EA holder to identify all relevant activities on the mine site. This should include all ancillary ERAs authorised under EA EPML00963013 (i.e. chemical storage, waste disposal, resource recovery and transfer facility operation, and sewage treatment).</p> <p>Table 19 in section 3.1.4.1 of the PRC plan presents the rehabilitation areas (RAs), their associated post-mining land uses (PMLUs) and their relevant activities that will require rehabilitation. The abovementioned ancillary activities are not included under the column 'Relevant Activity'. As such, it is unclear what rehabilitation measures have been prescribed for areas which facilitate these activities.</p> | <b>2.1</b> Provide an updated Rehabilitation Planning Part that identifies the ancillary activities authorised under EA EPML00963013 under the relevant RA in <i>Table 19 – Relevant Activities Requiring Rehabilitation at PTM and Associated PMLUs</i> . |
| <b>3</b> | <p>Section 3.4 – Non-Use Management Areas</p> <p>Appendix 3 – Hydrogeology Assessment</p> | <p>The size and shape of the proposed non-use management area (NUMA) and residual void is depicted in several figures throughout the PRC plan and appendices however the extent of the NUMA/void does not appear to be consistent.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>3.1</b> Provide an updated Rehabilitation Planning Part that includes further clarity regarding the extent of the residual void, NUMA and void lake in the final landform. Ensure that all figures in the PRC plan and appendices                       |

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|   | <p>Appendix 8 – Void Closure Plan</p> <p>Appendix 11 – Geotechnical Stability Assessment</p>                                    | <p>Though ‘Option 3: Partial Backfill During Operations’ is presented as the chosen option for the NUMA in the final landform (section 3.4.3.1.3 of the PRC plan), Figure 29 does not clearly display the boundaries of the NUMA for this option. The extent of the NUMA as presented in <i>Figure 23 – PTM Proposed NUMA</i> is inconsistent with what is described as the “Void Extent” in <i>Figure 1-3 – Post Mining Landform</i> of Appendix 3.</p> <p>Further, the shape and extent of the void lake within the NUMA boundary is also inconsistently represented between the PRC plan (see Figure 29), Appendix 3 (see <i>Figure 7-5 – Predicted Water Table Elevation – Post-Mining Equilibrium</i>) and Appendix 8 (see <i>Figure 2.4 – Case 3: Partial Backfill</i>).</p> <p>The boundaries of the residual void, NUMA and void lake should be clearly defined and form a consistent basis for all relevant assessments to ensure that the conclusions drawn from these studies are valid in supporting the proposed final landform. It is suggested that Figure 2.4 in Appendix 8 be included in the Rehabilitation Planning Part as it provides clarity regarding the extent of the proposed NUMA and void lake.</p> | <p>refer to the same area when referencing the residual void, NUMA and void lake.</p>                                                                                                                                                                                                                                                                                                                                 |
| 4 | <p>Section 3.4 – Non-Use Management Areas</p> <p>Appendix 3 – Hydrogeology Assessment</p> <p>Appendix 8 – Void Closure Plan</p> | <p>It is understood from the final void options assessment presented in section 3.4.3.1 of the PRC Plan that ‘Option 2’, which proposed to completely backfill the southern portion of the void adjacent to the Isaac River and leave a larger NUMA area of 428 ha, was assessed to be an unfeasible option. This is because Option 2 requires the most movement and rehandling of spoil at closure, delays progressive rehabilitation of some areas and is considered the “least financially viable” for Stanmore. Further, it is discussed that the topography of this landform facilitates drainage into the final void which may increase void</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p><b>4.1</b> Update the following sections and appendices to include analyses of the environmental impacts of the NUMA proposed in section 3.4.3.1.2 – Option 2 Free Draining Landform Fully Backfilling the Southern Voids:</p> <ul style="list-style-type: none"> <li>• PRC Plan section 3.4.3.1</li> <li>• Appendix 3 – Hydrogeology Assessment</li> <li>• Appendix 5 – Voids in Floodplain Assessment</li> </ul> |

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|  | <p>Appendix 11 – Geotechnical Stability Assessment</p> | <p>lake levels and cause the NUMA to become a groundwater source, though Groundwater modelling data which supports this has not been presented in the PRC plan or appendices.</p> <p>Despite the above limitations, it is noted that the proposed location of the NUMA in Option 2 is situated outside of the floodplain, which minimises the risk of flood ingress to the final void in the event of a probable maximum flood (PMF). The department's concerns regarding the implications of a PMF event on the stability of the currently proposed final landform are addressed in item 4 of this information request.</p> <p>Section 3.6.2 of the PRCP guideline requires the EA holder to ensure that the location of the NUMA minimises risks to the environment in the case that the land outcome documents (LODs) do not state the area or location of the proposed NUMA. In order to demonstrate that the proposed NUMA is located to best prevent or minimise environmental harm (having regard to all reasonably practical alternatives for the location) as prescribed in section 3.2 of the PRCP guideline, further information regarding the hydrogeology, flooding, erosion and geotechnical stability of the final landform under Option 2 is required. As Option 2 was discounted for the abovementioned reasons, the current PRC plan and appendices do not include technical assessments capturing the environmental impacts of the NUMA proposed in Option 2. However this information is considered necessary by the department to demonstrate that the chosen NUMA configuration represents the option which truly minimises environmental harm.</p> | <ul style="list-style-type: none"> <li>• Appendix 8 – Void Closure Plan</li> <li>• Appendix 10 – Flooding Assessment</li> <li>• Appendix 11 – Geotechnical Stability Assessment</li> </ul> |
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|  |  | <p>In accordance with section 3.6.2 of the PRCP guideline, the PRC plan must state how the total area of the proposed NUMA will be minimised.</p> <p>Further, section 3.4.3 of the PRC plan states that the mine closure landform minimises the area of the void by “ensuring the NUMA extent is informed by the area of predicted instability as determined through geotechnical stability modelling” among other measures. It is noted, however, that the geotechnical stability modelling has only considered a grazing PMLU along the western edge of the void lake.</p> <p>For example, section 6 of Appendix 8 states that for high wall and end wall stability, “to achieve the high-wall FoS nominated design acceptance criterion for instability <u>extending into a grazing PMLU</u>, additional set-back distances of between 15 and 40 m from the crest of the slope are required. The NUMA boundary and positioning of exclusion bunding and fencing will factor in these distances.”</p> <p>Additionally, Appendix 11 concludes that:</p> <ul style="list-style-type: none"> <li>• Wherever the highwall or endwall is deeper than 120m (crest to exposed toe), the NUMA should be defined to extend at least 25m behind the wall crest; and</li> <li>• Around the main northern void, grazing PMLU should not be defined closer than 40m behind the wall crest</li> </ul> <p>The extent of the NUMA is therefore dictated by the extent of setback required to ensure geotechnical stability of the grazing PMLU.</p> <p>In order to demonstrate that the size of the proposed NUMA has been minimised, the geotechnical stability (and associated setback distances) for other potentially suitable PMLUs should be explored for</p> | <p><b>4.2</b> Provide an updated Rehabilitation Planning Part, Void Closure Plan and Geotechnical Stability Assessment which includes an assessment of the required setback distance to ensure geotechnical stability of the final landform for alternate PMLUs to the west of the void lake, including native vegetation.</p> |
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|          |                                                                                                                                                                                        | the region to the west of the void lake. Further geotechnical assessments should be constructed to determine whether this area can be reduced while maintaining geotechnical stability for an alternate PMLU such as native vegetation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                        |
| <b>5</b> | <p>Section 3.4 – Non-Use Management Areas</p> <p>Appendix 3 – Hydrogeology Assessment</p> <p>Appendix 8 – Void Closure Plan</p> <p>Appendix 11 – Geotechnical Stability Assessment</p> | <p>Appendix 11 states that the geotechnical model’s reliability score is classed as “high uncertainty”, noting that “<i>Risk management to an ALARP standard is not likely to be possible. Assessment must be qualified accordingly, or significant improvements made to the model, significant increases in design acceptance criteria, or uncertainty allowances in observational acceptance criteria prior to finalising assessment.</i>”</p> <p>Further information is required to demonstrate that this geotechnical model adequately assesses the geotechnical risks associated with the pit void landforms.</p>                                                                                                                                                                                                                                                                                                                  | <b>5.1</b> Provide an updated Rehabilitation Planning Part and Geotechnical Stability Assessment which includes further discussion demonstrating that the geotechnical risks associated with the void landforms have been adequately assessed, with consideration given to the model uncertainty.      |
| <b>6</b> | <p>Section 3.4 – Non-Use Management Areas</p> <p>Appendix 3 – Hydrogeology Assessment</p> <p>Appendix 8 – Void Closure Plan</p> <p>Appendix 11 – Geotechnical Stability Assessment</p> | <p>Table 1.1 of the Void Closure Plan (Appendix 8) indicates that the geotechnical stability assessment is intended to provide a pit wall stability study which considers the long-term erosion and weathering of the pit wall, and the effects of significant hydrological events. Section 6 of the Void Closure Plan considers the risk of geotechnical instability impacting the flood protection levee but is silent on erosion. Section 3.6.3.1.1 of the PRCP notes that the risk of erosion to the levee by floodwaters is low, however no discussion is provided regarding the risk of pit wall crest erosion impacting the levee.</p> <p>Due to the proximity of the final void to the Isaac River, long term integrity of the flood protection levee is critical. The upper strata exposed in the pit highwalls and endwalls consist of highly erodible materials that may be prone to gullyng even with limited catchment</p> | <b>6.1</b> Provide an updated Rehabilitation Planning Part and Void Closure Plan which includes discussion of the risk of pit wall crest erosion impacting the integrity of critical structures including the flood protection levee, safety bund and fence, and the RAs adjacent to these structures. |

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|          |                                                                                                                                              | sizes (as indicated by crest erosion visible in QLD Globe and in <i>Figure 43 – Proposed Final Landform Looking South</i> in the PRC plan). If highwall crest erosion impacts the stability or integrity of the levee, flood ingress into the void becomes a distinct possibility. The PRCP must demonstrate that this risk has been understood and appropriately managed. More information is required to meet this requirement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                 |
| <b>7</b> | <p>Section 3.6.1.2 – Flooding assessment</p> <p>Appendix 10 – Flooding Assessment</p> <p>Appendix 11 – Geotechnical Stability Assessment</p> | <p>Section 3.6.1 of the PRCP guideline requires the EA holder to:</p> <ul style="list-style-type: none"> <li>• consider alterations to upstream/downstream flow and the location of domains in relation to potential flood levels;</li> <li>• model flood levels including the PMF level; and</li> <li>• develop a flooding risk profile.</li> </ul> <p>The above requirements have the overarching intent to assess the influence of flooding on the final rehabilitated landform.</p> <p>From <i>Figure 4.2 – Northern Embankment – Cross Section at Chainage 1300 along Final Landform Embankment</i> and <i>Figure 4.3 – Southern Embankment – Cross Section at Chainage 2600 along Final Landform Embankment</i> of Appendix 10, it is clear that there is flood entry across the embankment in the final landform, indicating that the proposed height for both the northern and southern embankment is not sufficient to prevent flood ingress in the case of a PMF. While Appendix 11 presents some stability analysis, it does not seem to consider the impacts of flood ingress and overtopping of the embankments.</p> <p>It also appears that there is a risk to the stability of the final landform with regard to flooding south of the mine infrastructure area (MIA) adjacent to the spoil dump and in the R40 and R50 Pits during a PMF</p> | <p><b>7.1</b> Provide an updated Rehabilitation Planning Part and Geotechnical Stability Assessment that considers flood stress for PMF events. Include further details regarding proposed rehabilitation activities to reduce the risk of impacts to the final landform stability as a result of flooding.</p> |

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|   |                                                                                                      | <p>event. <i>Figure 4.4 – Modelled peak flood velocities for streams at PTM (PMF)</i> of Appendix 8 displays that flood velocities will reach &gt;1.5m/s at the PMF level however the legend fails to indicate the actual flood velocity values above 1.5m/s, making it hard to assess the degree of risk to stability. Further, Appendix 8 provides vague measures for the protection of the final landform to potentially high flood velocities, stating “flood velocities from the Isaac River floodwaters during PMF events that interact with the mine closure landform may contribute to scouring and/or erosion of the landform. Appropriate protection at locations where floodwaters of high velocities may interact with the mine closure landform will be considered and incorporated into the mine closure landform as the PTM residual void approaches closure” and “floodwater ingress will require consideration during final design of exclusion bunding/embankments around the residual void high-walls in this location (adjacent to the Ramp 50 pit).”</p> <p>From the above, it appears that floodwater ingress and erosion due to high flood velocities are considered issues which can be addressed closer to closure however the PRC plan must provide details which demonstrate that measures have been taken to ensure that the final rehabilitated landform is safe and stable despite the flooding risks highlighted above.</p> |                                                                                                                                                                                                                                                                                                               |
| 8 | <p>Section 3.6.1.5.1 – Method of Determining Landform Design</p> <p>Appendix 7 – Landform Design</p> | <p>From the information presented in the PRC plan and Appendix 7, there are several concerns regarding whether the final landform design will result in a stable and non-polluting condition.</p> <p>The erosion assessment in Appendix 7 predicted that the proposed landform design can be expected to remain erosionally stable, however</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p><b>8.1</b> Provide a revised PRC Plan that includes detailed discussion on:</p> <ul style="list-style-type: none"> <li>• How the erosion assessment was calibrated to existing performance.</li> <li>• How the performance of existing rehabilitation areas fits with landform design rules and</li> </ul> |

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|  | <p>review of QLD Globe imagery indicates that there is significant erosion present in parts of existing rehabilitation. Further discussion is required to reconcile this inconsistency between model and reality. Existing rehabilitation areas also show higher erosion rates/risk in SIBERIA predictions. This agreement between model outputs and observed performance and the potential risk to long term stability has not been adequately explored or incorporated into erosion assessment, landform design or the milestone criteria.</p> <p>Appendix 7 recommends a rocky mulch material manufactured using 2-4 parts fresh Permian rock to 1 part topsoil. The modelling indicates that this material will provide sufficient erosional stability, however given that this primary growth medium will be only 0.1m thick overlying a coarse rock layer, more information is required to demonstrate that the rocky mulch will be suitable as a growth medium. Appendix 4 notes that the Permian overburden has some limitations as a growth medium that may not be sufficiently offset by applying such a small amount of topsoil to the surface. Proposed milestone criteria RM4(b) and RM4(c) only apply to the primary growth medium. Due to the very shallow depth of primary growth medium to be applied, this is not considered appropriate and the properties of the underlying material must also be considered.</p> <p>Appendix 7 and Section 3.6.1.5 propose the use of a rocky mulch for woodland habitat PMLU areas with slopes greater than 15%, however Table 49 requires 30% vegetative groundcover (as recommended by Appendix 7) only for slopes steeper than 15%. No groundcover or rock mulch criteria are specified for woodland habitat PMLU areas with slopes below 15%, despite the erosion modelling predicting that</p> | <p>milestone criteria and is compatible with achievement of a stable condition.</p> <ul style="list-style-type: none"> <li>• Specifications for rocky mulch material (e.g. rock content/particle size distribution, rock durability, chemical properties) to support achievement of vegetation and erosion performance criteria.</li> <li>• The suitability of the rocky mulch material as a primary growth medium, with specific consideration given to the appropriateness of the proposed 0.1m depth, its ability to provide the soil chemical and physical properties necessary to support the proposed vegetation, and the limitations of Permian overburden material noted in Appendix 4 (e.g. alkalinity, sodicity, high rock content indicating potentially low plant available water).</li> </ul> <p><b>8.2</b> Provide a revised PRCP schedule that includes milestone criteria that provide for confirmation that the growth media chemical and physical properties in the plant root zone will not constrain plant growth or detrimentally impact achievement of sufficient vegetation performance.</p> <p><b>8.3</b> Provide an updated Rehabilitation Planning Part and PRCP Schedule that includes cover design and vegetation cover milestone criteria that are informed by the findings and recommendations of the erosion</p> |
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|           |                                                            | <p>without either rock or a high level of vegetation cover (or both) slopes up to 15% can be expected to erode at unacceptably high rates.</p> <p>Section 3.6.1.5.5 of the PRCP nominates 30% as a minimum vegetative groundcover level for woodland habitat PMLU areas, however the SIBERIA model outputs indicate that gully erosion can be expected to develop on batters even with 50% cover. The more conservative 50% groundcover threshold appears to be more appropriate, however more discussion is required to address this discrepancy. The PRCP schedule does not include any milestone criteria for vegetation cover for any PMLU areas, despite it being a critical component for erosional stability.</p> <p>Appendix 7 recommends the construction of bunds to prevent runoff from dump tops causing excessive erosion on batter slopes. This recommendation has not been incorporated into the PRCP schedule, despite prevention of flow discharge onto batters being a critical underlying assumption of the erosion modelling.</p> | <p>assessment and material characterisation studies to ensure that the final landform will be erosionally stable.</p> <p><b>8.4</b> Provide updated PRCP schedule which includes milestone criteria requiring construction of landform in accordance with design informed by recommendations from the erosion assessment.</p> |
| <b>9</b>  | Section 3.6.1.8.9 – Revegetation Milestones and Objectives | <p>The Biocondition Tables provided in section 3.6.1.8.9 (Tables 62 and 63) have the same heading:</p> <p><i>Representative RE Benchmark Criteria for Woodland Rehabilitation (&gt;15% slope).</i></p> <p>It is assumed that one of the tables should be for &lt;15% slope.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>9.1</b> Provide an updated Rehabilitation Planning Part that provides the correct table headings in section 3.6.1.8.9.                                                                                                                                                                                                     |
| <b>10</b> | Section 3.6.5 - Built infrastructure.                      | <p>Section 3.6.5 of the PRCP states “Any infrastructure proposed to be retained to support the PMLUs will have written agreement from the post mining landholder (at the time) prior to commencement of rehabilitation milestones.” It is assumed from this wording that there is</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>10.1</b> Provide an updated Rehabilitation Planning Part that removes RA3 and provides appropriate rehabilitation milestones for all infrastructure.                                                                                                                                                                       |

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|           |                                          | <p>currently no landholder agreement to retain the identified infrastructure.</p> <p>Infrastructure can only remain if a landholder agreement is in place. As it appears that there is currently no landholder agreement in place, all infrastructure is considered to require rehabilitation and RA3 is not considered appropriate.</p> <p>Further, it is noted that the infrastructure that is intended to be retained by the landholder in RA3 includes dams and drains only. RA3 has a PMLU of grazing, which is not considered appropriate for dams.</p>                                                                                                                                                                                                                                              | <p><b>10.2</b> Provide a Figure or Table within the Rehabilitation Planning Part that details the underlying lot on plan boundaries and the proprietor details. associated with each mining tenement.</p>                                                                                                                                                                                                                |
| <b>11</b> | Section 3.8 – Monitoring and Maintenance | <p>Monitoring of the residual void water quality is not included in the monitoring and maintenance program. The residual void water quality should be monitored as the monitoring results will be required to demonstrate that the proposed NUMA is not causing environmental harm.</p> <p>As raised in other items of the information request, CoC (contaminants of concern) have not been sufficiently identified or addressed in developing groundwater and surface water monitoring parameters. In addition to that work, water quality indicators based on the CoC should be developed and monitored for the residual voids.</p> <p>SMART criteria should be developed for the PRCP Schedule to ensure monitoring undertaken at sufficient intervals demonstrates that the NUMA is non-polluting.</p> | <p><b>11.1</b> Provide an updated PRC plan that includes:</p> <ul style="list-style-type: none"> <li>• A list of water quality indicators (based on CoC) to be monitored in the residual voids</li> <li>• An updated monitoring program that specifies the frequency of water quality monitoring at sufficient intervals to be able to gather data to demonstrate that NUMA is not causing environmental harm</li> </ul> |

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| <b>12</b> | <p>Section 3.8 – Monitoring and Maintenance</p> <p>Section 3.8.2.4.5 – Water Storages</p> | <p>If written agreement from the post-mining landholder to retain the infrastructure of RA3 is provided and water storages are to remain, the environmental values of the receiving environment must be considered. Section 3.8.2.4.5 states “The water within the retained water storages will be tested for the trigger values for livestock drinking water (as defined in ANZECC &amp; ARMCANZ 2000).” As there is a possibility of the water storages overflowing to the receiving environment, the trigger values for aquatic ecosystems may be more appropriate to ensure that the final landform is non-polluting.</p> <p>It is also noted that water quality monitoring is intended to be completed at a frequency of “one sampling round for each dam 4 yearly.” It is recommended that a more appropriate monitoring frequency (e.g. annually) is implemented.</p> | <p><b>12.1</b> Provide an updated Rehabilitation Planning Part that includes appropriate water quality limits for water storages.</p> <p><b>12.2</b> Provide an updated Rehabilitation Planning Part that specifies a frequency of water quality monitoring at sufficient intervals to consider seasonal variation and be able to gather data to demonstrate a stable and non-polluting condition has been achieved</p>                                                                                                                                                                                                                 |
| <b>13</b> | <p>Section 3.8.4 - Receiving Water Quality Monitoring</p>                                 | <p>Further detail is required regarding the receiving environment water quality monitoring proposed to determine whether the final landform is stable and non-polluting.</p> <p>For the water quality criteria to be SMART the location, frequency, quality characteristics and limits need to be specified. The monitoring locations, monitoring frequency, quality characteristics and limits should all be defined in the Rehabilitation Planning Part.</p> <p>Monitoring locations should be based on sources and pathways of potential contamination. To demonstrate that the final rehabilitated</p>                                                                                                                                                                                                                                                                   | <p><b>13.1</b> Provide an updated Rehabilitation Planning Part that includes appropriate surface water rehabilitation and closure monitoring locations, monitoring frequency, quality characteristics and limits that are fit for purpose and capable of identifying contamination from all rehabilitation areas to demonstrate that the final landform is stable and non-polluting. The PRC plan should demonstrate how the Water quality objectives and the ANZG 2018 guidelines have been considered.</p> <p><b>13.2</b> Provide a PRC plan and schedule that includes an updated monitoring program which specifies a frequency</p> |

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|  | <p>landform is stable and non-polluting, additional downstream surface water monitoring locations are required.</p> <p>The duration of water quality monitor is proposed to be for a minimum of 3 years however this is not considered a sufficient timeframe to determine whether the final landform is stable. Monitoring should commence after the surface preparation milestone and continue for a minimum of 5 years post-rehabilitation.</p> <p>The frequency of surface water monitoring must be specified. To account for the ephemeral nature of the receiving environment, the suggested monitoring frequency is monthly during flow. If there is no flow during a month, then sampling is not required.</p> <p>It is noted that EC, pH, turbidity, As, Mb, Se, and total recoverable hydrocarbons (C6 – C9) and (C10 – C36) were included as water quality indicators for surface water monitoring (it is assumed that Mb refers to molybdenum (Mo)). Quality characteristics should be based on the CoC, which should be the same for surface water and groundwater and be based on mining process (dams and seepage) and waste characterisation.</p> <p>The water quality limits should be fit for purpose (i.e. to monitor water quality around the final landform at closure, not during operation), site-specific and based on Water Quality Objectives, relevant guidelines and background data. For surface water, the 80<sup>th</sup> percentile of background data for upstream/reference sites should be used to determine limits for phys-chem indicators and the 95<sup>th</sup> percentile used for limits for toxicants.</p> <p>The proposed criteria RM6(h) which states “The downstream receiving water quality monitoring points (MP2 and MP3) must not be</p> | <p>of water quality monitoring at sufficient intervals to consider seasonal variation. The monitoring program should be able to gather data to demonstrate a stable and non-polluting condition has been achieved.</p> <p><b>13.3</b> Provide an updated PRC plan which includes all receiving water quality monitoring locations and available water quality data from these locations to aid in determining appropriate monitoring locations and limits for the final landform.</p> |
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|           |                                        | significantly higher (>15%) when compared to the upstream value at MP4 and MP5 for the water quality parameters specified in RM6(g)" is not supported as static surface water quality limits are required. In addition, the use of an assessment of significantly higher (>15%) is not supported.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>14</b> | Section 3.8.5 - Groundwater Monitoring | <p>Further detail is required regarding the groundwater quality monitoring proposed to determine whether the final landform is stable and non-polluting.</p> <p>For the water quality criteria to be SMART the location, frequency, quality characteristics and limits need to be specified. The monitoring locations, monitoring frequency, quality characteristics and limits should all be defined in the Rehabilitation Planning Part.</p> <p>Monitoring locations should be based on sources and pathways of potential contamination. Details on the coordinates and hydrogeological unit of each monitoring bore is required.</p> <p>The duration of water quality monitor is proposed to be for a minimum of 3 years however this is not considered a sufficient timeframe to determine whether the final landform is stable. Monitoring should commence after the surface preparation milestone and continue for a minimum of 5 years post-rehabilitation. It is the department's belief that groundwater monitoring should be conducted quarterly.</p> <p>Bores required for closure need to be clearly defined in the schedule and installed before the completion of surface preparation (RM4).</p> | <p><b>14.1</b> Provide an updated Rehabilitation Planning Part that includes appropriate groundwater rehabilitation and closure monitoring locations, monitoring frequency, quality characteristics and limits that are fit for purpose and capable of identifying contamination from all rehabilitation areas to demonstrate that the final landform is stable and non-polluting. The PRC plan should demonstrate how the Water quality objectives and the ANZG 2018 guidelines have been considered.</p> <p><b>14.2</b> Provide a PRC plan and schedule that includes an updated monitoring program which specifies frequency of groundwater quality monitoring at sufficient intervals to be able to gather data to demonstrate a stable and non-polluting condition has been achieved.</p> <p><b>14.3</b> Provide an updated PRC plan which includes all groundwater quality monitoring locations and available water quality data from these locations to aid in determining appropriate monitoring locations and limits for the final landform.</p> |

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|                      |         | <p>Noting that only EC has been proposed to be monitored for groundwater, additional quality characteristics are required for inclusion in the groundwater monitoring program. Table I2 of EA identifies pH, EC, sulfate, Al, Sb, As, Fe, Hg, Mo, Se, Ag and TPH as suitable quality characteristics for groundwater monitoring and it is assumed that these are the appropriate CoC. It is also recommended that the CoC are consistent between the surface water and groundwater monitoring.</p> <p>The water quality limits should be fit for purpose (i.e. to monitor groundwater quality in relation to the final landform at closure, not during operation), site-specific and based on Water Quality Objectives, relevant guidelines and background data.</p> <p>For groundwater, the 95<sup>th</sup> percentile of baseline (ideally pre-mining) data can be used to determine site-specific limits for all indicators. See DES 2021 Groundwater Guideline - <a href="https://www.publications.qld.gov.au/dataset/groundwater-quality-assessment-guideline/resource/472cc88a-000a-4bb8-a60d-204cfe7e0238">https://www.publications.qld.gov.au/dataset/groundwater-quality-assessment-guideline/resource/472cc88a-000a-4bb8-a60d-204cfe7e0238</a>.</p> |                                                                                                                               |
| <b>PRCP Schedule</b> |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                               |
| <b>15</b>            | General | <p>It is noted that an 'Achievement of surface preparation' milestone has not been included in the PRCP schedule. This milestone includes criteria regarding vegetation cover, weeds, acceptable erosion rates and surface water runoff among other requirements.</p> <p>This milestone is required to provide an interim milestone which addresses many of the issues raised above and promotes the achievement of a safe and stable final rehabilitated landform.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>15.1</b> Provide an updated PRCP Schedule which includes an 'Achievement of surface preparation' rehabilitation milestone. |

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| <b>16</b> | Spatial data                                        | The total size of RA5 according to the spatial files submitted with this PRCP application is 569.67 ha however the PRCP schedule only accounts for 569 ha in RA5. It is unclear which of these values reflects the true extent of RA5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>16.1</b> Clarify which of these values is the correct area for RA5 and ensure that the areas presented in the spatial files are consistent with the areas included in the PRCP schedule for each RA. |
| <b>17</b> | Rehabilitation Milestone 3 – Landform Establishment | The proposed criteria in the PRCP schedule does not prescribe the construction of the final landform in accordance with the recommendations of the erosional assessment (Appendix 7). More specific landform criteria is required to demonstrate that the landform is stable and suitable for the PMLU.                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>17.1</b> Provide an updated PRCP Schedule which includes SMART landform criteria. Refer to comments from item 5 above.                                                                               |
| <b>18</b> | Rehabilitation Milestone 3 – Landform Establishment | It is stated in section 3.6.1.5.2 – 3D Design that “The final landform will be water shedding and given the waste material properties, no liner is proposed.” It is recommended that this is specified and reflected in the rehabilitation criteria for RM3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>18.1</b> Provide an updated PRCP Schedule which includes SMART criteria requiring the final landform to be water shedding in RM3 as specified in 2.6.1.5.2 of the PRC plan.                          |
| <b>19</b> | Rehabilitation Milestone 4 – Surface Preparation    | Ripping specifications are included in the PRC Plan and appendices to ensure that the final landform supports vegetation establishment and is erosional stable. The ripping requirements are described as follows: <ul style="list-style-type: none"> <li>Appendix 7 – “Rip lines will be no deeper than 300mm from peak to trough of the rip line once settlement has occurred. To achieve this, an unconsolidated rip line ~500mm deep is recommended.”</li> <li>PRCP Section 3.6.1.4.5 – “Prior to growth media application, reshaped landforms will be ripped to a depth of approximately 0.5m to reduce compaction and allow adequate water and root penetration. Following this, the growth media will be ripped, across slope, no deeper than 0.3m.”</li> </ul> | <b>19.1</b> Provide an updated PRCP Schedule which includes SMART criteria on ripping, including addressing spacing and depth as specified in the PRC plan and Appendix 7.                              |

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|           |                                                              | RM4(d) of the proposed PRCP schedule simply specifies to “Rip along contour” and does not capture the ripping specifications described above.                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                             |
| <b>20</b> | Rehabilitation Milestone 6 – Achievement of stable condition | The relevant criteria in the PRCP schedule does not specify vegetation cover as described in the PRC plan and Appendix 7. Vegetation cover must be included to ensure that the final landform will be stable.                                                                                                                                                                                                                                                                                                                                        | <b>20.1</b> Provide an updated PRCP Schedule which includes SMART criteria prescribing vegetative cover able to support the proposed PMLU and informed by the findings and recommendations of the material characterisation studies and erosion assessment.                                                                 |
| <b>21</b> | Rehabilitation Milestone 6 – Achievement of stable condition | The proposed criteria in the PRCP schedule does not include weed criteria. Weed criteria is required to demonstrate that the land is suitable for the PMLU and should consider more than just declared weeds.                                                                                                                                                                                                                                                                                                                                        | <b>21.1</b> Provide an updated PRCP Schedule which includes SMART weed criteria.                                                                                                                                                                                                                                            |
| <b>22</b> | Rehabilitation Milestone 6 – Achievement of stable condition | The relevant criteria in the PRCP schedule does not include erosion criteria for RA7 (permanent watercourse) or RA9 (New Chum Creek diversion) however erosion criteria should be applied to all RAs. The erosion criteria for the remaining RAs, which proposes to classify erosion as ‘minor’ ‘moderate’ or ‘severe’ as defined by the erosion classification framework in Appendix 7, is not supported. Moderate or severe erosion will require further rehabilitation as it will not form part of an acceptable achievement criteria for a PMLU. | <b>22.1</b> Provide an updated PRCP Schedule which includes SMART erosion criteria for all RAs. Ensure that the rehabilitation methodology prescribes actions that mitigate and prevent any erosion of the final landform becoming “moderate” or “severe” as defined by the erosion classification framework in Appendix 7. |
| <b>23</b> | Rehabilitation Milestone 6 – Achievement of stable condition | The surface and groundwater quality monitoring criteria in the PRCP schedule lacks details which ensure that the criteria is SMART, including the location, frequency, quality characteristics, limits and duration of the monitoring. Water quality monitoring is required to demonstrate that the land has achieved a stable condition and is non-polluting.                                                                                                                                                                                       | <b>23.1</b> Provide an updated PRCP Schedule with revised surface water and groundwater quality criteria including monitoring locations, quality characteristics, limits and frequency of monitoring based on the comments from items 10 and 11 above.                                                                      |

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| 24 | Rehabilitation Milestone 7 –<br>Achievement of cattle-grazing<br>PMLU | <p>The proposed PRC plan suggests a grazing PMLU for RAs 1-3 and RA6. The PRC plan and schedule indicates that the proposed grazing PMLU will have a land suitability class <math>\leq 3</math> or not different from pre-mining class if <math>\geq 4</math>, consistent with the acceptance criteria outlined in 'Table E1 (Rehabilitation Requirements)' of the EA.</p> <p>The Agricultural Land Evaluation Queensland Guideline (Second Edition) classifies land suitability class 4 and above as unsuitable lands with severe to extreme limitations which are unable to successfully sustain a use of land. As such, the acceptance of land suitability class <math>\geq 4</math> may not be supportive of the proposed cattle grazing PMLU.</p> <p>Section 3.1.2.6.2 of the proposed PRC plan compares the pre-mining land suitability of soil at Poitrel for the PMLUs of cattle grazing and cropping in Table 14. 4 out of 13 soil mapping units were identified to have a land suitability class <math>\geq 4</math> for cattle grazing and a suitability assessment was not conducted for other potential PMLUs.</p> <p>Considering the above, it is unclear -</p> <ol style="list-style-type: none"> <li>why an alternative land outcome such as Native Ecosystem has not been considered; and</li> <li>how proposed unsuitable land classes will sustainably support the proposed PMLU of grazing</li> </ol> | <p><b>24.1</b> Revise the PRC plan and Schedule to include a rehabilitation methodology and criteria that ensure the rehabilitated land will achieve land suitability class of <math>\leq 3</math> as per the Agricultural Land Evaluation in Queensland (Second Edition) guideline and therefore be able to sustain the proposed grazing PMLU in the long term</p> <p><b>Or</b></p> <p>Propose an alternative PMLU such as Native Ecosystem likely to achieve long-term sustainability of the rehabilitated area. Provide an updated PRC plan and schedule which include rehabilitation methodology and SMART criteria (e.g. BioCondition Framework) for the native Ecosystem PMLU.</p> |
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|           |                                                                    | Overall, the land suitability class of $\geq 4$ if not different from pre-mining class as proposed in the PRC plan is not consistent with land suitability classes recognised as being suitable to support a grazing_PMLU.                                                                                                       |                                                                                                                                                              |
| <b>25</b> | IA1 Management Milestone 3 – Achievement of sufficient improvement | <p>The relevant criteria in the PRCP schedule do not include surface and groundwater quality monitoring criteria for the final void.</p> <p>Water quality results from the monitoring of the void lake and surrounding groundwater will be required to demonstrate that the proposed NUMA is not causing environmental harm.</p> | <b>25.1</b> Provide an updated PRCP Schedule which includes void surface water and ground water quality criteria and ensure it aligns with SMART principles. |
| <b>26</b> | IA1 Management Milestone 3 – Achievement of sufficient improvement | Additional criteria are required to ensure the stability of the proposed NUMA in the face of potential flooding. Refer to comments from item 4 above.                                                                                                                                                                            | <b>26.1</b> Provide an updated PRCP Schedule which includes flood protection criteria and ensure it aligns with SMART principles.                            |