

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: Bowen River Coal Pty Ltd
Level 15, 40 Creek Street
BRISBANE QLD 4000

ATTN: Brad O'Reilly, Senior Environmental Advisor

Email: boreilly@gcoal.com.au

Further information is required to assess an application for a proposed PRC plan

1. Application details

The application for a proposed PRC plan was received by the administering authority on 29 January 2021.

The environmental authority (EA) number is: EPML00334613 – Cows Coal Mine.

Land description: ML10345.

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 **Appendix 1**.

A request to extend the information request period must be made at least 10 business days before the end of the information request period. A request to extend the information response period can be submitted to the administering authority by email to CRMining@des.qld.gov.au.

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 29 October 2021 (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. 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 or search 'DES Internal review and appeals' at business.qld.gov.au. This information is guidance only and you may have other legal rights and obligations.

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



Signature

21/04/2021

Date

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

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

Privacy statement

Pursuant to section 540 of the EP Act, the Department is required to maintain a register of certain documents and information authorised under the EP Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety, unless alteration is required by the EP Act. There is no general discretion allowing the Department to withhold documents or information required to be kept on the public register. For more information on the Department's public register, search 'public register' at www.qld.gov.au. For queries about privacy matters please email privacy@des.qld.gov.au or telephone 13 74 68.

Attachments

Appendix 1: Additional information required for proposed PRC plan – Cows Coal Mine
Information sheet: Internal review and appeals (ESR/2015/1742)

Appendix 1. Additional information required for proposed PRC plan – Cows Coal Mine

Item	Section (PRCP guideline)	Issue	Recommendation
	Rehabilitation Planning Part		
1	General	While the EA holder has the right to transition pre-approved land outcomes and criteria into the PRCP schedule, the content requirements of section 3.6 of the PRCP guideline still apply.	The information and conclusions drawn from management plans or other technical reports must be transferred into the planning part and discussed in sufficient detail to provide the context necessary to understand the proposed milestones and milestone criteria proposed in the PRCP schedule.
2	<i>Project planning – Rehabilitation/improvement planning</i>	The mining activities carried out at the other QNH sites contribute to the disturbance at CCM and impacts on when areas will become available for rehabilitation. The relationship between CCM and the other QNH mines is not discussed in sufficient detail to justify the scheduled rehabilitation.	There is an expectation that all supporting documents referred to in the PRC plan are attached. It is recommended that a figure is included in the PRCP showing the relationship between CCM, SCM and DCM with respect to current mining activities and the proposed final landform.
3	<i>Project planning – Rehabilitation/improvement planning</i>	The end of a clean water drain has been identified as RA3. A 'clean water drain' has not been specifically referenced in the PRCP. Section 5.2.1 of the rehabilitation planning part states that the clean water drain is the outlet of the clean water drain originating in DCM. Section 5.3.5.2 mentions that the drainage line is a 70m section of the western drainage feature which has been permanently realigned within the DCM and extends into CCM.	Clarification is required about whether the 'clean water drain' is the 70m reach of the western drainage feature. It is also recommended that Figure 7 includes clear labels for the drainage features and the adjacent mines and properties.
4	<i>Project planning – Baseline information – Geotechnical stability</i>	The PRCP states that the slopes of the rehabilitated waste rock dumps require consideration of geotechnical stability and that 'upon completion of the final landform at CCM, a geotechnical assessment will be undertaken to certify that the landform is geotechnically stable and meets the required factor of safety'. Based on the information provided throughout the PRCP, geotechnical stability will be determined for the batters of the waste rock dumps that are formed on top of the backfilled	It is recommended that an additional milestone criterion is added to each relevant RM that demonstrates the landform is geotechnically stable. This will ensure that the PRCP schedule reflects the statement made in section 5.1.1 of the rehabilitation planning part - 'a geotechnical assessment and certification will be undertaken upon completion of the final landform...', and the timing of geotechnical studies given in Table 32 Assessments and Certifications.

		void areas and the timing of such an assessment is relevant at RM1 (completion of the landform shaping) and RM4 (to demonstrate final geotechnical stability of the area).	
5	<i>Project planning – Baseline information – Topography</i>	Figures 27 – 31 of the PRCP indicate the scale of the post mining landforms against the natural surface. Figure 31 seeks to demonstrate the changes to topography associated with the final landform design. Figure 27 shows the contours where shaping and battering of the WRDS has already occurred. The scale presented in Figure 27 makes it difficult to interpret.	Include a figure of the topography of the post mining landscape for comparison. Label the drainage features in Figure 8.
6	<i>Project planning – Baseline information – Soils and land suitability</i>	The information in Table 13 of the PRC plan regarding constraints associated with soil salinity are consistent with a recognised framework for assigning a soil salinity rating. The framework requires information about texture, clay content and EC which is also provided in Table 13. Provision of the Tecsol Soil Assessment (2011) will enable the department to confirm that the soil salinity rating has been appropriately assigned. With regards to topsoil constraints and blending of topsoil, it is appropriate that topsoil is assessed for fertility and other constraints prior to commencement of rehabilitation or following any failed rehabilitation. Such a strategy is outlined in Section 7.3 of the attached RMP.	Section 1.14.1 of the PRC plan relies on the results and conclusions drawn from a number of surveys and soil assessments. The main reports relied upon in the planning part are required to be attached. It is recommended that a milestone criterion is added to RM2 to require an assessment of soil health and suitability.
7	<i>Project planning – Baseline information – Site hydrology and fluvial networks</i>	It is noted that the western diversion drain is not defined as a watercourse under the <i>Water Act 2000</i> and as such does not require specific approval for its construction. It is proposed that once revegetated, the drain will become part of the broader pasture landscape. However, as it will concentrate and convey water, it is assumed to be at a greater risk of erosion or scouring when compared to the surrounding grazing pastures.	Provide more information about what improvements have been made to the western diversion drain and how will it be rehabilitated to be safe and stable, and not require ongoing maintenance post mining. Include a clearer figure showing all the drainage features with names, flow direction, stream order, release points and monitoring points for all of the QNH as well as CCM. This figure should also depict the realignment of the western drainage feature. Detail how the rehabilitation at CCM may impact on the eastern drainage feature (apart from the haul road

			crossing) given its close proximity to the waste rock dumps.
8	<i>Project planning – Baseline information – Underlying landholders</i> <i>Post-mining land use</i> <i>Community consultation</i>	Section 2.2 of the PRC plan states that a Community Consultation Register has been developed and is a stand-alone document that will be updated as required independent of the PRC plan. To comply with section 126C(1)(c)(iii) of the EP Act, the Community Consultation Register must be provided with the PRCP. This will assist the department to understand how the proposed PMLU was originally determined, any alternatives considered and any changes to the rehabilitation strategies that may have occurred over time in response to community feedback. The PRC plan states that the land underlying CCM is a dedicated road reserve. Since 1981, the land has been used for grazing under successive permits to occupy, which are granted under the Land Act. There are no details about any consultation that has occurred with the relevant state government agency that administers that act about the PMLU and associated infrastructure (i.e. drainage structure).	Attach the Community Consultation Register to the PRC plan. It should document all previous consultation that has been undertaken with the community in relation to the land outcomes proposed in the QNH RMP. Include the specific details outlined in section 3.5 of the PRCP guideline such as consultation dates, consultation type, information provided, issues discussed, and any decisions/commitments made by QCoal. More information is also required to be included in the Community Consultation Plan for CCM as presented in Table 20 of the PRC plan about the objectives for community consultation going forward. Detail the specific areas that QCoal will be seeking to consult on, and how responses from the community will be used to inform rehabilitation and closure planning. It is recommended that the applicant provide more information about how it was determined that members of the community do not have an interest in the rehabilitation and closure of the QNH. This could be demonstrable through a description of the submissions or objections received for EA applications, the nature of any complaints received or outcomes from community meetings. More detail should be included about any consultation undertaken to date with the state government about the proposed use of state land and if there is potential for the authorised use of the land to change in future. The nearest sensitive and commercial places include the privately owned homesteads of Belmore and Sonoma

			(3km), and the townships of Collinsville and Scottsville (10km). Indicate whether the landholders neighbouring the QNH mines and the wider community have been involved in consultation activities with respect to rehabilitation outcomes for the QNH as a whole.
9	<i>General rehabilitation practices - Revegetation</i>	Section 3.8 of the PRCP guideline requires that transitional PRC plans include details of previous monitoring/maintenance of areas already rehabilitated. This includes a description of the rehabilitation works previously carried out, when the works commenced and were completed, and whether the rehabilitation has been applied for or been progressively certified. Some of the required information is provided in later sections of the proposed PRCP. Section 7.1 of the PRCP states that monitoring of previously rehabilitated areas has been ongoing since 2012 on QNH sites and 2017 on CCM. Section 5.2.1 explains what type of rehabilitation activities have been undertaken and in which RA. However, there is no data from previous monitoring events to demonstrate that the existing rehabilitation is successfully achieving the completion criteria and/or trending towards achievement of the PMLU.	Include the rehabilitation monitoring reports for CCM and the other QNH mines where relevant as appendices to the PRCP and discuss the results/recommendations in more detail within the planning part to demonstrate the reliability of this approach. Greater discussion to link the success of previous rehabilitation strategies to milestones and milestone criteria in the schedule is required and will serve to provide a more complete description of the works previously carried out. It is recommended to include an additional milestone criterion for RM3 to ensure monitoring to assess germination occurs within a specific timeframe (e.g. one month) following topsoil application in order to identify whether additional seeding is required.
10	<i>General rehabilitation practices - Landform design</i>	The risks associated with relying on the natural seedbank have been identified in the Risk Assessment section of the PRC plan and control measures recommended. However, evidence has not been provided to support the statements that previous rehabilitation using this strategy has been successful. To adequately demonstrate that the risks associated with this revegetation strategy are captured, the actions described in section 5.2.9.3 of the PRC plan must be reflected in the PRCP schedule. The PRCP states that the slopes, dump heights and physical properties of the waste rock will result in a geotechnically stable final landform. The 20% slope is a pre-approved criteria in the QNH RMP (a LOD) so no justification of this slope has been included in the PRC plan.	Erosion rates specific to the site and how they have informed landform design are not evident and the PRCP schedule contains a single qualitative criterion which does not meet the SMART principles.

		While the EA holder has the right to transition pre-approved criteria, the PRCP guideline requires transitional sites to meet the information requirements outlined in section 3.6.1. This includes information to demonstrate that the landform design will achieve geotechnical and erosional stability. The PRC plan currently lacks sufficient information to meet all the requirements for the final landform design. In particular, there is no description of the method used to determine the landform design (in particular the slopes, slope length, bench heights etc.), no prediction regarding the long-term stability of the final landform design, a lack of clear explanation of QA/QC requirements and no information regarding the limitations and assumptions of landform design. This information is necessary to demonstrate that the proposed milestone criteria are adequate to achieve the final outcome of land in a stable condition. There is discussion in section 3.1 of the PRC planning part regarding the definition of stable. The department's expectations regarding the achievement of land in a stable condition as per s111A of the EP Act, is that in order to demonstrate landforms are safe, structurally stable and no environmental harm is being caused by anything on or in the land, erosional stability of the final landform will be achieved. This also applies to infrastructure being retained by the landholder (section 3.6.5 Built Infrastructure PRCP Guideline). Section 5.2.6 of the planning part states an intention to be consistent with the surrounding topography (approx. 3%) to the extent possible. The soil classification information provided in section 1.14.1 notes that the Land Unit 5 (Dermosols and Vertosols) naturally occurs on level to gently inclined slopes less than 3%. Land Unit 5 comprises the majority of topsoil material which will be used in	It is recommended that the milestone criteria '20% (11.5 degree) slope achieved unless an alternate slope is recommended by an RPEQ' is amended to reflect the intent expressed in the planning part (i.e. '20% (11.5 degrees) slope on dump batters'). It is recommended that a milestone criterion be added to each relevant RM that demonstrates that the landform is geotechnically stable. This will ensure the PRCP schedule reflects the statement made in section 5.1.1 of the Planning part i.e. 'a geotechnical assessment and certification will be undertaken upon completion of the final landform...', and the timing of geotechnical studies given in Table 32 Assessments and Certifications.
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		rehabilitation. Salinity levels in this soil type likely promote flocculation (which masks or prevents dispersion) and have been assigned a low erodibility rating (Table 14). However there is little discussion or justification to demonstrate that LUS will continue to achieve erosional stability at much steeper gradients such as the <20% slope proposed in the milestone criteria. Section 5.3.1 of the planning part describes final landforms associated with WRD as being developed to achieve geotechnical stability but do not account for erosional stability. Figure 28 CCM Final Landform indicates that slopes greater than 3% are limited to the dump batters. Currently, the PRCP schedule does not appear to reflect the actual intention with regards to final landform slopes that is expressed in the planning part.	
11	<i>General rehabilitation practices - Landform design</i>	The PRCP states that the final landform is designed to be consistent with the requirements for Class 4 land suitability and the surrounding topography to the extent possible. The final landform for the waste rock dumps at CCM is constrained mainly by the drainage features and the floodplain. Stability is achieved through the selection of slope length and angle, material selection and the establishment of ground cover to minimise erosion. The figures are only comparing the designed final landform with the existing mined landform.	It is recommended that a comparison is made between the pre-mining landscape and the proposed final landform given that the goal is to return the site to its pre-existing condition and use.
12	<i>General rehabilitation practices - Soil and capping material assessment</i>	There are risks associated with the proposed rehabilitation strategy involving the application of 100mm of topsoil to waste rock dumps and until the rehabilitation monitoring and any other trial results are provided to support this approach, the department will be unable to assess whether it is likely to achieve successful outcomes.	The waste rock characterisation and rehabilitation monitoring results for the QNH mines that are relied upon to support the 100mm topsoil/surface of waste rock dump strategy must be attached to the PRCP. It is recommend that an additional milestone criteria for soil health assessment and one month monitoring to assess germination are included in the PRCP schedule.
13	<i>General rehabilitation practices – Waste characterisation</i>	The particulars required by this section of the PRCP guideline are likely to be detailed in the QNH Mine Waste Management Plan (and currently summarised in the QNH RMP). The QNH	It is recommended that the various reports relied upon in the PRC plan for sections 1.10 and 1.10.1 are provided as attachments.

		Mine Waste Management Plan (2020) is not attached to the PRCP or RMP. All studies and reports relied upon as part of the PRC plan must be attached. The QNH RMP is a summary of these studies and in order to properly assess the risks and conclusions drawn by the PRCP, the original studies are necessary to provide conclusive evidence that progressive rehabilitation strategies will be successful.	If the relevant water quality/runoff data is discussed in the QNH Water Management Plan, this should also be included as an appendix to the PRCP.
14	<i>General rehabilitation practices - Hydrogeology</i>	The information requirements in section 3.6.1 of the PRCP guideline apply to transitional PRCPs. This includes situations where an EA holder has a pre-approved PMLU.	Ensure that all studies and reports relied upon to inform the rehabilitation outcomes are attached to the PRCP in addition to the QNH RMP. The relevant conclusions and recommendations from these studies must be discussed in the PRC plan, and in sufficient detail that the actions proposed in the PRCP schedule are justified/supported. It is recommended that the PRC plan includes figures demonstrating relative depths (by cross section and long section – similar to figures 29 and 30) and groundwater flow specifically for CCM.
15	<i>General rehabilitation practices - Flooding</i>	The intent of section 3.6.1 Flooding of the PRCP guideline is to require the EA holder to assess flood susceptibility and influence on the final rehabilitated landform. The Engeny (2013) flood study is stated as having considered the site in a pre-disturbed context and the major post-mining landform features (i.e. backfilled voids/WRD) have been sited outside of the 0.1% AEP floodplain which provides a conservative approach to identifying that flood influence is not a significant risk to the post-mining landscape.	The Engeny (2013) study is required to be provided as it is relied upon by the PRCP. This will assist in supporting the flooding risk profile which is proposed as being of 'no significance' for CCM, and potentially provide further information regarding alterations of flow upstream and downstream. No specific flood protection measures have been readily identified in the PRCP. It is recommended that specific design requirements or flood management strategies (e.g. scour protection on susceptible portions of the post mining landforms) are included in the planning part and where appropriate, milestone criteria added to the PRCP schedule.

16	<i>General rehabilitation practices – Water management</i>	Section 5.2.8 of the PRCP is lacking a description of likely contaminants that pose a risk (post rehabilitation) of impact to environmental values, and their source, pathway and fate. Examples of such contaminants may be saline seepage/runoff and sediment. While management of surface water (from a water quality perspective) from the rehabilitated landform is only relevant where there are potential contaminants involved, sufficient information and data must be presented in the PRC plan to support the conclusion that there are no material impacts to the receiving environment. The PRCP references some studies including the QNH WMP and REMP which should be provided.	The PRCP references plans/reports including the QNH Water Management Plan and the REMP, which need to be attached to the PRCP. The addition of figures which show potential surface water movement across the final landform and interaction with adjacent SCM and DCM are recommended as they will further demonstrate how risks from surface water flows to the final rehabilitated landform will be managed/mitigated. If an ESC management plan exists and is relevant to rehabilitation activities, it should be referenced in the PRCP and provided as an attachment.
17	General	The department acknowledges that the PRCP schedule is consistent with the template and the examples provided in the PRCP guideline. However, due to the depth of information provided in the PRCP, cross referencing is difficult when trying to put the milestones and milestone criteria into context during an assessment of the application. For ease of assessment, it is recommended that the a table is included in the rehabilitation planning part to clearly link relevant sections of the rehabilitation planning part with the corresponding milestone criteria. This will provide a clear link between the rehabilitation strategies and the outcomes.	For ease of assessment, it is recommended that a table is included in the rehabilitation planning part to clearly link relevant sections of the rehabilitation planning part with the corresponding milestone criteria. This will provide a clear link between the rehabilitation strategies and the outcomes.
PRCP Schedule			
18	PRCP schedule - General	Additional recommendation.	Remove references to non-existent rehabilitation milestones (i.e. RM5, RM6 and RM7) from the schedule.
19	Rehabilitation Areas	Section 5.3.6 of the planning part provides a significantly different series of rehabilitation activities for portions of haul road which intersect a drainage feature. The different rehabilitation strategies for these sections of haul roads have <u>not</u> been translated into the PRCP schedule. The PRCP Guideline (section 4.1 Step 2) states land that requires a	At a minimum, include additional milestone criteria for RM1 to address the specific activities for haul roads that interact with drainage features. Alternatively, consider putting the portions of haul road which require the different rehab strategy into a distinct RA.

		specific type of rehabilitation strategy cannot be included into a broader area as there will be specific milestones only relating to a specific area of land within the larger area. The PRCP guideline continues on to state that where disturbed areas have different rehabilitation methods required, they cannot be in the same rehabilitation area.	
20	Rehabilitation Areas	Section 126D(1)(d) of the EP Act requires that the PRCP schedule include maps showing the land mentioned in (a), (b) and (c). In addition to the reference map provided in the PRCP schedule for CCM, section 3.1 Spatial Information of the PRCP guideline requires that the PRC plan include spatial information outlining the rehabilitation areas that correspond to the proposed PRCP schedule to show the locations of the RAs for a 10 year period (minimum). This information is important to identify where progressively rehabilitation areas are located and assist to assess the Schedule.	It is recommended that additional maps are provided to show the sub-areas of each RA as they will relate to scheduled progressive rehabilitation in the schedule, for at least the first 10 year period.
21	Rehabilitation Areas	Section 5.3.7 of the PRC plan states that there is no requirement for exploration activities to be included as rehabilitation areas in the PRCP schedule because the EA specifically legislates the rehabilitation timeframe relevant for each individual borehole.	It is a requirement that areas disturbed by exploration activities which have not yet been rehabilitated or where exploration campaigns are planned in the future and will disturb land are provided for in the PRCP schedule.
22	Rehabilitation Milestones	The intent of the PRCP framework is to generate a holistic view of all rehabilitation activities carried out on the mining tenure and provides for rehabilitation requirements currently contained in the EA to be relocated to the PRCP schedule. The legislation requires that all areas disturbed within the ML are assigned a PMLU and where land is disturbed by a mining activity, be included in the PRCP schedule.	Provide more detail in the rehabilitation planning part to justify the proposed milestone completion dates. This will address the department's concerns regarding the timing proposed in the PRCP schedule for RM3 and RM4 and whether sufficient time will elapse to collect the necessary data/evidence from the monitoring and maintenance activities.

		The remaining areas are haul roads and the edges of some waste rock dumps so the rehabilitation work required may be less than that required for the backfilled pits and waste rock dumps. This may be the reason for why the rehabilitation can be completed within 3 years, however, there are no statements in the PRCP to this effect. With regards to timing, one particular example is the final 29.35ha of RA1, which will move through all milestones within a 3 year period. Without further information, it will be very difficult to assess whether the PRCP schedule can achieve land in a stable condition within the timeframes set out by the PRCP schedule. It is noted the rehabilitation monitoring plan outlined in section 7.1.1 of the planning part covers a number of pertinent parameters and Table 30 lists specific activities, records and review processes.	It is recommended that milestone criteria and the milestone completion dates in the PRCP schedule are reviewed and where necessary revised to allow sufficient time elapses to demonstrate the milestones are achieved. To adequately demonstrate the risks associated with the revegetation from natural seedbank strategy have been captured, an additional milestone criterion should be added for RM3 to state that monitoring to assess germination occurs within a specified timeframe (e.g. one month) following topsoil application in order to identify whether additional seeding activities are required.
23	Rehabilitation Milestones	Section 7.1.1.1 Timing of the planning part proposes that soil assessments are undertaken every 5 years. However, all milestones are proposed to be completed within 4 years regardless of when they commence. There is a risk that the timeframes proposed in the PRCP schedule do not provide sufficient time to demonstrate land in a stable condition has been achieved.	It is recommended that the PRCP schedule reflect the recommendations in the planning part.
24	Rehabilitation Milestones RM1 (Landform development, shaping and profiling)	The different tasks associated with the contaminated land investigation meet the definition of a rehabilitation milestone. The Reference Milestones provided in Appendix 3 of the PRCP guideline include a reference milestone specifically for remediation of contaminated land. Section 5.3.6 of the planning part states that contaminated land investigations and remediation work must be completed prior to commencing rehabilitation activities. However, Table 30 Rehabilitation Milestone Tracking lists remediation of contaminated land as occurring after landform shaping, earthworks and drainage systems have been constructed.	It is recommended that a unique milestone for activities related to the remediation of contaminated land is established in the PRCP schedule. Alternatively, further detail should be provided to explain why contaminated land activities should remain as part of RM1 and clarify the sequence for when contaminated land assessments and remediation needs to occur. It is also recommended that milestone criteria include reference to the removal of land from the EMR.

		Section 7.3 of the PRC plan also states that land which has previously been on the EMR must be removed or have an appropriate Site Management Plan in place. Conditions H8 and H9 of the EA for CCM also require a site investigation report prior to surrender or application for progressive certification.	
25	Rehabilitation Milestones RM2 (Surface preparation)	The proposed PRCP schedule for CCM has included ripping of compacted surfaces and the placement of topsoil at a minimum depth of 100mm. RA1 and RA2 consist of waste rock dumps and haul roads.	It is recommended that milestone criteria regarding soil health and suitability assessment is added to this RM. This will mitigate against the risks associated with the minimal 100mm topsoil application depth and reliance upon the natural seedbank/topsoil health for revegetation works. An example of a relevant milestone criteria is provided in Appendix 2 of the PRCP guideline, which states that, 'An assessment of soil health and suitability has been completed by an appropriately qualified person to confirm soil is suitable for target vegetation establishment'.
26	Rehabilitation Milestones RM3 (Achievement of surface requirements)	The reference milestone for 'achievement of surface requirements' in Appendix 3 of the PRCP guideline is associated with the monitoring phase of rehabilitation. It represents an intermediate phase so the criteria should demonstrate trends and progression towards the final milestone. The PRCP guideline expects that criteria reflect specific site conditions and strategies and recommends evidence of an appropriate time series of monitoring data, tracking of rehabilitation and closure progress against a target trajectory and adaptive management intervention. The intent is that successful completion of RM3 facilitates achieving RM4. Currently RM3 for CCM only measures groundcover and erosion and does not capture other key characteristics of grazing pasture. The PRCP guideline (section 4.1, step 5) states that criteria may be replicated across more than one milestone to verify long-term success with an aspect of rehabilitation).	At a minimum, it would be expected that additional criteria from RM4 are also included in RM3 for those characteristics that demonstrate grazing requirements. For example, productivity, declared pest species, proportion of non-preferred species. Inclusion of the additional criteria at RM3 will ensure that monitoring of appropriate parameters commences early and will provide a series of time based monitoring events to demonstrate achievement of the milestone.

27	Rehabilitation Milestones RM3 (Achievement of surface requirements)	Section 5.3.5.2 and 5.2.1 of the PRC plan state that further revegetation will be completed to stabilise the bed and batters of the drain in order to meet PMLU grazing criteria. No specific milestone criteria are evident in RA3 to ensure these particular rehabilitation works are completed.	It is recommended to review the milestone criteria for RM3 and add criterion/criteria to demonstrate that the additional revegetation works necessary to stabilise the bed/banks of RA3 are achieved.
28	Rehabilitation Milestones RM4 (Achievement of post mining land use to stable condition)	The applicant has proposed a generic statement that ground and surface water monitoring results must not indicate contamination of waters from rehabilitated landforms. This criterion does not meet the SMART principles as there is no measure proposed for how it is to be achieved.	Clear and measurable targets for specific water quality parameters that are deemed appropriate for the key site specific contaminants of concern are required to be included as milestone criteria.
29	Rehabilitation Milestones RM4 (Achievement of post mining land use to stable condition)	There are specific acceptance criteria for water erosion (as a function of % slope and ESP %) when determining Class 4 land suitability that must be met. These have not been included in the milestone criteria in the PRCP schedule and have been replaced by a slope of <20%. The department acknowledges that these 'completion criteria' have been pre-approved in the QNH RMP (2020). However, the planning part has not demonstrated how these criteria will result in a stable final landform.	It is recommended to at least link the discussion about soil assessment for CCM in section 1.14.1 and 1.14.2 of the PRCP to the completion criteria relating to stability and explain why the acceptance criteria for the Class 4 land suitability are suitable to demonstrate a stable final landform.
30	Rehabilitation Milestones RM4 (Achievement of post mining land use to stable condition)	RM4 refers to results from grazing trials within the rehabilitated areas at QNH. Grazing trials are also a requirement for determining land suitability. Section 6.2 of the planning part states that rehabilitation across the QNH commenced in 2012 and that rehabilitation monitoring over that time negates the need for rehabilitation trials at CCM. There is also limited area within the mining lease to undertake trials. Grazing trials are not mentioned in the planning part so it not clear how this criterion will be measured/achieved.	The PRCP schedule refers to consideration of the results of grazing trials in the milestone criteria for RM4. Therefore, further discussion about grazing trials and how this criterion will be measured to demonstrate the achievement of the PMLU to a stable condition is required to be included in the planning part.
31	Rehabilitation Milestones RM4 (Achievement of post mining land use to stable condition)	Section 7.1.1.3 discusses the use of reference sites to assess performance of the rehabilitated area with respect to groundcover, carrying capacity (productivity), weeds and species mix.	It is recommended to also include a measure of preferred species being achieved – as well as having specific

	mining land use to stable condition)	pasture species and does not reference the non-preferred or weed species.	preferred and non-preferred species being listed in the milestone criteria.
32	Rehabilitation Milestones RM4 (Achievement of post mining land use to stable condition)	The reliance of the natural seedbank is likely to result in the establishment of trees and scrubs. This vegetation is proposed to be retained to provide shade for cattle. There is no mention in the planning part or the PRCP schedule about the trees and shrubs forming part of the milestone criteria. In the 2018 rehabilitation monitoring report for CCM it identifies that species composition and stem density are criteria that must be met for successful rehabilitation at CCM. This requirement is not currently being met and may require direct seeding in future.	It is recommended that criteria are added to the relevant rehabilitation milestones to specifically list the preferred pasture species and target species to provide a clear indication that the PMLU is being achieved. Table 27 provides a seed mix and could be brought forward into the PRCP schedule, and a list of other trees and shrubs could likely be developed from the reference monitoring sites.
33	Milestone criteria	The final landform for the waste rock dumps will include the installation of contour drains. The permanent retention of contour banks on landform batters are associated with risks of failure causing concentrated flows and erosion.	Confirm if contour banks will remain on landforms once groundcover has been established. It is recommended that additional detail is added to the relevant milestone criteria to demonstrate how 'Drainage works completed' will be measured and achieved.
34	Milestone criteria	The planning part has stated that the final landform will be assessed by a RPEQ to certify that it meets the design criteria prior to topsoiling.	It is recommended that the applicant obtains sign off from RPEQ or other suitably qualified person that these activities have not only been 'completed', but have been verified as having met the design criteria as a means of 'measuring' whether the milestone criteria have been achieved. These commitments should be made in the PRCP schedule milestone criteria as there are slight inconsistencies throughout the planning part about what assessments and certifications will be carried out and when.
35	Milestone criteria	More information about the assessments and certification that will be undertaken for contaminated land, final landforms and soil has been included in Table 30 and Table 32 of the planning part.	It is recommended that this additional detail is included in the PRCP schedule as part of the milestone criteria.
36	Milestone criteria	The 2018 RMP determined rehabilitation progress against the acceptance criteria from the 2014 Cows Coal Project RMP. These criteria are more detailed than those currently included	As previously mentioned at Item 8, it is recommended that the milestone criteria '20% (11.5 degree) slope achieved unless an alternate slope is recommended by an

		in the 2020 QNH RMP. For example, the previous acceptance criteria for spoil dump landforms included a slope criteria of <16% or 9 degrees, which is more stringent than the <20% slope criteria applied to and approved for all of the QNH sites. As an existing EA holder, the department acknowledges that the pre-approved outcomes and criteria from the 2020 QNH RMP are able to be transitioned to the PRCP based on the LOD hierarchy. However, the PRCP guideline requires that transitional sites meet the information requirements outlined in section 3.6.1. This includes information to demonstrate the landform design will achieve geotechnical and erosional stability. As previously mentioned, the PRC plan currently lacks sufficient information to meet all the requirements of the final landform design. Section 3.2 states that land at site will be returned to a Class 4 land suitability <u>or better</u>. RM4 has proposed criteria which largely reflect the Class 4 land suitability requirements, but do not aim for 'better', even in instances where this can feasibly be achieved. For example, ESP is set in the criteria as being less than 30% (which represents an extremely sodic state), whereas, the erosional stability assessment in Table 14 identifies the majority of topsoil used for rehabilitation has typical ESP ratios of less than 6% which is considered to be non-sodic. While it is the right of the EA holder to transition pre-approved criteria, these criteria do not reflect the intention outlined in the planning part and may also not be sufficient to finally demonstrate that land has achieved stable condition.	RPEQ' is amended to reflect the intent expressed in the planning part (i.e. '20% (11.5 degrees) slope on dump batters). The EA requires the holder to achieve the PMLU of grazing pasture. Whilst the proposed rehabilitation milestones and milestone criteria are designed to achieve land suitability class 4, they are unlikely to result in a final landform that can sustain a PMLU of grazing pasture. The information provided in the planning part about landform design (slope) based on the soil assessments and erosional stability do not demonstrate that the site can be rehabilitated to achieve a stable condition using the proposed criteria alone, which is a requirement of the EP Act. Further information is needed to demonstrate how the slope criteria in the PRCP schedule will achieve a stable condition. While the completion criteria can be transitioned from the LOD, this does not prevent additional or expanded milestones and milestone criteria from being proposed and included in the PRCP schedule to ensure that the EA conditions are met, that the schedule achieves the final outcome of land in a stable condition, and the EA can be surrendered.
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