

# 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 PRCP schedule.*

To: CAML Resources Pty Ltd, Nippon  
Steel Australia Pty Limited,  
Foxleigh Coal Pty Ltd  
C/- CAML Resources Pty Ltd  
Level 12, 300 Queen St  
BRISBANE CITY QLD 4000

*By email transmission only*

ATTN: Jack Masi

Email: JMasi@foxleighmine.com

Our reference: EPML00744813, C-EATPRCP-100491204

### 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 September 2023.

The application reference number is: C-EATPRCP-100491204

Land description: ML70171, ML70309, ML70310, ML70429, ML70430, ML70431, ML70470

#### 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**.

#### 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 30 April 2024 (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/action, and it was determined that the decision is compatible with human rights.

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

*Alison O'Brien*

Signature

30/10/2023

Date

**Alison O'Brien**  
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: 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                     | PRCP Plan/Schedule                                                                                                                                                                                      | Issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Required Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| <b>PRC Planning Part</b> |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Surface water</b>     |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>1</b>                 | <p><b>Surface Water</b></p> <p>PRC plan section 3.1.2<br/>Site hydrology and fluvial networks (Page 21).</p> <p><b>Appendix I:</b> PRCP GW Modelling Report, section 4.4<br/>Surface water quality.</p> | <p>The section identifies the relevant waterways and their environmental values. The PRCP guideline section 3.1 requires EA holder to provide a baseline information with respect to site hydrology and fluvial networks. It includes but not limited to identifying Contaminant of Concern (CoC), sources of contaminant of concerns post rehabilitation and the potential pathways onsite that may end up to surface water post closure.</p> <p>The Appendix I section 4.4 provides overview of surface water quality through the monitoring conducted insitu at four upstream control sites and three downstream impact sites, but the period of sampling for Table 6 is not clear.</p> <p>Overall, the PRC plan does not provide baseline water quality monitoring data, contaminants of concern (CoC), and potential pathways of contaminant post closure. The information is important as it helps to determine the water quality limits, suitability of monitoring locations to demonstrate the stability and non-polluting state of the final rehabilitated landform.</p> | <p><b>1.1</b> Provide an updated PRC Planning Part that includes –</p> <ul style="list-style-type: none"> <li>a. background/baseline receiving environment water quality monitoring data of minimum past 2 years .</li> <li>b. Contaminant of concern (CoC) based on the mining process and waste characterisation.</li> <li>c. potential sources/pathways of contaminant during the post closure phase (such as surface runoff from rehabilitated areas, flood water etc.) and mitigative measures.</li> </ul> |
| <b>Ground water</b>      |                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| <p><b>2</b></p> | <p><b>Groundwater</b><br/>PRC plan section 3.1.3<br/>Hydrogeology (Page 26).</p> <p><b>Appendix I: PRCP GW<br/>Modelling Report</b></p> | <p><b>Groundwater Monitoring Vibrating Wire Piezometer (VWP) bores and Alluvial Standpipe Monitoring (ASM) bore.</b></p> <p>PRCP Section 3.5.1, sub-section, '<i>Groundwater Use</i>' states that the local groundwater monitoring network at Fox comprises of a vibrating wire piezometer (VWP) monitoring network and groundwater monitoring standpipes. The section includes <b>Table 3-39 (later Table 8): Fox VWP Monitoring Network</b> which provides details of vibrating wire piezometer bores, FPVWP01, FPVWP02 and FPVWP03 and FPMB01 (ASM bore).</p> <p>Appendix I on Page 24 explains that historically groundwater pressure monitoring has been conducted by using above mentioned three VWP strings installed in 2014. However, no data from VWPs or FPMB01 is provided in Appendix I. The 2016 AGE report, '<i>Foxleigh Plains Groundwater Monitoring and Management Plan</i>' provides water level data for ASM bore (FPMB01) for the period from December 2013 to November 2015.</p> <p>It is not clear why data from the ASM bore is not presented in Appendix I or used in model calibration. This information is considered important as it provides some historical data.</p> <p>Further on Appendix I, Page 25 it is explained that there is significant uncertainty surrounding the data coming from the VWPs and this data has not been relied on to assess either regional or local groundwater levels or vertical fluxes between strata.</p> <p>Page 25 also states that in 2021 there were an additional thirteen new groundwater monitoring standpipes that were installed on site.</p> <p>Overall, it has been observed that there is lack of historical groundwater level data in the submitted groundwater assessment. The PRC plan section 3.1.3 or the Appendix I does not clarify which bores from the VWP network or the newly installed standpipe network form the functioning part of the site groundwater</p> | <p><b>2.1</b> Provide an updated PRC planning part/Appendix I that includes –</p> <ol style="list-style-type: none"> <li>Clarification on which bores from Appendix I, Table 8 and 9 form the functioning part of the current groundwater monitoring network.</li> <li>Justify the inclusion of bores in the groundwater monitoring network based on their capacity to provide a useful dataset for groundwater assessment.</li> <li>Analysis of adequacy of current GW monitoring network to monitor impacts of Foxleigh mining operation on environmental values (EVs) of GW.</li> </ol> |
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|----------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                                                       | network. This information is important to determine the data reliability and determine that mine activities are non-polluting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>3</b> | <b>Groundwater</b><br>PRC plan section 3.1.3                          | <p><b>Groundwater impacts, contaminant of concern.</b></p> <p>PRC plan section 3.1.3 provides information on groundwater environmental values and hydro stratigraphic units identified at site.</p> <p>Neither of the PRC plan relevant sections (3.1.3 and 3.5.1) or Appendix I does not provide any discussion as to how mining has impacted groundwater levels and quality based on the groundwater monitoring data. To understand the impact over the period, water level plots (hydrographs) and quality time series plots of the contaminants of concerns are required for all monitoring bores to demonstrate how groundwater levels and quality has changed over time.</p> <p>This information is necessary to understand the contaminants of concern generated by the mining activities and to demonstrate risks posed to environmental values have been identified and will be mitigated during rehabilitation to ensure the land achieves a stable condition.</p> | <p><b>3.1</b> Provide an updated PRC planning part/Appendix I that includes –</p> <ol style="list-style-type: none"> <li>Contaminants of concern post-closure that pose a risk to environmental values of the receiving groundwater environment. These should be consistent with the surface water.</li> <li>Hydrographs and quality time series plots of the contaminant of concern for all monitoring bores.</li> </ol> <p><b>Note:</b> The hydrographs and quality time series plots should be accompanied by discussion as to whether any changes in the groundwater level or quality are the result of climatic conditions, mining, or other localised water use.</p> |
| <b>4</b> | <b>Groundwater</b><br><br><b>Appendix I:</b> PRCP GW Modelling Report | <p><b>Groundwater data in Table 7</b></p> <p>Appendix I, section 6.1.1 states that <b>Table 7: Regional groundwater monitoring bores</b> lists the regional groundwater monitoring bores utilised to prepare a regional groundwater level plan. Many of the columns in Table 7 has been left blank and need to be populated with the specified information.</p> <p>A full data set is required to confirm that the regional groundwater level plan is based on comprehensive data and that the consultations drawn in Appendix I regarding the stability and non-polluting nature of the final landforms are reliable.</p>                                                                                                                                                                                                                                                                                                                                                   | <p><b>4.1</b> Provide an updated Appendix I that includes –</p> <ol style="list-style-type: none"> <li>Duly populated Table 7: <i>Regional groundwater monitoring bores</i>.</li> <li>A regional groundwater level plan as stated in section 6.1.1</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                              |

|   |                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                     |
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| 5 | <p><b>Groundwater</b></p> <p><b>Appendix I: PRCP GW Modelling Report</b></p>           | <p><b>Groundwater quality</b></p> <p>Appendix I, section 6.1.2 has <b>Table 8: Foxleigh VWP network</b> and <b>Table 9: Foxleigh groundwater monitoring network</b> which provides information on the location, elevation, total depth of the monitoring bores and the targeted formation by each bore but does not provide information on the quality of groundwater monitored at these bores.</p> <p>Appendix I, section 6.3 provides a summary of the monitoring of field water quality conducted at thirteen bores installed in 2021 (refer Table 12: 2021 GWMB field water quality summary).</p> <p>Overall Appendix I or PRC plan does not provide a groundwater quality monitoring data log that can help determining a trend in groundwater quality.</p> | <p><b>5.1</b> Provide an updated Appendix I that includes –</p> <p>a. Bore specific onsite background groundwater quality and level data for standpipes P1-P12 since 2021.</p>                                                                                                                                                      |
| 6 | <p><b>Groundwater Modelling</b></p> <p><b>Appendix I: PRCP GW Modelling Report</b></p> | <p><b>Model Calibration</b></p> <p>Appendix I Table 21: <i>Calibration target sites</i> provides location coordinates for the 17 bores used in the steady state calibration and very limited data has been provided in the report for these bores except for P1, P12 and P2.</p> <p>This information is required to provide support for the steady state pre mining modelling that has been used to establish the initial groundwater levels for the transient calibration and in turn for long term predictions of groundwater levels and residual void behaviour predictions.</p>                                                                                                                                                                              | <p><b>6.1</b> Provide updated <b>Appendix I</b> that includes following –</p> <p>a. Updated Table 21 in addition to location co-ordinates showing depth, target geological unit, water level elevation and monitoring date for each bore.</p> <p>b. A map showing location of steady state calibration bores based on Table 21.</p> |
| 7 | <p><b>Groundwater Modelling</b></p>                                                    | <p><b>Groundwater Inflows</b></p> <p>Appendix I, section 11.4.1 states that the post-closure groundwater <u>flux</u> was simulated for a range of pit void lake elevations, from the maximum inflow rate</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>7.1</b> Provide updated Appendix O that clarify –</p> <p>a. If a range of groundwater inflows (Flux) obtained from Appendix I were used in the</p>                                                                                                                                                                            |



|                          |                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |      |     |                       |       |       |       |  |
|--------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|-----|-----------------------|-------|-------|-------|--|
|                          |                                                                                 | <table border="1"> <tr> <td>One Tree West + Pipeline</td><td>-13.78</td><td>5.50</td><td>5.5</td></tr> <tr> <td>Foxleigh Plains North</td><td>40.46</td><td>18.02</td><td>18.02</td></tr> </table> <p>It is noted that the void water levels will change over time considering the direct rainfall, surface runoff input to the void and evaporation. Accordingly, the groundwater inflow rate may change over time corresponding to the fluctuating void water levels and that change/flux needs to be considered for void hydrology modelling.</p> <p>Hence it is important to understand if the modelling is based on a groundwater flux or maximum groundwater inflow rate as this will determine the predictions of long-term water levels in the voids.</p>                                                                                                      | One Tree West + Pipeline                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -13.78 | 5.50 | 5.5 | Foxleigh Plains North | 40.46 | 18.02 | 18.02 |  |
| One Tree West + Pipeline | -13.78                                                                          | 5.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |      |     |                       |       |       |       |  |
| Foxleigh Plains North    | 40.46                                                                           | 18.02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 18.02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |      |     |                       |       |       |       |  |
| 8                        | <b>Groundwater Modelling</b><br><br><b>Appendix I: PRCP GW Modelling Report</b> | <b>Groundwater table contours</b><br><br><p>Appendix I, Figure 12 provides water table contours compiled using regional and local monitoring data. The locations of a number of bores are marked on the map including some in green. There is little discussion in the text and absence of legend as to how the contours were developed but it appears from the bores on site that it was possibly developed using the bores marked in green only. More explanation of how this map was developed is required.</p> <p>This information provides confidence in what is actually being presented with these contours and how that supports the overall assessment.</p> <p>In addition to Figure 12 the following map/figures are required –</p> <p>The steady state groundwater level elevation contours providing the starting point for the transient calibration.</p> | <b>8.1</b> Provide an updated Appendix I that includes – <ol style="list-style-type: none"> <li>Clarification on how Figure 12: <i>Water table map compiled using regional and local monitoring data</i> was developed.</li> <li>Additional maps/figures showing following:               <ul style="list-style-type: none"> <li>The steady state groundwater level elevation contours providing the starting point for the transient calibration.</li> <li>Predicted groundwater level elevation contours for all major model layers</li> </ul> </li> </ol> |        |      |     |                       |       |       |       |  |

|    |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                     |
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|    |                                                                                                               | <p>Predicted groundwater level elevation contours for all major model layers (including those representing targeted coal seams) for the end of mining period and post closure period.</p> <p>The above contours are important to understand the relationship between the predicted long term groundwater levels in all units that could be connected to the voids and the predicted long term water levels in the voids.</p>                                                                                                                                                                                                                                                                                                                               | <p>(including those representing targeted coal seams) for the end of mining period and post closure period.</p>                                                                                                                                                                                                                                                                     |
| 9  | <p><b>Groundwater Modelling</b></p> <p><b>Appendix O</b>, WRM (24 March 2023) Final Void Hydrology Report</p> | <p><b>Predicted long term water levels.</b></p> <p>Section 4 of the Appendix O provides a lowest regional groundwater level measured at all voids as 122.5 m AHD. This level is used to compare predicted long term water levels in all pits to determine if the void will be a sink or source.</p> <p>However, there is no justification provided for the use of 122.5 m AHD to represent long term groundwater levels, in all geologic units in contact with all voids.</p> <p>Additional groundwater elevation contours (refer to item 8) are required to demonstrate a realistic long term groundwater level elevation adjacent all voids and provide confidence in the long-term groundwater levels used to determine sink or source predictions.</p> | <p><b>9.1</b> Provide updated Appendix O that includes –</p> <ul style="list-style-type: none"> <li>a. Justification for the use of 122.5m AHD to represent long term groundwater levels, in all geologic units.</li> <li>b. The above justification needs to be in consideration with the additional groundwater elevation contours that are requested in above Item 8.</li> </ul> |
| 10 | <p><b>Groundwater Modelling</b></p> <p><b>Appendix I:</b> PRCP GW Modelling Report</p>                        | <p><b>Inconsistency in some void depths and long term predicted water levels in voids.</b></p> <p>Inconsistencies have been noted in final void depths and predicted long term water levels as stated in Appendix I Tables 29 and 30 when compared to Appendix O Table 4.1.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p><b>10.1</b> Provide updated Appendix O that includes –</p> <ul style="list-style-type: none"> <li>a. Clarification for the identified discrepancies in void depths and long term predicted water levels.</li> </ul>                                                                                                                                                              |

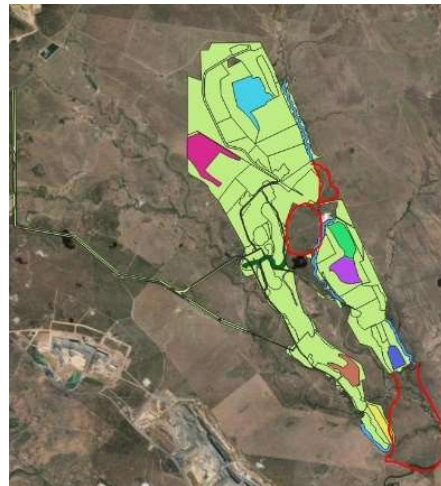
|                 | <p><b>Appendix O</b>, WRM (24 March 2023) Final Void Hydrology Report</p>                                                                                        | <p>The inconsistencies are summarised in below table and should be investigated for any potential impact on existing modelling reported:</p> <table><tr><th rowspan="2">Void</th><th colspan="3">bottom of pit/ floor level (m AHD)</th><th colspan="3">long term median void Water Level/ modelled average (m AHD)</th></tr><tr><th>App. I, Table 29</th><th>App. O, Table 4.1</th><th>Discrepancy</th><th>App. I, Table 30</th><th>App. O, Table 4.1</th><th>Discrepancy</th></tr><tr><td>Eagle Nest</td><td>Not provided</td><td>-104</td><td>?</td><td>98.3</td><td>41.5</td><td>56.8 m</td></tr><tr><td>Foxleigh Plains</td><td>40.46</td><td>-130</td><td>170.46 m</td><td>48.3</td><td>71.6</td><td>23.3 m</td></tr><tr><td>One Tree West</td><td>-13.78 (includes pipeline)</td><td>-29</td><td>13 m</td><td>71.7</td><td>47.7</td><td>4 m ?</td></tr><tr><td>Pipeline</td><td>above</td><td>-43</td><td>NA</td><td></td><td>67.4</td><td>NA</td></tr><tr><td>WC</td><td>119.54</td><td>-15</td><td>134.54 m</td><td>42.6</td><td>42.8</td><td>Nil</td></tr><tr><td>Far South</td><td>70.5</td><td>70</td><td>Nil</td><td>81.6</td><td>81.3</td><td>Nil</td></tr><tr><td>Carlo</td><td>56.94</td><td>86</td><td>29.06 m</td><td>44.4</td><td>105.6</td><td>61.2 m</td></tr></table> | Void                                                                                                                                                                                                                                                  | bottom of pit/ floor level (m AHD)                          |                   |             | long term median void Water Level/ modelled average (m AHD) |  |  | App. I, Table 29 | App. O, Table 4.1 | Discrepancy | App. I, Table 30 | App. O, Table 4.1 | Discrepancy | Eagle Nest | Not provided | -104 | ? | 98.3 | 41.5 | 56.8 m | Foxleigh Plains | 40.46 | -130 | 170.46 m | 48.3 | 71.6 | 23.3 m | One Tree West | -13.78 (includes pipeline) | -29 | 13 m | 71.7 | 47.7 | 4 m ? | Pipeline | above | -43 | NA |  | 67.4 | NA | WC | 119.54 | -15 | 134.54 m | 42.6 | 42.8 | Nil | Far South | 70.5 | 70 | Nil | 81.6 | 81.3 | Nil | Carlo | 56.94 | 86 | 29.06 m | 44.4 | 105.6 | 61.2 m | <p>b. Updated Table 4.1 and accordingly updated prediction of residual void behaviour.</p> |
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| Void            | bottom of pit/ floor level (m AHD)                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                       | long term median void Water Level/ modelled average (m AHD) |                   |             |                                                             |  |  |                  |                   |             |                  |                   |             |            |              |      |   |      |      |        |                 |       |      |          |      |      |        |               |                            |     |      |      |      |       |          |       |     |    |  |      |    |    |        |     |          |      |      |     |           |      |    |     |      |      |     |       |       |    |         |      |       |        |                                                                                            |
|                 | App. I, Table 29                                                                                                                                                 | App. O, Table 4.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Discrepancy                                                                                                                                                                                                                                           | App. I, Table 30                                            | App. O, Table 4.1 | Discrepancy |                                                             |  |  |                  |                   |             |                  |                   |             |            |              |      |   |      |      |        |                 |       |      |          |      |      |        |               |                            |     |      |      |      |       |          |       |     |    |  |      |    |    |        |     |          |      |      |     |           |      |    |     |      |      |     |       |       |    |         |      |       |        |                                                                                            |
| Eagle Nest      | Not provided                                                                                                                                                     | -104                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ?                                                                                                                                                                                                                                                     | 98.3                                                        | 41.5              | 56.8 m      |                                                             |  |  |                  |                   |             |                  |                   |             |            |              |      |   |      |      |        |                 |       |      |          |      |      |        |               |                            |     |      |      |      |       |          |       |     |    |  |      |    |    |        |     |          |      |      |     |           |      |    |     |      |      |     |       |       |    |         |      |       |        |                                                                                            |
| Foxleigh Plains | 40.46                                                                                                                                                            | -130                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 170.46 m                                                                                                                                                                                                                                              | 48.3                                                        | 71.6              | 23.3 m      |                                                             |  |  |                  |                   |             |                  |                   |             |            |              |      |   |      |      |        |                 |       |      |          |      |      |        |               |                            |     |      |      |      |       |          |       |     |    |  |      |    |    |        |     |          |      |      |     |           |      |    |     |      |      |     |       |       |    |         |      |       |        |                                                                                            |
| One Tree West   | -13.78 (includes pipeline)                                                                                                                                       | -29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 13 m                                                                                                                                                                                                                                                  | 71.7                                                        | 47.7              | 4 m ?       |                                                             |  |  |                  |                   |             |                  |                   |             |            |              |      |   |      |      |        |                 |       |      |          |      |      |        |               |                            |     |      |      |      |       |          |       |     |    |  |      |    |    |        |     |          |      |      |     |           |      |    |     |      |      |     |       |       |    |         |      |       |        |                                                                                            |
| Pipeline        | above                                                                                                                                                            | -43                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | NA                                                                                                                                                                                                                                                    |                                                             | 67.4              | NA          |                                                             |  |  |                  |                   |             |                  |                   |             |            |              |      |   |      |      |        |                 |       |      |          |      |      |        |               |                            |     |      |      |      |       |          |       |     |    |  |      |    |    |        |     |          |      |      |     |           |      |    |     |      |      |     |       |       |    |         |      |       |        |                                                                                            |
| WC              | 119.54                                                                                                                                                           | -15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 134.54 m                                                                                                                                                                                                                                              | 42.6                                                        | 42.8              | Nil         |                                                             |  |  |                  |                   |             |                  |                   |             |            |              |      |   |      |      |        |                 |       |      |          |      |      |        |               |                            |     |      |      |      |       |          |       |     |    |  |      |    |    |        |     |          |      |      |     |           |      |    |     |      |      |     |       |       |    |         |      |       |        |                                                                                            |
| Far South       | 70.5                                                                                                                                                             | 70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Nil                                                                                                                                                                                                                                                   | 81.6                                                        | 81.3              | Nil         |                                                             |  |  |                  |                   |             |                  |                   |             |            |              |      |   |      |      |        |                 |       |      |          |      |      |        |               |                            |     |      |      |      |       |          |       |     |    |  |      |    |    |        |     |          |      |      |     |           |      |    |     |      |      |     |       |       |    |         |      |       |        |                                                                                            |
| Carlo           | 56.94                                                                                                                                                            | 86                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 29.06 m                                                                                                                                                                                                                                               | 44.4                                                        | 105.6             | 61.2 m      |                                                             |  |  |                  |                   |             |                  |                   |             |            |              |      |   |      |      |        |                 |       |      |          |      |      |        |               |                            |     |      |      |      |       |          |       |     |    |  |      |    |    |        |     |          |      |      |     |           |      |    |     |      |      |     |       |       |    |         |      |       |        |                                                                                            |
| 11              | <p><b>Groundwater Modelling</b></p> <p><b>Appendix I:</b> PRCP GW Modelling Report</p> <p><b>Appendix O</b>, WRM (24 March 2023) Final Void Hydrology Report</p> | <p><b>Void salinity</b></p> <p>Table 3.3: <i>Adopted salinity concentration</i> from section 3.4 indicates that a salinity of 55,000 mg/L has been adopted for the water balance model configuration. The 55,000 mg/L salinity concentration appears to be significantly higher than the figures presented in section 6.3 of the Appendix I: GW Modelling Report.</p> <p>Appendix I, section 6.3 states average electrical conductivity (EC) of 55,000 µS/cm for alluvial formation and same section, Table 12: <i>2021 GWMB field water quality summary</i> shows a range of EC of 32,073 to 42,765 µs/cm for the various formations.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p>11.1 Provide updated Appendix O and PRC plan that includes –</p> <p>a. Justification for use of 55,000 mg/L salinity to represent groundwater in the water balance model configuration when the data in Appendix I shows lower salinity range.</p> |                                                             |                   |             |                                                             |  |  |                  |                   |             |                  |                   |             |            |              |      |   |      |      |        |                 |       |      |          |      |      |        |               |                            |     |      |      |      |       |          |       |     |    |  |      |    |    |        |     |          |      |      |     |           |      |    |     |      |      |     |       |       |    |         |      |       |        |                                                                                            |

|                           |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           |                                                                                                               | <p>Based on a conversion from EC to TDS of about 0.67 the range of figures in Appendix I, Table 12 convert to 21490 mg/L to 28,650 mg/L and the 55,000 µs/cm quoted in the text converts to 36,850 mg/L. All of these figures are considerably lower than the 55,000 mg/L used in Appendix O.</p> <p>Further clarification required to justify use of 55,000 mg/L salinity in Appendix O for water balance model configuration.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 12                        | <p><b>Groundwater Modelling</b></p> <p><b>Appendix O</b>, WRM (24 March 2023) Final Void Hydrology Report</p> | <p><b>Interaction of high salinity void water</b></p> <p>Section 4.2.3 of the Appendix O states that long term EC/salinity in the final voids will be &gt;3 times that of seawater (i.e., TDS &gt;196,000 mg/L or EC &gt;300,000 uS/cm).</p> <p>The PRC plan assumes the voids are groundwater sinks and as such no leakage/seepage occurs from the voids to surface or groundwater particularly in the long term. Void water modelling considers water losses will only occur due to evaporation.</p> <p>No consideration to horizontal permeability through the void wall below the water table into the surrounding geology is given in the model. If hydraulic connection between the void and adjacent geology exists, the potential for salts moving outside the void into the surrounding groundwater, albeit via molecular diffusion (Fick's Law), also exists. Migration of extremely high salinity out of the void would deem the void as a contamination/pollution source and thus not a safe, stable non-polluting NUMA.</p> | <p><b>12.1</b> Provide updated Appendix O and PRC plan that includes –</p> <ul style="list-style-type: none"> <li>a. More information assessing potential of high salinity void water interaction with surrounding groundwater systems, or</li> <li>b. A mitigative measure to eliminate potential of high salinity void water interaction with surrounding groundwater systems, such as backfilling above the regional groundwater level for voids with high risk of potential interaction with surrounding groundwater system.</li> </ul> |
| <b>Post-Mine Land Use</b> |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 13                        | <p><b>Post-Mine Land Use</b></p> <p>PRC plan section 3.3</p>                                                  | <b>Cattle Grazing or Native Ecosystem</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p><b>13.1</b> Provide an updated PRC planning part and schedule that includes:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>The PRC plan section 3.3 states a grazing PMLU has been assigned to all disturbed domains except for a native ecosystem corridor of approximately 35ha.</p> <p>The PRC plan indicates that the proposed grazing PMLU will be based on land class 4 and is partially consistent with EA Appendix 2 completion criteria which states land class 4 as an optional completion criteria for '<i>Areas where agricultural land use applies</i>'.</p> <p>The Agricultural Land Evaluation Queensland Guideline (Second edition) classify land class 4 as a land with severe limitations and unable to successfully sustain a use of land. Hence the proposed land class 4 may not be supportive of proposed cattle grazing PMLU.</p> <p>Appendix K: Geochemical characterisation of waste material in section 4.2.2 have identified the soil types found within the Foxleigh mining lease as Chromosols (45%), Sodosols(20%), Arenosols (20%), Anthroposols (12%) and vertosols (1%). Further the section states, '<i>only Arenosols are considered good growth medium able to support both grasses and trees, with the remaining soil types supportive only of native grass/vegetation.</i>'</p> <p>It is unclear –</p> <ul style="list-style-type: none"> <li>a) why an alternative land outcome such as Native Ecosystem as stated in the EA Appendix 2 has not been considered; and</li> <li>b) how proposed unsuitable land class will sustainably support the proposed PMLU of grazing.</li> </ul> | <p>a. A rehabilitation methodology and SMART criteria that ensures the rehabilitation land will achieve following:</p> <ul style="list-style-type: none"> <li>• Land suitability class of <math>\leq 3</math> as per Agricultural Land Evaluation in Queensland (Second Edition) guideline and;</li> <li>• The rehabilitation planning practices for grazing as a post-mining land use<sup>1</sup> as published by the Queensland Mine Rehabilitation Commissioner</li> </ul> <p><b>Or</b></p> <p>An alternative PMLU such as Native Ecosystem. This should include a rehabilitation methodology and SMART criteria (Example: BioCondition Framework*) for the Native Ecosystem PMLU.</p> |
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<sup>1</sup> <https://www.qmrc.qld.gov.au/research/post-mining-land-uses/grazing>

|    |                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                      |
|----|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14 | <b>Post-Mine Land Use(PMLU)/Non-use management area (NUMA)</b><br>PRC plan section 3.3 and 3.4 | <b>Community Consultation</b><br><p>In terms of assessing the proposed PMLU's (grazing, watercourse and native ecosystem corridor) against the outcomes of community consultation, section 3 states, '<i>Achievement of the identified PMLU's (grazing, watercourse and native ecosystem corridor) is in line with consultation completed to date.</i>'</p> <p>The "Fox Consolidated Consultation Register" presented in Table 3-30 contains limited information on the outcomes of community consultation in regard to developing post mining land uses for the site, particularly post 2013. Therefore, it is not clear whether recent changes to the PMLU's (approved via major amendment in August 2023) for site are consistent with the prior consultation.</p> <p>This information is important to understand the extent of proposed PMLU and NUMA aligning with the community expectations and required as per section 126C(1)(d) of the EP Act.</p> | <b>14.1</b> Provide an updated PRC planning part that shows that the proposed PMLU and NUMA are consistent with the outcome of community consultation.                                                                                                                               |
| 15 | <b>Post-Mine Land Use</b><br>PRC plan section 3.3                                              | <b>Strategies or plans for the land of a local government, the State or the Commonwealth</b><br><p>Section 3.3 does not give consideration to whether the proposed PMLU is consistent with any strategies or plans for the land of a local government, the State or the Commonwealth as required per s126(1)(d) of the EP Act.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>15.1</b> Provide an updated PRC planning part that–<br>a. State the extent to which each post-mining land use for land identified in the PRCP schedule for the plan is consistent with any strategies or plans for the land of a local government, the State or the Commonwealth. |
| 16 | <b>Post-Mine Land Use</b><br>PRC plan section 3.3                                              | <b>PMLU for all mining lease area.</b><br><p>The PRCP guideline section 3.2 states that, '<i>For the development of a proposed PRC plan, an applicant must propose a PMLU (or NUMA) for all land within the</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>16.1</b> Provide an updated PRC planning part and spatial files that includes:                                                                                                                                                                                                    |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                   |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p><b>Figure 4-1: final site design</b></p> <p><i>relevant resource tenures of the EA (this includes undisturbed land). It is the applicant's responsibility to provide sufficient evidence and justification regarding any proposed PMLU and the location considered for establishment.'</i></p> <p>The PMLU for the undisturbed area has not been defined in the spatial files and PRC plan (e.g. final site design map). (Refer to the red bordered area in below image which shows approximate extent of undisturbed Foxleigh mining lease area).</p>  | <p>a. The proposed PMLU for the undisturbed area within the Foxleigh mining lease.</p>                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                   |
| 17 | <p><b>Post-Mine Land Use</b></p> <p>PRC plan section 3.3</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p><b>Retained Infrastructure</b></p> <p>PRC plan section 3.1.9 states that an area totalling 745.518ha of infrastructure is to be retained in accordance with the landholder statements. The landholder statements are supportive of retaining access roads and tracks post mining.</p> <p>The PRC plan nor the spatial data provide a map showing the exact location and details of the infrastructure to be retained .</p> | <p><b>17.1</b> Provide updated PRC plan that includes –</p> <p>a. Clarification on which infrastructures to be retained onsite post mine and associated PMLU.</p> |

|                     |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |                                                          | <p>The PRCP schedule RM1: Infrastructure decommissioning and removal, milestone criteria states that, '<i>sumps or dams that do not form part of final landform as sediment control structures dewatered and contaminated silt removed</i>', this raises a question if there are in dams/sumps/water structures that likely to be retained post mine and if so what the associated PMLU is.</p> <p>The PRC plan also does not clarify if any rehabilitation steps apply to infrastructure to be retained to ensure it is safe, not cause environmental harm and stable for the purpose post closure.</p>                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>b. A map showing the exact location of infrastructure to be retained.</p> <p>c. Any rehabilitation steps that are required to ensure retained infrastructure is safe and stable for post mine use.</p> <p>d. A spatial file showing a separate polygon for infrastructure to be retained and associated PMLU.</p>                                                                                                                                                                                        |
| <b>Revegetation</b> |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>18</b>           | <p><b>Revegetation</b></p> <p>PRC plan section 3.5.8</p> | <p><b>Growth medium</b></p> <p>Section 3.5.8 (page 124) states that topsoil stockpiles will provide the growth media for both cattle grazing and native ecosystem PMLU and geochemical characterisation reports indicate soil samples suitable for native vegetation.</p> <p>Table 3-58: Fox available topsoil/Growth Medium shows that there's a surplus topsoil available on site as per the 2022 Topsoil inventory.</p> <p>The PRC plan (at page 126) states topsoil application depth ranging from 150-200mm and a rehabilitation trial indicating 150mm topsoil depth supporting decent vegetation.</p> <p>The PRC plan does not clarify the following –</p> <ul style="list-style-type: none"> <li>• Since the site has surplus topsoil, why topsoil application depth of up to or more than 200mm is not proposed at-least for areas prone to erosion risk.</li> <li>• How does the dispersive nature of soil support the proposed minimum topsoil application rate of 150mm for a self-sustaining, stable PMLU.</li> </ul> | <p><b>18.1</b> Provide updated PRC plan that includes clarification on following –</p> <p>a. Topsoil application rate specific to disturbance domain (Example: Waste Rock Dump slopes, top of the dump, infrastructure etc.)</p> <p>b. Justification how the above-mentioned domain specific topsoil application rate supports achieving the self-sustaining and stable PMLU.</p> <p>c. Target range of growth medium nutrients in accordance with the relevant PMLU (Cattle grazing/Native Ecosystem).</p> |

|           |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                              |
|-----------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |                                                   | <ul style="list-style-type: none"> <li>Has a target range of growth medium nutrients identified to support a self-sustaining PMLU.</li> </ul> <p>The above information required for determining SMART rehabilitation criteria for surface preparation rehabilitation milestone in PRCP schedule.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                              |
| <b>19</b> | <b>Revegetation</b><br><br>PRC plan section 3.5.8 | <b>Amelioration</b><br><br>Section 3.5.8 (page 126) states that topsoil will be ameliorated with gypsum due to the dispersive nature of topsoils available on site to provide greater stability of soil organic matter.<br><br>The section proposes a gypsum application rate of 15t/ha and fertiliser application rate of 0.2t/ha based on soil sampling results in accordance with Appendix K.<br><br>The PRC plan nor Appendix K clarify how the proposed gypsum and fertiliser application rate supports the topsoil to achieve the required nutrient level supporting grazing or native ecosystem PMLU. The plan does not specify targets for total nitrogen, phosphate, organic matter and ESP.<br><br>Further information is required to ensure the appropriateness of the milestone criteria. | <b>19.1</b> Provide updated PRC plan that includes –<br><br>a. Explanation on how the proposed gypsum and fertiliser application rate was derived.<br><br>b. Topsoil amelioration based on nutrient targets mainly for Total Nitrogen, Phosphate, Organic matter and ESP.                    |
| <b>20</b> | <b>Revegetation</b><br><br>PRC plan section 3.5.9 | <b>Revegetation species and seeding rates.</b><br><br>Section 3.5.9 of the PRC plan states a seeding rate of 30 kg/ha for cattle grazing PMLU. Table 3-59 shows the seed mix for grazing that likely to be adopted for Foxleigh mine.<br><br>A majority of the proposed seed mix consists of non-native grass species except <i>Bothriochloa bladhii</i> (Swann Bluegrass) and includes Indian Couch which is known to have significant impacts on surrounding native remnant vegetation. The rationale and source for selection of the particular grass species from Table 3-59 is not provided in the PRC plan.                                                                                                                                                                                     | <b>20.1</b> Provide updated PRC plan that includes –<br><br>a. A revised grass species seed mix in accordance with the soil characteristics and proposed PMLU;<br><br>b. Omitting non-native grass species such as Indian Couch <i>Bothriochloa pertusa</i> or Seca <i>Stylosanthes</i> spp. |

|                  |                                                                                                                        | <p>It is noted that Appendix K, section 4.2.2 states that <i>'the site comprises of mostly Chromosols (45%), Sodosols (20%), Arenosols (20%), Anthroposols (12%) and Vertosols (1%). Out of above only Arenosols are considered good growth medium able to support both grasses and trees, rest all supportive only of native grass/vegetation'.</i></p> <p>Considering the soil characteristics, it is not clear why the proposed seed mix includes predominantly non-native and invasive grass species. This information is important to determine the self-sustaining and non-polluting nature of the final landform.</p>                                                                                                                                   |                |                                               |  |                                            |  |                 |                              |                |              |             |       |    |     |     |            |       |       |     |     |                                                                                                                                                                                                                                                                                                                                                  |
|------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------|--|--------------------------------------------|--|-----------------|------------------------------|----------------|--------------|-------------|-------|----|-----|-----|------------|-------|-------|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flood Assessment |                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                |                                               |  |                                            |  |                 |                              |                |              |             |       |    |     |     |            |       |       |     |     |                                                                                                                                                                                                                                                                                                                                                  |
| 21               | <p><b>Flood Assessment</b></p> <p>PRC plan section 3.5.2 Flooding</p> <p>Appendix H: Engeny PRCP Flood Assessment.</p> | <p><b>Data Discrepancy</b></p> <p>Section 1.3.2 of the Appendix H shows a NUMA summary considered for flood modelling. The catchment and surface area shown in Table 1.1 of the Appendix H differs to EA Appendix 4: Approved Residual void surface area as shown in below table.</p> <table><tr><th rowspan="2">Pit Name</th><th colspan="2">EA Appendix 4:<br/>Approved Residual Voids(Ha)</th><th colspan="2">Appendix H:<br/>Table 1.1 NUMA Summary (Ha)</th></tr><tr><th>Total NUMA Area</th><th>Void water body surface area</th><th>Catchment Area</th><th>Surface Area</th></tr><tr><td>Eagles Nest</td><td>187.3</td><td>92</td><td>356</td><td>283</td></tr><tr><td>Fox Plains</td><td>185.5</td><td>101.9</td><td>631</td><td>276</td></tr></table> | Pit Name       | EA Appendix 4:<br>Approved Residual Voids(Ha) |  | Appendix H:<br>Table 1.1 NUMA Summary (Ha) |  | Total NUMA Area | Void water body surface area | Catchment Area | Surface Area | Eagles Nest | 187.3 | 92 | 356 | 283 | Fox Plains | 185.5 | 101.9 | 631 | 276 | <p><b>21.1</b> Provide updated PRC plan/Appendix H that includes:</p> <p>a. Clarification why the catchment and surface area in Table 1.1 of the Appendix H differs to the EA Appendix 4: Approved Residual void surface area.</p> <p>b. If required update the flood modelling according to residual void area stated in the EA Appendix 4.</p> |
| Pit Name         | EA Appendix 4:<br>Approved Residual Voids(Ha)                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                | Appendix H:<br>Table 1.1 NUMA Summary (Ha)    |  |                                            |  |                 |                              |                |              |             |       |    |     |     |            |       |       |     |     |                                                                                                                                                                                                                                                                                                                                                  |
|                  | Total NUMA Area                                                                                                        | Void water body surface area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Catchment Area | Surface Area                                  |  |                                            |  |                 |                              |                |              |             |       |    |     |     |            |       |       |     |     |                                                                                                                                                                                                                                                                                                                                                  |
| Eagles Nest      | 187.3                                                                                                                  | 92                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 356            | 283                                           |  |                                            |  |                 |                              |                |              |             |       |    |     |     |            |       |       |     |     |                                                                                                                                                                                                                                                                                                                                                  |
| Fox Plains       | 185.5                                                                                                                  | 101.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 631            | 276                                           |  |                                            |  |                 |                              |                |              |             |       |    |     |     |            |       |       |     |     |                                                                                                                                                                                                                                                                                                                                                  |

|               |                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                           |      |      |     |     |              |      |      |     |    |        |      |      |     |     |           |      |      |     |    |       |      |      |     |    |  |
|---------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------|------|-----|-----|--------------|------|------|-----|----|--------|------|------|-----|-----|-----------|------|------|-----|----|-------|------|------|-----|----|--|
|               |                                                                          | <table><tr><td>One Tree West</td><td>93.8</td><td>48.9</td><td>230</td><td>142</td></tr><tr><td>Pipeline Pit</td><td>89.3</td><td>37.8</td><td>170</td><td>89</td></tr><tr><td>WC Pit</td><td>74.6</td><td>20.9</td><td>136</td><td>105</td></tr><tr><td>Far South</td><td>54.0</td><td>21.2</td><td>124</td><td>67</td></tr><tr><td>Carlo</td><td>45.8</td><td>23.1</td><td>167</td><td>51</td></tr></table> <p>It is not clear if the discrepancy is a typo error or has a rational behind it. Clarification required as the change in NUMA area may impact the flood modelling outcomes.</p>                                                                                                                                                                                                                       | One Tree West                                                                                                                             | 93.8 | 48.9 | 230 | 142 | Pipeline Pit | 89.3 | 37.8 | 170 | 89 | WC Pit | 74.6 | 20.9 | 136 | 105 | Far South | 54.0 | 21.2 | 124 | 67 | Carlo | 45.8 | 23.1 | 167 | 51 |  |
| One Tree West | 93.8                                                                     | 48.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 230                                                                                                                                       | 142  |      |     |     |              |      |      |     |    |        |      |      |     |     |           |      |      |     |    |       |      |      |     |    |  |
| Pipeline Pit  | 89.3                                                                     | 37.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 170                                                                                                                                       | 89   |      |     |     |              |      |      |     |    |        |      |      |     |     |           |      |      |     |    |       |      |      |     |    |  |
| WC Pit        | 74.6                                                                     | 20.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 136                                                                                                                                       | 105  |      |     |     |              |      |      |     |    |        |      |      |     |     |           |      |      |     |    |       |      |      |     |    |  |
| Far South     | 54.0                                                                     | 21.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 124                                                                                                                                       | 67   |      |     |     |              |      |      |     |    |        |      |      |     |     |           |      |      |     |    |       |      |      |     |    |  |
| Carlo         | 45.8                                                                     | 23.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 167                                                                                                                                       | 51   |      |     |     |              |      |      |     |    |        |      |      |     |     |           |      |      |     |    |       |      |      |     |    |  |
| 22            | <b>Flood Assessment</b><br><br>Appendix H: Engeny PRCP Flood Assessment. | <b>Stream Gauging Data</b><br><br>Section 3.3.2 of the Appendix H states, ' <i>All the stream gauging station rating tables do not extrapolate high enough to provide flow estimates for the January 2013 event.</i> ' In this case following is not clear – <ul style="list-style-type: none"><li>• If the absence of ability to extrapolate high enough flow data affects the reliability of the model output.</li><li>• Can other “minor” rainfall events be used to demonstrate the predictive reliability of the model. For example, can less intense rainfall and baseflow be used in the calibration process?</li><li>• Can this predicted flow be statistically compared with measured data as a means of supporting the model outcomes such as those presented in Figure 3.4: Calibration Results.</li></ul> | <b>22.1</b> Provide updated PRC plan/Appendix H that includes:<br><br>a. Flood assessment outcomes despite limitations of the input data. |      |      |     |     |              |      |      |     |    |        |      |      |     |     |           |      |      |     |    |       |      |      |     |    |  |

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|           |                                                                          | The above information regarding reliability of the flood modelling is critical to the long-term management of voids in the flood plain and the stability of final landforms in flood prone areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                              |
| <b>23</b> | <b>Flood Assessment</b><br><br>Appendix H: Engeny PRCP Flood Assessment. | <p><b>Diversions</b></p> <p>Section 5.3.2 of the Appendix H states that, '<i>stability assessment of the Cockatoo, Carlo and Roper Creek diversion are proposed prior to mine closure.</i>'</p> <p>The Appendix H or the PRC plan section 3.5.2 does not address flooding that may occur in the event of a diversion failure.</p> <p>Understanding the impact of flooding in the event of diversion failure is required to understand long term site and landform stability specially the rehabilitated TSF area considering its proximity to the creek.</p>                                                                                                                                                                                                                                                                                                                          | <p><b>23.1</b> Provide updated PRC plan/Appendix H that includes:</p> <p>a. Information or additional modelling demonstrating final landforms such as TSF will be stable and non-polluting if permanent diversions fail.</p> |
| <b>24</b> | <b>Flood Assessment</b>                                                  | <p><b>Flood flow velocity modelling</b></p> <p>Section 6 of the Appendix H states that flood flow velocity modelling indicates rates of &gt;3.5 m/s for 0.1% AEP and PMF. Erosion potential at these velocities (with vegetation cover) are considered possible, but the magnitude of erosion and its impact on final landform stability and maintenance needs more detailed information.</p> <p>Flow rates of &gt;3 m/s have the potential to erode particularly when flowing water is in contact with erodible soil materials. It is noted that PRC plan section 3.5.4 and Appendix K states the soil quality as dispersive, hence prone for erosion. It is also noted that proposed PMLU for the site predominantly is cattle grazing, and the section 6 of the Appendix H suggests overall risk of erosion from flooding in absence of long-term well-established vegetation.</p> | <p><b>24.1</b> Provide updated PRC plan/Appendix H that:</p> <p>a. Demonstrates the final landform stability under extreme rainfall events and considering the relevant PMLU/Native Ecosystem.</p>                           |

|                            |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                            |                                                                            | This information is required to understand long-term stability of the final landform in extreme conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Water Management</b>    |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>25</b>                  | <b>Water management</b><br><br>PRC Plan section 3.5.7                      | <p><b>Water Diversions</b></p> <p>The PRC plan section 3.5.7 provides information on water management including diversions. Page 120 the PRC plan states that, '<i>Management of the Cockatoo Creek diversion will incorporate <u>subsoil</u> amelioration with gypsum</i>'. It is not clear if the section means to refer to subsoil or topsoil.</p> <p>The addition of gypsum suggest dispersive soil material which is supported by the findings in <b>Appendix K</b>: Geochemical Characterisation of Waste Assessment in regards to soil characteristics. As the addition of gypsum is a temporary solution, its application to soil that is used to construct permanent diversions raises a question on the long-term stability of the diversion.</p> <p>It is noted that the PRC plan does not identify the soil types used in constructing the diversions. The <b>Appendix R</b>: EIS statement assessment report (page 1252 of the PRCP) states, '<i>there are ongoing issues at the existing operation related to the highly erodible nature of the on-site materials used in existing flood and surface water diversion levees and cracking zones at the top of pit walls.</i>'</p> <p>Information on soil materials used in constructing the permanent diversions is required to understand long term erodibility and diversion stability.</p> | <p><b>25.1</b> Provide updated PRC plan that includes:</p> <ul style="list-style-type: none"> <li>a. Clarification on use of gypsum for soil that is used in the construction of diversion and the role it plays in the long-term stability of the diversion.</li> <li>b. Mitigative measures/alternative resources considered for diversion construction that can enhance the long-term stability of the diversion.</li> <li>c. Details on construction materials used in permanent diversions and how the construction material supports the long-term stability of the diversion post closure.</li> </ul> |
| <b>Landform assessment</b> |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>26</b>                  | <b>Landform assessment</b><br>Appendix J: Engeny PRCP Landform Assessment. | <p><b>Landform configuration and rehabilitation requirements:</b></p> <p>It appears from section 1.3 of the Appendix J that the report only address landform assessment for Waste Rock Dump (WRD) area.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p><b>26.1</b> Provide updated PRC plan and Appendix J that includes –</p> <ul style="list-style-type: none"> <li>a. A landform assessment considering –</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|  | <p>As the landform assessment is carried out in isolation to WRD slopes, it is not clear how other synergies of the landform aspect taken into consideration such as a mixed PMLU or native ecosystem, the flood prone landform and void catchment areas.</p> <p>The Appendix H: Flood assessment report in its Landform flood interaction section (section 5.3.1) states that maps of flood event and the PMF to assess the risk of landform erosion are presented in Appendix B: Flood velocity mapping. The section also states key locations of interest likely to be final rehabilitated Pipeline Pit and WC pit spoil with notable ponding where high velocities are predicted to occur.</p> <p>Further section 3.3 of the Appendix J states, <i>'the soil parameters represented in the Water Erosion Prediction Project (WEPP) model for the site landform, is based on the soil depth of 300mm which is greater than actual proposed topsoil depth which is 150mm. Achieving target erosion rates for 300mm thicker layer add conservancy to the model results.'</i></p> <p>It is not clear if the proposed target erosion rates of less than 30 rills/gullies and less than 0.3m deep in the schedule are based on 300mm topsoil application rate or 150mm topsoil application rate.</p> <p>Section 5.3.3 of the Appendix J provide information on concave slopes and in section 5.3.2 suggests relationship between increased rock cover and reduced erosion but does not elaborate on rate of rock mulch application for specific slope gradients and any other additional surface treatment options where topsoil application rate is 150m.</p> <p>The above information is important to determine SMART rehabilitation milestone criteria for Surface preparation.</p> | <ul style="list-style-type: none"> <li>• final landform including all disturbed domains and associated PMLU.</li> <li>• areas susceptible to flood waters and ponding in accordance with Appendix B: Flood velocity mapping of Appendix H: Flood assessment report.</li> </ul> <p>b. Clarification on the relevancy of the proposed target erosion rates with respect to 150mm topsoil application rate.</p> <p>c. Information on recommended rate of rock mulch application for specific slope gradients considering final landforms at Foxleigh site; and</p> <p>d. Other additional surface treatments for reducing erosion and supporting growth of vegetation where topsoil application rate will be 150mm.</p> |
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| 27 | <b>Landform assessment</b><br>Appendix J: Engeny PRCP Landform Assessment. | <b>Risk of rill/gully erosion:</b><br><p>It appears that Appendix J landform assessment modelling for slopes has not considered the underlying spoil characteristics and have only considered slope length, and soil conditions encountered during and after establishment (Refer section 6: Conclusions of the Appendix J).</p> <p>The underlying spoil materials are expected to be sodic and thus carry a high risk of major erosion if exposed and subjected to concentrated surface water flows.</p> <p>Insufficient information has been provided to demonstrate that the landform design has considered and addressed the risk of increased erosion at areas where the landform causes flow to concentrate as shown in Figure 5.4 of Appendix J and Figure 3-31 of PRC plan (page 108 of PRCP).</p> <p>The erosion modelling undertaken did not consider concentrated flows, and as a result the findings would be invalid on areas of the landforms that concentrate flow by design. This information is required to demonstrate the final landform is stable.</p> | <b>27.1</b> Provide updated PRC plan and Appendix J that includes – <ul style="list-style-type: none"> <li>a. A proposed landforms that does not concentrate flow in a way that would render the erosion predictions invalid, and</li> <li>b. A proposed landform that does not result in rill/gully incision into dispersive spoil materials.</li> </ul> |
| 28 | <b>Landform assessment</b><br>Appendix J: Engeny PRCP Landform Assessment. | <b>Erosion assessment</b><br><p>Section 5.4 of the Appendix J includes the recommendation to undertake further characterisation and testing of materials to derive more reliable erosion predictions, noting that “<i>Modelling inputs have been derived from existing Fox reports, which have diverse sources. A tailored site-specific sampling program could provide experimentally derived results, using actual site materials where an erosional stress is applied by way of flumes and simulated rainfall.</i>”</p> <p>Erosion predictions should be based on site-specific data to provide sufficient confidence that the proposed landform designs can support the proposed PMLU and will be stable and non-polluting.</p>                                                                                                                                                                                                                                                                                                                                        | <b>28.1</b> Provide updated PRC plan and Appendix J that includes – <ul style="list-style-type: none"> <li>a. Updated erosion assessment based on measured, site-specific erodibility rates.</li> </ul>                                                                                                                                                   |

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| <b>29</b> | <b>Landform assessment</b><br>Appendix J: Engeny PRCP Landform Assessment. | <p><b>Landform Topsoil</b></p> <p>Section 3.3 of the Appendix J states that soil mapping in 2011 found the site was dominated (43%) by brown/yellow sodosols and other smaller areas of different coloured duplex soils and cracking clay vertosols. The three materials considered in WEPP modelling were sodosols, vertosols, and chromosols. Physical properties of the vertosols and sodosols indicate these soils are erosion prone.</p> <p>It is unlikely that WEPP modelling would have considered the dispersive properties of each soil type and cracking behaviour of vertosols.</p> <p>Exclusion of these properties may under-estimate actual soil erosion rates and may not provide reliable final landform stability predictions.</p> | <p><b>29.1</b> Provide updated PRC plan and Appendix J that includes –</p> <p>a. Revised WEPP modelling to include potential increased erosion where vertosols and sodosols have been used.</p> |
| <b>30</b> | <b>Landform assessment</b><br>Appendix J: Engeny PRCP Landform Assessment. | <p><b>Slope stability</b></p> <p>Section 4.1 of the Appendix J includes a Table 4.1: WEPP annual average mean soil loss rate outputs (T/ha/Yr) for 0% vegetation cover. The Table 4.1 shows that bare soil conditions and ground cover &lt;30% resulted in unacceptably high soil loss. Target rate of 5 t/ha/y was only achieved with &gt;60% ground cover. More information is required detailing the way bare slopes be managed prior to 60% vegetation cover establishment.</p> <p>This information is required to demonstrate final landform stability.</p>                                                                                                                                                                                    | <p><b>30.1</b> Provide updated PRC plan and Appendix J that includes –</p> <p>a. Management strategies to minimise erosion prior to 60% vegetation cover being established and sustained.</p>   |
| <b>31</b> | <b>Landform assessment</b><br>Appendix J: Engeny PRCP Landform Assessment. | <p><b>Established Vegetation</b></p> <p>Section 5.2 of the Appendix J states that under bare to low surface cover conditions (expected for the initial few years prior to vegetation establishment), permanent riling may occur with the landform concentrating flows despite future increased vegetation cover (60%).</p>                                                                                                                                                                                                                                                                                                                                                                                                                          | <p><b>31.1</b> Provide updated PRC plan and Appendix J that includes –</p> <p>a. Additional erosion modelling that incorporates riling and its impact on soil loss; or</p>                      |

|                     |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                     |                                                                                                              | <p>Considering WEPP has not been designed to address the changing vegetation cover, more information is needed if another modelling method such as SIBERIA has been considered for landform assessment.</p> <p>The above information is important as the landform stability issue could be crucial for site given the large area susceptible to erosion such as mine dump area of 4315ha (RA1).</p>                                                                                                                                                                                                                                                                                                                                                                                                               | <p>b. Management strategies to address the likelihood of permanent riling occurring.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Cover design</b> |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>32</b>           | <p><b>Cover design</b></p> <p>PRC plan section 3.5.6 and</p> <p>Appendix L: Cover Designs for CHPP Waste</p> | <p>Section 3.5.6 of the PRC plan provides a conceptual cover system, but no testing or validation of this design is presented.</p> <p>Information on key soil physical (PSA, pb, SMC, K, dispersion index, etc) or chemical (pH, EC, ESP etc) characteristics have not been provided in support of the cover materials selection and performance to satisfy the cover objectives.</p> <p>The Appendix L or section 3.5.6 is not detailed enough and must be supported by following –</p> <ul style="list-style-type: none"> <li>• SMART completion criteria (e.g., in-situ Ksat, in-situ pb, SMC, allowable drainage through cover base, etc)</li> <li>• in-field cover trials and/or</li> <li>• modelling.</li> </ul> <p>This information is required to assess if the final landform will be non-polluting.</p> | <p><b>32.1</b> Provide updated PRC plan and Appendix L that includes –</p> <p>a. Description of the proposed cover system design based on physio-chemical characteristics of the proposed cover material.</p> <p>b. How the selected cover material characteristics helps to achieve the cover system's performance objectives as stated below:</p> <ul style="list-style-type: none"> <li>• to minimise recharge of tailings moisture from deep infiltration of rainfall.</li> <li>• to avoid upward movement of leachate from tailings into the vegetation rooting zone; and</li> </ul> |

|                                           |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>to accommodate long-term consolidation settlement in the tailings, such that the first two objectives and surface erosional stability are not compromised. (Refer page 109 of the PRC plan)</li> </ul> |  |  |  |                        |       |          |        |               |                                 |                                                              |                                                                                                |                    |                          |                            |                                  |                |        |        |         |               |        |        |         |                                                                                                                                                                                                                                                                                          |
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| <b>Monitoring and Maintenance</b>         |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                               |  |  |  |                        |       |          |        |               |                                 |                                                              |                                                                                                |                    |                          |                            |                                  |                |        |        |         |               |        |        |         |                                                                                                                                                                                                                                                                                          |
| <b>33</b>                                 | <b>Monitoring and Maintenance</b><br><br>PRC Plan section 3.7 | <b>Landform and Erosion:</b><br><br>Section 3.7.2 states that, ' <i>field-based erosion monitoring should take place annually and erosion severity be ranked using criteria displayed in Table 3-72: Field Erosion Monitoring Criteria.</i> '<br><br>The PRCP schedule proposes a criteria for erosion control based on Table 3-72 as follows –<br><br>' <i>No erosion classification of 'Severe' or 'Extreme' (&gt;30 rills/gullies with average depth of &gt;0.3m) present on site</i> '.<br><br>The technical basis for Table 3-72 are not clear and does not justify adoption of above-mentioned milestone criteria allowing moderate erosion when compared to the 'Erosion Classification Framework' published by the Australian Soil and Land Survey Field handbook. (Refer image below) <div> <table> <tr> <th colspan="4">Table 1. Erosion classification framework</th></tr> <tr> <th>Erosion classification</th><th>Minor</th><th>Moderate</th><th>Severe</th></tr> <tr> <td>Sheet erosion</td><td>Shallow soil deposits downslope</td><td>Partial exposure of roots; moderate soil deposits downslope.</td><td>Loss of surface horizon; subsoil exposure; root exposure; substantial soil deposits downslope.</td></tr> <tr> <td>Rill/gully erosion</td><td>&lt;15 rills and &lt;0.3m deep</td><td>15-30 rills and &lt;0.3m deep</td><td>&gt;30 rills and/or any &gt;0.3m deep.</td></tr> <tr> <td>Tunnel erosion</td><td>Absent</td><td>Absent</td><td>Present</td></tr> <tr> <td>Mass movement</td><td>Absent</td><td>Absent</td><td>Present</td></tr> </table> <p>Source: NCST (2009) Australian Soil and Land Survey Field Handbook, 3rd edition. The National Committee on Soil and Terrain. CSIRO Publishing, Collingwood, Australia.</p> </div> | Table 1. Erosion classification framework                                                                                                                                                                                                     |  |  |  | Erosion classification | Minor | Moderate | Severe | Sheet erosion | Shallow soil deposits downslope | Partial exposure of roots; moderate soil deposits downslope. | Loss of surface horizon; subsoil exposure; root exposure; substantial soil deposits downslope. | Rill/gully erosion | <15 rills and <0.3m deep | 15-30 rills and <0.3m deep | >30 rills and/or any >0.3m deep. | Tunnel erosion | Absent | Absent | Present | Mass movement | Absent | Absent | Present | <b>33.1</b> Provide an updated Rehabilitation Planning Part that includes: <ol style="list-style-type: none"> <li>Field based erosion monitoring data if available</li> <li>Justification how the proposed criteria for erosion control likely to meet the safe, stable PMLU.</li> </ol> |
| Table 1. Erosion classification framework |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                               |  |  |  |                        |       |          |        |               |                                 |                                                              |                                                                                                |                    |                          |                            |                                  |                |        |        |         |               |        |        |         |                                                                                                                                                                                                                                                                                          |
| Erosion classification                    | Minor                                                         | Moderate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Severe                                                                                                                                                                                                                                        |  |  |  |                        |       |          |        |               |                                 |                                                              |                                                                                                |                    |                          |                            |                                  |                |        |        |         |               |        |        |         |                                                                                                                                                                                                                                                                                          |
| Sheet erosion                             | Shallow soil deposits downslope                               | Partial exposure of roots; moderate soil deposits downslope.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Loss of surface horizon; subsoil exposure; root exposure; substantial soil deposits downslope.                                                                                                                                                |  |  |  |                        |       |          |        |               |                                 |                                                              |                                                                                                |                    |                          |                            |                                  |                |        |        |         |               |        |        |         |                                                                                                                                                                                                                                                                                          |
| Rill/gully erosion                        | <15 rills and <0.3m deep                                      | 15-30 rills and <0.3m deep                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | >30 rills and/or any >0.3m deep.                                                                                                                                                                                                              |  |  |  |                        |       |          |        |               |                                 |                                                              |                                                                                                |                    |                          |                            |                                  |                |        |        |         |               |        |        |         |                                                                                                                                                                                                                                                                                          |
| Tunnel erosion                            | Absent                                                        | Absent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Present                                                                                                                                                                                                                                       |  |  |  |                        |       |          |        |               |                                 |                                                              |                                                                                                |                    |                          |                            |                                  |                |        |        |         |               |        |        |         |                                                                                                                                                                                                                                                                                          |
| Mass movement                             | Absent                                                        | Absent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Present                                                                                                                                                                                                                                       |  |  |  |                        |       |          |        |               |                                 |                                                              |                                                                                                |                    |                          |                            |                                  |                |        |        |         |               |        |        |         |                                                                                                                                                                                                                                                                                          |

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|           |                                                               | The Department recommend adopting a 'Minor' erosion classification as shown in the above table for proposed PMLU to achieve safe, stable state.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>34</b> | <b>Monitoring and Maintenance</b><br><br>PRC Plan section 3.7 | <p><b>Receiving Environment Monitoring (Surface water):</b></p> <p>On Page 190, it is stated that the receiving environments monitoring will be undertaken in accordance with Receiving Environment Monitoring Program Document (REMP) adhering to the EA surface water monitoring requirements.</p> <p>The EA surface water monitoring requirements are for the operational phase of mine and not for rehabilitation and closure phase. The surface water monitoring and reporting for the PRCP should be done to ensure that the final landform is stable and non-polluting into perpetuity, not to ensure compliance with the EA.</p> <p><b>Groundwater Monitoring:</b></p> <p>Section 3.7.5 states that groundwater monitoring will be continued in accordance with Schedule E in the EA pending defined trigger limits.</p> <p>The groundwater monitoring and reporting should be done to ensure that the final landform is stable and non-polluting into perpetuity. The reporting requirements in Schedule E of the EA are for the operational phase of the mine and not rehabilitation and closure.</p> <p>The current EA groundwater monitoring network is not considered adequate for post closure phase.</p> <p>Monitoring locations, monitoring frequency, quality characteristics and limits appropriate for rehabilitation and closure need to be defined and included in the PRCP schedule.</p> | <p><b>34.1</b> Provide an updated Rehabilitation Planning Part that includes:</p> <ol style="list-style-type: none"> <li>Surface water and groundwater monitoring and reporting that is appropriate for rehabilitation and closure.</li> <li>Rehabilitation and closure surface water and groundwater monitoring locations, monitoring frequency, quality characteristics and limits that are fit for purpose.</li> </ol> <p>Please note –</p> <ul style="list-style-type: none"> <li>monitoring locations should be based on sources and pathways of potential contamination.</li> <li>Quality characteristics should be based on CoC.</li> <li>Limits should be fit for purpose (closure not operation), site-specific and based on Water Quality Objectives, guidelines, and background data.</li> </ul> |
| <b>35</b> | <b>Monitoring and Maintenance</b><br><br>PRC Plan section 3.7 | <p><b>Grazing and Native Ecosystem PMLU monitoring:</b></p> <p>Section 3.7.2 outlines a monitoring schedule and rehabilitation parameters for grazing PMLU. The section does not provide a benchmark against identified</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p><b>35.1</b> Provide an updated Rehabilitation Planning Part that includes:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                      |                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                         |
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|                      |                                                                               | <p>rehabilitation parameters to determine safe, stable, non-polluting, and self-sustaining nature of grazing PMLU. Example of benchmark* could be defining grass species richness by identifying the seed mix and application rate, annual grass yield, crown cover etc.</p> <p>Section 3.7.4 states a monitoring schedule and rehabilitation parameters for Native ecosystem (<i>Table 3-80 Native Ecosystem Corridor PMLU Monitoring Schedule and measured rehabilitation parameters</i>). Although the title reflects Native ecosystem, Table 3-80 does not include parameters for measuring the native tree, shrub species richness, recruitment rate etc.</p> <p>It is recommended that for Native Ecosystem PMLU a BioCondition framework* should be adopted for monitoring benchmark and technique.</p> | <p>a. Benchmarks to monitor achievement of cattle grazing and Native Ecosystem PMLU</p>                                                                                                                                 |
| <b>PRCP schedule</b> |                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                         |
| <b>36</b>            | <p><b>Rehabilitation Area</b></p> <p><b>Existing rehabilitation areas</b></p> | <p>Spatial data shows that existing rehabilitation is included in Mining and Mine Dump Areas (RA1).</p> <p>It is recommended to separate the existing rehabilitation area from RA1 and be captured under a dedicated 'Rehabilitation Area' (RA), as it may not require application of all identified rehabilitation milestones.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p><b>36.1</b> Update PRCP schedule –</p> <p>a. To add new RA for existing rehabilitation.</p> <p>b. Update maps and spatial data accordingly.</p>                                                                      |
| <b>37</b>            | <p><b>Rehabilitation Area</b></p> <p><b>Infrastructure to be retained</b></p> | <p>In accordance with request item 36 above, it is recommended to provide a separate rehabilitation area (RA) for 'Infrastructure to be retained'.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p><b>37.1</b> Update PRCP schedule –</p> <p>a. To add new RA for infrastructure to be retained.</p> <p>b. Develop a separate rehabilitation milestone (RM) for</p> <p>c. Update maps and spatial data accordingly.</p> |

| Rehabilitation Milestone |                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 38                       | New RM                                                             | <p><b>Retained infrastructure.</b></p> <p>The PRCP schedule does not provide any rehabilitation milestone suitable for retained infrastructure and explaining the steps that are required to ensure safe, stable stage achieved for retained infrastructure.</p>                                                                                                                                                   | <p><b>38.1</b> Provide a dedicated rehabilitation milestone criteria suitable for retained infrastructure.</p>                                                                                                                                                                                                                                                                                                                                        |
| 39                       | Rehabilitation Milestone - RM4<br>Installing cover systems/Capping | <p>The proposed criteria in the schedule does not –</p> <ul style="list-style-type: none"> <li>• Define the success of cover system;</li> <li>• A benchmark/standard against which the performance of the installed cover system to be verified.</li> <li>• A corrective measure in case where a defined benchmark/standard has not been achieved.</li> <li>• Specify the erosion management practices.</li> </ul> | <p><b>39.1</b> Provide an updated PRCP Schedule to include SMART criteria regarding –</p> <ol style="list-style-type: none"> <li>a. Success of cover system.</li> <li>b. Key steps to achieve a successful cover system installation.</li> <li>c. Benchmark to measure the performance of cover system.</li> <li>d. A corrective measure to ensure cover system meets the benchmark.</li> <li>e. Specify the erosion management practices.</li> </ol> |
| 40                       | Rehabilitation Milestone – RM6, RM7, and RM8 Surface Preparation   | <p>The relevant criteria in the schedule does not specify –</p> <ul style="list-style-type: none"> <li>• Topsoil suitability criteria</li> <li>• The target nutrient levels that topsoil needs to achieve to support the designated PMLU long-term.</li> <li>• The required quantity of fertiliser/ameliorants/growth media application to achieve the target topsoil nutrient level.</li> </ul>                   | <p><b>40.1</b> Provide an updated PRCP schedule to include SMART criteria regarding -</p> <ol style="list-style-type: none"> <li>a. Topsoil suitability.</li> <li>b. The target topsoil nutrient levels and how it will be achieved.</li> <li>c. Indicator parameters for soil monitoring.</li> <li>d. Targeted land suitability class</li> </ol>                                                                                                     |

|           |                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                     |
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| <b>41</b> | <b>Rehabilitation Milestone – RM9, RM10, and RM11 Revegetation</b>                              | The criteria do not specify the target grazing/native ecosystem species mix and the seed application rates.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>41.1</b> Provide an updated PRCP Schedule to include SMART criteria regarding –<br>a. The seed mix for the proposed PMLUs<br>b. Native tree/shrub seed or tube stock plantation                                                                                                                                                                                  |
| <b>42</b> | <b>Rehabilitation Milestone – RM12, RM13, and RM14 Achievement of Surface requirements</b>      | The provided criteria do not meet the SMART principle due to following –<br><ul style="list-style-type: none"><li>Criteria refers to reference sites in the Middlemount area and/or land suitability class 4 without providing a description of the current condition, or exact location which makes the criterion not measurable.</li><li>The absence of a specific weed criteria.</li><li>The PRC plan section 5.3.2 refers to further assessment of permanent diversions against the ACARP stability criteria which is not reflected in the schedule.</li></ul>                                                                                                                                         | <b>42.1</b> Provide an updated PRCP Schedule to include SMART criteria regarding –<br>a. Location details for reference site and specific criteria of these sites.<br>b. Include revised weed criteria to ensure it is measurable.<br>c. Include a criterion to assess stability of the permanent diversions.                                                       |
| <b>43</b> | <b>Rehabilitation Milestone – RM15, RM16, and RM17 Achievement of stable condition for PMLU</b> | The provided criteria do not meet the SMART principle due to following –<br><ul style="list-style-type: none"><li>Criteria for erosion classification refers to establishing analogous sites without providing a description of the current condition, or exact location .</li><li>For water quality assessment proposed criteria refers water quality monitoring only for runoff from rehabilitated spoil area, the non-polluting nature for the entire PMLU can not be determined by water quality assessment targeted for a specific area.</li><li>Does not provide monitoring locations/frequency and benchmark/standard for water quality assessment.</li><li>No criteria for soil testing.</li></ul> | <b>43.1</b> Provide an updated PRCP Schedule to include SMART criteria regarding –<br>a. Erosion classification and associated benchmark<br>b. Surface water quality monitoring locations, frequency, and quality parameters<br>c. Benchmark against which the surface water quality will be measured.<br>d. Soil testing criteria to support self-sustaining PMLU. |

|           |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| <b>44</b> | <b>Improvement Area Milestone – MM1 Achievement of structural stability</b>      | <p>The provided criteria do not meet the SMART principle due to following –</p> <ul style="list-style-type: none"> <li>Does not specify slope geometry for each residual void.</li> <li>Does not specify the factor of safety for each void.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p><b>44.1</b> Provide an updated PRCP Schedule to include SMART criteria regarding –</p> <ol style="list-style-type: none"> <li>Slope geometry for each residual void</li> <li>Factor of safety for each void</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>45</b> | <b>Improvement Area Milestone – MM2 landform design and surface requirements</b> | <p>The provided criteria do not meet the SMART principle due to following –</p> <ul style="list-style-type: none"> <li>Absence of final void surface area specification,</li> <li>Absence of pit lake water stabilisation level</li> <li>Absence of criteria to determine stability of the void floor slopes and walls as specified in the EA appendix 2.</li> <li>No specification of steps required to establish an appropriate drainage system (EA appendix 2) and criteria to determine its effectiveness.</li> <li>The EA Appendix 2 states that all residual voids to be protected by permanently rehabilitated stable flood protection landforms. The provided criteria refers to abandonment safety bund and a safety bund, but it is not clear if they are mean to qualify as flood protection landform.</li> <li>The criteria for abandonment safety bund rehabilitation does not specify the steps to be followed to achieve the self-sustaining rehabilitation such as application of topsoil, growth media application etc. Further vegetation species and seeding rates have not been included.</li> </ul> | <p><b>45.1</b> Provide an updated PRCP Schedule to include SMART criteria regarding –</p> <ol style="list-style-type: none"> <li>Final void surface area specification</li> <li>Pit lake water stabilisation level for each void</li> <li>Criteria to assess stability of the final voids floor slopes and walls.</li> <li>Specification to establish an appropriate drainage system and criteria to determine success.</li> <li>Landform design specification for permanent flood protection landforms providing protection for 0.1%AEP.</li> <li>Abandonment safety bund rehabilitation steps</li> </ol> |
| <b>46</b> | <b>Improvement Area Milestone – MM3 Achievement of sufficient improvement</b>    | <p>The provided criteria does not meet the SMART principle due to following –</p> <ul style="list-style-type: none"> <li>No defined groundwater monitoring network suitable to post-closure monitoring requirements,</li> <li>defined frequency of monitoring; and</li> <li>groundwater quality criteria.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>46.1</b> Provide an updated PRCP Schedule to include SMART criteria regarding –</p> <ol style="list-style-type: none"> <li>Groundwater monitoring locations</li> <li>Groundwater monitoring frequency and parameters</li> <li>Groundwater quality criteria</li> </ol>                                                                                                                                                                                                                                                                                                                                |

\*BioCondition Matrix – [https://www.qld.gov.au/data/assets/pdf\\_file/0029/68726/biocondition-assessment-manual.pdf](https://www.qld.gov.au/data/assets/pdf_file/0029/68726/biocondition-assessment-manual.pdf)

Following could be considered while developing the rehabilitation milestone criteria based on BioCondition Framework –

- A. Identification of four condition classes for the reference sites, and the rehabilitated areas, based on BioCondition scores. For example, condition classes could be 1 = >90, 2 = >60-90, 3 = >30-60, 4 = 0-30, based on BioCondition scores.
- B. A clear description of how the BioCondition score will be used to monitor the progression of the rehabilitation - for example for the combined monitoring sites over time, will the average score, average of condition class or frequency of condition classes be the metric of success? One approach could be 0-1 years post rehabilitation, average BioCondition score target for all monitoring sites is class 4, for >1-5 years post rehabilitation class 3, for >5-10 years post rehabilitation class 2 and for 15 + years post rehabilitation class 1.
- C. There is no information on the stratification of the sampling, the number of sites or a clear time frame for monitoring.
- D. Further to the monitoring, Tree and Shrub diversity monitoring in 1 x 1 m<sup>2</sup> quadrats is not appropriate, hence the recommendation to use BioCondition. For example, RM10 Milestone Criteria, “tree and shrub species show evidence of flowering, viable seed setting, germination and emergence” is largely qualitative, and not something measured in a 1 x 1 m<sup>2</sup> quadrat. A BioCondition attribute recruitment score, part of a more comprehensive BioCondition assessment, is more transparent.

\*Benchmark for Pasture – “Stocktake: Balancing Supply and Demand” developed by FutureBeef.com.au <https://futurebeef.com.au/stocktake-balancing-supply-demand/>

# Notice

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