

# Attachment A

## Further Information Request – Expansion of Redbank Copper Operations February 2010

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The following issues are being raised because they are environmentally relevant and have not been adequately addressed in the *Supplement*, as requested in the comments provided on the draft Environmental Impact Statement (EIS). Information on these environmental issues is necessary to facilitate examination required under the *Environmental Assessment (EA) Act*. The Mining Management Plan (MMP) is presented after finalisation of the environmental assessment process, so commitment to submit such information on these issues in a MMP will generally not be considered a suitable response unless a copy of those plans is provided during the assessment process itself. The Assessment process is suspended until the proponent submits the information requested and it is deemed adequate for assessment to occur.

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### Groundwater

- 1) Redbank state that a revised version of the Water Management Plan will be submitted to Department of Resources at the end of February 2010, and draw down issues associated with increased camp capacity and the commencement of processing ore, including drawdown impacts on the EPBC listed Carpentarian Rock Rat, will be covered at this point in time. This issue was not adequately addressed in the supplement (response to EHA (NRETAS) 31 and DEWHA 20, Environment Centre 01). In the Supplement, Redbank indicate *the pits are to be dewatered and Redbank will locate monitoring bores between the dewatering system and springs to demonstrate that dewatering will not impact on the springs. Various management options were provided should the springs (negligible probability) be impacted upon by the dewatering activities (pg. 78, Supplement)*. The following information is required for the oxide mining and processing of Redbank, Bluff and Azurite deposits:
  - Groundwater geology and aquifer occurrence with descriptions of the main aquifers in the mining area: Present a:
    - Map indicating groundwater production (extraction) and monitoring bores, faults and any paleochannels;
    - Map with groundwater levels for the dry and wet season with groundwater contours.
  - The above information is to be used by Redbank to develop a conceptual hydrogeological model to understand and assess the groundwater regime, groundwater/surface water interactions and risk posed by the off-site migration of contamination from the site with consideration of:
    - Geology and structures (with maps presenting geology in planar view and section view included);
    - site boundary borehole logs showing stratigraphy;
    - details of different water bearing zones (perched, confined and unconfined aquifers) and their characteristics in terms of

- permeability and yield and identify any connectivity between the water bearing zones;
  - detailed description of the location, design and construction of boundary wells,
  - background water quality;
  - directions and rate of groundwater flow;
  - the most recent environmental monitoring bore data (September 2009 onwards for water quality, depth, screen depth, lithology)
  - the results and interpretation of the 2009/10 water treatment and lowering of pit levels in Sandy Flat Pit
- provide a sampling and analysis plan and sampling methodology proposed to validate the model;
- Include a map of predicted groundwater drawdown impacts indicating:
  - Magnitude of groundwater drawdown
  - Impacts on other groundwater users
  - Impacts on surrounding flora and fauna
- Seepage impacts:
  - Indicate the rate of seepage from the tailings storage facility including the site evaporation test results conducted on site to determine if there are other potential points of flow from the TSF (response to EHA (NRETAS) 30, Supplement);
  - Provide an indication of seepage from the overburden facility; and
  - Seepage from Sandy Flat Pit
- Although Redbank may be correct in claiming that there is only a small chance that Muinyin and Bagunganaje Springs will be affected by dewatering during the mining phase (DEWHA 20, p.85), the absence of a conceptual groundwater model weakens this claim. Due to the lack of information on hydrogeology of the area, the proposed placement of a recharge bore between the dewatering system and springs may not be possible due to water quality or quantity issues in the region. Redbank is to provide alternative management options if a drawdown effect is detected. Redbank must also provide information on the gauging and sampling programme proposed for these springs.

## **Protection of Flora and Fauna**

The Australian Government Department of the Environment, Water, Heritage and the Arts (DEWHA) requires the following additional information on EPBC listed species to make an informed decision on whether or not to approve the proposal:

### Offsets

- 1) The proposal will involve the loss of habitat and impacts on remaining habitat on several EPBC listed species and information needs to be provided on the proposed offsets. Offsets are actions proposed by the proponent to compensate for the loss of habitat and impacts as a result of the project. Refer to the below website outlining the Australian Government's position on the use of environmental offsets under the EPBC Act:  
<http://www.environment.gov.au/epbc/publications/draft-environmental-offsets.html>

It should be noted that the Department (DEWHA) requested information on proposed offsets in their letter responding to the draft EIS (11 Dec 2009) which was not addressed in the Supplement. This information is required to progress the

assessment process and that without such the Department (DEWHA) may be forced to stop the clock to seek this information.

#### Carpentarian Rock Rat

- 2) The response to DEWHA 03 and DEWHA 24 in the Supplement has not been adequately addressed and more information is required on possible drawdown effects on the Carpentarian Rock Rat and its habitat. Redbank needs to identify the risk of potential impacts on the Carpentarian Rock Rat and management of those impacts in the event drawdown is found to be impacting its habitat;
- 3) Provide further detail on the groundwater monitoring as part of the Groundwater Management Plan proposed by Redbank in response to DEWHA 24. Information is to include number of monitoring points, location, frequency of monitoring and duration to enable assessment of the adequacy of the monitoring program; and
- 4) Provide a detailed risk analysis of the potential impacts of the oxide operations on the Carpentarian Rock Rat to inform the nature and likelihood of potential risks.

#### Gulf Snapping Turtle

- 5) The Department (DEWHA) has advised that monitoring and management for listed aquatic species must extend beyond management of water quality impacts. If future targeted surveys indicate the presence of the Gulf Snapping Turtle, provide details of ongoing monitoring (eg efficacy of feral pig management) proposed to determine whether other unforeseen impacts are occurring on the species;

#### Freshwater Sawfish

- 6) The Department (DEWHA) agrees with the conclusion that the Freshwater Sawfish is likely to occur downstream however has concerns whether there is sufficient information to determine the extent of the likely impacts of the proposal.

#### Gouldian Finch

- 7) The Department (DEWHA) identified the need for explicit data regarding the actual size of the populations, its use of habitat in the area, and the potential impacts associated with the proposed action. This includes identifying the extent of habitat to be removed for the haul road and any other infrastructure, and the amount of buffer vegetation (including a description of the buffer and its proximity to habitat). As the species is considered to be largely sedentary with some dispersal occurring into nearby areas (during the wet season), the monitoring of potential habitat is required to determine the level of likely impacts from the proposed action. The results of these surveys also needs to be supported with maps.
- 8) Details of the ongoing monitoring of Gouldian Finch populations need to be specified.

### **Acid and Metalliferous Drainage (AMD) Characterisation**

The information presented in the Supplement, section 6.7 on the Acid and Metalliferous Drainage potential of proposed oxide tailings and waste rock is minimal and Redbank state that *most recent samples for ARD/AMD testing, employing a full suite of both static and kinetic methods complimented by minerals leach and mineralogical tests, have been submitted in December 2009 and January 2010. Of these a limited number of tests were returned in time for the preparation of this document.* Only two oxide samples from the Bluff deposit were tested and supplied

in the Supplement to lead to the conclusion they were Non Acid Forming and benign (Fig 2, Supplement). This is insufficient to enable assessment of AMD potential.

- Provide the remaining test results and interpretation for wastes (rock and tailings) that were not available in time for preparation of the Supplement;
- Mine drainage does not have to be acidic to contain environmentally significant concentrations of dissolved metals or salts. The test results of oxide waste rock from the proposed oxide pits are to also indicate the potential and proposed management (if potential exists) for neutral drainage of minerals and salts.
- *Further samples have been submitted for analysis and AMD testing* (pg. 37, Supplement) – these results should be provided to support the expectation that vat leach tailings will be a “relatively benign” material and not contribute to existing contamination in the TSF.

### **Sediment**

- Provide the analyses and interpretation of the results of sediment samples taken to assess existing stream bed soil conditions