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24 March 2017

Clay Preshaw  
A/Director  
Resource Assessments  
NSW Department Planning and Environment  
23-33 Bridge Street  
SYDNEY NSW 2000

Dear Clay,

**RE: Twelfth Annual Report of the Independent Monitoring Panel for the Cowal Gold Project (October 2016)**

In response to your letter dated 17 February 2017, please find below Evolution Mining (Cowal) Pty Limited's (Evolution's) responses to the recommendations made by the Cowal Gold Operations (CGO) Independent Monitoring Panel (IMP) in their *Twelfth Annual Report for the Cowal Gold Project – September 2016* (2016 IMP Report).

**Recommendation 1:** *CGM should establish a research trial to investigate the most efficient method of controlling rye grass allowing for the successful establishment of native plant species by direct seeding, as first recommended in 2015. The trial design should be developed following a literature review on methods of establishing native species by direct seeding in the presence of rye and other exotic grasses.*

Evolution, with assistance from independent revegetation/rehabilitation specialists DnA Environmental and Global Soil Systems, has designed a research trial to investigate the most efficient method of controlling rye grass allowing for the successful establishment of native plant species by direct seeding.

The trial will be established over a hectare on the upper South-Western slopes of the Southern waste rock emplacement and upper North-Eastern slopes of the Northern waste rock emplacement.

The trial will involve two experiments:

- **Experiment 1** will involve immediate application of a native seed mix onto the newly profiled waste rock emplacement surface prior to any germination or establishment of Rye Grass. Experiment 1 will assess the effectiveness of immediate native seed application following the profiling of the waste rock emplacement surface.
- **Experiment 2** will involve application of a native seed mix once a Rye Grass cover and mulch/litter layer has been established. Experiment 2 will assess the effectiveness of cultivation (i.e. deep ripping) of the surface to create bare gaps amongst the Rye Grass for seedling establishment whilst retaining the protective mulch/litter cover.

Evolution has finalised the trial design with DnA Environmental and Global Soil Systems and the trial commenced in mid-March 2017.



Notwithstanding, Evolution will undertake a literature review on the methods of establishing native species via direct seeding in the presence of Rye Grass and other exotic grass species, with assistance from DnA Environmental and Global Soil Systems (as required). The literature review is anticipated to include rehabilitation studies and trials undertaken at other project sites.

Following the completion of this literature review, and if required, the trial design will be augmented in consultation with DnA Environmental and Global Soil Systems. The final design of the trial (including a conceptual view of the trial plots) will be included in the CGO's 2017 Annual Review.

Monitoring of the trial area will be conducted by DnA Environmental in accordance with the CGO's existing rehabilitation monitoring programme methodology. Results of the trial will be reported in DnA Environmental's annual rehabilitation monitoring report and in the CGO's Annual Reviews.

**2016 IMP Recommendation 2:** *CGM should (1) endeavour to establish the Substrate Profile Trial in boxes (described in the 10th Annual IMP Report) giving due consideration to the practicalities of watering in dry seasons and (2) excavate near established native trees and shrubs in the SWRE trials to determine root growth into subsoil materials and document the pH and EC trends in each profile. Results from these experiments should provide CGM with essential data on subsoil properties for future rehabilitation planning.*

(1) Evolution is finalising the design of the waste rock component of the Substrate Profile Trial with DnA Environmental and anticipates commencing the trial in June 2018. As the Southern waste rock emplacement is anticipated to reach its final height in June 2018, the waste rock component of the Substrate Profile Trial would be implemented on an area on the top surface of the emplacement, negating the need to use the trial boxes. The trial will involve the application of a number of cover systems and substrate treatments. Select native tree and shrub species would be planted in the substrate treatments and the trial monitored to assess plant growth, with root system development analysed at the completion of the trial.

(2) Evolution undertook an investigation during November 2016 into the root penetration of tubestock on the Northern waste rock emplacement. Initial results have indicated that the roots are not particularly influenced by the depth of the topsoil. Rather it appeared that the underlying hard and compacted oxide layer was providing a physical (rather than a chemical) barrier resulting in the tree and shrubs roots growing laterally on top of this oxide layer. Root penetration and soil characteristics, including pH and EC, will continue to be monitored as part of the rehabilitation monitoring programme in order to understand the long term implications of substrate layers on the health and longevity of trees and shrubs.

**2016 IMP Recommendation 3:** *CGM should (1) ensure suppliers of bulk gypsum provide an analysis of gypsum purity with each bulk shipment and (2) recalculate the appropriate rate of gypsum to add to the various topsoil and subsoil materials to ensure the rates meet the specifications provided by McKenzie Pty Ltd in its 2013 report on "Soil Stockpile Characterisation Assessment".*

(1) Evolution has obtained an analysis of a number of gypsum products from suppliers and will select a gypsum product based on the analysis and recommendations from the "Soil Stockpile Characterisation Assessment". Evolution will implement a quality assurance program for the selected gypsum product by periodically sending a representative sample from the delivered gypsum to a laboratory for analysis.

(2) Gypsum application rates will be calculated based on the analysis of the gypsum product, the results from the quality assurance program and recommendations from the "Soil Stockpile Characterisation Assessment".



As requested, a copy of the IMP's 2016 Report has been placed on Evolution's website, and implementation of the IMP's recommendations will be reported in the CGO's 2017 Annual Review.

Please do not hesitate to contact me on 0499 388 808 should you wish to discuss.

Yours faithfully,  
Evolution Mining (Cowal) Pty Limited

A handwritten signature in blue ink, appearing to read 'JAMIE COAD', with a long horizontal flourish extending to the right.

**JAMIE COAD**  
Safety, Training, Environment and Social Responsibility Manager

Copies:  
Emer. Prof. L. Clive, Bell (IMP)  
Dr. Craig Miller (IMP)



