

COWAL GOLD PROJECT

PROPOSED MODIFICATION FOR  
BIOLOGICAL MONITORING AND FAUNA REPORTING



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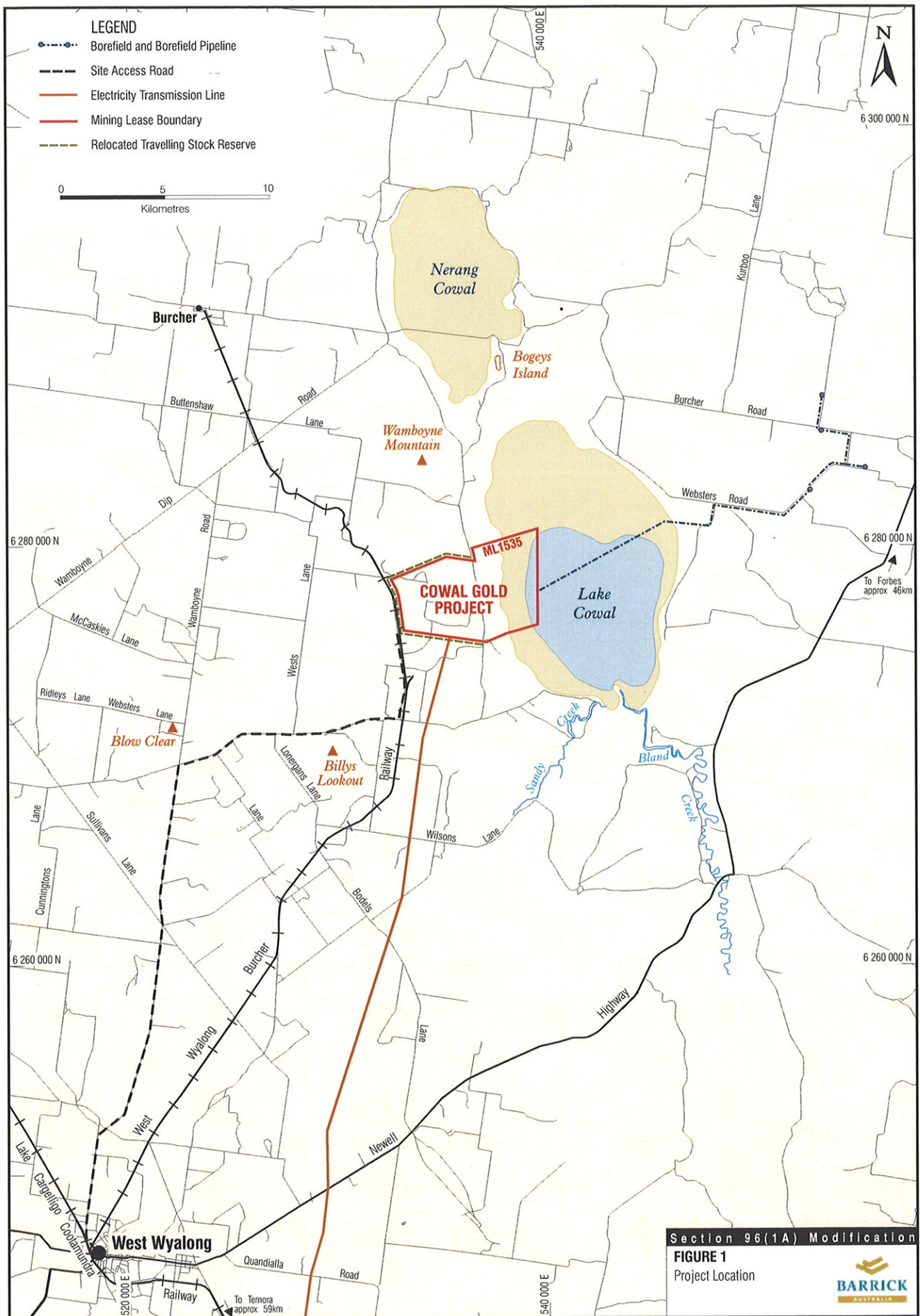
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## 1 BACKGROUND

The Cowal Gold Project (the Project) is located approximately 38 kilometres (km) north-east of West Wyalong, New South Wales (NSW) (Figure 1). The Minister for Urban Affairs and Planning granted development consent for the Project, subject to conditions, on 26 February 1999 (Development Consent). The Development Consent has been modified on four occasions – 11 August 2003, 22 December 2003, 4 August 2004 and 23 August 2006.

This document is an application by Barrick Australia Limited (Barrick) to the Minister for Planning under section 96(1A) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to modify Conditions 3.4(a)(ii), 4.1/4.2(a)(viii) and 8.2(a)(iii) of the Development Consent.

This document sets out the details of the proposed modification, an assessment of the potential environmental impacts of the proposed modification and evidence that the development would be substantially the same as that for which consent was originally granted and before that consent as originally granted was modified.





## 2 MODIFICATIONS

### 2.1 SURFACE WATER, GROUNDWATER, METEOROLOGICAL AND BIOLOGICAL MONITORING PROGRAMME

#### **Background**

The Surface Water, Groundwater, Meteorological and Biological Monitoring Programme (Monitoring Programme) (Barrick, 2003a) was prepared in accordance with Development Consent Conditions 4.1/4.2(a)(viii) and 8.2(a)(iii).

Conditions 4.1/4.2(a)(viii) and 8.2(a)(iii) of the Development Consent are reproduced below.

#### **4.1/4.2 Surface Water Management and Ground Water Management**

*The Applicant shall:*

- (a) *prior to the commencement of construction works shall prepare a site water management plan in consultation with DLWC and EPA, and to the satisfaction of the Director-General, which shall include, but not be limited to, the following matters:*

...

- (viii) *measures to continue baseline monitoring undertaken prior to development consent.*

#### **8.2 Surface and Groundwater and Cyanide**

##### **(a) Water Monitoring**

...

- (iii) *The monitoring program will include the development of adequate chemical and ongoing baseline biological monitoring in the waters of Lake Cowal, when water is present, by suitably qualified and experienced staff or consultants to the satisfaction of the DLWC and EPA, and in the case of biological monitoring NSW Fisheries. DLWC and EPA must be satisfied as to sampling design, including sample locations, sample frequency, sample handling, transport and analysis, sampling parameters and reporting of analysis results.*

In accordance with Development Consent Conditions 4.1/4.2(a)(viii) and 8.2(a)(iii) the Monitoring Programme provided for the continuation of baseline monitoring conducted prior to the grant of the Development Consent. The design of the baseline monitoring programme, in relation to the surface water and biology of Lake Cowal, was based on a document prepared by the CSIRO, *Principles and Guidelines for a Biological Monitoring Program in Lake Cowal* (Humphries, *et al.*, 1991).

In 2004, an Independent Monitoring Panel (IMP) was established in accordance with Development Consent condition 8.8 to:

- provide an overview of the independent audits required by condition 8.9 of the Development Consent;
- regularly review all environmental monitoring procedures undertaken by the Applicant; and
- provide an Annual State of the Environment Report for Lake Cowal.

The IMP (2005) report states:

*Over the last decade since the development of the original BACI design in 1991 for ambient monitoring [Humphries, et al., 1991], the ecologically-driven design of the mine site in the late 1990s by North Limited has resulted in a water management system that is better understood and most unlikely to release any contamination to the lake. Given that the lake is currently dry and there is a window of climatic opportunity, it is prudent to consider the overall aims and goals, and scale, of the original BACI design for the environmental monitoring program, with a view to reviewing options and possibly developing a more useful and effective scaled-down environmental monitoring system.'*

...

*The IMP also strongly suggests adopting the [Australian and New Zealand Environment and Conservation Council and Agriculture] ANZECC/[Australian Resource Management Council of Australia and New Zealand] ARMCANZ Water Quality Guidelines introduced in 2000 [ANZECC/ARMCANZ, 2000a and b], instead of using the approach from the 1992 guidelines. Importantly, this would involve looking at a more risk-based approach to environmental monitoring with the use of more ecosystem understanding than a reliance on water quality indicators. In addition, Batley et al. (2003) provide a thorough guide to the application of the ANZECC/ARMCANZ water quality guidelines in the minerals industry. The IMP considers that there is little risk in undertaking this review of the existing ambient monitoring program and proposing suitable changes because if there was a catastrophic failure or unintended discharge to the lake it would be immediately evident to the mine operators and regulators and an assessment could easily be made of damage to the lake against already existing ambient baseline levels.*

The Department of Planning has a full copy of the IMP (2005) report in its possession.

#### **Modification justification and environmental impact**

Barrick wishes to adopt the recommendations of the IMP with respect to biological monitoring and in doing so revise the Monitoring Programme.

Modification to the Development Consent is required to enable the adoption of the ANZECC/ ARMCANZ Water Quality Guidelines as the ANZECC/ ARMCANZ Water Quality Guidelines do not require the continuation of baseline biological monitoring. The continuation of baseline biological monitoring was an element of the CSIRO, *Principles and Guidelines for a Biological Monitoring Program in Lake Cowal* (Humphries, et al., 1991). Accordingly a modification to the Development Consent is sought to remove the requirement for the Monitoring Programme to provide for continuation of the baseline biological monitoring.

The modification is justified on the following basis:

- the adoption of the ANZECC/ ARMCANZ Water Quality Guidelines is in accordance with the recommendations made by the IMP;
- the adoption of the ANZECC/ ARMCANZ Water Quality Guidelines is aimed at improving the Monitoring Programme;
- cessation of baseline biological monitoring will not decrease Barrick's ability to detect any adverse environmental impacts from the Cowal Gold Project.

The requested modification to the Development Consent is not considered to have any environmental impact.

Barrick undertakes, pursuant to clause 115(1)(g) of the *Environmental Planning and Assessment Regulation 2000*, that the development would remain substantially the same as the development for which the consent was originally granted and before that consent as originally granted was modified.

**Proposed modification to conditions 4.1/4.2(a)(viii) and 8.2(a)(iii)**

In order to achieve the modification sought, Barrick proposes the following changes to conditions 4.1/4.2(a)(viii) and 8.2(a)(iii) of the Development Consent:

**4.1/4.2 Surface Water Management and Ground Water Management**

*The Applicant shall:*

(a) *prior to the commencement of construction works shall prepare a site water management plan in consultation with DLWC and EPA and to the satisfaction of the Director-General, which shall include, but not be limited to, the following matters:*

(viii) *provision of a measures to continue baseline monitoring programme as required by Condition 8.2(iii) undertaken prior to development consent.*

**8.2 Surface and Groundwater and Cyanide**

*(a) Water Monitoring*

(iii) *The monitoring program will include the development of adequate chemical and ongoing baseline biological monitoring in the waters of Lake Cowal, when water is present, by suitably qualified and experienced staff or consultants to the satisfaction of the DLWC and EPA and in the case of biological monitoring NSW Fisheries. DLWC and EPA must be satisfied as to sampling design, including sample locations, sample frequency, sample handling, transport and analysis, sampling parameters and reporting of analysis results.*

**2.2 FAUNA DEATH REPORTING**

**Background**

In accordance with the Cowal Gold Mine Development Consent Condition 3.4 (a) (ii) and the approved Flora and Fauna Management Plan (FFMP) (Barrick, 2003b), any native fauna deaths (irrespective of cause of death) or other incidents involving native fauna are reported to the DPI and DECC (formerly DMR) within 24 hours (or the next working day), and to the CEMCC as soon as practical. Condition 3.4 (a) (ii) of the Development Consent is reproduced below.

**3.4 Flora and Fauna Assessment and Management**

(a) *The Applicant shall prior to commencement of construction prepare a fauna management plan to cover the mining lease area and monitoring of bird breeding areas as identified by the Applicant in consultation with NPWS. The plan shall be prepared in consultation with NPWS, NSW Fisheries and EPA, and be to the satisfaction of the Director-General. The plan shall include, but not be limited to:*

...

(ii) *development of a protocol for the reporting of any deaths or other incidents involving native fauna on the mining lease to the DMR, EPA, and NPWS, and in the case of fish, NSW Fisheries, within 24 hours (or next working day), and to the CEMCC (refer condition 8.7) as soon as practicable. The Applicant shall maintain a record of any wildlife deaths or other incidents and this record shall be provided in the AEMR (refer condition 9.2);*



The purpose of the proposed modification to Development Consent Condition 3.4 (a) (ii) is to change the reporting obligations in respect of fauna deaths or other incidents involving fauna to the following effect:

- all wildlife death (native and non-native) that occur due to cyanide will be reported to DPI, EPA and NPWS and in the case of fish, NSW Fisheries, and the CEMCC as soon as practicable within 24 hours (or next working day); and
- death or other incidents involving native fauna that are not attributable to cyanide will no longer be reported within 24 hours (or next working day) and instead shall be reported in accordance with the approved Flora and Fauna Management Plan and through the AEMR process.

#### **Modification Justification and Environmental Impact**

As reported in the 2006 Annual Environmental Management Report (AEMR), the majority of fauna deaths which have occurred due to the Project have been readily attributed to incidents such as vehicle strike. To date, no fauna deaths have been attributed to cyanosis.

The proposed modification to Development Consent Condition 3.4 (a) (ii) is justified on the basis that:

- the obligation to report native fauna deaths occurring due to cyanide within 24 hours (or next working day) to the DMR, EPA, CEMCC and in the case of fish, NSW Fisheries remains unchanged;
- the reporting of native fauna deaths that have not occurred due to cyanide is continued but is streamlined so that it now occurs in accordance with the approved Flora or Fauna Management Plan and as part of the AEMR process.
- the obligation to report non-native fauna deaths occurring due to cyanide ensures internal consistency within the Development Consent, in particular in condition 5.3(c), which states:  
*In the event of wildlife deaths occurring due to cyanide, review of cyanide levels shall occur by the EPA in consultation with the Applicant, DMR and NPWS.*
- on the 2nd August 2007, the Cowal Gold Mine was fully certified under the *International Cyanide Management Code* (International Cyanide Management Institute, 2006) which requires monitoring to evaluate the effects of cyanide use on "wildlife". Barrick considers the word "wildlife" to include both native and introduced fauna.

In accordance with Development Consent Condition 3.2, the Cowal Gold Project *Flora and Fauna Management Plan* (FFMP) is to be revised/updated to address the proposed modifications to the Development Consent.

Considering the above, the proposed modifications to the Development Consent would result in minimal environmental impact given that any impact of the Project on fauna (native and non native) will not change as a result of a change in reporting obligations.

Barrick undertakes, pursuant to clause 115(1)(g) of the *Environmental Planning and Assessment Regulation 2000* that the development would remain substantially the same as the development for which the consent was originally granted and before that consent as originally granted was modified.

#### **Proposed modification to condition 3.4(a)(ii)**

In order to achieve the modification sought, Barrick proposes the following changes to Condition 3.4 (a) (ii) of the Development Consent:



### **3.4 Flora and Fauna Assessment and Management**

- (a) The Applicant shall prior to commencement of construction prepare a fauna management plan to cover the mining lease area and monitoring of bird breeding areas as identified by the Applicant in consultation with NPWS. The plan shall be prepared in consultation with NPWS, NSW Fisheries and EPA, and be to the satisfaction of the Director-General. The plan shall include, but not be limited to:

...

- (ii) development of a protocol for the reporting of any native fauna deaths or other incidents involving native fauna on the mining lease to the DMR, EPA, NPWS, CEMCC and in the case of fish, NSW Fisheries. ~~within 24 hours (or next working day), and to the CEMCC.~~ Wildlife deaths occurring due to cyanide must be reported to the DMR, EPA, NPWS and CEMCC, and in the case of fish, NSW Fisheries, within 24 hours (or next working day). ~~as soon as practicable.~~ The Applicant shall maintain a record of any wildlife native fauna deaths or other incidents and this record shall be provided in the AEMR (refer condition 9.2);

## **3 CONCLUSIONS**

The proposed modifications to Development Consent (conditions 3.4 (a) (ii), 4.1/4.2(a)(viii) and 8.2(a)(iii)) would result in substantially the same development (as the development for which the consent was originally granted and before that consent as originally granted was modified), and are of minimal environmental impact as:

- The proposed modification to Development Consent Condition 4.1/4.2(a)(viii) and 8.2(a)(iii) is a monitoring change, which would not alter the Project and would not result in any change to the potential impacts of the Project on Lake Cowal or any other aspect; and
- The proposed modification to Development Consent Condition 3.4 (a) (ii) is a change in fauna reporting, which would not alter the Project and would not result in a change in the potential impacts of the Project on fauna.

## **4 REFERENCES**

Barrick (2003a) *Cowal Gold Project Surface Water, Groundwater, Meteorological and Biological Monitoring Programme.*

Barrick (2003b) *Cowal Gold Project Flora and Fauna Management Plan.*

North Limited (1998) *Cowal Gold Project Environmental Impact Statement.* Prepared by Resource Strategies Pty Ltd.