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23 December 2009

The Director-General  
c/- Director of Major Projects Assessment  
Department of Planning  
GPO Box 39  
SYDNEY NSW 2001

Dear David,

**RE: Fifth Annual Report of the Independent Monitoring Panel for the Cowal Gold Project (September 2009) – Recommendations**

As requested in Kane Winwood's email dated 2 November 2009, please find below a response to the recommendations made by the Independent Monitoring Panel (IMP) in their Fifth Annual Report for the Cowal Gold Project – September 2009 (2009 IMP Report); received 2 November 2009.

**2009 IMP Report Recommendation 1:** *CGM should clarify the guideline regarding the date of sampling in Table 19 on Data Management in the Surface Water, Groundwater, Meteorological and Biological Monitoring Programme – Mine Operations document.*

The Surface Water, Groundwater, Meteorological and Biological Monitoring Programme – Mine Operations (SWGMBMP) has been revised to address this recommendation made by the IMP. Specifically, the Date of Sampling field in Table 19 of the SWGMBMP has been revised to include a standard for the numeric date of sampling (e.g. dd/mm/yyyy). Further, a note has been added to Table 19 of the SWGMBMP which states "Note: Contractors and staff will be informed of the numeric date of sampling standard (i.e. dd/mm/yyyy) to minimise potential data management error."

The revised SWGMBMP was sent to the relevant regulators (i.e. Department of Industry and Investment [Fisheries], NSW Office of Water and Department of Environment, Climate Change and Water) on 20 November 2009.

**2009 IMP Report Recommendation 2:** *CGM should (1) proceed to prepare bulk samples of soil and waste materials, in conjunction with the University of Sydney, for use as standards in the elemental analysis of dust samples and (2) resolve the source of contamination of copper and zinc in the 2008 dust sample analyses.*

Barrick (Cowal) Limited (Barrick) is currently preparing bulk soil samples to be used as Quality Assurance/Quality Control (QAQC) standards for future dust sample analyses. These QAQC standards will be used to assist with the resolution of dust monitoring anomalies from the 2008 dataset as well as future datasets. The soil sampling results are anticipated to be available in early 2010.

In regard to sampling of waste materials, there has been significant geochemical testwork and assessment of waste rock and ore/tailings undertaken at the Cowal Gold Mine (CGM) to date – e.g. Environmental Geochemistry International Pty Ltd, 1995; 1996; 1997; 2004; O’Kane Consultants Pty Ltd, 2008; Geo-Environmental Management Pty Ltd, 2008; 2009. These geochemical assessments have characterized the geochemical characteristics of waste rock and ore/tailings, including metal enrichment and solubility. Therefore, Barrick does not propose to undertake any further waste rock sampling for use as standards in the elemental analysis of dust samples.

In regard to the resolution of the source of contamination of copper and zinc in the 2008 dust sample analyses, Barrick engaged Dr Stephen Cattle of the University of Sydney to interpret the 2008 Air Quality Monitoring Results. Dr Cattle advised the following improvements to the air quality monitoring program to improve confidence in future analyses:

*At the outset, it is important to recognise that there is a range of different extraction techniques and analytical systems available to determine the elemental composition of sediments and soils. These different extraction techniques will liberate varying proportions of the elements constituting the sediment minerals, while the different analytical systems have different sensitivities to low elemental concentrations. Over the last 18 months, the University of Sydney’s dust samples from the Lake Cowal district have been analysed by the company ALS using inductively-coupled plasma mass spectroscopy (ICP-MS). The ICP-MS technique is used for measuring low concentrations of metals because its sensitivity is high. With the exception of very small dust sample sizes (those deposits of less than about 0.03 g), this technique has consistently yielded most metal concentrations down to 1 ppm (mg/kg). For some elements, such as Selenium (Se), there have been few, if any values recorded due to its usually very small concentrations. Using this method, measurements of aluminium, arsenic, cadmium, copper, lead and zinc concentrations in the University of Sydney dust samples have been consistent with those expected for soils and sediments.*

*In contrast, the dust metal concentrations of samples collected by Barrick have been analysed using a combination of inductively-coupled plasma atomic emission spectroscopy (ICP-AES) and/or atomic absorption spectroscopy (AAS). Both of these types of analyses estimate metal concentrations, but their sensitivities are less than that of ICP-MS, so when very small sample sizes are presented, these techniques are less able to detect very small concentrations of metals. As a consequence, the concentrations of arsenic, cadmium, copper and selenium in Barrick dust samples have rarely been reported in the last 18 months because they have been below the detection limit of these machines. The extremely large copper and zinc concentrations estimated at different times appear to be the result of some sampling contamination issue, rather than an analytical “malfunction”.*

*ICP-MS analysis should ensure a more complete dust metal dataset for Barrick in the future than either ICP-AES or AAS.*

On the basis of Dr Cattle’s recommendations, Barrick has adopted the ICP-MS methodology for the analysis of dust samples at the CGM to reduce the likelihood of sample contamination via the incorrect implementation of sampling techniques assessments.

**2009 IMP Report Recommendation 3:** *The current effort and priority with trials on erosion control and rehabilitation should be continued with a view to narrowing down the best treatments to produce sustainable rehabilitation, as soon as possible.*

Barrick will continue to undertake studies and trials (including batter erosion stability trials) as part of the CGM rehabilitation review programme to optimise/maximise the potential for the successful rehabilitation of mine landforms at the CGM, as described previously to the IMP (i.e. in correspondence to the IMP dated 22 June 2009 and as discussed with the IMP during their site visit on 4 and 5 August 2009).

Early observations of the cover (i.e. loose rock, straw and woodchip cover layers, & cross-ripped rock-topsoil mulch), trials on the outer batters of the tailings storage facilities and waste rock emplacements are positive (i.e. landforms are stable and vegetation is establishing within the rock mulch) and indicate that this cover treatment is likely to provide for successful rehabilitation of mine landforms at the CGM. At 2009 ended, the first three northern face Lifts of the NWRE extension have been covered using the rock-topsoil cross-ripped method (as discussed with DII-MR after receipt of IMP 2009 Report (5<sup>th</sup> November 2009)). The 2<sup>nd</sup> Lift of the NTSF (8 ha) had already been covered by the rock-topsoil method (October 2009).

The results of the trials will be used to inform the progressive rehabilitation/stabilisation of mine landforms at the CGM. Any proposed changes to the approved CGM rehabilitation programme (i.e. as described in the EIS) that are not considered to be "generally in accordance with the EIS" would be subject to environmental assessment and approval processes (e.g. a modification for the introduction of rock armour to provide stability and preliminary vegetation establishment would be sought under the *Environmental Planning and Assessment Act, 1979*).

The timing of rehabilitation review programme studies and trials (and results thereof) will be dependant on water availability and rainfall necessary for the operation of the studies and trials.

**2009 IMP Report Recommendation 4:** *The current effort and resources expended in recording and submitting for necropsy all road-killed and found-dead wildlife should be rationalised.*

As you are aware, Condition 3.4(a)(ii) of the Development Consent (DA 14/98) was modified on 12 March 2008. Condition 3.4(a)(ii) of the Development Consent currently states:

*3.4(a)(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 DECC, DPI(Minerals), CEMCC and in the case of fish, DPI(Fisheries). Native fauna deaths (except those attributable to physical trauma such as vehicle strike) must be reported as per this protocol within 24 hours (or next working day). The Applicant shall maintain a record of any native fauna deaths or other incidents and this record shall be included in the AEMR;*

Addenda to the Cyanide Management Plan (CMP) and the Flora and Fauna Management Plan (FFMP) were subsequently prepared and approved to reflect the modified Development Consent Condition 3.4(a)(ii) (i.e. to reflect the requirement to report native fauna deaths [except those attributable to physical trauma such as vehicle strike] as per the protocol within 24 hours [or next working day]). Barrick will continue to report in accordance with the revised CMP and FFMP.

Please do not hesitate to call should you have any queries.

Yours sincerely  
**BARRICK (COWAL) LIMITED**

  
**GARRY PEARSON**  
Environmental Manager