

COWAL GOLD MINE

Department of Mineral Resources
New South Wales, Australia

Significance of Lake Cowal

- Internationally recognised wetland.
- Largest Lake in western NSW.
- Conservation values of Lake Cowal are protected.
- Australia is obligated to protect & enhance the conservation values of the Lake.

The Cowal Gold Project

- Project location.
- Project refusal in 1996.
- Project modification.
 - Mineral processing.
 - » flotation circuit.
 - » Cyanide destruction & recycling.
 - » two thirds less CN used.

The Cowal Gold Project cont.

- Design and layout.
 - TSF.
 - WRE.
 - Water management.
 - Power lines.
 - Mineral processing.
 - Rehabilitation & revegetation.
 - Final void.

Tailings Storage Facilities

- Two TSF.
- 4.5kms from Lake foreshore.
- 1:1000 ARI design.
- Dams Safety design approval.
- Perimeter discharge.
- Maximum 30mg/l CN_(WAD) for 90% time.
- 5 to 15mg/l CN_(WAD) at decants.

Tailing Storage Facilities cont.

- Mitigation measures.
 - TSF patrols.
 - Automatic shutdown above 30mg/l CN_(WAD).
 - Bat usage monitoring.
 - Lighting controls.
 - Habitat improvements.

Water Management

- Process water - NIL discharge.
- Dirty water.
- Clean storm water.
- Surface & groundwater monitoring.

Waste Rock Emplacements (WRE)

- Three WRE.
- WRE cover 150 hectares.
- Maximum height 20 meters.

Isolation of the Open Cut

- Construction isolation bund.
- Permanent bund between void & Lake.
- Void hydrogeologically isolated.

The Lake Cowal Foundation

- Established outside the mine approval process.
- Principle Objectives :-
 - protect &/or enhance natural environment of the Lake Cowal region.

Steps In The Approval Process

- Extensive consultation with :-
 - local community.
 - landholders.
 - nature conservation groups.
 - all levels of government.
- Planning focus.
- Draft EIS.

Steps In The Approval Process continued.

- Final EIS.
- Public exhibition.
- Public Commission of Inquiry.
- Project approval in 1999.
- Project conditions issued.

Project Conditions

- Whole of government approach.
- Key government agency input by :-
 - Mineral Resources.
 - Urban Affairs & Planning.
 - Environment Protection Authority.
 - Land & Water Conservation.
 - Dams Safety Committee.
 - Bland Shire Council.

Project Plans

- Mining Operations Plan.
- Annual Environmental Management Report.
- Archaeology & cultural management plan.
- Fauna management plan.
- Erosion & sediment control plan.
- Soil stripping management plan.
- Landscape management plan.
- Bushfire management plan.

Project Plans cont.

- Land management plan.
- Compensatory wetland management plan.
- Site water management plan.
- Cyanide management plan.
- Hazardous waste & chemical management.
- Dust management plan.
- Blast & noise management plans.

Ongoing Regulatory Management

- The Mine Rehabilitation & Environmental Management Process (MREMP)
 - Cooperative & integrated approach by all.
 - Flexibility in environmental monitoring.
 - Encourages “best practice” technology.
 - Rewards good performers and is
 - Part of the decommissioning process.

The Mining Operations Plan (MOP)

- MOP approval range from 1 to 7 years.
- The MOP provides close control of mining.
- The MOP provides details the EIS and EIA fail to address because they are prepared at one point in time.
- MOP allows for change and is
- Flexible to stakeholder demands.

The Annual Environmental Management Report (AEMR)

- Single reporting system for government.
- Management & environmental review tool.
- Less bureaucratic.
- Best practice is encouraged.
- Inspections & meeting are documented.
- “Action point” arise from the minutes of the meeting.

Conclusions

- Conservation values of the Lake protected.
- Project design, operation & closure.
- Risk minimization through conditions.
- Tails & water management.
- 16 Operating Plans.
- Project Management via MREMP system :-
 - MOP.
 - AEMR.