

Surface water pollution by dissolved species

- aeration systems in dams
- studies for eutrophication inhibition and correction

GEMS

Surface water pollution by solid particles

- projects: drainage, dikes and waste rock piles

Notes:

For both mines in operation and new undertakings, projects for reclamation of impacted areas are required by law. These reclamation projects generally involve a description of the enterprise and mitigation systems to be adopted. Some companies have already started environmental zoning, aiming to minimize negative impacts on the cultural and natural endowments. Sensitive environments such as the Atlantic Forest, the Amazonian Forest, river margin forests, and other special areas have demanded reclamation work.

For iron, gold, copper and phosphate: impacts caused by flotation chemicals in water streams have not been fully investigated. Public sector lack of knowledge and current priorities to treatment schemes for solid and heavy metals. Mitigation systems technology is not commonly used and is a clear necessity.

For gold, coal, copper and kaolin: biologic treatment systems for liquid effluents, especially for cyanides and heavy metals, are presently being studied in national research institutions.

COPPER

Surface water pollution by solid particles

- equipment: hydrocyclones and thickeners
- implements: flocculants and coagulants
- services: sampling and air quality assessment, eolian damer projects
- monitoring/projects: drainage, dikes, dams and waste rock piles

Surface water pollution by dissolved species

- chemical: precipitation systems (heavy metals)

Underground water pollution

- impervious layer of dams