

Environmental Chemistry & Toxicology

COOE consultants and associates offer comprehensive experience in chemistry and toxicity testing for routine monitoring and specific assessment in a wide variety of environments.

Profile

COOE scientists have broad experience to determining the level of concern associated with a contaminant in the affected environment and regulatory requirements.

Our professionals undertake waste characterisation, validate Acid Mine Drainage (AMD) models and improve AMD management systems.

They have performed chemical and toxicological assessments in a wide variety of environments.

Our Services

- Acid sulphate investigations and management
- Soil chemistry
- Environmental site assessments
- Physical and geochemical characterisation of waste rock and acid leachate
- Site audits and assessments
- Concentration of metals in marine sediment and seston (suspended particulates)
- Metal accumulation in selected marine organisms

Project Examples

- Newcrest, Waste Rock Dump – five year rehabilitation monitoring program testing soils for fertility indicators (cation exchange capacity, exchangeable cations and major nutrients) and indicators for the potential mobilisation of metals and metalloids (arsenic, cadmium, cobalt, copper, iron and manganese).
- Nyrstar, Port Pirie Smelter – five year marine environmental monitoring program tracking metal concentrations in sediment, seston and tissue of filter feeders.
- Rex Minerals – baseline surveys undertaken to quantify the levels of metals in marine sediment and marine filter feeders.
- World Bank – assignments for the Mining Division to remediate and rehabilitate mining legacy issues in the Copperbelt, Zambia.
- Marcopper, Philippines – environmental management of a tailings spill clean-up including acid mine drainage, rehabilitation and water quality monitoring in rivers, estuary and at sea.
- Misima Gold Mine, Papua New Guinea – research and implementation of AMD management programs.

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