

Water Use and Waste Management: Research project portfolio for 2007/08

THRUST 4: INDUSTRIAL AND MINE-WATER MANAGEMENT		
Title (New projects indicated by *)	Contractor	Term
Programme 1: Quantification of water use and waste production		
A first order assessment of the quantity and quality of non-point sources of pollution associated with the industrial mining and power generation sectors	Pulles Howard and de Lange	01/04/05 – 31/03/07
Programme 2: Regulatory mechanisms to improve industrial and mine-water management		
Valuing water for South African industries: A production function approach	CSIR	01/04/02 – 30/09/07
Geochemical sampling and analyses for environmental risk assessments using the Wits Basin as a case study	Pulles, Howard and de Lange Inc	01/04/05 – 30/09/07
*Development of guidelines for urban metros to facilitate legal compliance with respect to industrial waste management	Nancy Oosthuizen Consulting	01/04/07 – 1/03/08
*Protocol for quantitative assessment of industrial effluents for discharge permitting	University of KwaZulu-Natal	01/04/07 – 31/03/11
Programme 3: Minimising impact of waste on the water environment		
Impact of microbiology on fly ash-acid mine drainage co-disposal and remediation systems	University Cape Town	01/04/04 – 31/03/07
Closure planning in the minerals extraction industry : The role of effective waste characterisation and water-related impact predictions for solid mineral wastes	University Cape Town	01/04/04 – 31/03/07
Development of a first order decision support system for the sustainable design, operation and closure of metalliferous tailings disposal facilities	Golder Associates Africa (Pty) Ltd	01/04/04 – 31/07/07
Reclamation of water from flooded Witwatersrand gold mines by selective dewatering of key underground compartments.	Pulles, Howard & De Lange	01/04/06 – 31/03/08
Arsenate resistance in microbial communities developing in maturing FA-AMD solids	University of the Western Cape/Department of Microbiology	01/04/06 – 31/03/08
*Refinement of the decision support system for metalliferous tailing disposal facilities	Golder Associates Africa (Pty) Ltd	01/04/07 – 31/03/09
*Consideration of the impact of classification and landfilling of hazardous waste	CSIR	01/04/07 – 31/03/09
Programme 4: Minimising waste production		
The promotion of biodegradable chemicals in the textile industry using the score system: Phase 1 - Pilot study	University Natal	01/04/02 – 31/09/07
Characterisation of microbial populations and identification of dominant micro-organisms in different paper mill water systems	University Free State	01/04/03 – 31/12/07
The introduction of cleaner production technologies in the mining industry	Digby Wells and Associates	01/04/04 – 31/12/07
Development of a complete process integration framework for wastewater minimisation in multipurpose batch plants	University of Pretoria	01/04/05 – 31/03/07
Cleaner production evaluation system and optimization for metal finishing	Durban Institute of Technology	01/04/05 – 31/03/07
An investigation to innovative approaches to brine handling	Proxa	01/04/06 – 31/03/08
A Pilot study into upstream cleaner production technologies for the petroleum refining industry to meet the requirements of the waste discharge charge system (WDCS)	Process Optimisation and Resource Management	01/04/06 – 31/03/08
Programme 5: Improved ability to predict and quantify effects		
Development of water balances for operational and post-closure situations for gold-mine residue deposits to be used as input to pollution prediction studies for such facilities	Pulles, Howard & de Lange	01/04/03 – 31/03/07
Study of the kinetic development of oxidation zones of tailings dams with specific reference to the Witwatersrand gold mine tailings dams	Pulles, Howard and de Lange	01/04/04 – 30/09/07
Prediction of how different management options will affect drainage water quality and quantity in the Mpumalanga coal mines up to 2040	Golder Associates Africa (Pty) Ltd	01/04/05 – 31/03/07
Origin of sodium and its applications to water quality prediction in the South African coal mine environment.	University of Fort Hare/Department of Geology	01/04/06 – 31/03/08