

Mike Fehrsen, Pr Eng.



Mike worked for various mines in South Africa as engineer, both underground and in the surface operations before joining Paterson & Cooke in July 1999.

At Paterson & Cooke, Mike also leads the mechanical design section, is responsible for maintaining and developing our expertise in:

- Mechanical equipment design and specification.
- Control system and instrumentation specification and design.
- Basic electrical design for feasibility studies.
- Transient flow analysis.
- Pipeline stress analysis.

Qualifications

BSc (Mech) Eng (1st Class Honours), University of Cape Town 1994

Programme for Management Development 62, UCT Graduate School of Business

Professional Status

Pr Eng (Registration Number 20000352)

Government Certificate of Competency (Mines and Works) (Registration Number 5265)

Member of the South African Institution of Mechanical Engineering

Specialization

Design and engineering of backfill systems.

Mechanical design, selection and specification of equipment.

Development of control specifications for pump and piping systems.

Transient flow analysis of pump and piping systems.

Risk assessment facilitator.

On-site audits and commissioning.

Notable Projects

Moma Heavy Minerals, Mozambique (2008)

Expert witness of tests after completion (performance tests) for dredgers, barge loading conveyors, barge load capacity and ship loading system.

Sand Bypass for Durban Harbour, South Africa (2008-2009)

Pre-feasibility study for new sand hopper and beach feeding system for implementation following completion of the harbour widening project. Design, engineering and specification of system and control philosophy. Also design, engineering, specification and commissioning of a temporary sand bypass system.

Lonmin Karee 4 Shaft, South Africa (2007-2008)

Responsible for design and review of different aspects for the detailed design of the new tailings system including the return water pumping system. Responsible for commissioning of the tailings pumping system.

Coega Harbour Sand Bypass System, South Africa (2006)

Responsible for the commissioning of a fixed sand bypass system for new Coega Harbour designed by another consulting company. Commissioning of water pumps, jet pumps, sand transport pumps and pipeline as well as modification of control system. Provided further assistance with system improvements and maintenance issues.

Fairbreeze Heavy Minerals Mine, South Africa (2005-2006)

Responsible for review and design for the detailed design of Tidor South Africa's Fairbreeze Mine, specifically thickened slimes pumping and disposal system, sand tailings pumping systems for tailings storage facility wall building and mining area rehabilitation and return water pumping systems.

Lisheen Paste System, Ireland (2004)

Senior Engineer responsible for the mechanical design of the pastefill piping and support system, transient assessment and pipe stress analysis. Assisted the mine with the commissioning of the underground piping distribution system.

Anglogold, Brazil (2003)

Responsible for the mechanical design, specification and costing for mine de-watering system, a pre-feasibility study for a paste backfill distribution system and the risk assessment for a gold concentrate pumping system.

Orapa Mine, Botswana (2001-2004)

Conducted on-site investigation into problems with existing tailings pumping system. Responsible for the process design, mechanical design, control philosophy and commissioning of the upgraded slurry disposal system.

Cleveland Potash, England (1999-2003)

Conducted on-site test work with a backfill pilot plant. Responsible for the design of the surface preparation plant and underground distribution system, risk assessment, detailed engineering input and commissioning of the system.

Publications

Fehrsen, M., Keen, M. and Cooke, R., 2007. Boulby Mine Backfill System: Operational Experience. Minefill 2007, Canada

Fehrsen, M. and Cooke, R., 2006. Paste Fill Distribution Systems – Current Status. Rise of the Machines – The 'State of the Art' in Mining Mechanisation, Automation, Hydraulic Transportation and Communications, SAIMM 2006, South Africa.

Cooke, R., Fehrsen, M. and Wilkins, M.J., 2004. Boulby Mine Backfill System: Design, Commissioning and Operation. Minefill 2004, China.

Wilkins, M.J., Gilchrist, C., Fehrsen, M. and Cooke, R., 2004. Boulby Mine Backfill System: Design, Commissioning and Operation. 16th Int. Conf. on Slurry Handling and Pipeline Transport, Hydrotransport 16, Chile.

Fehrsen, M.G., Goosen, P.E. and Wilkins, M.J., 2002. On-site Backfill Slurry Characterisation Tests at Boulby Mine – A Case Study. 15th Int. Conf. on Slurry Handling and Pipeline Transport, Hydrotransport 15, Banff, Canada.