

Curriculum Vitae

Derek Walters – Principal Engineer



Profession:

Mine Environmental Control Engineer

Education:

- MSc (Eng) (Mining) University of the Witwatersrand.
- GDE University of the Witwatersrand.
- Mine Managers Certificate.
- SA Chamber of Mines Certificate in Mine Environmental Control.
- University of Queensland, Course in Mining Environmental Control, 1988.

**Registrations /
Affiliations**

- Fellow, South African Institute of Mining and Metallurgy.
- Fellow and Past President, Mine Ventilation Society.

Specialisation

Design, implementation and operational management of mine environmental control systems, operational trouble shooting, optimisation, auditing, fire and incident investigation. Due diligences, insurance valuations, implementation and management of underground radiation protection and occupational hygiene programmes. Surface environmental management programmes and risk assessments.

Expertise

Derek is a mining engineer with over 36 years' experience in the mining industry. The majority of this has been spent in the mine environmental control and engineering discipline. Since 1999 Derek has performed risk and compliance auditing, ventilation and cooling system design assessments for pre-feasibility, fully bankable feasibility studies and due diligence investigations on over 50 diamond, precious metal, base metal and coal mines in Southern Africa, East and West Africa, Australia, Brazil, China, DRC, Ukraine, Tanzania and Mongolia.



Derek has held positions on several Gold Fields of South Africa mines having overall technical and managerial responsibility for the design, practical implementation and auditing for underground mining operations, surface works, tailings dams and affected property, and includes:

- Design of ventilation and cooling systems.
- Pollution control and occupational hygiene programmes.
- Radiation protection measures to comply with the exposure limits prescribed in terms of South African Nuclear Licences for both employees and the public.
- Environmental management programmes.

He also designed the ventilation and cooling system for Northam Platinum mine.

Derek has had extensive experience in formulating legally binding Codes of Practice and mine standards and conducting risk assessments and health and safety audits on various mines. He has practical experience in the management of and subsequent investigation into some 14 major mine fires and explosions and extensive experience in the design and implementation of safety measures for explosion and fire prevention. In addition Derek has conducted base line investigations and audits as well as making comprehensive recommendations concerning the risk of fires and explosions, emergency procedures and pollution control on a large number of mines.

Upon obtaining his Mine Manager's certificate of competency he has also held appointments as responsible manager in production and deep shaft sinking sections.

Specific skills include:

- Design of ventilation and cooling systems for base metal, precious metal, diamond and coal mines, including access and mining layouts conducive to economical and effective ventilation practice.
- Design of ventilation and cooling alternatives for mines.
- Troubleshooting ventilation and cooling problems.
- Optimising existing ventilation and cooling systems.
- Compilation and implementation of occupational hygiene programmes.
- Risk assessments, investigations and audits for pollution control, environmental compliance, occupational hygiene, emergency preparedness, mine fires and explosions and escape and rescue.
- Due diligence investigations.
- Independent peer reviews.
- Asset valuation.
- Health and Safety evaluations.

Employment History

1999 - Present	Principal Engineer	Consultant
1997 - 1999	Ventilation Engineer	Libanon Mine
1990 - 1997	Ventilation Engineer & Underground Manager	East Driefontein Mine
1986 - 1990	Ventilation Engineer	Deelkraal Mine
1984 - 1985	Chief Ventilation Officer	Venterspost Mine
1980 - 1983	Sectional Ventilation Officer	East Driefontein Mine
1979	Ventilation Officer	East Driefontein Mine

Key Experience

- Practical implementation of and responsibility for the mine's Environmental Management Programmes.
- Auditing of environmental programme compliance, safety and health programmes.
- Mine feasibility studies.
- Due diligence and independent peer reviews.
- Practical ventilation and cooling system design and implementation – Venterspost, Deelkraal, East Driefontein, Libanon, Northam Platinum.

Apart from extensive work in the South African mining industry, the following work has been carried out internationally.

- **Australia**
Project Walter - Bankable feasibility study - ventilation of a gold mine, Kalgoorlie.
Argyle Diamonds - Ventilation and refrigeration for the proposed underground mine.
WMC Olympic Dam and Leinster – Refrigeration studies.
- **Brazil**
Morro Velho - Ventilation and refrigeration design for the extension of underground mining at Raposos and Mina Grande mines.
- **Botswana**
BCL Ltd. - Feasibility study of the ventilation and cooling requirements for a new shaft complex.
BCL Ltd. - Design of a bulk air cooler.
BCL Ltd. - Ventilation consultancy for the mine
Morupule Colliery - Review and assessment of existing and proposed ventilation requirements for a new mining method.
Botswana Ash – Sua Pan - Design of cooling spray pond.
- **Bulgaria**
Chelopech Mine - Assessment of underground spontaneous heating.

- **China**
Shandong Gold Group - Review of an expansion feasibility study.
- **Czech Republic**
Cinovec - - Ventilation design
- **DRC**
Kolwezi – Ventilation assessment.
Dikulushi – Ventilation design.
Bisie Tin – Ventilation design
Mbamba-Kalinda - - Ventilation design
Lubembe - - Ventilation design
- **Ghana**
Ashanti Gold Mine - Pre feasibility study of the ventilation and cooling requirements for a new shaft complex.
Prestea Gold Mine - Ventilation assessment and implementation planning.
- **Mali**
Tabakoto Gold Mine -Ventilation assessment, consultancy and implementation planning.
- **Mongolia**
Ivanhoe Mines - Ventilation design for proposed copper mine.
- **Sierra Leone**
Koidu Diamond Mine Ventilation design
- **Tanzania**
Bulyanhulu -Feasibility study of ventilation for an extension of the mine
North Mara - Feasibility study ventilation design
Geita - Feasibility study ventilation design
- **Turkey**
Eti Krom – Health, safety and ventilation assessment for Uni Credit.
- **Ukraine**
Galeshine - Prefeasibility studies of ventilation for proposed mine
Krasnoarmeyskaya-Zapadnaya - Review of ventilation and methane extraction systems, and capital expenditure.
Ferrexpo - Block cave ventilation design.
- **United Kingdom**
ScotGold - Cononish Project - Ventilation Design
- **Zambia**
Chibuluma - Ventilation design.

Derek is also the author/co-author of 3 Chapters concerning Mine fires, Coal Mine fires and the Ventilation of Mechanised Mining in the newly published Text Book:

Ventilation and Occupational Environment Engineering.

