

Curriculum Vitae

Willie Schoeman - Principal Engineer



Profession:

Mechanical Engineer

Education:

B.Sc.Eng.(Mech.) (University of the Witwatersrand)

- Mechanical Engineer's Certificate of Competency (Mines and works), South Africa

Registrations / Affiliations:

- Professional Engineer, Engineering Council of South Africa
- SA Institution of Mechanical Engineers – Member

Specialisation

Willie is a professional mechanical engineer with extensive experience in most mining related disciplines from feasibility studies through to construction, commissioning, operating and maintaining plant. His experience includes underground and open cast mining, track-bound and trackless haulage, pumping installations, hoisting, compressed air, bulk materials handling, ore beneficiation, smelters, general mine surface and underground infrastructure and mine closure and rehabilitation. He also has considerable experience in fresh and waste water treatment and pumping plants

Expertise

Willie has spent most of his working life in the mining industry in Southern Africa. His experience includes mine line management, maintenance and operational, design and construction experience on copper, coal, gold, platinum and diamond mines. Since 1998 he has been doing consulting engineering work in the mining industry world wide, and in a variety of other fields including potable and waste water treatment plants.

He rose to the position of Chief Engineer in charge of all engineering functions of a medium-sized mining company (Messina Investments), before joining the consulting engineering industry, where he has been applying his extensive practical experience to assist clients in the design and



implementation of effective mining and other engineering projects. Most recently he has been active in the following specific areas:

- Scoping, pre-feasibility and bankable feasibility studies for new chrome, gold, platinum, iron ore, phosphate, diamond and other types of mines.
- Underground access options trade-offs
- Competent person's reports (CPR) on several different types of mines.
- Design and specification of various conveying, hoisting, haulage, pumping, infrastructure, shaft sinking and other systems for underground mines and surface operations.
- Design and costing of hydropower and cooling water systems for deep level mining.
- Design, specification, tender adjudication and contract award of large municipal waste water treatment plant.

Key Experience

- ENRC 2013: Kongoni Manganese feasibility study
- Platreefs 2013: Scoping study review
- Wits Gold 2013: Burnstone operational preparation
- Gold One 2013: Houtpoort Concept study
- Wits Gold 2012: De Bron Merriespruit PFS
- Bulyanhulu 2012 Super Ramp transport PFS
- ENCR 2013 Mamatwan concept study
- African Nickel 2013 Jacomynspan concept study
- Mineral Corp 2013 Petra Diamonds review
- ARM 2011: Smelters insurance valuations
- The Mineral Corporation 2012: Zimplats third party review
- DRA 2012: Garatau pier review
- Gold One 2012: Ventersburg Metallurgical Plant BFS
- Goldfields 2012: South Deep build-up plan
- Ferrexpo 2011: Pre-feasibility study for Iron ore mines in Ukraine
- Cons Murch 2011: Rehabilitation liability
- RandGold Resources 2011: Underground mining infrastructure design and access options trade off for Loulo mine, Mali
- Roode Heuwel Sands 2011: Project study
- Chromex Mining 2011: Mecklenburg and Stellite mines desk top studies

- The Mineral Corporation 2011: Booyensdal Competent Person's Report update
- Eastplats / Unicredit 2011: Crocodile River, Mareesburg and Spitskop mines review
- Mkhombi Mining 2011: Cascade iron ore project scoping study
- Tshipi Manganese 2011: Trucking vs. Conveyors trade-off
- AngloGold Ashanti 2010: Sadiola Deeps, Mali – Concept study
- Pan African Resources 2010: Manica Gold Project, Mozambique – Engineering study
- Eastern Goldfields 2010: Barbrook mine feasibility study
- Southgold Exploration 2009: Burnstone mine – Underground water reticulation and infrastructure design
- Phosco 2009: West Coast project concept study
- Foskor 2009: Tailings transfer pump station upgrade design
- IDC 2008: Independent Engineer's Review of pan diamond plant
- SRK Consulting 2008: Afrimat due diligence
- SRK Consulting 2008: SamQuarz CPR update
- Kryso Resources 2008: Pre- and Bankable feasibility studies for Pakrut gold mine, Tajikistan
- SRK Consulting 2007: Wesizwe Platinum project – Engineering services report
- SRK Consulting 2007: Muliashi L.C.M.Zambia – Competent Person's Report
- Highland Gold 2007: Design and feasibility for Mayskoye Gold Mine in Serbia, Russia.
- Eastern Gold Fields 2007: Feasibility Study for Lily Gold Mine.
- Johannesburg Water 2006: Design, specifications and tender award for unit 5 expansion at Northern Waste Water Treatment Works.
- Southern Era, 2003/2004: Bankable feasibility study for Messina Platinum phase 2 & 3
- Avgold, 2002: Bankable feasibility study for Dwarsrivier Chrome mine
- Aflase, 2003: Pre-feasibility study for the Modder East Gold mine
- AngloGold Ashanti, 2003: Feasibility study, design and specifications – Hydropower and cooling water circuits
- Foskor Ltd, 2002: Tailings re-mining project - Feasibility study, Phalaborwa
- Crown Gold Recoveries, 2002: Gold dump re-treatment. Design of reclamation and cyclone and spirals plant
- Samancor Ltd, 2002: Eastern Chrome and Western Chrome Mines - Feasibility study for major expansion
- Palabora Mining Company, 2001: Slurry and water distribution systems



- Rand Water, 2000: Kroondal-Photsaneng construction of bulk water supply pipeline, Rustenburg.
- Lepelle Northern Water, 1996: Potable Water Supply Extensions, Phalaborwa
- Various In-house Mining Projects, South Africa, 1986-1988: In charge of mechanical, electrical and civil engineering functions within the group.
- Electrolytic Copper Refinery, Mangula Copper Mine, Zimbabwe 1981: Project Manager for EPCM
- Crushing, Milling and Smelter Designs 1979-1980.
- Mine and Process Engineer, Messina, South Africa:1975-1978

Employment History

Presently	Principal Engineer	Bara Consulting
2012-2014	Principal Engineer	Royal Haskoning DHV
2002 - 2012	Principal Engineer	Turgis Consulting (Pty) Ltd
2001 - 2002	Lead Mechanical Engineer	Knight Piésold (Pty) Ltd
1999 - 2001	Associate	Knight Piésold (Pty) Ltd
1998 - 1999	Principal Engineer	Knight Piésold (Pty) Ltd
1986 - 1998	Chief Engineer	Messina Investments
1982 - 1985	Design Engineer	Messina Investments
1981	Project Manager	Messina Investments
1979 - 1980	Assistant Design Engineer	Messina Investments
1978	Smelter Engineer	Messina Investments
1975 - 1978	Section Engineer	Messina Investments
1970	Assistant Site Engineer	Gwaai River Mine