

Guy Wiid

Director, Epoch Resources (Pty) Ltd



mine residue and environmental engineering consultants

BACKGROUND

Guy Wiid is a director of Epoch Resources (Pty) Ltd and is based in Johannesburg, South Africa. He is registered as a Professional Engineer with the South African Council for Professional Engineers.

Guy has been involved in the mining waste and environmental management field for 19 years during which time he has worked in the fields of power station and mining waste management, rehabilitation and closure design, implementation of environmental management systems, surface water management, due diligence investigations and project management of construction and rehabilitation contracts.

Guy's experience includes work on projects in South Africa, Namibia, Botswana, Mozambique, Zimbabwe, Mali, Tanzania, DRC, Ghana and Australia. His experience includes conceptual, feasibility and detailed design of tailings storage facilities, rehabilitation and closure design and project management, calculation of mine closure liabilities, design and implementation of environmental management systems, environmental and technical auditing and due diligence investigations.

Guy has worked on projects for a variety of local and international mining companies including BHP Billiton, Goldfields, AngloGold, Anglo American Base Metals, Angloplats, DeBeers, Debswana, Impala Platinum, Southern Era Resources, Aquarius Platinum and UraniumOne, Boynton Investments and Platmin.

FIELDS OF COMPETENCE

- Project management of construction, rehabilitation, and bulk materials handling projects;
- Conceptual, feasibility and detailed design of rehabilitation and closure works;
- Quantification and structuring of financial provisions for rehabilitation, closure and aftercare of mining operations;

- Conceptual, feasibility and detailed design of mineral residue deposits;
- Site selection for mineral residue deposits;
- Seepage and slope stability calculations;
- Water balance calculations;
- Design of surface water management systems and pollution control works;
- Design of hydraulic structures;
- Environmental liability and risk assessments;
- Due diligence investigations;
- Development and implementation of environmental management systems to ISO 14001 standards;

ACADEMIC QUALIFICATIONS

BSc (Eng) CIVIL (Witwatersrand 1988)

MSc (Eng) CIVIL (Witwatersrand 1995)

Completed short course on the Financial Modelling of Mining Projects presented by Prof Dennis Buchanan of Imperial College, London.

PROFESSIONAL REGISTRATION

Registered as a Professional Engineer in the Republic of South Africa (Registration No. 940269)

PROFESSIONAL MEMBERSHIPS

None

Physical Address	Ground Floor Uplands 13, The Woodlands Office Park, Woodlands Drive, Woodmead, 2148, Johannesburg, South Africa
Postal Address	PO Box 6, The Woodland, 2080, South Africa
Telephone	+27 (11) 656 0380/1, +27 (11) 802 3657
Facsimile	+27 (11) 802 3654
Web Address	www.epochresources.co.za
Company Registration	Epoch Resources (Pty) Ltd, No 2005/007908/07
Directors	GJ Wiid, Dr. G Papageorgiou, A Savvas, SJP Coetzee

KEY PROJECTS – SOUTH AFRICA

DEBEERS, FEASIBILITY STAGE ESTIMATE OF CLOSURE LIABILITIES FOR VOORSPOED DIAMOND MINE, SOUTH AFRICA (2005)

Developed an estimate of closure liabilities associated with an open pit diamond mining operation in accordance with the recently promulgated legislation governing mine closure in South Africa. A model was developed to distinguish between closure related expenditure during the various phases of the mine development and to predict the total cost of making the required provision for rehabilitation and closure.

AFRIKANDER LEASES, FEASIBILITY STAGE ESTIMATE OF CLOSURE LIABILITIES, SOUTH AFRICA (2005)

Developed an estimate of closure liabilities associated with an existing gold mining operation which was to be expanded to include the mining and processing of uranium ores. The estimate was structured to conform to the requirements of recently promulgated legislation governing mine closure in South Africa.

AFRIKANDER LEASES, REVIEW OF EXISTING OPERATION AND CONCEPTUAL DESIGN AND LIFE CYCLE COSTING OF GOLD AND URANIUM TAILINGS STORAGE FACILITY, SOUTH AFRICA (2005)

Review of the current status of an existing gold tailings storage facility and the development of a plan for the re-commissioning of the facility to accept a combination of gold and uranium tailings. A life cycle model of capital, operating and closure expenditure was developed for inclusion in the overall financial model of the proposed project.

BHP BILLITON, CLOSURE DESIGN AND MANAGEMENT OF REHABILITATION WORKS FOR PERING LEAD AND ZINC MINE, SOUTH AFRICA (2004 - 2005)

Design and specification of closure works based on recommendations of a team of specialists responsible for investigation of the various aspects of the closure process. Implementation phase included tender letting and adjudication, award and management of earthworks and demolition contract.

SOUTHERNERA RESOURCES, BANKABLE FEASIBILITY DESIGN OF PLATINUM TAILINGS STORAGE FACILITIES, SOUTH AFRICA (2003 - 2004)

Responsible for site selection and bankable feasibility design of tailings storage facilities for proposed extensions to existing platinum mining operations. Various configurations of TSF were developed to accommodate a range of mine development strategies. Life of mine capital, operating and closure cost estimate were produced for each option. Decision on project implementation was deferred in anticipation of more favorable economics.

SOUTHERNERA (MESSINA PLATINUM MINES LTD), ONGOING TECHNICAL SUPPORT FOR OPERATION OF PLATINUM TAILINGS STORAGE FACILITY, SOUTH AFRICA (2001 - 2005)

Developed operating manual for the platinum tailings storage facility. Carried out periodic inspection of the operation of the facility in conjunction

with mine management and the tailings facility operator as called for in legislation. Compiled annual review of the operation of the facility based on information collected during the operations.

SOUTHERNERA RESOURCES, DESIGN OF WASTE ROCK DISPOSAL FACILITY, SOUTH AFRICA (2004)

Designed a waste rock disposal facility to comply with the requirements of the water use licensing process. Design was carried out such that the facility would be developed in phases and would incorporate the existing facility. Design included basic storm water management facilities and estimates of development costs for the facility. Designs were submitted to the authorities and approved for implementation.

CONGO MINERAL DEVELOPMENTS, CONCEPTUAL DESIGN AND LIFE CYCLE COSTING OF COPPER TAILINGS STORAGE FACILITY, DRC (2004)

Developed conceptual layout and design of tailings storage facility based on a variety of life of mine and tailings deposition strategies. The estimates of costs were incorporated into the overall financial model for the project, which is expected to proceed to full feasibility design. Conceptual design process included liaison with environmental impact assessment team.

DUE DILIGENCE INVESTIGATION – CHROME MINING AND PROCESSING OPERATIONS, SOUTH AFRICA (2004)

Provided specialist input to the due diligence process undertaken on a major chrome mining and smelting operation in the fields of tailings disposal, surface water management and closure planning.

AQUARIUS PLATINUM SA, DEVELOPMENT AND UPDATING OF CLOSURE COST ESTIMATE FOR MARIKANA PLATINUM MINE, SOUTH AFRICA (2001 - 2004)

Responsible for the development of an estimate of closure liabilities associated with an open pit platinum mining operation. Initial estimate of liabilities based on commitments in approved EMPR. During review and updating of the estimated closure obligations methods were developed for linking accrual of liability to the rate of depletion of the ore reserve and the prevailing economic conditions.

PLATINUM MILE PROJECT, BANKABLE FEASIBILITY DESIGN OF PLATINUM TAILINGS STORAGE FACILITY, SOUTH AFRICA (2002)

Responsible for the bankable feasibility design of a platinum tailings storage facility as part of a tailings re-treatment project. Project included feasibility design and development of a life of mine financial model for the proposed facility. The economics of the overall project were however such that it did not proceed to implementation.

SOUTHERNERA (MESSINA PLATINUM MINES LTD), DETAILED DESIGN AND CONSTRUCTION PROJECT MANAGEMENT OF PLATINUM TAILINGS STORAGE FACILITY, SOUTH AFRICA (2001)

Responsible for the development of a platinum tailings storage facility, from conceptual to detailed design and construction management. Implementation phase included compilation of contract documentation,

tender adjudication and award, and management of the construction process on behalf of the mine. The project was completed on time and under budget.

REHABILITATION AND CLOSURE OF HARTEBEEFONTEIN GOLD TAILINGS STORAGE FACILITY, SOUTH AFRICA (2000)

Responsible for detailed design of civil works required to enable the re-vegetation and closure of a gold tailings storage facility. Facility had been dis-used for some time and extensive re-shaping of the eroded surfaces of the facility had to be undertaken prior to the re-establishment of vegetation. Project was carried out together with a specialist re-vegetation contractor. Responsibilities included management of the implementation phase on behalf of the client.

DEBEERS (NAMAKWALAND MINES), IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT SYSTEMS, SOUTH AFRICA (2000)

Participated in the implementation of environmental management systems for of diamond mining operations. Roles fulfilled included facilitation of risk assessment workshops, development of system procedures and internal auditing.

DUE DILIGENCE INVESTIGATION – PURCHASE OF GOLD MINE (AFRIKANDER LEASES), SOUTH AFRICA (1998)

Provided specialist input to a team evaluating the proposed transaction. Responsible for review of environmental, tailings storage and heap leaching operations associated with an open cast gold mining operation, on behalf of a prospective purchaser. Construction of the proposed heap leaching operation was found not to conform to generally accepted practices and contributed to the purchaser electing to terminate the acquisition.

ESKOM, VERIFICATION OF ANNUAL ENVIRONMENTAL REPORT, SOUTH AFRICA (1999, 2000)

Responsible for independent review and verification of information contained in Eskom's Annual Environmental Report. Findings of review and verification process were published in the report.

DUE DILIGENCE INVESTIGATIONS – HEINZ FOODS

Responsible for review of surface water and waste management practices of a producer of dried fruits on behalf of the proposed purchaser's attorneys.

AFRICAN RAINBOW MINERALS (ARM), DUE DILIGENCE INVESTIGATIONS – PURCHASE OF GOLD MINE, SOUTH AFRICA, (1999)

Review of environmental liabilities associated with the purchase of a gold mining shaft on behalf of the proposed purchaser.

CLOSURE DESIGN FOR CAROLUSBERG COPPER TAILINGS STORAGE FACILITY, SOUTH AFRICA (1997)

Development of conceptual closure plan for copper tailings storage facility. Responsible for design of civil works and liaison with specialist vegetation consultant in the development of final cover options.

FREEGOLD, CLOSURE DESIGN AND IMPLEMENTATION FOR GOLD TAILINGS STORAGE FACILITIES, SOUTH AFRICA (1996)

Responsible for the design of civil works required for the rehabilitation of a number of gold Tailings Storage Facilities in the Welkom area of South Africa. Implementation phase included compilation of performance based contract documentation, co-ordination of the tender process, tender adjudication, contract award and project management of the works.

BOYNTON INVESTMENTS (PLATMIN) BANKABLE FEASIBILITY DESIGN OF TAILINGS STORAGE, SOUTH AFRICA (2005 - 2009)

Site selection and bankable feasibility design of tailings storage facilities for proposed platinum mining operations. Various configurations of TSF were developed to accommodate various mine development strategies. Life of mine capital, operating and closure cost estimate were produced for each option.

- Pilanesberg Platinum Mine
- Mphahlele PGM Project
- Grootboom PGM Project

BOYNTON INVESTMENTS (PLATMIN) DETAILED DESIGN AND CONSTRUCTION MANAGEMENT OF TAILINGS STORAGE, SOUTH AFRICA (2008 - 2009)

Detailed design and construction supervision of Tailings Storage Facility, including verification of technical and financial completion of construction process.

REVIEW OF FINANCIAL PROVISION FOR CLOSURE, SOUTH AFRICA (2008)

Review of financial provisions for closure of major coal mining operation comprising both underground and surface operations. Estimate was required to support disclosure of provisions in annual financial statements.

DEFINITIVE FEASIBILITY DESIGN OF FLUORSPAR TAILINGS STORAGE FACILITY, SOUTH AFRICA (2009)

Definitive feasibility design of fluorspar tailings storage facility for proposed mine and concentrator plant. Design included site selection, feasibility design and estimate of life cycle costs for the facility

KEY PROJECTS - INTERNATIONAL**IMPALA PLATINUM, PEER REVIEW – DESIGN REVIEW OF NGEZI PLATINUM TAILINGS STORAGE FACILITY, ZIMBABWE (2004)**

Conducted third party review of bankable feasibility design of platinum tailings storage facility in Zimbabwe. Responsible for review of available information and the compilation of the review report.

GOLDFIELDS GHANA, COMPILATION OF COSTED RECLAMATION PLANS FOR TARKWA GOLD MINE, GHANA (2001 - 2004)

Compiled of costed reclamation plan for open pit mining operations and associated infrastructure at the Tarkwa Gold Mine. Project required the development of a financial model of the operation's point in time and life of mine closure obligations and formed the basis of the mines bonding arrangements with the authorities.

DEBSWANA (JWANENG AND ORAPA), IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT SYSTEMS, BOTSWANA (1999 – 2001)

Development and implementation of environmental management systems for the Jwaneng and Orapa diamond mines. Project included facilitation of risk assessment workshops, development of system procedures, internal auditing and overall project management.

ANGLO AMERICAN, SITE SELECTION AND FEASIBILITY DESIGN OF NICKEL TAILINGS STORAGE FACILITY, TANZANIA (1999)

Site selection and feasibility design of a potentially acid generating nickel tailings storage facility. Facility designed as a valley impoundment with sub-aqueous deposition and final cover design to prevent the ingress of oxygen. Design included detailed modeling of post closure water balance for the facility in order to assess the feasibility of maintaining sub-aqueous conditions in perpetuity.

REVIEW OF TAILINGS STORAGE FACILITY AND FINANCIAL PROVISION FOR CLOSURE FOR GOLD MINE, MALI, (2004)

Completed review of tailings storage capacity and financial provisions for closure for a small gold mine located in the south of Mali. Review required for pre-listing prospectus.

FENI INDUSTRIES, REVIEW OF FINANCIAL PROVISION FOR CLOSURE, EASTERN EUROPE (2007)

Compilation of estimated financial provision required for rehabilitation and closure of mine and smelter sites. Estimate required for inclusion in annual financial statements.

COMPILATION OF CONCEPTUAL CLOSURE PLAN AND ESTIMATE OF FINANCIAL PROVISION FOR CLOSURE FOR PROPOSED ZINC MINE, BURKINA FASO, (2005)

Compiled conceptual closure plan and estimate of financial provision for closure. Conceptual plan and estimate were required for inclusion in Bankable Feasibility Study and EIA.

RAUB AUSTRALIAN GOLD MINES, DESIGN OF INTERIM TAILINGS STORAGE FACILITY, MALAYSIA (2007)

Design of containment facility to address the short term tailings storage requirements for small scale re-mining and processing operation.

BANKABLE FEASIBILITY DESIGN OF COPPER / COBALT TAILINGS STORAGE FACILITY, DEMOCRATIC REPUBLIC OF THE CONGO, (2008)

Bankable feasibility design of copper / cobalt tailings storage facility for proposed expansion of existing mining operation to the east of Kolwezi. Design proposed the use of overburden and mining waste materials to construct a co-disposal impoundment facility and associated return water and storm water management facilities.

BANKABLE FEASIBILITY DESIGN OF COPPER / COBALT TAILINGS STORAGE FACILITY, DEMOCRATIC REPUBLIC OF THE CONGO, (2008)

Bankable feasibility design of copper / cobalt tailings storage facility for proposed expansion of existing mining operation to the west of Lubumbashi. Design proposed the use of overburden and mining waste materials to construct a co-disposal impoundment facility and associated return water and storm water management facilities.