

Andy Smithen

Principal Engineer



Profession	Environmental Engineer
Education	MBL, UNISA, Johannesburg, 1994 MSc, Eng, Agric, University of Natal, 1981 BSc, Eng, Civil, University of Natal, 1976
Registrations/ Affiliations	Pr Eng (South Africa), 120/83 MSAICE, MSAIAE, MSAIMM

Specialisation	Environmental management, mine closure planning, environmental auditing, rehabilitation planning, due diligence, environmental risk assessment, environmental impact assessment
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Expertise	<p>Andy Smithen has been involved in the field of environmental engineering for the past 26 years. His expertise includes:</p> <ul style="list-style-type: none"> • compilation of Environmental Impact Assessments and Environmental Management Plans for numerous mines; • closure planning and costing; • assessment of environmental risk for operating mines and redundant operations; • environmental due diligence and liability assessments and environmental auditing. <p>Andy has also been involved in the development of risk based decision-making methodologies and has assisted in the development of water management plans.</p>
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Employment

2003 – present	SRK Consulting (Pty) Ltd, Environmental Department, Partner, Durban
2001 – 2003	SRK Consulting (Pty) Ltd, Environmental Department, Director, Johannesburg
1998 – 2001	SRK Consulting (Pty) Ltd, Water and Environmental Technology Department, Director, Johannesburg
1995 – 1998	SRK Consulting (Pty) Ltd, Environmental Department, Principal Engineer, Johannesburg
1992 – 1995	Gengold, Manager, Environmental Management
1986 – 1992	Trans Natal Coal Corporation, Manager, Environmental Management
1977 – 1986	Department of Agriculture, Engineer

Publications	Numerous papers published relating to environmental management.
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Languages	English – read, write, speak Afrikaans – read, write, speak
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Publications

1. Various papers on soil erosion research, agricultural engineering principles applied to rehabilitation, environmental management in the mining environment, and environmental impact assessment in southern Africa.

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Key Experience: Due diligence

Location: Zimbabwe
 Project duration & year: 2013
 Client: Confidential
 Name of Project: Confidential
 Project Description: Environmental and social due diligence an underground mine.
 Job Title and Duties: Environmental and social specialist
 Value of Project: n/a

Location: Mpumalanga Province. South Africa
 Project duration & year: 2013
 Client: Confidential
 Name of Project: Confidential
 Project Description: Environmental gap analysis for a mining feasibility study
 Job Title and Duties: Environmental specialist
 Value of Project: n/a

Location: Namibia
 Project duration & year: 2012 – 2013
 Client: Confidential
 Name of Project: Confidential
 Project Description: Due diligence for a mining operation
 Job Title and Duties: Environmental reviewer
 Value of Project: n/a

Location: Zambia and the DRC
 Project duration & year: 2012 – 2013
 Client: Confidential
 Name of Project: Confidential
 Project Description: Environmental and social due diligence for open pit and underground copper mines.
 Job Title and Duties: Environmental and social specialist
 Value of Project: n/a

Location: Gauteng
 Project duration & year: 2012 – 2013
 Client: Confidential
 Name of Project: Confidential
 Project Description: Environmental and social due diligence for underground gold mines
 Job Title and Duties: Environmental and social specialist
 Value of Project: n/a

Location: Kwa Zulu Natal
 Project duration & year: 2012
 Client: Confidential
 Name of Project: Confidential
 Project Description: Environmental risk assessment and closure cost review for a smelter
 Job Title and Duties: Environmental specialist
 Value of Project: n/a

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Key Experience: Due diligence

Location: South Africa, Limpopo Province
 Project duration & year: 2012
 Client: Vergenoeg Flourspar Mine
 Name of Project: Vergenoeg Risk Assessment
 Project Description: Compilation of a risk matrix and report for all aspects of the mining operation
 Job Title and Duties: Project manager
 Value of Project: ZAR 300 000

Location: South Africa, Gauteng Province
 Project duration & year: 2012
 Client: n/a
 Name of Project: Confidential
 Project Description: High level environmental due diligence for two building material manufacturing sites
 Job Title and Duties: Project manager
 Value of Project: ZAR 100 000

Location: South Africa, Free State Province
 Project duration & year: 2011 – 2012
 Client: n/a
 Name of Project: Confidential
 Project Description: Environmental and Social component of a due diligence for the transfer of a coal mine to a BEE Company
 Job Title and Duties: Environmental and social specialist
 Value of Project: Part of a bigger project

Location: South Africa
 Project duration & year: 2011
 Client: n/a
 Name of Project: Confidential
 Project Description: Directors Liability assessment for a number of Iron Ore and Manganese mines
 Job Title and Duties: Environmental and social specialist
 Value of Project: ZAR500 000

Location: South Africa
 Project duration & year: 2011
 Client: n/a
 Name of Project: Confidential
 Project Description: Directors Liability assessment for a manganese mine in the Northern Cape
 Job Title and Duties: Environmental and social specialist
 Value of Project: ZAR200 000

Location: South Africa
 Project duration & year: 2011
 Client: n/a
 Name of Project: Confidential
 Project Description: Environmental and social due diligence for a number of coal mines
 Job Title and Duties: Environmental and social specialist
 Value of Project: Part of a bigger project

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Key Experience: Due diligence

Location: South Africa
 Project duration & year: 2011
 Client: n/a
 Name of Project: Confidential
 Project Description: Due diligence for a Greenfields platinum project
 Job Title and Duties: Environmental and social specialist
 Value of Project: Part of a bigger project

Location: Zimbabwe
 Project duration & year: 2010
 Client: n/a
 Name of Project: Confidential
 Project Description: Environmental Due Diligence for a gold mine
 Job Title and Duties: Environmental and social specialist
 Value of Project: Part of a bigger project

Location: Democratic Republic of the Congo
 Project duration & year: 2008
 Client: Confidential
 Name of Project: Confidential
 Project Description: Environmental Due Diligence
 Job Title and Duties: Environmental and social specialist
 Value of Project: Part of a bigger project

Location: North West Province, South Africa
 Project duration & year: 2007-2008
 Client: Uranium One
 Name of Project: Due Diligence
 Project Description: Environmental due diligence for operational uranium mine.
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

Location: Copperbelt and Southern Province, Zambia
 Project duration & year: 2007-2008
 Client: Confidential
 Name of Project: Confidential
 Project Description: Environmental and social due diligence for three gemstone mines.
 Job Title and Duties: Environmental and social specialist
 Value of Project: Part of a bigger project

Location: Democratic Republic of the Congo
 Project duration & year: 2005
 Client: Confidential
 Name of Project: Confidential
 Project Description: Environmental input for feasibility studies for proposed copper mines
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

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Key Experience: Due diligence

Location: Republic of Macedonia
 Project duration & year: 2005
 Client: Confidential
 Name of Project: Confidential
 Project Description: Environmental input for a mining and smelting operation
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

Location: Free State Province, South Africa
 Project duration & year: 2005
 Client: Buffelsfontein
 Name of Project: Due diligence
 Project Description: Environmental due diligence for Buffelsfontein Chrome Mine
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

Location: Lesotho
 Project duration & year: 2005
 Client: Confidential
 Name of Project: Confidential
 Project Description: Environmental due diligence for a diamond mine
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

Location: Lesotho
 Project duration & year: 2003-Present
 Client: Kao
 Name of Project: Due diligence
 Project Description: Environmental due diligence for Kao Diamond Mine and subsequent follow up work
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

Location: India
 Project duration & year: 2003
 Client: Sterlight in Rajasthan.
 Name of Project: Due diligence
 Project Description: Environmental due diligence for the Lead Zinc mining operations of Sterlight in Rajasthan.
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

Location: Mpumalanga, South Africa
 Project duration & year: 2003
 Client: Middleburg Consolidated Coal Mines
 Name of Project: Middleburg due diligence
 Project Description: Environmental due diligence for Middleburg Consolidated Coal Mines
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

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Key Experience: Due diligence

Location: Zambia
 Project duration & year: 2002
 Client: Konkola Mines Zambia
 Name of Project: Due diligence
 Project Description: Environmental due diligence for Konkola Mines Zambia
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

Location: Western Cape
 Project duration & year: 2002
 Client: n/a
 Name of Project: Marine diamonds
 Project Description: Environmental due diligence for off shore diamond mining.
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

Location: South Africa
 Project duration & year: 2002
 Client: Spoornet
 Name of Project: Environmental due diligence
 Project Description: Environmental due diligence audit of the operations of Spoornet for the proposed privatisation of Spoornet
 Job Title and Duties: Environmental team leader
 Value of Project: ZAR 500 000

Location: Free State Province, South Africa
 Project duration & year: 2001
 Client: Freegold
 Name of Project: Environmental due diligence
 Project Description: Environmental due diligence for Freegold
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

Location: North West Province, South Africa
 Project duration & year: 2001
 Client: Afrikaner Leases
 Name of Project: Environmental due diligence
 Project Description: Environmental due diligence for Afrikaner Leases
 Job Title and Duties: Environmental Specialist
 Value of Project: Part of a bigger project

Location: Swaziland
 Project duration & year: 2001
 Client: Maloma Colliery
 Name of Project: Exit environmental due diligence
 Project Description: Exit environmental due diligence for dis-investment at Maloma Colliery
 Job Title and Duties: Team leader
 Value of Project: ZAR 100 000

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Key Experience: Due diligence

Location: North West Province and Free State.
 Project duration & year: 2001
 Client: African Rainbow Minerals
 Name of Project: ARM due diligence
 Project Description: Environmental due diligence for African Rainbow Minerals
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

Location: South Africa
 Project duration & year: 2001
 Client: Spoornet
 Name of Project: Spoornet due diligence: coal mines
 Project Description: Environmental due diligence of coal mining operations using the Coallink railway of Spoornet
 Job Title and Duties: Environmental team leader
 Value of Project: Part of a bigger project

Location: Gauteng and Free State, South Africa
 Project duration & year: 2001
 Client: Harmony Gold Mining Operations
 Name of Project: Harmony due diligence
 Project Description: Environmental due diligence for Harmony Gold Mining Operations
 Job Title and Duties: Environmental specialist.
 Value of Project: Part of a bigger project

Location: Mpumalanga, South Africa
 Project duration & year: 2000-2002
 Client: Eastern Transvaal Consolidated Gold Mines and Target Gold Mine
 Name of Project: Eastern Transvaal Consolidated
 Project Description: Environmental due diligence for Avgold, including Eastern Transvaal Consolidated Gold Mines and Target Gold Mine This work extended from 2000 to 2002 and included due diligence audits for the raising of capital by Avgold to the acquisition of ETC by Metorex
 Job Title and Duties: Environmental Specialist
 Value of Project: Part of a bigger project

Location: Namibia
 Project duration & year: 2000
 Client: Gobabis Sepeolite
 Name of Project: Environmental due diligence
 Project Description: Environmental due diligence for a sepeolite mine in Gobabis
 Job Title and Duties: Environmental team leader
 Value of Project: Part of a bigger project

Location: Zimbabwe
 Project duration & year: 2000
 Client: Ngezi Platinum Mine
 Name of Project: Ngezi platinum
 Project Description: Environmental due diligence for Ngezi Platinum Mine
 Job Title and Duties: Environmental specialist
 Value of Project: Part of a bigger project

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Key Experience: Due diligence

Location: South Africa
 Project duration & year: 1998
 Client: Goldfields gold assets and Gengold
 Name of Project: Due Diligence
 Project Description: Due Diligence for the merger between Goldfields gold assets and Gengold
 Job Title and Duties: Team leader
 Value of Project: Part of a bigger project

Location: South Africa
 Project duration & year: 1997
 Client: AngloGold
 Name of Project: Due Diligence
 Project Description: Due Diligence for formation of AngloGold
 Job Title and Duties: Team leader
 Value of Project: Part of a bigger project

Key Experience: Environmental impact assessment and environmental management planning

Location: Limpopo Province, South Africa
 Project duration & year: 2012 – On Going
 Client: Sasol Mining
 Name of Project: Environmental Impact Assessments / Environmental Management Plan
 Project Description: EIA / EMP for a proposed coal mine. Waterberg Coal Field
 Job Title and Duties: Project Reviewer
 Value of Project: n/a

Location: KwaZulu Natal, South Africa
 Project duration & year: 2012 – On Going
 Client: Richards Bay Minerals
 Name of Project: Environmental Impact Assessments / Environmental Management Plan
 Project Description: EIA / EMP for a proposed new mining area
 Job Title and Duties: Project Reviewer
 Value of Project: n/a

Location: KwaZulu Natal, South Africa
 Project duration & year: 2012 – On Going
 Client: Richards Bay Minerals
 Name of Project: Environmental Impact Assessments / Environmental Management Plan
 Project Description: EIA / EMP for a services corridor for proposed new mining area.
 Job Title and Duties: Project Reviewer
 Value of Project: n/a

Location: Limpopo Province, South Africa
 Project duration & year: 2011-2012
 Client: Anglo Platinum Mogalakwena Mine
 Name of Project: Environmental Impact Assessments for Environmental Management Plan Amendments
 Project Description: Several EIAs and Basic Assessments for proposed developments at the mine
 Job Title and Duties: Project Reviewer
 Value of Project: n/a

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Key Experience: Environmental impact assessment and environmental management planning

Location: Limpopo Province, South Africa
 Project duration & year: 2011-2012
 Client: China Minmetals
 Name of Project: Naboom Social and Labour Plan
 Project Description: Social and Labour plan for a proposed chrome mine
 Job Title and Duties: Project Reviewer
 Value of Project: Value of project ZAR 3 million

Location: Mpumalanga Province, South Africa
 Project duration & year: 2010-2011
 Client: Samancor
 Name of Project: Samancor Energy Recovery Plant EIAs
 Project Description: EIA for energy co-generation projects for several smelters
 Job Title and Duties: Project Reviewer
 Value of Project: Value of project ZAR 3 million

Location: Limpopo Province, South Africa
 Project duration & year: 2010 – 2011
 Client: China Minmetals
 Name of Project: Naboom Chrome mining project EIA
 Project Description: EIA for the Naboom greenfields chrome mining project
 Job Title and Duties: Project Reviewer
 Value of Project: Value of project ZAR 3 million

Location: Limpopo Province, South Africa
 Project duration & year: 2009 – 2011
 Client: Central Energy Fund
 Name of Project: Vlakfontein Coal mine EIA
 Project Description: EIA for a greenfields coal mining project
 Job Title and Duties: Project Reviewer
 Value of Project: Value of project ZAR 5 million

Location: Maun area, Botswana
 Project duration & year: 2009 – 2010
 Client: Discovery Metals Limited
 Name of Project: Boseto Copper Mine
 Project Description: EIA for a greenfields copper mining project
 Job Title and Duties: Project Reviewer
 Value of Project: Value of project ZAR 3 million

Location: From Komatipoort to Kendal in Mpumalanga, South Africa
 Project duration & year: 2007 – 2009
 Client: Petroline Pipeline
 Name of Project: Petroline Pipeline
 Project Description: Route Selection and Environmental Impact Assessment
 Job Title and Duties: Project Reviewer
 Value of Project: Capital value of project – estimated at ZAR 4 billion

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Key Experience: Environmental impact assessment and environmental management planning

Location: North West Province South Africa
 Project duration & year: 2008 – ongoing
 Client: Aquarius Platinum Marikana Mine
 Name of Project: Aquarius Platinum Marikana Mine
 Project Description: Environmental Impact Assessment and Environmental Management Plan for new shaft and associated infrastructure
 Job Title and Duties: Project Reviewer
 Value of Project: ZAR 1 200 000

Location: Botswana and Namibia
 Project duration & year: 2008 – ongoing
 Client: Confidential
 Name of Project: Confidential
 Project Description: High level environment screening project for proposed project
 Job Title and Duties: Project Reviewer
 Value of Project: ZAR 1 500 000

Location: Botswana and Namibia
 Project duration & year: 2008
 Client: Trans Kalahari Railway line
 Name of Project: Trans Kalahari Railway line
 Project Description: Route Selection and Environmental Aspects of Pre-feasibility study for a railway line from Mmamabula in Botswana to the Namibian Coast. The project involved port and route selection and pre-feasibility environmental studies
 Job Title and Duties: Project Reviewer
 Value of Project: Not yet available

Location: Ngamiland – Botswana
 Project duration & year: 2007 – ongoing
 Client: Discovery Metals North West Botswana Copper Mine ESIA
 Name of Project: Discovery Metals North West Botswana Copper Mine ESIA
 Project Description: Environmental and Social Impact Assessment and Environmental Management Plan for new mining infrastructure to IFC standards
 Job Title and Duties: Project Reviewer and co-ordinator for related studies
 Value of Project: ZAR 3 500 000

Location: Katanga Province. Democratic Republic of the Congo.
 Project duration & year: 2007 – ongoing
 Client: Barytex International
 Name of Project: Barytex International. Shituru Mine ESIA
 Project Description: Environmental and Social Impact Assessment and Environmental Management Plan for new mining infrastructure to IFC standards
 Job Title and Duties: Project Reviewer
 Value of Project: ZAR 3 000 000

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Key Experience: Environmental impact assessment and environmental management planning

Location: Katanga Province, Democratic Republic of the Congo
 Project duration & year: 2007 – ongoing
 Client: Gem Diamonds. Mbelenge Mine ESIA
 Name of Project: Gem Diamonds. Mbelenge Mine ESIA
 Project Description: Environmental Impact Assessment and Environmental Management Plan for proposed alluvial diamond mine to IFC standards
 Job Title and Duties: Project Reviewer
 Value of Project: ZAR 1 200 000

Location: North West Province, South Africa
 Project duration & year: 2007 – ongoing
 Client: Rustenburg Platinum and Aquarius Platinum
 Name of Project: Rustenburg Platinum and Aquarius Platinum Pooling and Sharing Agreement. K6 EMP
 Project Description: Environmental Impact Assessment and Environmental Management Plan for new shaft and associated infrastructure
 Job Title and Duties: Project Reviewer
 Value of Project: ZAR 1 200 000

Location: North West Province, South Africa
 Project duration & year: 2007 – 2008
 Client: Rustenburg Platinum Mines
 Name of Project: Rustenburg Platinum Mines – Rustenburg Section Merensky Deeps EIA
 Project Description: Environmental Impact Assessment and Environmental Management Plan for new shaft and associated infrastructure
 Job Title and Duties: Project Reviewer
 Value of Project: ZAR 2 000 000

Location: Gauteng Province, South Africa
 Project duration & year: 2007
 Client: Harmony Gold Mine
 Name of Project: Harmony Gold Mine
 Project Description: Environmental Impact Assessment for proposed disposal of tailings in open cast pits. Initial assessment.
 Job Title and Duties: Project Reviewer
 Value of Project: ZAR 500 000

Location: North West Province, South Africa
 Project duration & year: 2007
 Client: Rustenburg Platinum and Aquarius Platinum Pooling and Sharing Agreement. K2 EMP
 Name of Project: Rustenburg Platinum and Aquarius Platinum Pooling and Sharing Agreement. K2 EMP
 Project Description: Environmental Impact Assessment and Environmental Management Plan for new ore bunker and load out facility
 Job Title and Duties: Project Reviewer
 Value of Project: ZAR 700 000

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Key Experience: Environmental impact assessment and environmental management planning

Location: Mpumalanga, South Africa
 Project duration & year: 2005
 Client: Doornbosch
 Name of Project: Doornbosch
 Project Description: Environmental Management Programme report for expansions at Eastern Chrome Mine
 Job Title and Duties: Team leader
 Value of Project: ZAR 300 000

Location: Democratic Republic of the Congo
 Project duration & year: 2005
 Client: Confidential
 Name of Project: Confidential
 Project Description: Environmental Impact Assessment for a copper project
 Job Title and Duties: Team leader
 Value of Project: n/a

Location: Gauteng and Free State, South Africa
 Project duration & year: 2004
 Client: Petronet
 Name of Project: Petronet
 Project Description: Environmental impact assessment and Environmental Management Plan for a petrol Pipeline for Petronet
 Job Title and Duties: Team Leader
 Value of Project: ZAR 200 000

Location: Mpumalanga, South Africa
 Project duration & year: 2004
 Client: Der Brochen
 Name of Project: Der Brochen
 Project Description: Environmental Management Plan for Addendams to Der Brochen Platinum Mine
 Job Title and Duties: Project reviewer
 Value of Project: ZAR 1000 000

Location: North West Province, South Africa
 Project duration & year: 2003
 Client: Kroondal
 Name of Project: Kroondal EMPR
 Project Description: Environmental Management Plan, as an addendum to the EMPR for Kroondal Platinum Mine
 Job Title and Duties: Project reviewer
 Value of Project: ZAR 300 000

Location: Northern Province, South Africa
 Project duration & year: 2003
 Client: Lebowa
 Name of Project: Lebowa EMPR
 Project Description: Environmental Management Plan for expansions to Lebowa Platinum Mine
 Job Title and Duties: Project reviewer
 Value of Project: ZAR 300 000

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Key Experience: Environmental impact assessment and environmental management planning

Location: Mpumalanga, South Africa
 Project duration & year: 2003
 Client: Der Brochen
 Name of Project: Der Brochen EMPR
 Project Description: Environmental management plan for proposed Der Brochen Platinum Mine for Anglo Platinum
 Job Title and Duties: Project reviewer
 Value of Project: ZAR 400 000

Location: Burkina Faso
 Project duration & year: 2002
 Client: Taparko
 Name of Project: Taparko scoping
 Project Description: Environmental scoping for a proposed gold mining operation
 Job Title and Duties: Project reviewer
 Value of Project: ZAR 200 000

Location: Swaziland
 Project duration & year: 2000 to present
 Client: Maguga
 Name of Project: Maguga EIA
 Project Description: Komati Basin Authority: Environmental Impact Assessment, Environmental Management Plans and Environmental Management Audits for Maguga dam
 Job Title and Duties: Environmental auditor
 Value of Project: Part of a bigger project

Location: Rustenburg
 Project duration & year: 2000 to present
 Client: Kroondal
 Name of Project: Kroondal EMP
 Project Description: Environmental management for Kroondal Platinum Mine
 Job Title and Duties: Review of work of outsourced (SRK) environmental control officer
 Value of Project: ZAR 400 000

Location: Limpopo Province, South Africa
 Project duration & year: 2000
 Client: Potgietersrust EMPR
 Name of Project: Potgietersrust EMPR
 Project Description: Environmental Management Plan for Potgietersrust Platinum Mine
 Job Title and Duties: Project reviewer
 Value of Project: n/a

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Key Experience: Closure planning, closure costing and environmental liability assessment

Location: Mpumalanga Province, South Africa
 Project duration & year: 2013 – on going
 Client: Anglo Coal
 Name of Project: Kriel Colliery – expansion project
 Project Description: Preliminary Closure Plan
 Job Title and Duties: Project Reviewer
 Value of Project: n/a

Location: Zambia
 Project duration & year: 2013
 Client: Lubambe Copper Mine
 Name of Project: Closure Cost Estimate. Lubambe Copper Mine
 Project Description: Mine closure cost estimate
 Job Title and Duties: Project Reviewer
 Value of Project: n/a

Location: Mpumalanga Province, South Africa
 Project duration & year: 2012
 Client: Anglo Coal
 Name of Project: Elders Colliery
 Project Description: Preliminary Closure Plan
 Job Title and Duties: Project Reviewer
 Value of Project: n/a

Location: Zambia
 Project duration & year: 2010-2011
 Client: Equinox Mining
 Name of Project: Closure Cost Estimate. Lumwana Copper Mine
 Project Description: Mine closure cost estimate
 Job Title and Duties: Project Manager
 Value of Project: ZAR 200 000

Location: Mpumalanga Province, South Africa
 Project duration & year: 2007 – 2012
 Client: Nkomati Mine
 Name of Project: Closure Cost Estimate. Nkomati Mine
 Project Description: Update of mine closure cost estimate
 Job Title and Duties: Project Reviewer
 Value of Project: ZAR 80 000 per annum

Location: Tanzania
 Project duration & year: 2007-2008
 Client: Bulyanhulu Gold Mine
 Name of Project: Closure Cost Estimate
 Project Description: Mine closure cost estimate
 Job Title and Duties: Project Reviewer
 Value of Project: ZAR 200 000

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Key Experience: Closure planning, closure costing and environmental liability assessment

Location: Mpumalanga Province, South Africa
Project duration & year: 2007
Client: Nkomati Mine
Name of Project: ZAR 80 000
Project Description: Update of mine closure cost estimate
Job Title and Duties: Project Reviewer
Value of Project: ZAR 80 000

Location: North West Province, South Africa
Project duration & year: 2007
Client: Rustenburg Platinum Mines – Union Section
Name of Project: Closure Cost Estimate
Project Description: Update of mine closure cost estimate
Job Title and Duties: Project Reviewer
Value of Project: ZAR 80 000

Location: Limpopo Province, South Africa
Project duration & year: 2007
Client: Lebowa Platinum Mines
Name of Project: Closure Cost Estimate
Project Description: Update of mine closure cost estimate
Job Title and Duties: Project Reviewer
Value of Project: ZAR 80 000

Location: Mpumalanga Province, South Africa
Project duration & year: 2006
Client: Nkomati Mine
Name of Project: Closure Cost Estimate
Project Description: Update of mine closure cost estimate
Job Title and Duties: Project Reviewer
Value of Project: ZAR 70 000

Location: North West Province, South Africa
Project duration & year: 2006
Client: Rustenburg Platinum Mines – Union Section
Name of Project: Closure Cost Estimate
Project Description: Update of mine closure cost estimate
Job Title and Duties: Project Reviewer
Value of Project: ZAR 70 000

Location: Limpopo Province, South Africa
Project duration & year: 2006
Client: Lebowa Platinum Mines
Name of Project: Closure Cost Estimate
Project Description: Update of mine closure cost estimate
Job Title and Duties: Project Reviewer
Value of Project: ZAR 70 000

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Key Experience: Closure planning, closure costing and environmental liability assessment

Location: Richards Bay, South Africa
 Project duration & year: 2005
 Client: Richards Bay Minerals
 Name of Project: Closure planning for Richards Bay Minerals
 Project Description: Compilation of a closure plan for the sand mining operations and processing works.
 Job Title and Duties: Project Reviewer
 Value of Project: ZAR 800 000

Location: North West Province, South Africa
 Project duration & year: 2004
 Client: Pandora Joint Venture
 Name of Project: Liability assessment
 Project Description: Liability assessment for Lonmin and Rustenburg Platinum Mines prior to the commencement of their joint venture agreement for the Pandora project
 Job Title and Duties: Environmental specialist
 Value of Project: ZAR 50 000

Location: Zambia
 Project duration & year: 2003
 Client: Konkola Copper Mines
 Name of Project: Closure planning
 Project Description: Provision of input for closure planning for Konkola Copper Mines
 Job Title and Duties: Closure planning specialist
 Value of Project: Part of the overall project

Location: Mozambique
 Project duration & year: 2003
 Client: Monarch Gold Mine
 Name of Project: Decommissioning and Closure Plan
 Project Description: Decontamination and closure plan for and abandoned gold mine
 Job Title and Duties: Project leader
 Value of Project: ZAR 400 000

Location: North West Province, South Africa
 Project duration & year: 2003
 Client: Between Kroondal Platinum Mine and Rustenburg Platinum Mines
 Name of Project: Liability assessment for the pooling and sharing agreement
 Project Description: Assessment of the individual and joint liabilities for the two mines prior to commencement of the pooling and sharing agreement for the joint project
 Job Title and Duties: Environmental specialist
 Value of Project: ZAR 50 000

Location: North West Province
 Project duration & year: 2003
 Client: Kroondal Platinum Mine
 Name of Project: Rehabilitation plan
 Project Description: Planning for the rehabilitation of open cast mine workings
 Job Title and Duties: Project reviewer
 Value of Project: ZAR 100 000

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Key Experience: Closure planning, closure costing and environmental liability assessment

Location: North West Province
 Project duration & year: 2002
 Client: Platinum mine
 Name of Project: Paste Backfill project
 Project Description: Evaluation of the environmental aspects of tailings backfilling using paste technology for a large Platinum mine
 Job Title and Duties: Closure specialist
 Value of Project: Part of a bigger project

Location: Kwa-Zulu Natal. South Africa
 Project duration & year: 2002
 Client: Welgedacht Colliery
 Name of Project: Welgedacht liability assessment
 Project Description: Mine closure liability assessment Welgedacht Colliery, for the Department of Minerals and Energy
 Job Title and Duties: Team leader
 Value of Project: ZAR 100 000

Location: Kwa-Zulu Natal, South Africa
 Project duration & year: 2002
 Client: Capital Coal
 Name of Project: Capital coal liability assessment
 Project Description: Mine closure liability assessment for Capital Coal.
 Job Title and Duties: Team Leader
 Value of Project: ZAR 50 000

Location: Northern Cape, South Africa
 Project duration & year: 2001
 Client: Bishop Manganese
 Name of Project: Bishop closure plan
 Project Description: Closure plan for the defunct Bishop Manganese for Assmang
 Job Title and Duties: Team Leader
 Value of Project: ZAR 300 000

Location: Potgietersrust
 Project duration & year: 2001
 Client: Potgietersrust Platinum
 Name of Project: Potgietersrust closure cost assessment
 Project Description: Closure cost estimate for Potgietersrust Platinum 2001
 Job Title and Duties: Team Leader
 Value of Project: ZAR 200 000

Location: South Africa
 Project duration & year: 2000
 Client: ISCOR
 Name of Project: Environmental Risk Assessment
 Project Description: Environmental closure liability assessment for the coal and iron ore mining operations of Iscor
 Job Title and Duties: Team member
 Value of Project: Part of a bigger project

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Key Experience: Closure planning, closure costing and environmental liability assessment

Location: South Africa
 Project duration & year: 2000
 Client: AngloGold
 Name of Project: Closure Cost Audit
 Project Description: Desk top audit of the closure cost estimate for the operations of AngloGold
 Job Title and Duties: Team Leader
 Value of Project: ZAR 50 000

Location: South Africa
 Project duration & year: 2000
 Client: Avgold and Avmin
 Name of Project: Avmin audit
 Project Description: Environmental audits and environmental liability assessments for Avgold and Avmin
 Job Title and Duties: Team Leader
 Value of Project: ZAR 500 000

Location: North West Province, South Africa
 Project duration & year: 2000
 Client: Impala
 Name of Project: Closure Cost
 Project Description: Closure costing for Impala Platinum
 Job Title and Duties: Team Leader
 Value of Project: ZAR 200 000

Location: North West Province, South Africa
 Project duration & year: 1997-2011
 Client: Kroondal Platinum Mine
 Name of Project: Kroondal Closure Costs
 Project Description: Annual closure cost estimates for Kroondal Platinum Mine
 Job Title and Duties: Project reviewer
 Value of Project: ZAR 400 000

Location: Free State Province, South Africa
 Project duration & year: 1996
 Client: Coalbrook
 Name of Project: Closure Plan
 Project Description: Closure plan for Coalbrook
 Job Title and Duties: Team leader responsible for closure planning
 Value of Project: ZAR100 000