

Annex A

## Detailed Curriculum Vitae of the BA Team

# Max Clark

Partner

Impact Assessment and Planning (IAP)



Max Clark is a Partner and the lead of ERM's Impact Assessment and Planning practice in South Africa, based in the Johannesburg office.

Max has more than 25 years of broad-ranging experience in the environmental sector. For much of the period he has focused on environmental planning and assessment of major capital projects in the infrastructure, mining and power sectors. Max has directed or managed major environmental scoping and feasibility studies; environmental and social impact assessments (ESIA); environmental management plans (EMPs); stakeholder engagements; and projects related to due diligence, compliance, monitoring and auditing.

Through his involvement with Engineering, Procurement and Contract Management (EPCM) companies and major projects Max has a thorough understanding of integrating sustainability principals and environmental and socio-economic objectives into capital project development through the project lifecycle.

Furthermore, Max is a specialist in sustainable port development and has been involved in a range of port developments, including port master planning, the development of terminals for containers, break bulk, coal, manganese, iron ore, LNG and RoRo for vehicles, harbour entrance widening and dredging studies.

Apart from his work on projects in African countries, Max has worked on projects in Paraguay and the Solomon Islands. He has also provided strategic support to teams working in Canada, Chile, Peru, Brazil, Russia and Australia.

## Fields of Competence

- Project Management
- Engineering, Procurement and Construction Management (EPCM)
- Environmental Impact Assessments (EIAs)
- Environmental Management Programmes (EMPs) and Systems
- Environmental Policy and Legislation
- Sustainable Port Development
- Due Diligence Studies
- Strategic Planning and Integration with Sustainable Development

## Professional Affiliations & Registrations

- South African Council for Natural Scientific Professions as a Professional Natural Scientist in Ecological, Environmental and Zoological Science (Registration Number: 400333/04)
- International Association of Impact Assessment (IAIAsa)
- Fellow of the Royal Entomological Society

## Education

- PhD, University of Cape Town, 1989
- MSc, Rhodes University, 1984
- BSc (Hons), Rhodes University, South Africa, 1980
- BSc, Rhodes University, South Africa, 1978

## Languages

- English
- Afrikaans

## Key Industry Sectors

- Mining and Minerals Processing
- Power
- Infrastructure
- Oil and Gas

## **Selected Project Experience**

### **Projects at ERM**

#### **Gas to Power Programme, South Africa, Department of Energy, 2015**

Providing advice on environmental issues and permitting processes, for the Gas to Power Programme in South Africa, covering short and medium term options in Richards Bay, Coega and Saldanha. These include floating power plants (short term) and land based power plants linked to LNG importation facilities in the powers (medium term).

**Horn of Africa Pipeline Project, Ethiopia and Djibouti, Black Rhino, ESIA Project Director, 2015 – Ongoing**  
ESIA for a 550 km multi-product pipeline from Djibouti to Awash near Addis Ababa, including the marine importation infrastructure.

**Mining Right Application, South Africa, Kangra Coal (Pty) Ltd, 2015 – Ongoing**  
Mining Right Application for a new underground mine and amendments to their existing EMP for current operations.

**ESIA: Macuse Rail and Port Project, Mozambique, ItalThai Development, 2014 – Ongoing**  
ESIA for a proposed new rail line from Macuse to a new port at the coast of Mozambique.

**Effluent disposal permit application, South Africa, Shell Rocky Drift, 2015**  
Effluent disposal permit application.

**Basic Assessment, South Africa, Distell Group Limited, 2015**  
Basic Assessment Report for the installation of Carbon Dioxide and Ethanol storage tanks.

**EMP Audit, South Africa, Vodacom, 2014**  
Section 24 G application for the installation of tanks at their site and EMP Audit.

**Section 24 G application, South Africa, Prominent Paints, 2014**  
Section 24 G application for the installation of tanks at their site.

**Kusipongo Coal Reserve Scoping and EIA, South Africa, Kangra Coal, 2014 - 2015**  
Kangra Coal submitted a mining right application to expand their current mining operations outside Piet Retief, Mpumalanga, South Africa. Environmental and public participation manager responsible for the development of

the scoping report as well as the public consultation processes involved with the scoping and the EIA phases.

**Implementation Oversight for the Malawi Compact Millennium Challenge Corporation, Malawi, MCC, 2014 – ongoing**  
Providing oversight support to the MCC in all areas related to Compact implementation ranging from review of project designs and cost; preparation of terms of reference for studies; drafting of tenders for procuring materials, products and services; developing sound and realistic technical assistance packages; critiquing work done by other consultants and contractors, and proposing improvements, etc.

**Panda Hill Niobium Project, Tanzania, Cradle Resources, 2014 – 2015**  
ERM was responsible for the quality control of an ESIA of a proposed Niobium mine. The ESIA was conducted by MTL Consulting.

**Environmental approvals for the installation of underground storage tanks, South Africa, Shell, 2014 - ongoing**  
Directed a programme of works to apply for Environmental Approvals for the installation of new underground storage tanks at over 20 retail service stations.

**Biodiversity Management Plan (BMP), Zambia, Copperbelt Energy Corporation, 2015**  
A BMP was compiled for the Kabompo Gorge Hydroelectric Project in northern Zambia. Various Environmental Impact Statements (EIS) reports were independently compiled for each of the project components and a BMP was requested by international lenders to demonstrate how the project will comply with the IFC standards with emphasis on Performance Standard 6. ERM's studies for the BMP included site assessments, stakeholder engagement, comprehensive management measures and a review of the feasibility of implementing an offset to compensate for residual biodiversity impacts.

**Due Diligence of a mine, West Africa, confidential mining client, 2014**  
Due Diligence for a proposed mine, rail and port facility on behalf of a potential purchaser of the mine requiring an understanding of the Environmental Impact Assessment (EIA) process, legal requirements and International Finance Corporation (IFC) Guidelines.

**Pertama Ferroalloys Smelter, Malaysia, confidential mining client, 2013 - 2014**

Environmental contribution to finalisation of feasibility study review as Lenders' Independent Engineer for a greenfield ferroalloys smelter to be constructed in Malaysia. The project was undertaken in accordance with Equator Principles and IFC Performance Standards.

**Due Diligence review of mining project, Guinea, Confidential mining client, 2013**

Managed a team of environmental and social specialists to review a mining project with associated infrastructure against country legal requirements, Equator Principles and IFC Performance Standards.

**EIAs for the upgrade of two power stations, Zimbabwe, Zimbabwe Power Corporation, 2012 – 2013**

Supervision of the team undertaking the EIA using local consultants.

**Projects prior to joining ERM**

**National multi-products Pipeline, South Africa, Transnet, 2012 - 2013**

Construction of a multi-products pipeline from Durban to Pretoria, South Africa. Monitored progress and quality of the environmental practice in the implementation of the environmental authorisation and permits and the EMP, in accordance with relevant South Africa environmental legislation.

**Development of Sustainable Development (SD) Management content for Navigator, South Africa, Kumba Iron Ore and Anglo American, 2012 - 2013**

*Project Sponsor*

The project entailed the development of SD management processes and supporting guidance documentation for high value and high complexity capital projects within the client's Asset Development Methodology (ADM) Navigator. The resulting processes and guidance documents guide from the client's capital project teams in achieving both clients' governance and corporate commitment requirements within the framework of the client's Project Way and other applicable standards such as the second client's Environment Way, Social Way and SEAT Tools, and the Mine Closure Toolbox. This entailed the development of processes, guidance notes and guidelines, and templates for SD management that are fully integrated into the client's ADM Navigator project management and key knowledge area processes.

**EIAs for Sumitomo Nickel Project, Solomon Islands, mining client, 2011 - 2013  
Environmental Impact Statement (EIS) Manager**

Two environmental impact assessments of two proposed nickel mining projects (including mining, staff villages, mining industrial areas, ports, waste management facilities, sewage treatment facilities and rehabilitation) on the islands of Choiseul and Santa Isabel in the Solomon Islands.

**Environmental & Social (E&S) studies for Iron and Steel Plant including power plant, South Africa and Mozambique, IDC, 2012**

*Sponsor*

Sponsor for the Environment Team that managed all E&S studies required for the pre-feasibility study. Project sites spanned across numerous provinces in South Africa and included a site in Mozambique. The project included developing an environmental permitting strategy for the different project components to determine what listed activities would require authorisation, to identify what other environmental permits would be required and to scope the environmental and social studies that would be necessary.

**Due Diligence for a coal mine, Mozambique, mining client, 2012**

*Environmental Lead*

Due Diligence for a proposed coal mine on behalf of a potential purchaser of the mine requiring an understanding of the EIA process, legal requirements and international best practice.

**Highlands Wind Power Project, Lesotho, Harrison & White, 2012**

*Sponsor*

Environmental work stream coordination and management of the integration of environmental and social requirements, into design and management of the Environmental, Health and Social Impact Assessment (ESIA) consultants.

**Transnet Port and Rail Infrastructure Upgrade, South Africa, Transnet, 2006 – 2011**

*Programme Manager: Environmental and Sustainable Development*

Responsible for environmental management on a suite of over 40 projects, undertaken in the six commercial ports and on major freight rail corridors throughout South Africa. Established a team of environmental managers and specialists and managed all facets of the programme related to environmental management from pre-feasibility, EIAs, compilation of Environmental Management Programmes (EMPs), construction through to commissioning. In addition, took responsibility for ensuring that these major infrastructure projects met the requirements of the National Environmental Management Act (NEMA) and that all necessary environmental

authorisations and environmental permits were obtained and that final design and construction met the requirements of these permits.

In particular:

- *Port of Richards Bay:*
  - Environmental and sustainability inputs to port master planning covering a range of possible future development options for the port;
  - Container terminal development strategy for next 30 to 40 years;
  - Eastern Corridor Development Project linking port and rail development between Richards Bay, Durban and Gauteng;
  - Screening study for upgrade to the coal line to the coal terminal;
  - Expansion of the multipurpose terminal;
  - Permitting for geotech work in along the edge of the bay.
  - An additional study was a high level environmental review of the Bayside Smelter property for possible acquisition by Transnet.
- *Port of Durban*
  - Environmental and sustainability inputs to port master planning covering a range of possible future development options
  - Environmental monitoring for the widening of the port entrance
  - Feasibility and environmental studies for a proposed new Bayhead container terminal
  - Expansion of existing container terminal facilities
  - Expansion of the vehicle export terminal
  - Environmental screening studies for the proposed Digout Port at the old Durban International Airport
- *Port of Cape Town*
  - Expansion of the container terminal
- *Ports of Ngqura and Port Elizabeth*
  - Environmental and sustainability inputs to port master planning covering a range of possible future development options for the two ports
  - Eastern Corridor Development Project linking port and rail development from Port Elizabeth and Ngqura to the interior of the country at De Aar and further northwards.
  - Refurbishment and expansion of the manganese export terminal at Port Elizabeth
  - Container terminal development at Ngqura
  - Study of development of a manganese export terminal at Ngqura
  - New rail link to Ngqura
- *Port of Saldanha:*
  - Environmental and sustainability inputs to port master planning covering a range of possible future development options for the port;
  - Western Corridor Development Project linking port and rail development between Saldanha, Cape Town and the hinterland;
  - Permitting and studies for the expansion of the iron ore terminal to 42 mtpa;
  - Permitting and studies for the expansion of the iron ore terminal to 60 mtpa;
  - Permitting and studies for the expansion of the iron ore terminal to 120 mtpa;
  - Studies and ESIA for the development of a reverse osmosis plant;
  - Screening and planning for a manganese export terminal;
  - Environmental management for construction activities at the port for the expansion of the iron ore terminal, a new reverse osmosis plant and rail upgrades.
  - Various rail upgrade projects for rail servicing the port;
  - Container terminal development.
- Port studies involved extensive specialist studies including marine ecology; erosion modelling; marine dispersion modelling; air quality studies and atmospheric dispersion modelling; sediment studies; dredging and dumping studies; archaeological and heritage studies; ship collision studies; noise studies; socio-economic studies and economic studies.

**Power generation facility, South Africa, Richards Bay Minerals, 2010**

Environmental planning for a power generation facility at the RBM mine.

**Gold Regional Mining and Closure Strategy for the Witwatersrand Gold Mining Area with the CSIR, Mintek and Council for Geosciences, South Africa, the Department of Minerals and Energy, 2005**

*Project Manager*

The project aimed to develop strategic guidelines to improve the contribution of the gold mining industry in the region to sustainable development.

**Granite Regional Mining and Closure Strategy with the CSIR, South Africa, the Department of Minerals and Energy, 2005**

*Project Manager*

Several strategic and directed environmental research initiatives, for the Sustainability through Mining Programme, on improving the contribution of the mining industry to sustainable development for the Brits and

Rustenburg areas in South Africa. Miningtek (CSIR) project for the Department of Minerals and Energy.

**Environmental reports review, South Africa, mining client, 2004**

Review of environmental reports on the impacts of open cast mining on rare species in the Bronberg east of Pretoria, Gauteng Province in South Africa.

**Environmental Planning, South Africa, Developer, 2004**

Environmental planning for a development adjacent to an estuary with a population of rare sea horses, near Plettenberg Bay in South Africa.

**Ecotourism EIA, South Africa, Inyoni Park, 2004**

Environmental sensitivity analysis and environmental impact assessment of a proposed ecotourism development at Inyoni Park in Ekurhuleni, Gauteng.

**EMP and H&S Programme, South Africa, Mondi, 2003 - 2004**

Developed and managed the implementation of the Environmental Management Programme and Health and Safety programmes during construction in Richards Bay, South Africa.

**EMP & EHS programme development, South Africa, Mondi, 2003 - 2004**

*EHS Manager*

Development of the EMP and Environmental, Health and Safety (EHS) Programme for the R2.4 billion expansion of the client in Richards Bay, South Africa, and management of the implementation of the programmes.

**Coastal Zone application, South Africa, Private Developer, 2003**

Sensitive Coastal Zone application for a development on a coastal dune system.

**Risk Management for expansion project, South Africa, Mondi, 2003**

Compiled a Risk Management assessment for a R2.4 billion (RB 720) expansion project in Richards Bay, South Africa.

**EHS management of expansion project, South Africa, Indian Ocean Fertilizers, 2000 - 2003**

*EHS Manager*

Consulted as the EHS Manager and a member of the management team of the R1.1 Billion expansion project for the client in Richards Bay, South Africa. Activities included the development and coordination of the implementation of the EMP, the Health and Safety Management Programme, auditing the EMP and the management of relevant project personnel in implementing the programmes.

**Training on ISO 14001, South Africa, Foscor, 2002**

Training on the ISO 14001 Environmental Management System to the management and implementation teams of Foskor, Richards Bay.

**Biodiversity research activities included the following:**

- Design of a three-year research programme on assessing invertebrate biodiversity hotspots in the Eastern Arc Mountains and coastal forests of Tanzania and Kenya, for the Critical Ecosystem Partnership Fund (CEPF) and the Conservation International Foundation. (2005).
- Three year research programme into the impacts of development in the urban and rural landscape on invertebrate biodiversity, for E Oppenheimer & Son. (2004 – 2006).
- Two year study of the life history and population monitoring of a rare and endangered lycaenid butterfly in the Coega Industrial Development Zone, for the Coega Development Corporation. (2004 – 2005)
- Review of status of research on pollinators and their impact on biodiversity in South Africa, for the Food and Agriculture Organisation (Rome) (2004).

# Stephanie Gopaul

Senior Environmental Consultant  
IAP



Stephanie Gopaul is a Consultant within ERM's Impact Assessment and Planning (IAP) team based in Durban, South Africa. Upon obtaining a science degree in engineering and environmental geology, she was employed by the eThekweni Municipality in the air pollution division. Thereafter she served at GCS (Pty) LTD as an Environmental Scientist before joining ERM. Stephanie has nine years of experience in the field of Environmental Management Consulting.

Fields of competence include Environmental Auditing, Feasibility Studies, Environmental Risk Assessments, Basic Assessments, Environmental Impact Assessments, Environmental Management Plans, Integrated Water Use License, Integrated Water and Waste Management Plans in terms of South African environmental legislation and IFC standards.

Stephanie has managed projects for a number of public and private sector clients, in the oil and gas, power utilities, renewable energy, industrial, mining and transport sectors. Her particular focus and area of expertise is in the South African market where she has managed various large-scale, multi-disciplinary and complex projects for companies including Shell, Chevron, Afrox Sasol, Kangra Coal, Forbes Coal, London Mining, Wesizwe, Vopak, etc

## Fields of Competence

- Environmental audits and due diligence;
- Environmental authorisation processes including:
  - Environmental Impact Assessments,
  - Environmental Management Programmes,
  - Basic Assessments,
  - Waste Management Licences,
  - Integrated Water Use License Applications
  - Integrated Water and Waste Management Plans (IWWMP),
  - Environmental legal assessments;
  - Environmental compliance monitoring,
  - Mining and prospecting right applications,
  - Public / stakeholder consultation and participation,
  - Mine closure and closure cost estimations.

## Professional Affiliations & Registrations

- International Association for Impact Assessment (IAIA)

## Education

Masters in Environmental Management. University of the Free State, South Africa, 2012

BSC. Environmental and Engineering Geology.

University of Kwa Zulu Natal, South Africa, 2005

## Languages

- English, native speaker

## Key Industry Sectors

- Mining
- Oil and Gas
- Manufacturing
- Chemicals

## Key Projects

**Shell Gess Programme, Shell, 2013- current**  
PROGRAMME MANAGER (IMPACT ASSESMENT)  
Responsibilities included managing various (ERM has been awarded over 400 to date) Shell Gess Projects including Environmental Licensing, Environmental Audits and Waste Management Licenses in terms of specialists co-ordination, public consultation, client liaison, report compilation and all financial aspects.

In addition, Stephanie project managed the following projects and duties included financial management / planning, appointment and management of specialists for various specialist studies, co-ordination of the project team, client and authority liaison, review of reports and public participation materials, co-ordination of public participation activities and oversight of project Health and Safety requirements:

1. Basic Assessment for the decommissioning of the Shell tanks at Caledon Depot in Cape Town (2013)
2. Bailey and Mailey Service Station Knockdown and Rebuild EMP (2013)
3. Environmental Management Plan for Shell Ntokezweni Service Station (2013)
4. Environmental Management Plan for Shell Bargain Wholesalers (2013)
5. Compliance Audit for Shell Five Star (2013)
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7. Basic Assessment and Waste Management License for the decommissioning of the Shell tanks at Key Delta , KZN (2014)
8. Basic Assessment for the Development of the Shell Beverly Service Station (2014)
9. Waste Management License for Terrys Motors, Shell (2014)
10. Decommissioning ECO and Audit for Shell Bargain Wholesalers (2014)
11. Basic Assessment/ Waste Management License and ECO for UC Breede Valley Service Station (2014-2015)
12. Waste Management License for Safari Service Station, Shell (2014)
13. Decommissioning Basic Assessment for the Umfula Service Station (2014)
14. Basic Assessment Process for a New (Jubilee) Service Station in Hammanskraal, Pretoria (2014)
15. Basic Assessment and Waste Management License for the decommissioning of the Masakhane Service Station (2014)
16. Key Delta ECO Audit, KZN (2015)
17. Basic Assessment and Waste Management License for the decommissioning of the Shell Glebe Service Station (2015)
18. Basic Assessment for the decommissioning of the Shell Glebe Service StaUSTs at Mondl, Merebank (2015)
19. Basic Assessment and Waste Management License Shell Umfula Service Station
20. Compliance Audit for Shell UC Breede Valley (2015)
21. Alberton WULA Motivation (2016)
22. Section 30 Application for Combined Transport, Phoenix (2013)
23. Diepsloot BAR and EMP (2013)
24. Cosmo City BAR and EMP (2014)
25. Kilburn Decommissioning EMP (2014)
26. Donfords ECO Audit (2016)
27. Laezonia ECO Audit (2016)
28. M2 East ECO Audit (2016)
29. Mondl Merebank ECO Audit (2016)
30. Montrose Service Station ECO Audit (2016)
31. Philani Valley Service Station (Umlazi) ECO Audit (2016)
32. Precision Motors EA Amendment Application (2016)
33. UC Middleburg Motivation against IWULA (2016)



34. Maidstone ECO Audit, Tongaat (2016)
35. Basic Assessment for Rivergate NTI, Western Cape (2016)
36. Basic Assessment for the Construction and Operation of a Fuel Filling Station (Willies Street) at the corner of the P166/1 Link Road and Nyala Berry Boulevard, Riverside, Nelspruit, Mpumalanga (2016)
37. Witbank Water Use License Application (2016)
38. Remediation order for the Zulu Service Station (2015-2016)
39. Basic Assessment Report for the proposed Construction of the Shell Summit Road Service Station, Midrand, Gauteng (2016)
40. Decommissioning Basic Assessment and Section 24G Appeal Process for Sea Shell, Saldanha Bay (2016)
41. Section 24G Rectification Close Out for:
  - Bronkhorstpruit Depot (S24G/02/0931);
  - Civils and Splicing CC (S24G/02/0995);
  - JL Timber Town (S24G/02/0977);
  - Putco Soshanguve Depot (S24G/02/0914);
  - Putco Ipelegeng (S24G/02/0981)

**Scoping and Environmental Impact Assessment process for the Afrox Integrated Medical and Gas Filling (IMGF) Plant in KZN, South Africa, AFROX, 2013- 2014.**

**PROJECT MANAGER**

Responsibilities included managing the project in terms of specialists co-ordination, public consultation, client liaison, report compilation and all financial aspects.

**Mageza Feasibility and Conceptual Remedial Design, Sasol Oil**

2014

**PROJECT MANAGER**

Responsibilities included managing and compiling a feasibility assessment and conceptual remedial design for the Mageza Filling Station based on the concept and associated costs of using wetlands for the removal of contamination.

**Simba Section 24G Scoping and EIA, Simba**

2015

**PROJECT MANAGER**

Responsibilities included co-ordinating the project, reviewing the reports and overseeing the compilation

and submission of the reports. Was responsible for financial management, authority, public and client liaison, stakeholder engagement and quality control.

**Kroonstad Terminal ECO, Chevron 2015**

**PROJECT MANAGER**

Responsibilities included co-ordinating the monthly ECO site visits, reviewing the monthly ECO compliance audits and overseeing the compilation and submission of the annual compliance report.

**Klerksdorp Terminal ECO, Chevron 2015**

**PROJECT MANAGER**

Responsibilities included co-ordinating the monthly ECO site visits, reviewing the monthly ECO compliance audits and overseeing the compilation and submission of the annual compliance report.

**Alrode Dept Basic Assessment, Chevron 2015**

**PROJECT MANAGER**

Responsibilities included co-ordinating the project, reviewing the reports and overseeing the compilation and submission of the reports.

**IPP Floating Power Plant (Richards Bay), Department of Energy, 2016 (ongoing)**

**CONSULTANT**

Responsibilities include compilation of the application form, Scoping Reports, EIA and EMPs for this Gas to Power Project, located in the Port of Richards Bay, KwaZulu Natal.

**On-Land Early Power Project, (Richards Bay), Department of Energy, 2016 (ongoing)**

**CONSULTANT**

Responsibilities include compilation of the application form, Scoping Reports, EIA and EMPs for this Gas to Power Project, located in Richards Bay, KwaZulu Natal.

**Globeleq LNF Terminal Screening/ Scoping and EIA, (Richards Bay), Globeleq, 2016 (ongoing)**

**CONSULTANT**

Responsibilities include compilation of the application form, Scoping Reports, EIA and EMPs for this Gas to Power Project, located in Richards Bay, KwaZulu Natal.

**Veneita Mine Waste Management License, De Beers, 2015**

**PROJECT MANAGER**

Responsibilities included managing the Waste Management License in terms of specialists co-ordination, public consultation, client liason, report compilation and all financial aspects.

**Teranga Mine Closure Plan, Teranga Gold Corporation**

2015

**PROJECT TEAM**

Assisted in the compilation of the Mine Closure Framework and Mine Closure Plan in English for the Sabodala Gold Mine and regional exploration located in Senegal. The final documents were translated to French and submitted to the Government of the Republic of Senegal. This Closure Plan has been defined to meet Senegal's regulatory requirements, Teranga's Canadian-based principles and IFC standards for mine closure.

**Bakubung Platinum Mine Conceptual Closure Plan, Wesizwe Platinum Limited**

2015

**PROJECT TEAM**

Compiled the Closure Plan for the Bakubung Platinum Mine located on the Western Limb of the Bushveld Igneous Complex, north of Rustenburg in the North West Province of South Africa. This Closure Plan has been defined to meet South Africa's regulatory requirements for mine closure.

**Environmental, Social and Health Impact Assessment (ESHIA) for London Mining's Marampa 9 Mine, Sierra Leone, Sierra Leone, London Mining Plc., 2013- 2014.**

**PROJECT MANAGER**

Responsibilities included managing the project in terms of specialists co-ordination, public consultation, client liason, report compilation and all financial aspects.

**Ballengeich Plantation Research and Development Project: phyto-remediation to address acid mine drainage, Kangra Group (Pty) Ltd.**

**PROJECT MANAGER**

Various site assessments, legal compliance reports and financial feasibility alternatives were part of the scope of this Project..

**Magdalena Colliery Risk Assessment (Phase II), Forbes Coal/ Zinoju Coal PTY Ltd.**

**PROJECT MANAGER**

Responsibilities included managing the project in terms of the operational site assessment, legal compliance evaluation and risk assessment.

**Environmental Site Assessment and Compliance Investigation for the Natal Cambrian Colliery, Kangra Group (Pty) Ltd.**

**PROJECT MANAGER**

Responsibilities included managing the project in terms of client liason, report compilation and all financial aspects of the project.

**Aviemore Colliery Legal and Risk Assessment, South Africa, Forbes Coal/ Zinoju Coal PTY Ltd.**

**PROJECT MANAGER**

Responsibilities included managing the project in terms of the operational site assessment, legal compliance evaluation and risk assessment.

**Aviemore Colliery Environmental Rehabilitation Current Status Assessment, South Africa, Forbes Coal/ Zinoju Coal PTY Ltd.**

**PROJECT MANAGER**

Responsibilities included managing the project in terms of the assessment and reporting on environmental rehabilitation conducted and outstanding rehabilitation requirements. The total spend as well as the estimated costs for further rehabilitation was also calculated and assessed.

**Magdalena Colliery IWULA Compliance Audit, South Africa, Forbes Coal/ Zinoju Coal PTY Ltd.**

**PROJECT MANAGER**

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Mount Ngwibi Legal Audit and Closure EMPR, South Africa, Kangra Group (Pty) Ltd.**

**PROJECT MANAGER**

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, and all financial aspects of the project until resignation from GCS.

**Utrecht Mine Compliance Assessment and Closure EMPR and IWULA, South Africa, Kangra Group (Pty) Ltd.**

**PROJECT MANAGER**

Responsibilities included team co-ordination and management of the compliance assessment and environmental licensing processes.

**Mpisi Mine Performance and Compliance Report,**  
South Africa, Kangra Group (Pty) Ltd.

PROJECT MANAGER

Responsibilities included the assessment and comparison of the current site activities with those described in the approved EMPR, comparison of environmental mitigation measures implemented on site to those required and committed to in terms of the approved EMPR, reassessment of the quantum financial provision, assessment of monitoring requirements to current monitoring practices and identification of current activities and facilities at Mpisi which are not specifically included in the approved EMPR.

**Samore Extension Performance and Compliance Report,** South Africa, Kangra Group (Pty) Ltd.

PROJECT MANAGER

Responsibilities included the assessment and comparison of the current site activities with those described in the approved EMPR, comparison of environmental mitigation measures implemented on site to those required and committed to in terms of the approved EMPR, reassessment of the quantum financial provision, assessment of monitoring requirements to current monitoring practices and identification of current activities and facilities at Mpisi which are not specifically included in the approved EMPR.

**Closure of Grootspuit/ Locati Coal Mine,** South Africa, Kangra Group (Pty) Ltd., 2008- 2012.

PROJECT MANAGER

Responsibilities included managing the project in terms of specialists co-ordination, public consultation, client liason, report compilation and all financial aspects.

**Closure of Mpisi Coal Mine, South Africa,** Kangra Group (Pty) Ltd., 2008- 2012.

PROJECT MANAGER

Responsibilities included managing the project in terms of specialists co-ordination, public consultation, client liason, report compilation and all financial aspects.

**Closure Cost Estimation for Kangra Group Mines,** South Africa, Kangra Group (Pty) Ltd., 2009.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation, closure cost calculations and all financial aspects of the project.

**Ballengeich Plantation Research and Development Project: phyto-remediation to address acid mine drainage,** South Africa, Kangra Group (Pty) Ltd., 2011.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, client liason, report compilation, and all financial aspects of the project.

**Maquasa West Environmental Impact Assessment and Management Plan Amendment,** South Africa, Kangra Group (Pty) Ltd., 2009.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Magdalena Colliery Environmental Impact Assessment and Management Plan (Phase II),** South Africa, Forbes Coal/ Zinoju Coal PTY Ltd., 2010.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Magdalena Colliery Environmental Impact Assessment and Management Plan (Phase III),** South Africa, Forbes Coal/ Zinoju Coal PTY Ltd., 2010.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Magdalena Colliery Integrated Water Use License Application, Water and Waste Management Plan and Supporting Documentation,** South Africa, Forbes Coal/ Zinoju Coal PTY Ltd., 2010-2012.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Quarterly Water Quality Monitoring and Reporting for the Welgedacht Group Mines,** South Africa, Kangra Group (Pty) Ltd., 2009.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Quarterly Water Quality Monitoring and Reporting for the Redundant Group Mines,** South Africa, Kangra Group (Pty) Ltd., 2009.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Quarterly Water Quality Monitoring and Reporting for the Savmore Group Mines**, South Africa, Kangra Group (Pty) Ltd., 2009.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Quarterly Water Quality Monitoring and Reporting for the Welgedacht Group Mines**, South Africa, Kangra Group (Pty) Ltd., 2010.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Quarterly Water Quality Monitoring and Reporting for the Redundant Group Mines**, South Africa, Kangra Group (Pty) Ltd., 2010.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Quarterly Water Quality Monitoring and Reporting for the Savmore Group Mines**, South Africa, Kangra Group (Pty) Ltd., 2010.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Basic Environmental Assessment for the Natal Cambrian Colliery**, South Africa, Kangra Group (Pty) Ltd., 2011.

PROJECT MANAGER

Responsibilities included managing the project in terms of client liason, report compilation and all financial aspects of the project.

**Aviemore Colliery Environmental Impact Assessment and Management Plan**, South Africa, Forbes Coal/ Zinoju Coal PTY Ltd., 2011.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason,

report compilation and all financial aspects of the project.

**Aviemore Colliery Integrated Water Use License Application, Water and Waste Management Plan and Supporting Documentation**, South Africa, Forbes Coal/ Zinoju Coal PTY Ltd., 2011.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Magdalena Colliery IWULA audit**, South Africa, Forbes Coal/ Zinoju Coal PTY Ltd., 2012.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

**Mount Ngwibi closure EMPR**, South Africa, Kangra Group (Pty) Ltd., 2012.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, and all financial aspects of the project until resignation from GCS.

**Utrecht Mine closure EMPR and IWULA**, South Africa, Kangra Group (Pty) Ltd., 2012.

PROJECT MANAGER

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project until resignation from GCS.