

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing. The work includes (a) The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria (b) The Platinum Toll Highway Project and (c) The Transkei Toll Highway Project. (SA National Roads Agency Limited)*

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the



Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).



*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by



existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).



*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).



*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### **Area of Expertise**

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### **Overall Summary of Experience**

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*



*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.



Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the



Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing. The work includes (a) The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria (b) The Platinum Toll Highway Project and (c) The Transkei Toll Highway Project. (SA National Roads Agency Limited)*

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).



*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by



existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).



*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).



*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*



*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing. The work includes (a) The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria (b) The Platinum Toll Highway Project and (c) The Transkei Toll Highway Project. (SA National Roads Agency Limited)*

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.



Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### **Area of Expertise**

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### **Overall Summary of Experience**

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing. The work includes (a) The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria (b) The Platinum Toll Highway Project and (c) The Transkei Toll Highway Project. (SA National Roads Agency Limited)*

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the



Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### **Area of Expertise**

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### **Overall Summary of Experience**

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).



*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by



existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).



*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### **Area of Expertise**

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### **Overall Summary of Experience**

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).



*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing. The work includes (a) The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria (b) The Platinum Toll Highway Project and (c) The Transkei Toll Highway Project. (SA National Roads Agency Limited)*

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*



*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### **Area of Expertise**

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### **Overall Summary of Experience**

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.



Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### **Area of Expertise**

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### **Overall Summary of Experience**

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the



Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### **Area of Expertise**

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### **Overall Summary of Experience**

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).



*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by



existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### ***Area of Expertise***

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### ***Overall Summary of Experience***

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).



*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### **Area of Expertise**

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### **Overall Summary of Experience**

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).



*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



## QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

## EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### **Area of Expertise**

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### **Overall Summary of Experience**

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*



*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.

Age : 51  
Parent Firm : Mark Wood Consultants  
Address : PO Box 41820  
: Craighall 2024  
: Gauteng Province  
: South Africa  
Telephone/Fax : +27(11) 327-1567  
: +27(11) 447-7018  
Email : [markwood@global.co.za](mailto:markwood@global.co.za)  
Registration No : CK 89/23449/23  
Nationality : South African  
Position in Organization : Member



### QUALIFICATIONS

B.Sc (Geog) Witwatersrand 1979  
BA (Psych) Witwatersrand 1983

### EXPERIENCE

1980 – 1985 : Project Scientist, Dames & Moore, South Africa  
1985 – 1986 : Associate, Dames & Moore, South Africa  
1986 – 1987 : Partner, Knight, Dames & Moore  
1987 – present : Member, Mark Wood Consultants

### **Area of Expertise**

Integrated Environmental Management (IEM). Coordination of all aspects of IEM including preliminary (scoping) studies, environmental impact assessments, management plans, monitoring, auditing and review of a diverse range of development projects. Work includes policy and project levels. Specialist expertise in leading environmental teams, public involvement/conflict resolution and aesthetic impact studies. Extensive experience of World Bank and other financier requirements for projects in developing countries. Extensive experience of large project review for Government and public and private organizations.

### **Overall Summary of Experience**

**Mark Wood** has spent most of the past 18 years leading EIAs for major development projects. Of these projects, many have involved installations that are controversial. He has extensive experience of review work. He has, for example, recently led the team that reviewed the Gautrain Variant alignment assessments for the provincial environmental regulator, G-DACE. He was also responsible for reviewing the original EIA for the project, prepared in 2004. He has reviewed the initial phase of the EIA for the Superhighways project between Johannesburg and Pretoria on behalf of Gautrans and PetroSAs proposal to develop gas supply infrastructure in the Western Cape. He is currently a review consultant for Eskom's two proposed coal fired power stations at Kendal and Lethabo and has recently reviewed the Hydra-Perseus 400kV transmission line EIA. He is currently a review consultant for the

Department of Environmental Affairs and Tourism evaluating the merits of appeals against the Gamma –Omega 765kV line.

He has led and continues to lead large EIAs. He is currently the leader of the team responsible for the EIA of offshore seismic work in the highly sensitive marine environment of the Quirimbas National Park in Mozambique. He recently led the team for all of the upstream EIAs (three separate projects) of Sasol's Natural Gas Project (NGP), including exploration, the development of the onshore gas fields and the transport of the gas from Mozambique to South Africa in an 860 km underground pipeline. The total estimated value of the NGP is approximately \$1 billion. He continues to be extensively involved in subsequent work on this project in Mozambique and South Africa.

Mr Wood has been responsible for coordinating an extensive list of other EIAs for hazardous oil and gas pipeline installations, major development and infrastructure projects. He has extensive experience in both urban and rural environmental and social evaluation. He has worked extensively with World Bank, IFC and other European financiers and is familiar with the policy guidelines and requirements of the international finance community.

### ***Project Experience***

*Environmental Impact Assessment of Seismic Acquisition for Offshore Oil and Gas Exploration in the Quirimbas Archipelago.* EIA Coordinator. 2006-present. The project includes an assessment of the impact of seismic acquisition on the adjacent Quirimbas National Park, which is a marine and terrestrial park of international importance. Impacts of seismic acquisition are mainly about the acoustic effects of the air gun arrays on marine species and the consequent effects on ecological functioning, artisanal fishing and tourism. (Client: Hydro Energy, Norway).

*Environmental Impact Assessment of a Condensate Pipeline near Bazaruto Archipelago in Inhambane Province, Mozambique.* Project leader. 2005 - present The project involves an assessment of the impact of an overland and undersea pipeline just north of the Bazaruto Marine Reserve. Sasol proposes to transport the condensate stripped from the gas at their Temane Production Facility. This is an alternative to the present method of transport to Maputo by road. The EIA is considering all aspects of impact caused by the pipeline but, in particular, the risks and consequences of a spill, either as a result of loading of condensate, or as a consequence of a shipping accident and a release of bunker oil. The completion of the EIA has been delayed at the request of the client (Client: Sasol Temane Ltd.).

*Environmental Auditing of Sasol Temane Mozambique Project Infrastructure.* Project author. 2005-ongoing. Mr Wood is responsible for the annual independent audit of Sasol's Resettlement Planning and Implementation Programme over the next 5 years. The work involves verification that the intent of the programme, which was to re-establish the livelihoods of the affected people, has met its objectives.(Client: Sasol Gas).

*Annual Integrated Disclosure Report for Sasol Ltd's Natural Gas Project.* Project author. 2004 – ongoing. The report is an annual requirement of the project lenders and involves a comprehensive review of Sasol's compliance with its legal and other obligations in respect of the environment in Mozambique and South Africa. The report is based on a critical evaluation of independent audit reports, prepared during the year, as well as consultants reports and other documentation prepared by Sasol's ESOs and other project personnel. (Client: Sasol Ltd).

*Strategic Environmental and Social Assessment of the Development of the Ibhubezi Gas Fields off the west coast of South Africa.* 2003-2004. Project review consultant. The assessment has involved a critical evaluation of the desirability of various options proposed for the development of the offshore Ibhubezi Gas fields. The most favoured option, proposed by the client, was to supply gas via a high pressure gas pipeline to two anchor industries: Mossgas (an existing gas - to liquid plant on the Southern Cape Coast, soon to exhaust its gas supply from an existing gas fields) and a combined cycle gas fired power station, a location for which is still to be determined. The assessment considered a wide range of strategic issues associated with the development of the gas industry in the Southern Cape, including other options for the supply of natural gas, such as importing Liquefied Natural Gas. The project is ongoing (Client: PetroSA).

*Regional Environmental and Social Assessment of the Sasol Natural Gas Project in Mozambique and South Africa.* 2003. Project leader. The assessment was intended to look beyond the immediate zone of direct social and economic impacts of the project components, to address induced and cumulative impacts in the geographic areas affected by the eight project components. A number of these impacts had already been identified by the independent project-specific Environmental Impact Assessments ("EIAs") but had not been assessed, either cumulatively or in detail. Of particular importance in Mozambique was the potential for increased hardwood exploitation along the access lines created by the pipeline to South Africa and the flow lines linking production wells to the Central Processing Facility. Other important impacts included effects on harvesting of other natural resources, effects of the project on induced settlement and other growth along a strategically important coastline for tourism development, a variety of other socio-economic implications, both positive and negative, and reductions in natural resource consumption and air pollution emissions in South Africa as a result of the use of natural gas to replace coal-based energy. The study was prepared in consultation with the World Bank Mission for the project and in accordance with their requirements (Sasol Ltd.)

*Environmental Impact Assessment of a Proposed Hydrogen Pipeline to Supply Impala Platinum in Springs, Gauteng.* 2002. Project leader. The EIA evaluated a proposal to supply hydrogen to Impala Platinum from the Sasol hydrogen reformers in Sasolburg, via a 110km pipeline, through urban, peri-urban and rural areas to the Impala Platinum Refinery premises in Springs. An alternative process of reforming hydrogen on the Impala site was examined in the study and was rejected in favour of the pipeline. Detailed social and biophysical investigations were undertaken, including an assessment of construction and operational impacts. Key social impacts were related to community risks in the event of an accident as well as the potential for impacts on residential property values. Biophysical impacts were mainly in respect of construction effects through sensitive terrestrial and aquatic habitats. The project was approved by the Environmental Authority (Air Products).

*Environmental Impact Assessment of the Sasol Gas Field Development at Temane and Pande in Mozambique.* 2000-2001. Project leader. The EIA was completed for the three main project elements, namely: (a) Seismic exploration work (b) The development and operation of the gas fields near the coast in Inhambane Province and (c) the development and operation of the main supply pipeline to South Africa. The work was conducted with the assistance of local Mozambique consultants, *Impacto*. A comprehensive range of specialist investigations was prepared with these reports including studies on the impacts on fauna, flora, tourism, nearshore ecosystems, aesthetics, noise, archaeology, agriculture and socio-economics. (Sasol Ltd).

*Environmental Impact Assessment, Environmental Management Plan, Construction and Post-Construction Monitoring of a Natural Gas Pipeline between Temane in Inhambane Province in Mozambique and Secunda in Mpumalanga Province in South Africa.* 1999 - ongoing. Project leader. Separate EIAs were undertaken for the South African and Mozambique sections of the route. Reports were prepared to meet the requirements of the Environmental Authorities of both countries as well as international donor agencies (World Bank, IMF, European Investment Banks). An Initial Appraisal of Corridor Options was prepared in order to limit the number of routes necessary for investigation in the EIA. The Environmental Authorities approved this document prior to the scoping investigation. The scoping report was completed and was submitted to the Environmental Authorities for approval before the start of the specialist investigations. Key construction issues in South Africa included impacts on erosion (RSA escarpment), threatened habitats and threatened species, wetland and river crossings, conservancies/natural heritage sites and irrigation agriculture (particularly in the highly developed Kaap River valley). In Mozambique, key construction issues also included the risks of natural resource plundering caused by the opening of access into previously remote areas and issues related to employment, loss of resources in the construction right of way, malaria and induced migration. Key operational issues involved the hazards associated with of a pipeline failure. In Mozambique, the control of settlement in the pipeline corridor was a major issue.

*Environmental Impact Assessment of a Proposed Base Metal Refinery for Impala Platinum in Springs, Gauteng Province, South Africa.* Project Leader. 2005-2006. The study involved full public participation, scoping, specialist investigation and reporting of Impala Platinum's proposal to double the capacity of their base metal refinery in Springs. Key issues included air quality, water quality, waste management, noise, traffic and explosion hazards. Air quality issues were exacerbated by

existing pollution loads in the atmosphere and caused by surrounding activities. (Client: Impala Platinum).

*Environmental Impact Assessment of the Use of Alternative Fuels in the Holcim Dudfield Cement Kilns.* Project Leader. 2006-ongoing. The project involves the assessment of the burning of wastes in the kilns as a supplement to coal. Key issues include air quality and health effects and, in particular, the potential to generate dioxins and furans in upset or start up conditions. Accumulation of dioxins and furans in the food chain in the surrounding areas is a particular concern.(Client: Holcim South Africa).

*Environmental Scoping Assessment for a Methane-rich Gas Pipeline to supply the Engen refinery in Durban South.* 2000-2001. Project leader. The study area was predominantly in industrial and residential precincts and the investigations concentrated on public risks of the operation of the line and route alternatives to minimize risks. The project was approved and the pipeline built in the year 2000. (Sasol Gas).

*Environmental Impact Assessment of a Proposed Low Income Settlement at Brandvlei near Tarlton, Gauteng.* 1999-2000. Project leader. The proposal included a green fields development of 716 site and service erven intended for rural homeless people from the general area. The EIA process consisted of a full scoping investigation including a public open day. The scoping report determined that the main risks would be in relation to water pollution, depending on the sewage treatment process selected. The area had high farming potential and was dependant on groundwater. Opportunities existed to link the settlement with a farming initiative on adjacent land owned by WGSC and to use the treated liquid sewage effluent to supply this. Other issues concerned air pollution and the social interaction between the new residents and the existing landowners. The EIA phase of the project has still to be completed. (Western Gauteng Services Council).

The Environmental Management Plans for both sections of pipeline included requirements for control of (a) design impact (b) construction impact (c) operational impact (d) monitoring and auditing. Construction is currently underway and is being conducted in accordance with the requirements of the Construction Management Plan. (Sasol Ltd).

*Environmental Review Consultant for South African National Roads Agency projects. Year 2001 ongoing.* The work includes (a) *The Superhighways Project, involving the upgrading and tolling of the N1 to Pretoria and other highway infrastructure around Johannesburg and Pretoria* (b) *The Platinum Toll Highway Project* and (c) *The Transkei Toll Highway Project.* (SA National Roads Agency Limited)

*Environmental Impact Assessment and EMPR of the Alpha Saldanha Cement Plant and Limestone Mine.* 1997-present. Project Leader. The EIA included extensive public participation and 13 specialist studies, including alternatives, flora, fauna, air quality, groundwater and surface water, acoustics, mariculture and nearshore ecosystems, aesthetics, palaeontology, economics, tourism and resort development and town planning and social infrastructure. The findings of the study indicated a significant level of impact, particularly in relation to the mining, which is proposed in an area near the coast with high social, ecological and palaeontological sensitivity. The EMPR is currently being undertaken (Alpha Ltd).

*Environmental Impact Assessment, Comprehensive Mitigation Planning (CMP) and Implementation Monitoring of the Maguga Dam in Swaziland.* 1999-2001. Project Leader for the EIA/CMP. The project involved comprehensive assessment, planning and implementation in both the Reservoir Area, where the dam is under construction, and the Resettlement Area, where some 400 people must be resettled from the dam basin. The CMP involved all of the work necessary to ensure that the reservoir and resettled communities were fairly compensated for the impacts they experience. The study team consists of some 29 professionals in the social and biophysical sciences. Implementation will involve monitoring of all the contract work necessary to re-house affected families, develop agricultural lands, construct infrastructure and all other activities necessary to mitigate the impacts of the reservoir on the affected community. (Komati Basin Water Authority).

*Environmental Impact Assessment of the Proposed Maseru to Maseru 132kV Transmission Line in Lesotho.* 1996-1997. Project Leader. Key issues were social and aesthetic. Visual simulations were compiled to illustrate impacts of the line in the most sensitive mountain passes. Recommendations were made to re-align an existing 33kV line onto a double circuit tower with the new line in order to minimize these impacts. (Lesotho Highlands Development Authority).

*Environmental Impact Assessment of Bulk Infrastructure for Magaliesburg Rural Council Area.* 1998 - 1999. Project coordinator. The study involved site selection and environmental assessment of a sewage treatment works. The Magaliesburg local area is environmentally sensitive, and is one of Gauteng's premier local hospitality and ecotourism destinations. Odour management was a key issue in the study and special measures were recommended to minimize odour risks at nearby tourism venues. The sewage treatment works was built according to the recommended specifications and its operation is monitored in terms of an Environmental Management Plan (Western Gauteng Services Council).

*Environmental Impact Assessment of a Proposal to build a Crude Oil Pipeline between Durban and Vrede in the KwaZulu-Natal and Free State Provinces of South Africa.* 1997 - 1999. Project leader. The EIA included an assessment of corridor alternatives that resulted in the selection of a corridor based on technical and environmental criteria. The regulatory authorities accepted this corridor as the subject of detailed investigation in the EIA. The route was 400kms long and involved approximately 380 landowners and several hundred rural subsistence farmers. (The Crude Oil Pipeline Joint Venture).

*Environmental Impact Assessment, Impact Management and Construction Supervision of a 400 kV line through the Gauteng, Orange Free State and Natal.* (RSA). 1989-1990. Project leader. The EIA recommended realignment of the route around the Memel wetlands. Impact management and construction supervision involved extensive erosion control measures. (Eskom).

*Social and Environmental Planning Study for the Lesotho Highlands Feed Roads and Reservoir Crossing Project. Contract LHDA 78.* 1993 – 1998. Project leader. The study included identification and review of constraints and opportunities affecting the development of the proposals. Work also included environmental and social management of detailed design and construction. (Lesotho Highlands Development Authority).

*Environmental Impact Management Plans for eight major quarries.* 1990-1998. Project leader. The projects variously involved the formulation of Environmental Management Programme Reports (EMPR's), mining development plans, rehabilitation specifications, progressive reclamation proposals and operational impact plans. (Hippo Quarries).

*Environmental Impact Assessment of a Proposed Sewage Treatment Works for Graskop in the Eastern Gauteng.* 1994. Project leader. The study involved modeling of measured and simulated river and sewage effluent flow data at various points downstream where recreational use was occurring. Special standards for phosphorous and nitrogen were recommended for the works. (Hawkins Hawkins & Osborne).

*Environmental Impact Assessment, Management Plan and Special Conditions of Contract for a proposed gas pipeline between Tembisa and Roslyn in Gauteng.* 1994 – 1995. Project leader. The high-pressure gas pipeline was proposed through the urban and peri-urban areas surrounding Pretoria, including two sensitive areas of natural heritage, the Witwatersberg and the Magaliesberg. The EIA involved comprehensive public and authority scoping and included an investigation of alternatives through the Magaliesberg. The project was approved subject to the conditions set out in the EIA, and an Environmental Management Plan and Special Conditions of Contract were prepared for construction of the pipeline. (Client: Sasol Ltd).

*Environmental Impact Assessment of the National Road 3, Harrismith bypass alternatives.* 1993-1994. Project leader. The EIA recommended against the western bypass alternative planned by the Department of Transport since 1985. Major issues were social, including impact on regional development potential, local business in the town, acoustics, pedestrian safety and traffic impact. (Department of Transport).

*Environmental Impact Assessment and Impact Management of a 400kV-transmission line and construction of access roads between Newcastle and Richards Bay. 1991-1992. Project leader. The study included assessment of ecological, aesthetic and social criteria. Extensive negotiations with tribal leaders and councilors in KwaZulu Natal were undertaken. (Eskom).*

*Environmental Impact Assessment, management and construction monitoring of the N17 expressway south of Johannesburg. 1986-1987. Project leader. Investigation spanned seven years and included assessment of a wide range of issues along a 50km stretch of urban and peri-urban roads. Issues included expropriation of property and houses, acoustics, visual impacts, property depreciation, ecological impacts on open space and many others. (Department of Transport).*

### **Other Typical Experience (Project Leader)**

#### **Transportation and corridor studies**

*Environmental Impact Assessment of mass transit options for the Johannesburg Metropolitan Area.*

*Environmental Impact Assessment of transportation planning in the Durban Functional Region.*

*Environmental Impact Assessment, impact management and construction supervision of an 88kV line in peri-urban Johannesburg.*

*Visual Impact Assessment of a 132kV line in the Durban Functional Region.*

*Environmental Impact Assessment of a 132kV power line through Morningside.*

*Environmental Impact Assessment of a 400kV-transmission line route through Magaliesberg and Bophuthatswana.*

*Environmental Impact Assessment, impact management and construction supervision of a railway line near Port Shepstone.*

*A policy study for the inclusion of environmental considerations in Eskom's transmission planning and construction.*

#### **Urban Land-use**

*An open space policy for the Central Witwatersrand Region.*

*Proposals for the control of development of the Parktown Ridge.*

*Environmental Impact Assessment of a township development on the Imbezane Lagoon, Ramsgate, within the 1 000m planning restriction zone.*

*Environmental Impact Assessment of a township development proposal in environmentally sensitive ridges south of Johannesburg.*

*Environmental Impact Assessment for the Ulundi Structure Plan, KwaZulu.*

*Environmental Impact Assessment and site planning of Rand Water Board headquarters in the Klipriviersberg hills.*

*Various environmental studies for town and regional planning hearings and application.*

*Environmental aspects of the Rietfontein masterplan.*

#### **Power Generation**

*Initial Environmental Assessment of the development options for a Liquefied Natural Gas Facility and Combined Cycle Gas Fired Power Station at three coastal locations in South Africa*

*Environmental Impact Assessment of alternatives for the disposal of ash at Matla power station.*

**Mining / Industrial**

*Environmental Impact Assessment (Phase 1 and 2) of a proposed 20 million t/a underground coal mine in Central District, Botswana.*

*Installation of a meteorological station at Shell Pering lead/zinc mine in the NE Cape and reduction and analysis of data.*

*Installation of a meteorological station at a proposed Shell coal mine in Botswana, and reduction and analysis of data.*

*Environmental Impact Assessment of a proposed cement plant near Port Shepstone, Natal.*

**Waste Disposal**

*Preliminary Environmental Assessment of a municipal waste disposal site at Ulundi in KwaZulu.*

*Environmental Impact Assessment and rehabilitation plans for a proposed Johannesburg landfill site.*

*Environmental Impact Assessment of a proposed sewerage works for Umtentweni in Natal.*

*Environmental Impact Assessment of alternative locations for a sanitary landfill at Thulamahashe in Gazankulu.*

**PUBLICATIONS AND REPORTS**

15 papers published and delivered at local conferences  
10 articles published in technical journals

**MEMBERSHIPS**

Member of the International Association of Impact Assessment

**BEE STATUS**

Mark Wood is the sole member of Mark Wood Consultants.