



Reuben Heydenrych

Environmental Practitioner

Summary

Reuben is employed as an environmental assessment practitioner at Zutari. He has extensive experience in the project management of various small and large-scale infrastructural and environmental projects.

He has been involved in environmental impact assessment (EIA) and planning processes in South Africa, Botswana, Kenya, Lesotho, Mozambique, Namibia, Nigeria, Rwanda, Tanzania, Uganda, Zambia, Zimbabwe, Zambia and Antarctica, as required by relevant national legislation, financial institution performance standards and in terms of international requirements as EIA team leader and team member. These projects have included environmental assessments for projects as diverse as fuel storage facilities, mines, industrial developments, telecommunications, power generation (solar, wind, hydro, coal and nuclear), power transmission/distribution, water and sewage infrastructure, transport (airports, rail and roads), residential developments and game lodges. Many of these were completed to lender safeguard requirements, including the European Investment Bank, IFC, AfDB and Equator Principles.

Reuben also has experience in environmental advisory services and strategic environmental management, including strategic environmental assessments (SEAs), environmental scans, environmental feasibility studies and environmental management frameworks (EMFs); environmental management programmes (EMPRs) for construction and operation and environmental auditing, due diligence assessments, ISO 14001 systems development and auditing, legal compliance and waste and water use license audits.

Relevant experience

SKA-Mid Infrastructure Activity Management , South Africa, SKA Observatory HQ UK, 09/2021 - 02/2027, Environmental Specialist

Square Kilometre Array (SKA) is an international project to build the world's largest radio telescope. The project comprises of two main sites covering two components of the Square Kilometre Array, one being mid-frequency array (SKA-Mid) in the Karoo, South Africa. Zutari provides services of project manager (NEC4) including tender process facilitation, supervisor role (NEC4), construction management between infrastructure contracts, assembly integration and verification (AIV) services for combined SKA-mid infrastructure products, training and warranties management. The project management and supervision involve all electrical, fibre, structural and civil works. Responsible for review of contractor proposals against environmental criteria; review of contractor environmental management plans; as well as development of the environmental components of an ISO 14001-based environmental, health and safety management system.

Boegoebaai Green Hydrogen Project, South Africa, Northern Cape, Sasol South Africa, 05/2022 - 08/2023, Environmental Specialist

Sasol planned to develop a Green Hydrogen Project at Boegoebaai along the Northern Cape coast, at a Special Economic Zone (SEZ) planned by the Northern Cape Economic Development Agency (NCEDA). Renewable energy (a combination of solar photovoltaic [PV] and wind energy) with a capacity of several GW is intended to be developed in the study area, including areas from Boegoebaai (near Alexander Bay) to as far south as Kleinsee. Zutari provided seconded resources to assist Sasol with pre-feasibility and early feasibility planning to identify environmental opportunities and constraints in the study area to guide project planning. This included supervision of an environmental screening study (undertaken by others) of the region, development of a permitting strategy, development of terms of reference for environmental baseline monitoring, appointment of environmental monitoring contractors, and development of terms of reference for permitting contractors and a strategic conservation offset study. The overall intention of the environmental input to project planning was to reduce environmental risk to the project by ensuring that the mitigation

Qualifications

MPhil Environmental Management
BL Landscape Architecture

Professional registrations

Environmental Assessment Practitioner (EAP), Environmental Assessment Practitioners Association of South Africa (EAPASA)
Professional Landscape Architect, South African Council for the Landscape Architectural Profession (SACLAP)
Member, International Association for Impact Assessment, South Africa (IAIASa)

Specialisation

Environmental management

Years in industry

30

hierarchy is followed, through pro-active identification and avoidance of sensitive environmentally features. A process was also developed for the screening and site selection of suitable sites for renewables development to ensure effective integration between engineering and environmental disciplines throughout early planning. To facilitate this process, Zutari developed a comprehensive geographical information system database of environmental sensitivities. Responsible for supervision of an environmental screening study (undertaken by others) of the region, development of a permitting strategy, development of terms of reference for environmental baseline monitoring, appointment of environmental monitoring contractors, and development of terms of reference for permitting contractors and a strategic conservation offset study.

ACED Harmony Gold technical and environmental due diligence for three solar photovoltaic projects (Eland, Tsepong and Nyala), South Africa, African Clean Energy Developments (ACED), 02/2022 - 12/2022, Environmental Specialist

Zutari performed environmental and social due diligence (ESSD) on the three solar PV projects. Responsible for writing of an Environmental and Social Due Diligence chapter of the due diligence report.

Nairobi-Nakuru-Mau Summit Highway Public Private Partnership (PPP) in Kenya, Kenya, CPCS Transcom Canada, 09/2021 - 12/2022, Environmental Specialist

Zutari performed technical, environmental and Social Due Diligence (ESSD) on the proposed Nairobi-Nakuru-Mau Summit (NMM) Highway, a proposed toll road between Nairobi and Mau Summit. Responsible for writing of an Environmental and Social Due Diligence chapter of the due diligence report.

Virginia Wilfred Private Hospital, South Africa, Development Bank of Southern Africa (DBSA), 06/2021 - 12/2022, Environmental Specialist

The Sponsors were granted approval by the KwaZulu Natal Department of Health to develop an 80-bed private hospital in Ixopo, Ubuhlebezwe Local Municipality in KwaZulu-Natal. Zutari was appointed for a lenders technical advisor review for the 80-bed Virginia Wilfred Hospital. Responsible for writing of an environmental and social due diligence report.

Project Umoyilanga environmental and social due diligence (ESSD), South Africa, EDF Renewables (Pty) Ltd, 04/2021 - 12/2022, Environmental Specialist

Zutari performed environmental and social due diligence (ESSD) on the Umoyilanga energy project, consisting of wind energy facilities (WEF), powerlines ("grid") and hybrid energy facilities (solar and battery storage). Responsible for writing of an environmental and social due diligence report.

Exxaro photovoltaic (PV) Owner's Engineer and project management, South Africa, Exxaro, 04/2021 - 12/2022, Environmental Specialist

Exxaro Energy has identified an opportunity for the development of a solar photovoltaic system for Grootegeluk and Belfast Coal Operations respectively. It contributes to building a renewable energy offering as part of Exxaro Energy's business strategy. Responsible for advice regarding permitting and independent review of another environmental assessment practitioner's scoping and environmental impact reports for the projects.

Anglo American prefeasibility studies, South Africa, Botswana, Namibia and Zimbabwe, Anglo Corporate Services SA, 07/2021 - 12/2022, Environmental Specialist

Anglo American has the objective to become carbon neutral by 2040 and appointed Zutari to provide technical advisory services in the development of an energy strategy for all its sites in South Africa, Botswana, Namibia, and Zimbabwe. This strategy need to provide a procurement perspective per site, in consideration on certain scenarios and criteria to be taken into account, among others: capacity and energy availability, finance, reliability, changing energy landscape, etc. based on taking all the criteria into account. Responsible for environmental screening (including a site visit and development of a screening report) for a solar PV project at Amandelbult Mine. Also responsible for desktop environmental screening for a wind farm at Oranjemund, as well as a desktop environmental screening for wind and solar generation facilities for Debswana Mines in Botswana.

Sibanye photovoltaic plant: amendment of Environmental Authorisation (EA), South Africa, Sibanye Gold Limited, 08/2021 - 12/2022, Environmental Assessment Practitioner

Zutari was appointed to amend conditions of the Environmental Authorisations (EAs) for the Sibanye Gold solar PV plant and associated powerlines that were issued in 2017. These processes include ecological walkdown assessments of the solar PV plant and powerlines, revision of the environmental management plans for both components, and an application for a basic assessment to authorise an additional EIA "listed activity". Responsible for the management of the environmental impact assessment process (EIA), including report writing and the public participation process, and review of all specialist reports; project management; authority liaison and communication.

Mpumalanga Bamboo Project, South Africa, Terragr SA (Pty) Ltd, 04/2022 - 10/2022, Environmental Specialist

The project proposes the establishment of bamboo plantations on farmland in Mpumalanga. Zutari was appointed to compile an environmental screening report based on desktop information and a site visit, and a environmental legal screening to identify necessary legal authorisations. Responsible for site visit data collection, coordination of

desktop environmental data, and compilation of a legal screening report.

Simba CM Projects, South Africa, Simba (Pty) Ltd, 05/2021 - 09/2022, Environmental Assessment Practitioner

The project entailed an environmental scoping for the proposed Simba Isando biogas plant. Zutari was appointed to undertake an impact assessment process is to identify, assess and report on any potential impacts that the proposed project may have on the receiving environment, if implemented. The investigation outcome described how impacts on the biophysical and socio-economic environment can be, as far as possible, enhanced or mitigated and managed as the case may be. Responsible for environmental screening and compilation of a basic assessment report.

Herolim Private Hospital technical review, South Africa, Herolim (Pty) Ltd, 05/2021 - 09/2022, Environmental Specialist

Technical review for the development of the 130-bed private hospital licence that was issued to Dr Mashiyi by the Eastern Cape Department of Health. The development has been split into two phases, with the phase one being approximately 76 beds and phase two 60 beds. Responsible for writing of an environmental and social due diligence report.

Anglo American pumped hydro studies, South Africa, Anglo Corporate Services SA, 02/2021 - 08/2022, Environmental Specialist

The Mototolo Mine is a Platinum Group Metal mine in the Limpopo Province of South Africa where several iterations were considered for developing a pumped hydro storage scheme near the mine. A hydrological assessment of the catchment upstream of the proposed abstraction site needs to be performed in order to inform the client about the hydrological characteristics of the site and the catchment upstream. Responsible for data collection, identification of environmental and social risks, and generation of the environmental permitting chapter of the pre-feasibility reports.

Displacement Screening LADAR Bolana, South Africa, North West, Rustenburg Platinum Mines, 03/2022 - 07/2022, Environmental Specialist

Anglo American Platinum Pty Ltd appointed Zutari to undertake a detailed screening assessment aimed at determining whether an operation of the company is having displacement impacts on a local community. An Anglo operation received a letter of complaints from the community, raising several concerns, including, health and safety conditions, environmental conditions, provision of services, and high unemployment within the community. The community requested a meeting with Anglo to "address and redress the challenges and frustrations faced". Subsequent to this letter, the Bolana community and Anglo-American representatives met with the Member of the Mayoral Committee (MMC) for Intergovernmental Relations (IGR) and Special Projects at the Local Municipality (LM) to request assistance with the provision of basic services. As a result, the Monitoring and Evaluation Department of the RLM undertook a high-level survey of the community to better understand the challenges and how best to address them. Responsible for writing of the environmental chapter.

Lesego Private Clinic, South Africa, RH Managers (Pty) Ltd, 07/2021 - 07/2022, Environmental Specialist

A 50-bed hospital is being developed in Mogwase in the North West Province. Zutari undertook the technical due diligence review in relation to the equipment and working capital. Responsible for writing of an Environmental and Social Due Diligence Report.

Technical due diligence of the 50 MW Namanve Thermal Power Plant (NTPP), Uganda, KPMG Uganda, 02/2021 - 07/2022, Environmental Specialist

Zutari was appointed to advise the 50 MW Namanve Thermal Power Plant (NTPP) of its current condition through a technical due diligence study. Responsible for writing of environmental due diligence chapter for the due diligence report.

Project Oya environmental and social due diligence (ESSD), South Africa, G7 Renewable Energies (Pty) Ltd, 04/2021 - 06/2022, Environmental Specialist

Zutari performed environmental and social due diligence (ESSD) on the Project Oya energy project, consisting of wind energy facilities (WEF), powerlines ("grid") and hybrid energy facilities (solar and battery storage). Responsible for writing of an environmental and social due diligence report/review of the client's environmental and social management system against IFC PS 1 and ISO 14001.

Peakers conversion pre-feasibility study (PFS), South Africa, Avon Peaking Power (RF) (Pty) Ltd, 06/2020 - 03/2022, Environmental Specialist

Avon and Peakers investigated the conversion of its existing diesel-fired Open Cycle Gas Turbine peaking power stations at Avon (in KZN) and Dedisa, in the Eastern Cape, to operate on LNG, which is proposed to be supplied via FSRU from Richards Bay. The possibility to utilise methane rich gas (MRG) from the Sasol Lilly pipeline for Avon peaking operation was also considered. Zutari was appointed to deliver the techno-economic feasibility study for the conversion of the Avon and Dedisa power plant and associated infrastructure. Zutari undertook a technical review and assessment of all documentation, including the NERSA licence application documentation pack,

servitude applications, environmental impact assessment (EIA), environmental risk assessment (ERA) authorisation, as well as pipeline storage and design. Responsible for writing of environmental due diligence chapter for the due diligence report, including review of the project against national legal requirements, IFC environmental and social performance standards and Equator Principles.

North-South Corridor rail pre-feasibility study, South Africa, Zimbabwe, Zambia and Eswatini, World Bank Group USA, 09/2020 - 02/2022, Environmental Specialist

The overall aim of the project is to support the NEPAD Business Foundation in assessing and testing various options for private sector participation for a functioning block train service between the ports of Durban/Richards Bay in South Africa to Ndola in Zambia (eventually Kolwezi in DRC). This would include a robust analysis of all possible alternatives (alternatives in alignments, in selection of standards, etc.) and comparison with international experience and good practice among a variety of countries. Responsible for environmental screening study – identification of environmental permitting requirements in each affected country; and identification of environmentally and socially sensitive features along the corridor.

Wartsila - South African design basis , South Africa, Wärtsilä Southern Africa Pty.Ltd, 11/2020 - 01/2022, Environmental Specialist

Zutari was contracted by Wartsila, an engineering, procurement, and construction (EPC) contractor who provides power generation solutions worldwide and across Africa, to develop design basis and philosophies applicable to South Africa for electrical, civil and mechanical engineering. The scope also included the infrastructure approval process, necessary environmental approvals as well as the socioeconomical requirements. Responsible for defining environmental permitting requirements.

Weba, Weco Muzi Hydropower Project feasibility study, Zambia, Frontier Energy Hydro Power Zambia, 10/2019 - 03/2021, Environmental Practitioner

Zutari was appointed to undertake technical, environmental and social feasibility studies for three small (up to 20 MW) hydropower projects on small rivers along the Zambezi Valley escarpment in Southern Zambia. The environmental scope involved scoping and environmental impact assessment to Zambian legal requirements and IFC performance standards. Responsible for report review and quality control of deliverables.

Technical due diligence of 150 MW power plant, Mozambique, AP Moller Capitol, 08/2020 - 03/2021, Environmental Specialist

Zutari performed technical due diligence for a bidder in the sale of a 150 MW gas-fired reciprocating engine power plant. The due diligence included review of the plant design, thermal performance, operation and maintenance, condition, service contracts, fuel supply agreement plus environmental compliance with applicable standards, including the IFC Performance Standards for Environmental and Social Sustainability and the Equator Principles III. Responsible for writing of environmental due diligence chapter for the due diligence report, including review of the project against national legal requirements, IFC environmental and social performance standards and Equator Principles.

Project Zebra: Ekland Safaris Lodge upgrade, South Africa, Limpopo, OBMI, 02/2017 - 02/2021, Environmental Practitioner

Zutari was appointed to undertake the sewer and water design of four existing lodges in the Ekland Safaris luxury game lodge near Louis Trichardt in Limpopo. The extensions to the lodges include spa's and private suites. The project also comprised the upgrade and rehabilitation of an existing runway to comply with ICAO Annex 14 standards and recommended practices in order to operate the Pilates PC12 and Cessna Caravan. The design included the addition of a surfaced apron, terminal building, airfield ground lighting and all associated services. The stormwater boundary fence and drainage system of the airstrip needed to be redesigned in order to accommodate the increase runway width and runway strip dimensions. All associated airfield ground lighting, services and access roads was included in the design. The project involved several environmental authorisation applications, including those for a lodges, fencing, staff housing facilities and other related facilities. Responsible for report review and quality control of deliverables.

LNG-to-power bid for the Port of Ngqura, South Africa, ENGIE Africa, 09/2020 - 01/2021, Environmental Specialist

ENGIE expressed interest to the Department of Mineral Resources and Energy (DMRE) for developing a liquefied-natural-gas-to-power (LNG-to-power) project in Ngqura, as part of the Risk Mitigation Power Procurement Program (RMPPP). Zutari was responsible for the preliminary marine infrastructure design and studies required for the FSU including mooring and berthing dolphins. The scope of works included master planning (port planning) considering existing and future operations and navigation, development of site design data, undertaking a downtime study, preliminary designs of the berthing structures including cost estimates and a project timeline and project specifications. Responsible for environmental screening study – identification of environmental permitting requirements.

BPC Lot 1 North West Transmission Grid (NWTG) project, Botswana, Botswana Power Corporation (BPC), 10/2014 - 12/2020, Independent Environmental Reviewer

The Botswana Power Corporation required the development of a robust and adequately dimensioned transmission system which links power sources to the various load centres at various sites in the north western part of Botswana. The scope of works entailed electrical engineering consultancy services for the design, supply, installation, testing and commissioning of a 400 kV line bay at Morupule B 400 kV substation, a 230 km 400 kV line from Morupule B substation to proposed Letlhakane 400/220 kV substation, the proposed substation at Letlhakane and a 17 km 220 kV line from the proposed substation to the existing Orapa 220 kV switching station. Work also included a 60 MVAR line-connected reactor at Morupule B substation on Letlhakane line and 2 x 60 MVAR line-connected reactors at Letlhakane substation and 30 MVAR switched tertiary connected shunt reactor for each primary grid transformer at Letlhakane. Zutari's services also included geotechnical investigation, aerial survey as well as an environmental and social impact assessment for the proposed transmission line route and substation site. Responsible for the review of the environmental and social impact assessment and environmental and social management plans.

Transaction advisor for the Mogalakwena PV plant, South Africa, Limpopo, Cresco Project Finance, 08/2017 - 08/2020, Environmental Specialist

Anglo American Platinum (AAP) has a large base load power demand at its Mogalakwena Platinum Mine and intends to reduce its consumption of grid-supplied power by procuring locally generated solar power from an independent power producer (IPP). The solar power is to be generated from an approximately 75 MW photovoltaic (PV) farm to be located near the mine and processing plant. A transaction advisory team, consisting of financial, legal and technical consulting firms, has been appointed to assist in defining, structuring, evaluating and negotiating the IPP procurement. Zutari is fulfilling the role of technical advisor within the transaction advisory team. Zutari's scope includes site visits and data gathering; power consumption data analysis; geographic information systems (GIS) mapping and site selection; solar resource analysis; plant sizing and performance modelling; load flow analysis and identification of electrical connection point/s. The scope further involves capital and operations and maintenance (O&M) cost estimates, technical advice relating to structuring of the procurement process, drafting/inputs to request for qualification (RFQ) and request for proposal (RFP) documentation, including technical requirements, power purchase agreement (PPA), etc., evaluation of RFQ and RFP submissions from IPPs and negotiations with the preferred IPPs. Responsible for environmental screening of potential alternative sites, considering biodiversity risks and heritage risks; identification of potential environmental red flags or fatal flaws per site; identification of appropriate environmental authorisation processes.

Engineering services for the Aga Khan University Hospital Kampala, Uganda, Kampala, Aga Khan University Hospital (AKUH), 09/2016 - 06/2020, Environmental Impact Assessment Team Leader

Aga Khan University Hospital (AKUH) intends to develop a 600-bed hospital on a 60 acre site at the junction of Jinja and New Port Bell Rd in Nakawa, Kampala. The initial phase of the project known as the "Launch Phase" will be developed on a 7 – 10 acre portion of the site and will consist of a 85-bed teaching hospital with an estimated 14 300 m² gross building area. Responsible for the site visit and compilation of the report for the Phase 1 environmental site assessment and for management of the environmental impact assessment process (EIA), including report writing and the public participation process, and review of all specialist reports.

RMB Lender's Technical Advisor for the new Terminal Port of Ngqura, South Africa, Eastern Cape, Oiltanking Grindrod Calulo, 04/2019 - 06/2020, Environmental Specialist

Zutari acted in an advisory role to the lender (Rand Merchant Bank - RMB) on the construction of a 155,000 cbm liquid bulk storage facility undertaken by Oiltanking Grindrod Calulo (Pty) Ltd ("OTGC"). Zutari went through two phases of review with the aim to limit risk and guide the project to financial close. The review included both a commercial and technical due diligence. Throughout the duration of this project, Zutari worked closely with both the lender (RMB) and the owner (OTGC). Responsible for due diligence of project compliance with the Performance Standards of the International Finance Corporation and Equator principles.

Nkomazi Game Reserve, South Africa, Mpumalanga, AP Vos & Sons (Pty) Ltd, 05/2019 - 05/2020, Environmental Practitioner

Environmental management services were undertaken for the tented camp at Nkomazi Game Reserve. Mkomazi Game Reserve, near Barberton in Mpumalanga, is constructing a number tented camp facilities for tourist accommodation. Zutari was appointed to assist them with the environmental applications for these facilities. Responsible for report review and quality control of deliverables.

Cato Ridge land development pre-feasibility study, South Africa, KwaZulu-Natal, Cato Ridge Development Company Ltd/Assmang, 04/2019 - 04/2020, Environmental Practitioner

A pre-feasibility investigation was undertaken for a financial model to determine the extent of the project area, based on physical encumbrances on the properties and the expected CAPEX to develop the land and measure the financial inputs against the market. The main objective was to release and develop land in a responsible manner to achieve triple bottom line and hence a benefit for all stakeholders. In doing so, Assmang wished to leave behind a positive legacy in Cato Ridge. Responsible for environmental component of the pre-feasibility study, which included investigation of the natural and social (heritage and palaeontological) baseline of the site and the identification of potential fatal flaws, red flags and other concerns and the interpretation of specialist findings for the client.

Due diligence for the head Office of the Department of Rural Development and Land Reform, South Africa,

Gauteng, African Infrastructure Investment Managers (AIIM), 02/2020 - 04/2020, Environmental Practitioner

The Department of Rural Development and Land Reform has been planning since 2009 to construct a new head office complex at a site in Berea Park, Pretoria. This complex is proposed to be constructed through Public-Private Partnership (PPP). African Infrastructure Investment Managers (AIIM), one of the potential investors in this PPP, develops and manages private equity infrastructure funds designed to invest long-term institutional unlisted equity in African infrastructure projects. AIIM requested a comprehensive technical and commercial due diligence assessment of the project. The objective of the Environmental and Social Due Diligence (ESDD) was to identify and assess all-project related environmental, community, social and health and safety risks and impacts associated with the investment, and to identify areas where positive project impacts can be enhanced, as part of a larger commercial due diligence that AIIM will undertake on the investment. Responsible for written assessment of the ESDD, which includes a description of the risks and gaps identified against applicable environmental and social requirements; recommendations to address identified risks and gaps through a high-level environmental and social action plan (ESAP) as per the AIIM ESAP format; and identified opportunities for value creation through ES interventions.

Transaction advisory services for Angola-Namibia (ANNA) transmission line interconnector, Namibia and Angola, Southern African Power Pool (SAPP), 03/2017 - 03/2020, Environmental and social impact assessment (ESIA) Manager

Zutari was appointed for the provision of transaction advisory services for the Angola Namibia (ANNA) Transmission Interconnector Feasibility Study. It includes multidisciplinary study to support an investment decision to build the interconnector. It also comprises the pre-feasibility including the development of concept; Part 2: feasibility to PIM; and Part 3: PIM to EPC and financial close. In addition, Part 4 is included, with the focus on training and knowledge transfer to the SAPP as the client and the two utility Sponsors, being NamPower (Namibia) and RNT (Angola). Responsible for coordinating and managing the environmental and social impact assessment (ESIA) and resettlement action plan for the proposed 400 kV powerline.

Luapula River Hydroelectric Scheme, Zambia and Democratic Republic of the Congo, Southern African Power Pool (SAPP), 07/2018 - 03/2020, Environmental Practitioner

Zambia and the Democratic Republic of Congo (DRC) have decided to jointly expedite the development of hydropower on the common sites of the transboundary Luapula River. Zutari was contracted to undertake pre-feasibility studies for the proposed scheme. Zutari was engaged to carry out pre-feasibility studies for the environmental and social impact assessment (ESIA) opportunity for the development of the proposed Luapula River Hydroelectric Scheme. The scheme, which includes multiple dams with capacities ranging from 600 to 900 MW, is geared to secure electricity supply for Zambia and the Democratic Republic of the Congo (DRC). To bring this vision to life, Zutari will work in parallel with a technical team to document the project baseline, assess and recommend alternatives, and identify the environmental and social concerns. The project team will also develop terms of reference (ToR), which will guide the ESIA. Responsible for development of an Environmental and Social Screening Report to identify potentially significant environmental and social fatal flaws, red flags and other concerns. This included a comprehensive assessment of environmental and social baseline conditions, based on secondary and primary data collection, and identification of potential environmental and social impacts and constraints and assessment of alternative designs and project configurations (e.g. dams at different sites and full supply levels). The Screening Report included a Resettlement Planning Framework, a Stakeholder Engagement Framework and Terms of Reference for an Environmental and Social Impact Assessment and stakeholder engagement results.

Tiapata Hydropower feasibility study, Guinea, responsAbility Renewable Energy, 05/2018 - 02/2020, Environmental Practitioner

Tiapata Small Hydropower Project (SHP) aims to abstract water from the Saala River which descends through a series of rapids and waterfalls within the Fouta Djallon Highlands region of central Guinea. Zutari was appointed to upgrade the feasibility study completed by SAEMS Hydro Ltd and Wollstra (2018) to a bankable feasibility level. Zutari was responsible for carrying out the prefeasibility study and then the feasibility study of the preferred option. The scheme will likely comprise of a diversion weir, 2.3 m diameter low pressure pipeline, surge tank, 2.3 m diameter steel penstock and a power station housing 4 Pelton wheel turbines. Responsible for the environmental impact assessment to national standards and to IFC standards.

Meta Abo brewery expansion, Ethiopia, Diageo Great Britain, 08/2017 - 01/2020, Environmental Assessment Practitioner

Zutari was appointed in combination with Yerer Engineering to undertake an environmental impact assessment study and develop an environmental management plan for the planned expansion of the Meta Abo Brewery, to include a spirits bottling plant. Responsible for coordination and management of the environmental and social impact assessment (ESIA).

New Bugesera International Airport (NBIA), Rwanda, Bugesera Airport Company Limited (BAC), 08/2017 - 12/2019, Environmental Construction Officer

Zutari is providing design review and construction supervision services on the greenfield New Bugesera International Airport (NBIA) project, with capacity for 1.44 million passengers per year utilising a terminal building of

approximately 30 000 m². The runway and parallel taxiway length will be 3.8 km, with the Airbus A330 as design aircraft. This is an engineering and procurement (EPC) contract between the Bugesera Airport Company (BAC) and Mota-Engil Africa (MEA). Responsible for environmental audits of the contractor (Mota-Engil) against the approved Environmental and Social Management Plan; Mota-Engil's own Project Environmental and Social Plan (PESP); and the client's Construction Environmental and Social Management Plan (CESMP).

rAREH Tanzania Reconnaissance Study, Tanzania, responsAbility Renewable Energy, 02/2019 - 12/2019, Environmental Specialist

Zutari was appointed by responsAbility Renewable Energy Holding (rAREH) for a desktop study and a reconnaissance study to identify potential hydropower sites in Tanzania, and refine the findings of the sites' actual potential. The services were carried out by first conducting, a desktop study to identify possible hydropower sites using topographical mapping, applications such as Google Earth®, obtaining information on the river systems, etc., and thereafter a reconnaissance of selected/preferred sites. Henceforth, two separate reports compiled, namely, the desktop study report and a reconnaissance study. The project has a three-facet approach, the first one being to identify sites from scratch, the second being to identify 'owners' of sites who are looking for investors to partner with them in the development of the sites and lastly, whilst on the site reconnaissance, to speak to the locals and obtain information about other potential sites which might not have been picked up during the desktop study phase. Responsible for desktop level environmental screening of potential project sites.

Assessment of trade and transport needs in North-West Uganda, Uganda, TradeMark East Africa Uganda, 09/2018 - 11/2019, Environmental Specialist

Uganda is home to around 1.1 million refugees, from countries such as South Sudan, Democratic Republic of Congo (DRC) and Somalia. Several humanitarian organisations are involved in attending to the needs of refugees (such as WFP and UNHCR) providing support in the form of food and non-food items. The presence of refugees and the continuous support in the form of food and non-food items has a significant impact on the transport logistics of Uganda. Warehouses have been erected, while vehicle fleets distribute the goods to storage facilities and ultimately to refugees in settlements. Considering the above, TradeMark East Africa (TMEA) appointed Zutari to prepare a scoping study of the trade and transport needs in North-West Uganda, with specific focus on the impact of the refugee influx. This included a high-level screening of the potential environmental impacts of refugee camps and the transport interventions. Responsible for generation of an environmental screening report of the potential environmental impacts of refugee camps and transport options.

Viability analysis for a Private-Public Partnership for implementation of the Flue Gas Desulphurisation (FGD) project at Medupi Power Station, South Africa, Limpopo, PriceWaterhouseCoopers (PwC), 01/2017 - 07/2019, Environmental Specialist

Zutari was appointed by PriceWaterhouseCoopers to assist with a viability analysis of proposed public-private partnerships (PPP) for the implementation of various capital projects by Eskom Generation at its power stations. This included the Flue Gas Desulphurization (FGD) project at Medupi Power Station. Responsible for generation of the environmental portion of the viability analysis report.

ZESCO Lusaka transmission and distribution refurbishment (TDR) project, Zambia and USA, ZESCO Limited, 10/2014 - 05/2019, Independent Environmental Reviewer

ZESCO intended to reinforce and upgrade the power transmission and distribution infrastructure in the Lusaka area as a priority to increase the capacity and improve the reliability of the electricity network for all consumers throughout the area. Zutari was appointed to carry out investigations and planning, design, procurement, construction supervision and project management services for ZESCO Lusaka transmission and distribution refurbishment project. Responsible for the review of the environmental and social impact assessment and environmental and social management plans against European Investment Bank standards.

Square Kilometre Array Central Processing Facility Upgrade, South Africa, Northern Cape, National Research Foundation (NRF), 07/2017 - 01/2019, Environmental Specialist

The Square Kilometre Array (SKA) Telescope is a science mega-project that aims to build the world's largest radio telescope. The SKA1 Observatory will consist of two instruments – the SKA1_Mid telescope to be constructed in South Africa and the SKA1_Low telescope to be constructed in Australia. SKA1_Mid includes approximately 133 steerable dishes that are 15 m in diameter combined with 64 dishes from the MeerKAT precursor instrument. The SKA1_Low includes roughly 130,000 smaller dipole fixed antennas. The scope of works for this project involved various sub-element upgrades concomitant with the upgrade of the Central Processing Facility (CPF) to serve the SKA1_MID telescope. The main components of the power infrastructure included a 33 kV overhead line from Eskom's Karoo Substation (near Carnarvon); a central core site substation at the Site Complex called the Power Facility (PF); and a 22 kV underground cable network supplying mini-substations which in turn supplies groups of MeerKAT dish antennas at 400 V. Responsible for generation of environmental screening report; analysis of environmental legal requirements; review of potential environmental risks of construction; generation of an environmental management plan.

Marine fibre cable landing sites environmental screening, South Africa, Vodacom, 11/2017 - 01/2019, Environmental Specialist

The project entailed environmental screening of potential landing sites for marine fibre lines near Port Elizabeth (Eastern Cape) and Amamzimtoti (KZN) and identification of potentially applicable environmental and related authorisation requirements. Responsible for generation of environmental screening report; analysis of environmental legal requirements; review of potential environmental risks of alternative landing sites; recommendation for most suitable landing sites.

Usafi Transport Terminal, Uganda, Kampala, Pegasys AME, 01/2018 - 11/2018, Environmental Specialist

The objective of this assignment was to provide a detailed plan for developing Kampala's Usafi Market area into a private sector mixed-use development with public transport connections. Zutari, in partnership with IMC Worldwide and Pegasys, was engaged in December 2017 to undertake a pre-feasibility study that investigates private sector-delivered options for a mixed-use development with public transport connections at the Usafi Market in Kampala. Works included supporting the overall management of the project; overseeing the development of a methodology for carrying out the study; client interaction; and stakeholder consultation. Responsible for environmental pre-feasibility study of environmental and social opportunities and risks.

EIA/WULA for bridge over watercourse, Mbombela, South Africa, Mpumalanga, Sommereg Beleggings, 04/2017 - 11/2018, Environmental Assessment Practitioner

Zutari was appointed for a basic assessment process and water use license application (WULA) for the construction of a bridge and concrete wall along the eastern edge of the watercourse adjacent to the BUCO commercial facility in Mbombela, Mpumalanga. Responsible for review of basic assessment report and appendices, including environmental management plan.

Sisi and Simu Hydropower Project feasibility study, Uganda, ResponsAbility Africa, 02/2017 - 04/2018, Environmental Impact Assessment (EIA) Reviewer

Zutari was appointed for the bankable feasibility study, environmental and social impact assessment and for drafting the employer's requirements. The project entailed an environmental impact assessment (EIA) for the proposed hydro-electric project on the Sisi and Simu Rivers on Mount Elgon. Responsible for reviewing the EIA deliverables of a local consultant appointed to undertake an EIA in order to ensure compliance with the requirements of the International Finance Corporation (IFC) and the Equator Principles (EPs).

Lagos Cable Transit Project - environmental services, Nigeria, Niger, African Development Bank (AfDB), 05/2012 - 03/2018, Environmental Reviewer

The Lagos Cable Transit Project, an African first, consists of the construction of three cable propelled transit (CPT) lines for mass transit which will link Lagos Island with Lagos Mainland and will also link residential and business areas. The implementation of the CPT lines could serve as a model for implementation of similar systems in other congested African cities. Zutari was responsible for undertaking technical advisory services related to all technical aspects of the project. The environmental component of the project comprised a review of the environmental and social impact assessment (ESIA) of the proposed Lagos Cable Car Transit. The review comprised a comparison of the requirements of the Nigerian EIA legislation, the International Finance Corporation's Performance Standards for Environmental and Social Sustainability and the Equator Principles. Responsible for review of environmental impact assessment: It also entailed an analysis and assessment of the content and quality of the ESIA report against these requirements; identification of environmental and social impacts that are likely to occur as a result of the proposed project; an assessment of the adequacy of the ESIA in addressing environmental impacts and recommending appropriate mitigation measures and the identification of gaps in the ESIA and recommendations to rectify shortcomings.

24G environmental application for Standerton Oil Mill, South Africa, Mpumalanga, Standerton Oil Mills, 11/2016 - 02/2018, Environmental Management System Specialist/Internal Environmental Reviewer

The project entailed applications for legalisation of infrastructure that had been commenced illegally in relation to the Standerton Oil Mills operations. This included the compilation of an environmental impacts and aspects register towards the development of an ISO 14001 environmental management system. Responsible for review of the Section 24G legislation documents, and for compilation of the environmental impacts and aspects register.

Transnet Tippler 3 Project FEL 3 Port of Richards Bay, South Africa, KwaZulu-Natal, Transnet SOC Richards Bay, 01/2017 - 01/2018, Internal Environmental Reviewer

Zutari was appointed by Transnet Capital Projects to undertake the complete design and construction methodology of the tippler and all bulk material handling equipment and services for a single cell tippler installation in the Port of Richards Bay. The appointment involved the preparation of various drawings for mechanical, structural, electrical and control and instrumentation elements of the tippler. In addition, various environmental and sustainability documentation were produced by Zutari. Responsible for internal review of the following report deliverables: sustainability report; environmental and community interface report and design criteria report.

Baseline design for the construction of railway line from Dar es Salaam - Isaka, Tanzania, CPCS Transcom St Michael Barbados, 09/2016 - 12/2017, Environmental Practitioner

Zutari was appointed for the baseline design for the construction of a railway line from Dar es Salaam to Isaka in Tanzania. Part of the scope included an environmental screening exercise to determine the environmental

feasibility of the upgrading and re-alignment of the railway line. Responsible for site visit, compilation and editing of environmental screening report, which identified the applicable IFC performance standards, potential environmental and social impacts and requirements for the update of the environmental and social impact assessment.

Overvaal Rail Tunnel, South Africa, Mpumalanga, Transnet Freight Rail, 06/2017 - 12/2017, Internal Environmental Reviewer

The project entailed the compilation of a number of sustainability reports for Transnet to review the sustainability of the proposed second Overvaal Rail Tunnel. Responsible for internal review of the following report deliverables: sustainability report; environmental and community interface report and water use license report.

Aviation master plan for North West Province, South Africa, North West, North West Department of Community Safety and Transport Management, 04/2017 - 12/2017, Environmental Specialist

The project entailed master planning for the network of airports and airfields in the North West Province. The environmental scope of work involved screening of each airport to determine the environmental opportunities and constraints regarding potential expansion at each of these airports or airfields. Responsible for the compilation of a screening report.

Sibanye Gold photovoltaic plant environmental impact assessment (EIA), South Africa, Gauteng, Sibanye Gold Shared Services/Sibanye Stillwater, 06/2015 - 11/2017, Environmental Assessment Practitioner

Zutari managed the environmental impact assessment (EIA) process required for authorising the proposed photovoltaic facility in terms of the National Environmental Management Act. Sibanye Gold, a mining company, intends to develop the project to gain greater independence from Eskom. The project will provide power exclusively to Sibanye Gold. The generated electricity may be used at any one of its mines in the Westonaria/Carletonville region. Responsible for the management of the environmental impact assessment process (EIA), including report writing and the public participation process, and review of all specialist reports. Also responsible for amendment of the environmental authorisation and related authority liaison, as well as undertaking a Phase 1 environmental site assessment of the proposed site to confirm the presence of any potential environmental risks for project development.

Haakdoorn drift opencast project, South Africa, Limpopo, Anglo American Platinum, 03/2016 - 11/2017, Environmental Assessment Practitioner

Zutari was appointed by Anglo American Platinum to undertake the environmental impact assessment (EIA), waste and water licenses for the Haakdoorn drift opencast project at their Amandelbult Complex as part of their opencast activities. Specialist studies include groundwater, soil and land capability, terrestrial and aquatic biodiversity, noise, blasting and vibration, heritage and palaeontology, social impact assessment (SIA) as well as floodline determination. An environmental screening exercise determined the environmental feasibility of relocation of a railway line on a proposed opencast pit in the Amandelbult mining complex. Three environmental basic assessments applied for environmental authorisation for Open Pits 37, 62 East and 36W. Zutari also audited the implementation of a phase out plan for polychlorinated biphenyl (PCB)-containing materials at Anglo's Waterval Smelter near Rustenburg. Responsible for the compilation of environmental screening report for a number of proposed open pits. Also responsible for the management, coordination and quality control of the basic assessments for Pits 37 and 62 East, including review of specialist studies. Other duties included the management, coordination and quality control of the environmental management programme for Open Pit 36W, as well as authority liaison, meetings and follow -ups regarding granting of authorisation and correction of mistakes on authorisations that had been granted. Furthermore, he was responsible for the internal review of an audit of PCB-containing materials at the Waterval Smelter.

Lord's View Data Centre, South Africa, Gauteng, Dark Fibre Africa (DFA), 09/2017 - 11/2017, Internal Environmental Reviewer

Zutari undertook the feasibility assessment for the establishment of a data centre in an industrial park. The environmental feasibility study was one of several technical feasibility studies. Responsible for internal review of the environmental screening report.

Kiwira pre-feasibility study for hydro-electric power stations, Tanzania, Mbeya, Kiwira Energy Limited, 11/2016 - 10/2017, Environmental Specialist

Zutari was appointed to undertake a pre-feasibility investigation for a number of small scale hydroelectric sites along the Kiwira River in western Tanzania. Responsible for identification of environmental fatal flaws and red flags through site visits. Also responsible for the generation of environmental project briefs and project registration with the Tanzanian National Environmental Management Council (NEMC) to initiate the environmental authorisation process. Other duties included the compilation and internal review of a scoping report for the proposed Kiwira II hydroelectric site, in addition to the compilation of an environmental screening report for the proposed Momba Dam.

Dragline relocation pre-feasibility study at Landau Colliery, South Africa, Mpumalanga, Anglo Operations Proprietary, 11/2015 - 09/2017, Environmental Practitioner

Zutari was appointed to undertake a dragline relocation pre-feasibility study at Landau Colliery located in eMahlahlani. The scope of works extended to waste classification of discard material sources for Madini and

Elandsfontein dumps. The works also included the compilation of a scoping and environmental impact report for the proposed construction of a road, with the purpose of relocating the dragline from the Kromdraai Section to the Navigation Section of Landau Colliery. Responsible for an internal review of scoping and environmental impact reports and public participation documents; as well as participation in impact assessment workshops and client review workshops.

Environmental screening and general environmental advice to SAIL Mining, South Africa, Gauteng, SAIL Mining, 05/2014 - 06/2017, Environmental Advisor

The project entailed environmental screening to determine the need for any environmental authorisations as well as providing general advice regarding the management of environmental risks on the site in Rosslyn (chrome, waste, stormwater and dust) and management of a dust monitoring programme. Responsible for drafting of an environmental screening report and provision of ad hoc environmental advice.

Mohembo Bridge over the Okavango River, Botswana, Itinera/Cimola JV, 11/2016 - 06/2017, Environmental Assessment Practitioner

Zutari was appointed by Itinera, a contractor, to develop a site-specific Environmental, Health and Safety Management Plan (EHSMP) for the construction of the Mohembo Bridge over the Okavango River in the north-west of Botswana. Responsible for the development of the environmental portion of the EHSMP.

Mogalakwena 33 kV powerline, South Africa, Limpopo, Mogalakwena Local Municipality, 05/2015 - 06/2017, Internal Environmental Reviewer/Environmental Assessment Practitioner

The Mogalakwena Local Municipality appointed Zutari to design a 33 kV powerline in the Waterberg, and to obtain environmental authorisation under the environmental impact assessment (EIA) regulations in terms of the National Environmental Management Act, 1998. Responsible for internal review of the environmental basic assessment report and environmental management programme.

Waterberg feasibility (FEL 3) study for rail infrastructure, South Africa, Transnet SOC Johannesburg, 12/2014 - 12/2016, Environmental Practitioner

Zutari was appointed to assist Transnet in attaining their business goal of establishing an incremental rail capacity development plan for coal tonnage throughput up to 24 Mtpa, for export and domestic destinations. Zutari investigated and established the requirements in terms of upgrading the existing rail infrastructure between Lephalale and Ermelo in order to support the envisaged expansion, which includes infrastructure, rolling stock and other assets. Responsible for editing and revision of FEL 3 environmental feasibility reports, including the environmental design criteria report, environmental and social governance report and sustainable development design report.

Environmental, health and safety legal register of Khanyisa Power Station, South Africa, Mpumalanga, Alstom/General Electric, 06/2016 - 12/2016, Environmental Specialist

Zutari was tasked with the compilation of a comprehensive database of environmental, health and safety and spatial planning legal authorisations for construction of the proposed Khanyisa Power Station, with a focus on requirements applicable to the contractor. Responsible for project management and identification of environmental legal requirements.

Menlyn diesel spill response, South Africa, Gauteng, Pareto, 08/2016 - 11/2016, Independent Environmental Specialist

The project entailed a response to spillage of approximately 20 000 litres of diesel from Menlyn Park shopping centre into the Moreletaspruit in eastern Pretoria. Responsible for review of spill response in terms of company's procedures and processes; compilation of emergency reports to relevant environmental authorities; liaison with authorities; and review of specialist ecological reports.

Overvaal Tunnel FEL 3 and FEL 4, South Africa, Mpumalanga, Transnet SOC Johannesburg, 06/2014 - 11/2016, Internal Environmental Reviewer

Zutari was appointed for the feasibility (FEL 3) development in respect of the construction of the second Overvaal tunnel as well as the complete engineering (FEL 4) thereof. In addition to the development of the tunnel, Transnet SOC required to reinstate, upgrade and/or construct a ventilation system for the existing tunnel. The new tunnel needs to accommodate a double electrified signalled track. Responsible for the review of the environmental and social management plan (ESMP) and the water use license application report.

Sebokeng CBD feasibility study, South Africa, Gauteng, Development Bank of Southern Africa (DBSA), 09/2015 - 10/2016, Environmental Practitioner

The purpose of the feasibility study is to determine the potential technical and financial sustainability and success of the project to be implemented. An environmental screening exercise was undertaken to determine environmental feasibility of the development of a mixed use precinct in Sebokeng. Responsible for the compilation of the screening report.

Pilgrim's Rest residential development, South Africa, Mpumalanga, Mpumalanga Provincial Government:

Department of Human Settlements, 10/2015 - 10/2016, Environmental Assessment Practitioner

The project comprised an environmental basic assessment process for the authorisation of the construction of a residential area at Pilgrim's Rest. Responsible for internal review of basic assessment report, participation documents and specialist reports.

Independent engineering audits for the South African National Roads Agency Limited (SANRAL) and the N3 Toll Concession (N3TC), South Africa, South African National Roads Agency Limited (SANRAL) and N3 Toll Concession (Pty) Ltd (N3TC), 09/2009 - 09/2016, Environmental Specialist

The South African National Roads Agency Limited (SANRAL) signed a 30-year concession contract with the N3 Toll Concession (N3TC) to maintain and upgrade the section of National Route 3 (N3) between Cedara and Heidelberg. Zutari was appointed as the independent engineer to oversee and audit the contract, including reviewing all designs, audit construction work, maintenance work and the toll plaza operations as well as environmental audits of the environmental system implementation. Responsible for auditing and monitoring of the environmental system.

Ingula pumped storage scheme, South Africa, Gauteng, Eskom Holdings SOC, 11/2011 - 08/2016, Environmental Reviewer

The project comprised annual environmental compliance audits against the requirements of the Ingula pumped storage scheme's water use licence (WUL) and integrated water use licence (IWUL). Responsible for the compilation of and review of integrated waste and water management plan (IWWMP) audits.

Lesotho knit fabric mill development, Lesotho, Lesotho National Development Corporation (LNDC), 04/2016 - 08/2016, Environmental Practitioner

Zutari was appointed to develop options for service delivery for three knit fabric mill plants located in existing industrial parks in Tikoe, Nyenye and Ha Belo in Lesotho. The scope of works entailed preparing a block plan for each of the three estates indicating the consolidation of stands required to suit the needs of each investor, investigating the available supply of electricity and making recommendations regarding upgrades that were required, ensuring that measures were in place to improve electricity efficiency were outlined, investigating potential water supply sources and covering ground water, surface water and municipal supply. Additional services include undertaking a cost benefit analysis on the three options for each individual site, designing a wastewater treatment package plant to suit the capacity requirements for each investor based on the contaminants specified by the investor, and as well as carrying out a high level environmental screening highlighting all potential environmental issues and applications required. Responsible for compilation of the screening report.

Mokolo Crocodile Water Augmentation Project (MCWAP), South Africa, Limpopo, Trans-Caledon Tunnel Authority (TCTA), 09/2009 - 06/2016, Reviewer

The project entailed comprehensive engineering services for the Mokolo Crocodile Water Augmentation Project (MCWAP), including the construction of two major bulk raw water transfer systems and associated infrastructure. The MCWAP supplies raw water to meet the demands of the new power station in Lephalale, mines and industry, and domestic users. The main components of the scheme are abstraction weirs, pump stations, pipelines and balancing storage. Responsible for the independent review of a draft basic assessment report (BAR).

Olifants River water resources development project, Phase 2, South Africa, Limpopo, Trans-Caledon Tunnel Authority (TCTA), 09/2009 - 06/2016, Internal Reviewer

The second phase of the Olifants River water resources development project (ORWRDP-2) is an extensive water resource development project to supply water for domestic and industrial (mining) use in the Limpopo Province, South Africa. The Trans-Caledon Tunnel Authority (TCTA) appointed the Aurecon (now Zutari) Nodana Joint Venture (ANJV) to undertake the design and construction supervision of the project. Responsible for internal review of a visual impact assessment for upgrading of reservoirs and pipelines.

Klipplaats 400 kV line deviation, South Africa, Mpumalanga, Glencore Xstrata Coal South Africa (Glencore South Africa (Pty) Ltd), 01/2015 - 05/2016, Environmental Reviewer

The project entailed environmental studies, water use license application and preliminary design for the Klipplaats 400 kV line deviation at the Tweefontein Coal Mine, the registered land owner of the farm Klipplaat 14IS in Mpumalanga. Responsible for the review and quality control of the basic assessment report and environmental management programme.

Servitudes and EMP for transmission line construction, South Africa, Gauteng, Eskom Holdings SOC Limited, 05/2013 - 05/2016, Internal Reviewer

Zutari's appointment entails the acquisition of options to register servitudes over land within an environmentally approved corridor for 2 x 400 kV transmission lines for a distance of 119.611 km from Matla Power Station near Secunda, Mpumalanga Province to Jupiter B Substation, in the vicinity of Rosherville, Gauteng Province and the management of the EMP during construction of the corridor on behalf of Eskom. Responsible for the review of the internal report.

Lesotho MCA Health Infrastructure Programme 2010, Lesotho, Millennium Challenge Account (MCA) -

Lesotho, 10/2009 - 04/2016, Health, Safety and Environment (HSE) and Environmental Management (EM) Manager

This project involved the provision of programme management, construction supervision and environmental management services for the health infrastructure programme in Lesotho. This included the design of the National Reference Laboratory (NRL) and blood transfusion centre, the design of student and staff hostels at existing Lesotho Hospital, and the construction of 138 new health centres and 14 new outpatient departments (OPDs). Responsible for liaising between client and contractor to facilitate resolution of outstanding construction to address health, safety and environmental (HSE) issues.

Legal authorisation requirements for a variety of solar photovoltaic facilities, South Africa, SunEdison, 09/2015 - 03/2016, Reviewer

The project comprised the identification of potential gaps in existing environmental authorisations (e.g. listed activities, validity of previous authorisations, etc.) for five different planned solar photovoltaic facilities. Responsible as internal reviewer.

Basic assessment for the upgrade of Island View substation, South Africa, KwaZulu-Natal, Transnet SOC, 06/2015 - 02/2016, Environmental Assessment Practitioner

Appointed for the basic assessment for the proposed upgrade of Island View substation, Fynnlands industrial basin, Port of Durban. Responsible for the management of the basic assessment (BA) process, including report writing and the public participation process, and review of all specialist reports.

Environmental impact assessment (EIA) at the Komati Mill, South Africa, Mpumalanga, TSB Sugar, 06/2014 - 12/2015, Environmental Assessment Practitioner

The project entailed environmental authorisation application and water use licence application (WULA) for the establishment of new cane fields at TSB Sugar's sugar mill near Malalane. Responsible for the management of the environmental impact assessment process (EIA).

Environmental control officer (ECO) services for the construction of the KDS-Homestead power line, South Africa, Northern Cape, Eskom Distribution, 07/2014 - 12/2015, Environmental Assessment Practitioner

The project comprised the environmental monitoring of construction of the KDS-Homestead distribution power line in Kimberley. Responsible for the management and review of environmental monitoring deliverables.

Feasibility (FEL 3) development for the construction of a second Overvaal tunnel (Part 1) and the complete engineering (FEL 4) for Part 2, South Africa, Mpumalanga, Transnet SOC Johannesburg, 06/2014 - 12/2015, Reviewer

Zutari was appointed for the feasibility (FEL 3) development in respect of the construction of the second Overvaal tunnel as well as the complete engineering (FEL 4) thereof. In addition to the development of the tunnel, Transnet SOC required to reinstate, upgrade and/or construct a ventilation system for the existing tunnel. The new tunnel needs to accommodate a double electrified signalled track. Responsible for the review of the environmental and social management plan (ESMP) and the water use license application report.

Kinangop Wind Farm, 1A status review and risk assessment, Kenya, Kinangop Wind Park, 11/2015 - 12/2015, Report Contributor

Following termination of the EPC contract, Zutari was appointed to assess the project status and risks associated with remobilising the 60.8 MW wind farm project. Responsible as report contributor regarding legal and administrative requirements.

Khanyisa Power Station, South Africa, Mpumalanga, ACWA Power, 02/2015 - 11/2015, Environmental Assessment Practitioner

The project involved the application for amendment of an existing environmental authorisation for the expansion of the authorised capacity of 450 MW to 600 MW and other related processes. Responsible for the management of the environmental impact assessment process (EIA), amendment report, amendment report, revision of the environmental management programme (EMPr), and all related specialist reports.

Uganda's detailed strategic implementation plan (SIP), Uganda, Ministry of Works and Transport (Uganda), 09/2014 - 10/2015, Environmental Specialist

As a land-locked country, Uganda depends on regional road, rail and inland water transport systems for the transportation of goods. Majority of the import and export traffic passes through the Northern corridor to Mombasa, little using the Central corridor to Dar-es-Salaam in Tanzania. In order to strengthen the use of the Central Corridor, the National Transport Masterplan (NTMP) was implemented and adopted a multi-modal approach. Responsible for the compilation of report on environmental and social safeguard issues to be considered in project prioritisation, as well client training on these issues.

Identification of legal requirements for a gas-fired power station, South Africa, Enel, 07/2015 - 10/2015, Report Author

Appointed for the compilation of a database of legal authorisation requirements for the construction and operation of a gas-fired power station. Other authors contributed sections on health and safety, grid planning and land use authorisations. Responsible as report author.

Feasibility study for Southern Energy's 2x330 MW coal fired power plant project, Zimbabwe, Southern Energy, 04/2014 - 07/2015, Environmental Reviewer

The project entailed a review of a feasibility study report for the construction of a proposed new 660 MW coal-fired power station near Hwange in Zimbabwe. Responsible for the review of the feasibility study against the performance standards of international development finance institutions.

Richards Bay Coal Terminal (RBCT) short-term coal stockpile, South Africa, KwaZulu-Natal, Transnet National Ports Authority (TNPA), 05/2013 - 07/2015, Internal Reviewer

Design of a short-term coal stockpile at Richards Bay Coal Terminal (RBCT) to handle 1.0 Mtpa of coal for New Entrants Miners. Responsible for the review of the internal report.

Netcare Energy Policy, South Africa, Netcare Limited, 02/2015 - 05/2015, Policy Writer

The project entailed drafting an energy management policy for Netcare, a health service provider, towards the development of their environmental management system. Responsible for the drafting of policy.

National Transport master plan (NATMAP) review and upgrade, South Africa, Department of Transport, 01/2015 - 05/2015, Reviewer

The project involved the revision of the National Transport master plan, a strategic plan for transport development in South Africa developed by the Department of Transport. The initial draft document was developed in 2007 and was required to be revised to be accepted by the Department of transport and Cabinet. Responsible for data collection, presentation of the current status quo and revision of Chapter 8 (Energy and Environment).

Bankable feasibility study (BFS) for a small hydropower scheme on the Nithi River in Central Kenya, Kenya, Frontier Investment Management, 04/2014 - 04/2015, Environmental Impact Assessment (EIA) Reviewer

The project entailed an environmental impact assessment (EIA) for the proposed hydro-electric project on the Nithi River, Mount Kenya. Responsible for reviewing the EIA deliverables of a local consultant appointed to undertake an EIA in order to ensure compliance with the requirements of the International Finance Corporation (IFC) and the Equator Principles (EPs).

Contamination assessment of selected Transnet properties, South Africa, Transnet SOC, 03/2014 - 03/2015, Environmental Reviewer

The project comprised contamination assessment of various sites to identify environmental contamination as well as compile site assessment reports and financial model for the closure and rehabilitation of these sites - included various specialist studies. Responsible for the review and quality control of the contaminated site assessment report.

Mobile disaster recovery trailers for Vodacom, South Africa, Gauteng, Planning & Cost Engineering Services (Pty) Ltd (PaCE), 10/2014 - 03/2015, External Reviewer

The project entailed mobile disaster recovery trailers for Vodacom's Gauteng data centres, with the scope of work being communicated as the project progresses. Responsible for the role of an external reviewer.

Feasibility assessment for proposed small-scale hydro-electric facilities on the Tugela River, South Africa, KwaZulu-Natal, Various clients, 01/2015 - 01/2015, Report Author

The project comprised environmental opportunities and constraints and a fatal flaw assessment (as contribution to a feasibility study) for four proposed mini hydro-electric facilities between Bergville and Ladysmith. Responsible as report author.

Feasibility study of the Nyamagasani II Hydropower Project, Uganda, Frontier Investment Management, 02/2014 - 12/2014, Environmental Impact Assessment (EIA) Reviewer

The project comprises a feasibility study and environmental and social impact assessment (ESIA) for the 5 MW Nyamagasani II Hydropower Project, located on the Nyamagasani River. The feasibility study includes geotechnical; hydrological (daily flows and floods); environmental and social, including resettlement action plan (RAP) and environmental management plan (EMP); civil and hydraulics; mechanical, electrical and interconnection, flow measurements and economic studies. Responsible for reviewing the EIA deliverables of a local consultant appointed to undertake the EIA in order to ensure compliance with the requirements of the International Finance Corporation (IFC) and the Equator Principles (EPs).

Ekurhuleni smart metering feasibility study, South Africa, Gauteng, Ekurhuleni Metropolitan Municipality, 09/2013 - 10/2014, Report Author

The Grantee's Energy Department's (EED's) electricity metering and billing processes and systems suffered from several shortcomings, which consisted of inaccurate meter reading, delays in billing, delays in revenue collection, and unbilled electricity. Zutari was appointed to carry out a feasibility study to evaluate the technical, financial,

environmental and other critical aspects of implementing advanced metering infrastructure in Ekurhuleni, South Africa. Responsible for undertaking an environmental screening exercise to identify potential environmental and social impacts and review environmental authorisation requirements. Also responsible as a report author.

ISO 14001 internal audit for the Matimba Power Station, South Africa, Limpopo, Eskom Generation: Matimba Power Station, 08/2014 - 08/2014, Environmental Auditor

The project comprised a second party internal environmental management systems (EMS) audit of the coal-fired Matimba Power Station in Lephalale. Responsible for environmental auditing against ISO 14001 and audit management system requirements.

Feasibility study investigating the upgrading the 98 km Thaba Tseka – Taung - Mokhotlong road to a bituminous surfacing standard, Lesotho, Lesotho Ministry of Public Works and Transport, 04/2014 - 07/2014, Environmental Specialist

The project entailed a pre-feasibility assessment of the proposed upgrading of the Thaba Tseka - Mokhotlong dirt road to a tarred road. Responsible for reviewing the environmental issues relevant to the proposed upgrading of the road, including a site visit and a review of an environmental impact assessment (EIA) undertaken on the same project in 2006.

AFGRI Mill ISO 14001 certification audit, South Africa, Mpumalanga, AFGRI Milling, 11/2013 - 06/2014, Lead Environmental Auditor

The project entailed a third party Stage 1 ISO 14001 certification audit for AFGRI Mill in Kinross. Responsible for conducting the Stage 1 ISO 14001 certification audit of the environmental management system (EMS).

Basic assessment (BA) and Section 24G rectification assessment of the Vaal River pipeline, South Africa, North West, AngloGold Ashanti, 11/2009 - 03/2014, Senior Environmental Scientist

The project entailed an environmental basic assessment (BA) for the installation of a water pipeline on the Vaal River Gold Mine in Orkney. Responsible for project management and quality control of deliverables.

Nuclear-1 environmental impact assessment (EIA), South Africa, Eastern Cape, Eskom Generation, 04/2013 - 03/2014, Project Leader

The project entailed an environmental impact assessment (EIA) process for the proposed Nuclear-1 Power Station. Responsible for project management, responding to stakeholder comments, and authority liaison, review of approximately 30 specialist reports and providing overall strategic guidance of the EIA process.

Port of Saldanha Expansion Project, South Africa, Western Cape, Transnet SOC Limited, 11/2013 - 03/2014, Project Leader

The project involved environmental impact assessment (EIA) processes and atmospheric emission licence for the installation of a third tippler at the Port of Saldanha. The project also included a scoping and environmental impact report (EIR) process for the expansion of the port (the latter was suspended prior to submission of the draft scoping report). Responsible for the finalisation and submission of the basic assessment report (BAR) for the third tippler, responding to the interested and affected parties' (I&AP's) comments and authority liaison to ensure a timeous authorisation, and post-authorisation amendment of the authorisation and response to appeals by interested parties.

Foskor integrated water and waste management plan (IWWMP), South Africa, KwaZulu-Natal, Foskor, 03/2014 - 03/2014, Internal Reviewer

The project involved an internal review of a draft integrated water and waste management plan (IWWMP) for the installation of a proposed expansion to the phosphate handling facilities in Richards Bay. Responsible for conducting an internal review.

Third party ISO 14001 audit reports, South Africa, Various clients, 04/2013 - 03/2014, Internal Reviewer

The project comprised an internal review of a range of third party ISO 14001 audit reports for various clients throughout South Africa.

Engineering design (FEL 4) for Nacala Port, Mozambique, Nampula, Vale Moçambique Limitada, 10/2011 - 11/2013, Senior Environmental Scientist

Zutari was appointed for the complete on-shore port front-end-engineering design (FEED) for the Nacala Port, consisting of bulk materials handling (BMH), bulk earthworks, rail embankment and utilities and transportation infrastructure. Zutari undertook a number of general functions during its detailed design, including verifying and updating the design criteria documents generated during the Nacala Port front-end loading 3 (FEL 3) study and the engineering design to achieve the requirements for the construction phase. Responsible for review of engineering reports and designs and strategic advice on environmental issues and implications of the design for the environmental authorisation.

ABSA Project X, South Africa, Gauteng, ABSA, 04/2012 - 11/2013, Due Diligence Assessor

Zutari was part of a professional team involved in the conversion and upgrading of an existing factory building and

office block of 24 000 m² in Waltloo into a call centre, administration building, canteen, two large gate houses and security buildings and a data centre. Zutari provided structural, civil, fire, wet services, roads and landscaping services on the project. Responsible for the site visit and the compilation of the environmental due diligence assessment (EDDA).

Epel Rustenburg Feed Mill ISO 14001 certification audit, South Africa, North West, Epel, 09/2013 - 09/2013, Lead Environmental Auditor

The project entailed a third party Stage 1 ISO 14001 certification audit for the Epel Feed Mill in Rustenburg. Responsible for conducting the Stage 1 ISO 14001 certification audit of the environmental management system (EMS).

Nuclear-1 environmental impact assessment (EIA), South Africa, Eastern Cape, Arcus GIBB, 06/2012 - 04/2013, Senior Environmental Scientist

The project entailed an environmental impact assessment (EIA) for a proposed Generation III nuclear power station with a maximum generation capacity of 4 000 MW to be located at one of three alternative sites in the Eastern and Western Cape. Zutari was contracted to assist GIBB with the revision of the revised draft environmental impact report (EIR) and to respond to stakeholder comments on this report. Responsible for the revision of the EIR, responding to stakeholder comments, and authority liaison.

Saldanha Tank Farm, South Africa, Western Cape, WorleyParsons, 03/2012 - 03/2013, Visual Impact Assessment (VIA) Specialist

The project involved a visual impact assessment (VIA) for a proposed oil storage facility at Saldanha. Responsible for project management and quality control of deliverables.

Environmental basic assessment for the return water pipeline at Mponeng Gold Mine, South Africa, Gauteng, AngloGold Ashanti, 07/2011 - 02/2013, Senior Environmental Scientist

Zutari was appointed to do the tender design for the replacement of the existing return water pipeline that feeds into the Mponeng process plant in Carletonville. The project included a 4 km pipeline with a 400 mm diameter. Responsible for project management and quality control of deliverables.

Port of Richards Bay capacity expansion conceptual study (FEL 1), South Africa, KwaZulu-Natal, Transnet SOC, 03/2012 - 11/2012, Reviewer

The port facilities in Richards Bay reached operational capacity necessitating expansion. The key objectives of the conceptual (FEL 1) and pre-feasibility (FEL 2) studies were to determine the requirements for all land, rail, terminal, port and marine service engineering options to facilitate the expansionary development of the terminal ports. Zutari's services included rail infrastructure, bulk materials handling (BMH), civil and structural infrastructure, port structural engineering, marine and berth engineering, earthworks, geotechnical and electrical engineering, utilities, health and safety, environmental and solid waste. Responsible for the internal review of report deliverables, including an environmental and community interface report and a sustainability report.

Visual assessment of Springfontein Wind Farm, South Africa, Free State, Savannah Environmental (Pty) Ltd, 06/2012 - 06/2012, Visual Impact Assessment (VIA) Specialist

The project entailed a visual impact assessment (VIA) of the proposed wind farm near Springfontein. Responsible for the site visit, quality control of deliverables and revision of the VIA report.

Pre-feasibility study of Mulepe-1 Diamond Mine, Angola, Lunda Norte, De Beers Consolidated Mines (DBCM), 11/2011 - 05/2012, Senior Environmental Scientist

Zutari was appointed to carry out the pre-feasibility study of the hydropower potential in three rivers surrounding De Beers' Mulepe-1 Concession. The project consisted of the measurement of flows in the rivers, rainfall/runoff hydrological modelling, environmental fatal analysis, site reconnaissance, preliminary geological evaluation and determination of the hydropower potential. Zutari determined the optimal and most cost effective solution for the supply of reliable clean energy to the mine. Responsible for the compilation of the screening report.

Environmental advice for the construction of a remote apron stand at OR Tambo International Airport (ORTIA), South Africa, Gauteng, Airports Company South Africa (ACSA), 04/2012 - 05/2012, Senior Environmental Scientist

The project involved providing environmental advice regarding the interpretation of legal requirements for the recommencement of construction of the remote apron stand at OR Tambo International Airport (ORTIA) in Kempton Park. Responsible for the review of legal requirements and drafting of a report on the recommended way forward.

Tau Tona pipeline basic assessment (BA), South Africa, Gauteng, AngloGold Ashanti, 07/2010 - 04/2012, Senior Environmental Scientist

The project entailed an environmental basic assessment (BA) for a pipeline at Tau Tona Gold Mine in Carletonville. Responsible for project management and quality control of deliverables.

Environmental audit of the Matola Coal Terminal (TCM), Mozambique, Maputo, Grindrod Limited, 03/2012 -

03/2012, Environmental Audit Team Leader

The project entailed an environmental audit of the operation of the Matola Coal Terminal (TCM) in Maputo. Responsible for one site audit and the compilation of the audit report.

Visual opinion for Witberg, South Africa, Western Cape, Arcus GIBB, 11/2011 - 01/2012, Visual Impact Assessment (VIA) Specialist

The project involved giving an opinion on the visual impact of an access road to the proposed Witberg Wind Farm near Matjiesfontein. Responsible for the site visit and the compilation of a brief opinion on the expected visual impacts.

Extension of Sunderland Ridge wastewater treatment works (WWTW), South Africa, Gauteng, City of Tshwane Metropolitan Municipality (CTMM), 01/2007 - 12/2011, Senior Environmental Scientist

Zutari was appointed to provide the engineering services for the extension of the Sunderland Ridge wastewater treatment works (WWTW) to 95 Ml/d. The purpose of the project was to provide a feasibility study for the 30 Ml/d extension; licence applications; environmental impact assessments (EIAs) and the relevant authorisations for the 30 Ml/d extension and process design of the extension. Responsible for project management and quality control of deliverables.

Environmental impact assessment (EIA) for St. Helena Wind Farm, South Africa, Western Cape, Arcus GIBB, 09/2011 - 11/2011, Senior Environmental Scientist

The project comprised a visual impact assessment (VIA) of the St. Helena Wind Farm near Saldanha as part of the environmental impact assessment (EIA) phase. Responsible for project management and quality control of deliverables.

Revision of the initial report for Langehoogte Wind Farm, South Africa, Western Cape, Arcus GIBB, 10/2011 - 10/2011, Senior Environmental Scientist

The project entailed the revision of the visual impact assessment (VIA) for the Langehoogte Wind Farm near Caledon. Responsible for report revision based on peer review comments.

Scoping phase for St. Helena Wind Farm, South Africa, Western Cape, Just Energy, 01/2011 - 06/2011, Senior Environmental Scientist

During the scoping phase of this project, a visual impact assessment (VIA) was prepared for the St. Helena Wind Farm near Saldanha. Responsible for project management and quality control of deliverables.

Scoping phase for Wolseley Wind Farm, South Africa, Western Cape, SAGIT Energy Ventures, 01/2011 - 01/2011, Senior Environmental Scientist

This project entailed a visual impact assessment (VIA) for the proposed Wolseley Wind Farm near Wolseley. Responsible for the compilation of a scoping phase visual impact assessment.

ISO 14001 auditing, South Africa, South African National Accreditation System (SANAS), 01/2005 - 01/2011, Technical Expert

The project comprised ISO 14001 auditing for the South African National Accreditation System (SANAS), including witnessing of the conduct of the ISO 14001 Certification Body auditors during audits and the assessment of certification body management systems and documentation. Responsible for the assessment of the competence of accredited environmental auditors.

Scoping phase for Langehoogte Wind Farm, South Africa, Western Cape, SAGIT Energy Ventures, 01/2011 - 01/2011, Senior Environmental Scientist

The project entailed a visual impact assessment (VIA) for the Langehoogte Wind Farm near Caledon. Responsible for report based on peer review comments.

Visual impact assessment (VIA) for Langebaan boathouse for the 4 Special Forces Regiment, South Africa, Western Cape, Department of Public Works (DPW), 07/2010 - 09/2010, Senior Environmental Scientist

The project entailed an environmental impact assessment (EIA) and a visual impact assessment (VIA) for the National Environmental Management Act (NEMA), Section 24G, application for the authorisation of a boathouse construction for the 4 Special Forces Regiment at Langebaan. Responsible for the compilation of VIA.

Second party ISO 14001 environmental management systems (EMSs) audits, South Africa, Western Cape, Eskom Generation, 01/2008 - 01/2010, Environmental Auditor

The project entailed second party ISO 14001 environmental management systems (EMSs) audits, including three-day second party comprehensive EMSs audits of coal-fired power stations in Mpumalanga, a pumped storage scheme in KwaZulu-Natal and gas turbine plants in the Western Cape. Responsible for environmental auditing.

Greater Port Harcourt, Nigeria, Niger, Rivers State Government of Nigeria and Greater Port Harcourt Development Authority (GPHDA), 01/2008 - 01/2010, Senior Environmental Scientist

The project comprised a strategic environmental assessment (SEA), generic environmental management plan (EMP) and the development of terms of reference (TOR) for the environmental impact assessments (EIAs) for Greater Port Harcourt. Responsible for the compilation of the SEA.

Environmental management programme (EMPR) for Finsch Mine, South Africa, Northern Cape, De Beers, 01/2008 - 01/2009, Project Leader and Senior Environmental Scientist

The project entailed updating the environmental management programme (EMPR) to consolidate various guidelines and operating procedures. Responsible for the updating of the EMPR.

Development of a master plan for Matjhabeng (Welkom) Local Municipality, South Africa, Free State, Latitude Management Services, 01/2008 - 01/2009, Senior Environmental Scientist

The project involved the compilation of the environmental portion of the status quo assessment, critical interventions and master plan for the municipality. Responsible for the development of environmental components of the master plan.

Tumelo distribution power line, South Africa, Gauteng, Eskom Distribution, 01/2009 - 01/2009, Senior Environmental Scientist

The project entailed an environmental impact assessment (EIA) process of the Tumelo distribution power line near Kagiso. Responsible for project management and quality control of deliverables.

De Hoek Cement Factory, South Africa, Western Cape, Pretoria Portland Cement (PPC), 01/2009 - 01/2009, Senior Environmental Scientist

The project entailed basic assessments (Bas) for upgrades to the Pretoria Portland Cement's (PPC's) De Hoek Cement Factory in Malmesbury. Responsible for project management and quality control of deliverables.

Namakwa Sands basic assessment processes for co-generation power plants, South Africa, Promethium Carbon/Prana Energy, 01/2008 - 01/2009, Senior Environmental Scientist

The project involved basic assessment processes for the installation of co-generation power plants at mines and industrial facilities across South Africa, for the generation of electricity from waste gas. The projects enable the project initiator to earn carbon credits through the clean development mechanism (CDM) in terms of the Kyoto Protocol under the United Nations Framework Convention on Climate Change (UNFCCC). Responsible for project management and quality control of deliverables.

Strategic environmental technical support team for the Gautrain Project, South Africa, Gauteng, Gautrain, 01/2008 - 01/2009, Senior Environmental Scientist

The project entailed the provision of a strategic environmental technical support team to the Gauteng Provincial Government (GPG) for the R20 billion Gautrain Project. Technical support was provided during the construction and operational phases of this flagship transport service project. Responsible for the environmental monitoring of contractor activities; the review of the environmental snag list; attendance and advice to the monthly provincial environmental committee (PEC) and the environmental management committee (EMC) meetings and coordination and management of annual external environmental audits.

OR Tambo International Airport (ORTIA) Midfield Development, South Africa, Gauteng, Airports Company South Africa (ACSA), 01/2009 - 01/2009, Senior Environmental Scientist

The project entailed the provision of a strategic advisory team (SAT) to the Airports Company South Africa (ACSA) for the Midfield Development at OR Tambo International Airport (ORTIA) in Kempton Park. Responsible for providing inputs for strategic advice to ACSA regarding environmental implications of proposed upgrades.

Medupi Landfill Site Project, South Africa, Limpopo, Envirolution Consulting, 01/2009 - 01/2009, Senior Independent Reviewer

The project entailed an environmental impact assessment (EIA) of the Medupi Landfill Site Project in Lephalale. Responsible for the review of EIA documentation.

Apollo-Lepini distribution power line, South Africa, Gauteng, Envirolution Consulting, 01/2009 - 01/2009, Senior Independent Reviewer

The project entailed an environmental impact assessment (EIA) of the Apollo-Lepini distribution power line. Responsible for reviewing applicable legislation and projects against EIA legislation requirements.

Mokopane Integration Project, South Africa, Limpopo, Savannah Environmental (Pty) Ltd, 01/2008 - 01/2009, Senior Independent Reviewer

The project entailed an environmental impact assessment (EIA) of the Mokopane Integration Project, including transmission lines and substations. Responsible for the independent review of the EIA documentation and the compilation of a review report.

Watershed-Mmabatho distribution power line, South Africa, North West, Eskom Distribution, 01/2009 - 01/2009, Senior Environmental Scientist

The project entailed an environmental basic assessment (BA) for the Watershed-Mmabatho distribution power line. Responsible for project management and quality control of deliverables.

Westgate-Tarlton-Kromdraai distribution power line, South Africa, Gauteng, Eskom Distribution, 01/2009 - 01/2009, Senior Environmental Scientist

The project entailed an environmental impact assessment (EIA) of the Westgate-Tarlton-Kromdraai distribution power line. Responsible for project management and quality control of deliverables.

Mulilo Coal-fired Power Station, South Africa, Limpopo, Mulilo Power (through Parsons Brinkerhoff), 01/2009 - 01/2009, Senior Environmental Scientist

The project involved an environmental impact assessment (EIA) process of the proposed Mulilo Coal-fired Power Station near Musina. Responsible for project management and quality control of deliverables.

Nuclear power station, South Africa, Western Cape, Eskom Generation, 01/2008 - 01/2009, Senior Environmental Scientist

The project, implemented by the Generation Division of Eskom Holdings Limited, entailed a detailed environmental impact assessment (EIA), including the screening and selection of a suitable site for the nuclear plant, and a scoping process. The project also included social and biophysical specialist studies, public consultation and legal and nuclear technology studies. Responsible for the compilation of the environmental impact report (EIR) and environmental management plan (EMP).

Kalukundi Copper-Cobalt Project, Democratic Republic of the Congo, Africo Resources, 01/2008 - 01/2009, Senior Environmental Manager

The project entailed environmental services for the proposed copper and cobalt mine in the Kolwezi District in the Eastern Democratic Republic of the Congo (DRC). Responsible for field surveys, an environmental impact assessment (EIA) and an environmental management plan (EMP).

Hendrina-Prairie-Marathon transmission line, South Africa, Mpumalanga, Eskom Transmission, 05/2007 - 06/2008, Project Manager

The project comprised an environmental impact assessment (EIA) for the proposed 185 km-long, 400 kV Hendrina-Prairie-Marathon transmission line between Hendrina and Nelspruit. Responsible for project management and quality control of deliverables.

Delta Apron at OR Tambo International Airport (ORTIA), South Africa, Gauteng, Airports Company South Africa (ACSA), 01/2008 - 01/2008, Project Leader/Senior Environmental Scientist

The project comprised a basic assessment for the upgrading of the Delta Apron at OR Tambo International Airport (ORTIA) in Kempton Park. Responsible for the environmental impact assessment (EIA).

Environmental management plan (EMP) for Eskom Transmission, South Africa, Western Cape, Eskom Transmission, 01/2008 - 01/2008, Senior Environmental Scientist

The project comprised the compilation of an environmental management plan (EMP) for the construction and operational phases of the Perseus-Gamma, and Hydra-Gamma 765 kV transmission power lines, an extension to the Hydra Substation, turn-ins of the Beta-Hydra 765 kV transmission power line to Perseus and the upgrading of the Perseus Substation. Responsible for the review of project documentation and the EMP.

Crude acrylic acid (CAA) tank, South Africa, Free State, Sasol, 01/2008 - 01/2008, Project Manager

The project entailed a scoping and an environmental impact assessment (EIA) process for the installation of a crude acrylic acid (CAA) tank at Sasol's site in Sasolburg. Responsible for project management and quality control of deliverables.

Eskom Komati Water Scheme pipeline and power line project, South Africa, Mpumalanga, Eskom Generation, 01/2008 - 01/2008, Project Manager

The project entailed scoping and an environmental impact assessment (EIA) for the proposed Eskom Komati Water Scheme pipeline and power line project. Responsible for the EIA.

Huddle Park Golf & Recreation Estate, South Africa, Gauteng, Tiyani Consortium, 01/2005 - 01/2008, Project Leader and Senior Environmental Scientist

The project entailed an environmental impact assessment (EIA) for the Huddle Park Golf & Recreation Estate in Johannesburg. Responsible for the EIA, client liaison, team management, financial management and quality control.

Millsite Development in Krugersdorp, South Africa, Gauteng, Rand Leases, 01/2007 - 01/2008, Project Manager

The project comprised scoping and an environmental impact assessment (EIA) for the proposed Millsite Development in Krugersdorp. Responsible for client liaison, team management, financial management and quality

control.

Alluvial Diamond Prospecting, South Africa, Northern Cape, South African National Parks (SANParks) through Cameron Cross Inc., 01/2008 - 01/2008, Reviewer

Pico Diamonds environmental management plan (EMP) for Alluvial Diamond Prospecting in the Richtersveld National Park. Responsible for review of scoping and environmental impact assessment (EIA) reports.

Kliprivier Nature Estate, South Africa, Limpopo, Dabchick Consultancy Limited, 01/2008 - 01/2008, Reviewer

The project comprised a scoping report for the proposed Kliprivier Nature Estate on Portions 4 and 8 of the farm Kliprivier 464 KQ, and Portion 10 of the farm Rhenosterfontein 465 KQ. Responsible for review of scoping and environmental impact assessment (EIA) reports.

Backlog of the environmental impact assessment (EIA), scoping and exemption applications in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), South Africa, Limpopo, Department of Environmental Affairs and Tourism (DEAT), 01/2007 - 01/2008, Reviewer

The project involved the backlog of the environmental impact assessment (EIA), scoping and exemption applications in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), on behalf of the Limpopo Department of Economic Development, Environment and Tourism (LDEDET) and the Mpumalanga Department of Agriculture and Land Administration (MDALA). Responsible for the review of environmental scoping and impact assessment reports.

Senqu Sources Protected Area strategic environmental assessment (SEA), Lesotho, Maloti Drakensberg Transfrontier Project (MDTP), 01/2006 - 01/2008, Project Leader and Senior Environmental Manager

The project entailed a strategic environmental assessment (SEA) for the proposed Senqu Sources Protected Area with the aim of establishing a network of formally protected areas in the Maloti Drakensberg Region. Responsible for client liaison, team management, financial management, quality control and fieldwork.

Mmamabula-Delta 400 kV transmission lines, South Africa, Limpopo, Haygon Safaris (Pty) Ltd, 05/2007 - 05/2007, Reviewer

The project entailed an environmental impact assessment (EIA) process for the four proposed 400 kV Mmamabula-Delta transmission lines in Lephalale. Responsible for site visits, review of EIA documentation, client liaison and general project management.

K'Shani Golf and Nature Reserve near Nelspruit, South Africa, Mpumalanga, K'Shani Golf and Nature Reserve (Pty) Ltd, 01/2006 - 01/2007, Project Manager

The project entailed an environmental impact assessment (EIA) process in terms of the National Environmental Management Act's (NEMA's) EIA regulations for the proposed 2 300 ha K'Shani Golf and Nature Reserve near Nelspruit. Responsible for project management and quality control of deliverables.

Eskom Kudu Integration Project, South Africa and Namibia, Eskom, 01/2006 - 01/2007, Project Leader/Senior Environmental Scientist

The project entailed an environmental impact assessment (EIA) for the Eskom Kudu Integration Project for a proposed 400 km-long, 400 kV electricity transmission line from the Kudu Combined Cycle Gas Turbine (CCGT) power station in Oranjemund, Namibia, through the Northern Cape, to Vredendal in the Western Cape, South Africa. Responsible for leading the EIA, client liaison, team management, financial management and quality control.

Orlando Dam Intersection in Soweto, South Africa, Gauteng, Johannesburg Property Company (JPC), 01/2007 - 01/2007, Project Leader and Senior Environmental Manager

The project entailed environmental scoping for the proposed Orlando Dam Intersection, a mixed-use redevelopment at the former Orlando Power Station site in Soweto, including an environmental impact assessment (EIA). Responsible for client liaison, team management, financial management and quality control.

Development of Comet in Boksburg, South Africa, Gauteng, Urban Dynamics, 01/2007 - 01/2007, Project Manager

The project comprised scoping and an environmental impact assessment (EIA) for the proposed Comet Extension, including eight commercial and light industrial developments. Responsible for client liaison, team management, financial management and quality control.

Flood control of the Apies River in Pretoria, South Africa, Gauteng, BKS Group (Pty) Ltd, 01/2006 - 01/2007, Project Manager

The project comprised environmental scoping for proposed flood control berms in the Apies River floodplain between Wonderboompoort and the Bon Accord Dam. Responsible for client liaison, team management, financial management and quality control.

Limpopo Wildlife Estate, South Africa, Limpopo, South African National Parks (SANParks) through

Cameron Cross Associates, 01/2007 - 01/2007, Reviewer

The project entailed a scoping report for the proposed Limpopo Wildlife Estate on portions of the farms Modena 13 MS, Parma 40 MS and Pontdrift 12 MS in Limpopo. Responsible for the review of scoping and environmental impact assessment (EIA) reports.

Dome Paradise Township, South Africa, North West, Advocate Jaco Venter, 01/2007 - 01/2007, Reviewer

The project entailed scoping and environmental impact assessment (EIA) reports for the proposed Dome Paradise Township on Portions 19 and 37 of the Farm Rietpoort 518 IQ. Responsible for the review of scoping and EIA reports.

Shopping centre and residential development on the Farm Klipriviersdal, South Africa, Gauteng, Rand Merchant Bank (RMB), 01/2007 - 01/2007, Reviewer

The project involved a scoping and an environmental impact assessment (EIA) application for a proposed shopping centre and residential development on the Farm Klipriviersdal 371 in Meyerton. Responsible for the review of EIA documentation and report writing.

Emalahleni integrated municipal environmental programme (IMEP), South Africa, Mpumalanga, Emalahleni Local Municipality, 01/2007 - 01/2007, Senior Environmental Scientist

The project entailed the auditing of legal compliance for the Emalahleni Local Municipality's integrated municipal environmental programme (IMEP) in Witbank. Responsible for an audit of environmental legal compliance.

Abattoir Waste Management Guideline Manual (AWM Guideline Manual) document and standard environmental management plan (EMP), South Africa, Gauteng Department of Agriculture and Rural Development (GDARD), 01/2007 - 01/2007, Project Manager

The project involved the provision of an Abattoir Waste Management Guideline Manual (AWM Guideline Manual) and a standard environmental management plan (EMP) for the evaluation of environmental impact assessment (EIA) applications. Responsible for client liaison, team management, financial management, quality control and presentations to stakeholders.

Lesotho rehabilitation and conservation strategy, Lesotho, Lesotho Department of Water Affairs, 01/2007 - 01/2007, Project Manager

The project entailed supplemental field studies and beneficiary analysis related to a proposed rehabilitation and conservation strategy for the wetlands in the highlands of Lesotho, including an environmental impact assessment (EIA). Responsible for client liaison, team management and financial management.

Menlyn Roads Project: upgrading of the National Route 1 (N1) highway in the eastern part of Pretoria, South Africa, Gauteng, City of Tshwane Metropolitan Municipality/South African National Roads Agency Limited (SANRAL), 01/2005 - 01/2006, Project Manager

The project entailed an environmental impact assessment (EIA) for the Menlyn Roads Project, including the upgrading of municipal roads and the National Route 1 (N1) highway in the eastern part of Pretoria. Responsible for project management and quality control of deliverables for the municipal and national road upgrades.

Viking Bay Development, South Africa, Gauteng, Tribid Investments, 01/2006 - 01/2006, Project Manager

The project comprised an environmental impact assessment (EIA) for the new hotel, residential golf estate and game farm development at Viking Bay, adjacent to the Vaal Dam. Responsible for client liaison, team management, financial management and quality control.

Ispat brick making plant, South Africa, Clay Fusion Technologies (Pty) Limited, 01/2006 - 01/2006, Project Manager

The project entailed an environmental impact report (EIR) for a brick making plant at Ispat Iscor site. Responsible for client liaison, team management, financial management and quality control.

Upgrade of Ispat Galvanising plant in Vanderbijlpark, South Africa, Gauteng, Iscor, 01/2006 - 01/2006, Project Manager

The project entailed environmental scoping for the upgrading of the galvanising plant at Ispat Iscor. Responsible for client liaison, team management, financial management and quality control.

Variant alignment for the Gautrain, South Africa, Gauteng, Centurion Association for a Reasonable Environment (WeCARE), 01/2006 - 01/2006, Reviewer

The project entailed several environmental impact assessment (EIA) reports and the environmental management plan (EMP) for the proposed variant alignment of the Gautrain through the Centurion area. Responsible for the review of the EIA reports, the EMPs and other related documents, quality control, client liaison and financial management.

Environmental implementation plan (EIP) for Pretoria, South Africa, Gauteng, Department of Trade and

Industry (DTI), 01/2006 - 01/2006, Project Manager

The project entailed the development of a second edition environmental implementation plan (EIP), in terms of the National Environmental Management Act (NEMA) (No. 107 of 1998). Responsible for client liaison, team management, financial management and quality control.

Environmental impact assessment (EIA) regulations training manual, South Africa, Gauteng, Department of Environmental Affairs and Tourism (DEAT), 01/2006 - 01/2006, Senior Environmental Manager

The project entailed the development of a presentation for a series of information seminars on environmental impact assessment (EIA) regulations in terms of the National Environmental Management Act (NEMA) (No. 107 of 1998) in Pretoria. Responsible for preparation of presentations and interpretation of legal requirements.

Water pipeline between the Vaal Dam and Secunda, South Africa, Gauteng, Trans-Caledon Tunnel Authority (TCTA), 03/2005 - 07/2005, Project Manager

The project was concerned with an environmental impact assessment (EIA) for a 115 km, 1.9 m diameter water pipeline between the Vaal Dam and Secunda, as part of the Vaal River Eastern Subsystem Augmentation Project (VRESAP). Responsible for client liaison, team management, financial management and quality control.

Widening of 14th Avenue in Johannesburg, South Africa, Gauteng, Arup, 01/2005 - 01/2005, Project Manager

The project entailed environmental scoping for the widening of 14th Avenue in Johannesburg. Responsible for client liaison, team management, financial management and quality control.

Widening of Addo Road in Port Elizabeth, South Africa, Eastern Cape, PD Naidoo & Associates (PNA), 01/2005 - 01/2005, Project Manager

The project entailed environmental scoping for the widening of Addo Road (Road MR 450) in Port Elizabeth. Responsible for client liaison, team management, financial management and quality control.

Statue of Freedom in Port Elizabeth, South Africa, Eastern Cape, KPMG Consortium - GAPP Architects, 01/2005 - 01/2005, Environmental Manager

The project comprised environmental feasibility/risk assessment for the Statue of Freedom in Port Elizabeth. Responsible for report writing and assessment of alternative sites.

Socio-Economic Impact Assessment and Risk Management, Integrated Environmental Management Information Series 22 and 23, South Africa, Gauteng, Department of Environmental Affairs and Tourism (DEAT), 01/2005 - 01/2005, Editor and Project Manager

The project entailed the editing and project management of the Integrated Environmental Management Information Series 22 and 23 documents, namely the Socio-Economic Impact Assessment and the Risk Management documents, for the Pretoria area. Responsible for management of sub-consultants, quality and financial management and report writing.

Environmental Assessment of International Agreements, Integrated Environmental Management Information Series 19, South Africa, Department of Environmental Affairs and Tourism (DEAT), 01/2005 - 01/2005, Co-author with James Cross

The project involved compiling the Environmental Assessment of International Agreements, Integrated Environmental Management Information Series 19 document. Responsible for management of sub-consultants, quality and financial management and report writing.

Desilting of Alberton Dam, South Africa, Gauteng, SRK Consulting, 01/2004 - 01/2004, Project Leader and Environmental Manager

The project involved environmental scoping and an environmental management plan (EMP) for the desilting of the Alberton Dam. Responsible for client liaison, team management, financial management and quality control.

Development of a shopping centre on agricultural holdings, South Africa, Gauteng, AJP Group, 01/2004 - 01/2004, Environmental Manager

The project entailed environmental scoping for the development of a shopping centre on Holdings 34 and 35 in Kempton Park, Pretoria. Responsible for report writing, site assessment of alternative sites and the public participation process (PPP).

Water pipeline from Driefontein Dam to Duvha Power Station, South Africa, Mpumalanga, Eskom, 01/2004 - 01/2004, Environmental Manager

The project comprised environmental scoping for a water pipeline from Driefontein Dam to Duvha Power Station in Emalehleni. Responsible for site visits, environmental impact assessments (EIAs), report writing and public participation.

Extensions to Clover Hill in Bronkhorstspuit, South Africa, Gauteng, Clover Hill Developments (Pty) Ltd,

01/2004 - 01/2004, Environmental Manager

The project entailed environmental scoping for the Clover Hill Extensions 1 - 4, adjacent to the Bronkhorstspuit Dam. Responsible for public participation (stakeholder engagement) and report writing.

Development of a lodge for the Automotive Supplier Park (ASP), South Africa, Gauteng, PD Naidoo & Associates (PNA), 01/2004 - 01/2004, Project Leader and Environmental Manager

The project entailed environmental considerations for the development of a lodge at the Automotive Supplier Park (ASP) in Rosslyn. Responsible for client liaison, team management, financial management and quality control.

Electricity supply cables between Pretoria North Substation and Annlin Extension 19, South Africa, Gauteng, Moolman Group, 01/2003 - 01/2003, Environmental Manager

The project involved environmental scoping for the installation of electricity supply cables between Pretoria North Substation and the proposed Annlin Extension 19. Responsible for report writing, site assessment of alternative sites and the public participation process (PPP).

Access road for The Innovation Hub, South Africa, Gauteng, Arup, 01/2003 - 01/2003, Environmental Manager

The project involved environmental scoping for the access road to the Innovation Hub in Pretoria. Responsible for report writing, site assessment and public participation process (PPP) meetings.

Dunkeld West Filling Station in Johannesburg, South Africa, Gauteng, Seedprop Consolidated Investments, 01/2003 - 01/2003, Environmental Manager

The project entailed environmental scoping for a filling station in Dunkeld West, Johannesburg. Responsible for site visits, environmental impact assessments (EIAs), report writing and public participation.

Environmental scoping for the upgrading of the Sinter Plant at Iscor, South Africa, Gauteng, Iscor Flat Steel, 01/2003 - 01/2003, Environmental Manager

The project entailed environmental scoping for the upgrading of the Sinter Plant at Iscor in Vanderbijlpark. Responsible for site visits, environmental impact assessments (EIAs), report writing, public participation and sub-consultant management.

Telecommunications tower for the Council of Scientific and Industrial Research (CSIR), South Africa, Gauteng, Telkom, 01/2003 - 01/2003, Environmental Control Officer (ECO)

The project entailed an environmental management plan (EMP) for the construction of a 40 m-tall concrete microwave telecommunications tower at the Council for Scientific and Industrial Research (CSIR). Responsible for on-site monitoring of environmental effects of construction work.

Development of an environmental management system (EMS) for Nelspruit, South Africa, Mpumalanga, Mbombela Local Municipality, 01/2003 - 01/2003, Project Leader and Environmental Manager

The project was concerned with the development of an environmental management system (EMS) for the Mbombela Local Municipality in Nelspruit. Responsible for client liaison, team management, financial management, quality control and training of client representatives.

Development of an environmental policy for Nelspruit, South Africa, Mpumalanga, Mbombela Local Municipality, 01/2003 - 01/2003, Project Leader and Environmental Manager

The project entailed the development of an environmental policy for the Mbombela Local Municipality in Nelspruit. Responsible for client liaison, team management, financial management and quality control.

Revision of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998), South Africa, Department of Environmental Affairs and Tourism (DEAT), 01/2003 - 01/2003, Environmental Manager

The project included the revision of Chapter 5 of the National Environmental Management Act (NEMA) (Act No 107 of 1998), which deals with environmental impact assessment (EIA) and integrated environmental management (IEM) procedures. Responsible for report writing, stakeholder engagement, preparation of presentations and other project documentation.

National environmental management bills, South Africa, Department of Environmental Affairs and Tourism (DEAT), 01/2003 - 01/2003, Assistant and Report Writer

The project involved costing of the promulgation of a series of six national environmental management bills, including the Air Quality Amendment Bill, the Biodiversity Bill, the Protected Areas Amendment Bill and the National Environmental Management Act's (NEMA's) 1st and 2nd Amendment Bills. Responsible for the management of sub-consultants, report writing and stakeholder liaison.

Cellular phone mast sites for Cell C, South Africa, Aurecon, 01/1999 - 01/2002, Environmental Manager

The project entailed exemption applications of approximately 300 cell phone mast sites for the Cell C network. Responsible for site visits, assessments and reporting.

Road upgrades for Madikwe Game Reserve, South Africa, North West, Eco Assessments CC, 01/2002 - 01/2002, Environmental Manager

The project included fieldwork, public participation, the development of an environmental management plan (EMP) and environmental scoping of roads and the bulk water supply system at Madikwe Game Reserve. Responsible for fieldwork assessment, public participation (stakeholder engagement) and report writing.

Brits/Doreen Roads filling station in Pretoria, South Africa, Gauteng, Gerneke & Potgieter, 01/2002 - 01/2002, Environmental Manager

The project entailed the development of a filling station on the corner of Brits Road and Doreen Road in Akasia, Pretoria. Responsible for fieldwork assessment, public participation (stakeholder engagement) and report writing.

Marion Island research base in the South Atlantic Ocean, South Africa, Western Cape, Department of Environmental Affairs and Tourism (DEAT), 01/2002 - 01/2002, Environmental Manager

The project entailed environmental scoping for the research base on Marion Island. Responsible for public participation (stakeholder engagement), report writing and the development of an environmental management plan (EMP).

Gauteng Communication Network Strategy (GAUCONS), South Africa, Gauteng, Gauteng Department of Agriculture and Rural Development (GDARD), 01/2002 - 01/2002, Environmental Manager

The project entailed the development of the Gauteng Communication Network Strategy (GAUCONS), a decision-support and administration system for the authorisation of telecommunications masts in Johannesburg. Responsible for report writing and stakeholder liaison.

Buffer Zone projects, South Africa, Gauteng Department of Agriculture and Rural Development (GDARD), 01/2002 - 01/2002, Environmental Manager

This project entailed Phases 1 and 2 of the Buffer Zone projects for the Gauteng Department of Agriculture and Rural Developments (GDARD), which provides guidelines for the authorisation of developments in proximity to activities that cause pollution, including landfill sites, sewage treatment plants (STPs), industries and mine dumps. Responsible for report writing and fieldwork.

National Forest Inventory (NFI) for the Eastern Cape, South Africa, Eastern Cape, Department of Water Affairs (DWA), 01/2002 - 01/2002, Environmental Assistant

The project entailed data gathering and database population of the National Forest Inventory (NFI). Responsible for data gathering and capturing and stakeholder liaison.

Alexandra Renewal Project (ARP) in Johannesburg, South Africa, Gauteng, Gauteng Department of Agriculture and Rural Development (GDARD), 01/2002 - 01/2002, Environmental Manager

The project delivered a report on the environmental management framework (EMF) for the Alexandra Renewal Project (ARP) in Johannesburg. Responsible for field data.

Environmental management framework (EMF) for Centurion, South Africa, Gauteng, Gauteng Department of Agriculture and Rural Development (GDARD), 01/2002 - 01/2002, Project Assistant

The project comprised the development of an environmental management framework (EMF) for the Loch Vaal region in Centurion. Responsible for field work and report writing.

Rehabilitation of cutting, South Africa, Naas Grimbeek, 01/2002 - 01/2002, Environmental Manager

The project involved the rehabilitation of a cutting at the house of Mr Naas Grimbeek at the Hartebeespoort Dam. Responsible for site inspections and the development of a rehabilitation plan.

Development of Alberton Waterfront, South Africa, Gauteng, Odyssey Development and Construction, 01/2001 - 01/2001, Environmental Manager

The project entailed environmental scoping for the development of the Alberton Waterfront. Responsible for fieldwork assessment, public participation (stakeholder engagement) and report writing.

Makgabetlwane water pipeline, South Africa, North West, Munayi Malaka Engineers, 01/2001 - 01/2001, Environmental Manager

The project entailed environmental scoping of a water pipeline at Makgabetlwane. Responsible for public participation (stakeholder engagement) and report writing.

Environmental management framework (EMF) for the Loch Vaal area, South Africa, Gauteng, Aurecon, 01/2001 - 01/2001, Environmental Manager

The project included a report on data gathering and fieldwork, and an environmental management framework (EMF) for the Loch Vaal area in Centurion. Responsible for the compilation of the EMF document.

Declaration of the Prince Edward Islands (PEI) as a world heritage site, Canada, Department of

Environmental Affairs and Tourism (DEAT), 01/2001 - 01/2001, Environmental Manager

The project entailed a motivation report for the declaration of the Prince Edward Island (PEI) as a world heritage site (WHS). Responsible for report writing and management of consultants.

Midrand Estates Development, South Africa, Gauteng, Eco Assessments, 01/2000 - 01/2000, Environmental Manager

The project entailed an environmental impact assessment (EIA) of the proposed Midrand Estates development. Responsible for fieldwork, site assessment and report writing.

Nissan environmental management system (EMS), Pretoria, South Africa, Gauteng, Nissan South Africa, 01/1998 - 01/1999, Group Environmental Manager

The project entailed the implementation and certification of ISO 14001 compliant environmental management system (EMS). Responsible for company-wide coordination of EMS implementation, environmental auditing, training, general advice, strategic review of EMS performance and reporting to top management.

Development of a cellphone Code of Practice, South Africa, South African Bureau of Standards (SABS), 01/1999 - 01/1999, Assistant

The project entailed the development of a South African Code of Practice, including environmental considerations for the planning and management of telecommunications structures. Responsible for report writing and providing of general project assistance.

Environmental impact assessment (EIA) for Marion Island, South Africa, Western Cape, Department of Environmental Affairs and Tourism (DEAT), 01/1997 - 01/1998, Environmental Manager

The project comprised an environmental impact assessment (EIA) of the proposed tourism to Marion Island. Responsible for site visits, data collection, specialist study coordination and report writing.

Information management system (IMS) directorate for Pretoria, South Africa, Gauteng, Department of Water Affairs (DWA), 01/1998 - 01/1998, Project Assistant

The project comprised the development of an information management system (IMS) directorate, namely the Forest Regulation of the Department of Water Affairs (DWA). Responsible for report writing, conducting interviews, reporting and the monitoring of templates.

Environmental management system (EMS) for Johannesburg, South Africa, Gauteng, De Beers Research and Development Company (DebTech), 01/1998 - 01/1998, Project Leader and Senior Environmental Manager

The project entailed the development of an ISO 14001 environmental management system (EMS) for the De Beers Research and Development Centre (DebTech). Responsible for client liaison, team management, financial management, quality control and initial review of client's environmental impacts and aspects.

ISO 14001 certification and surveillance audits, South Africa, South African Bureau of Standards (SABS), 01/1997 - 01/1998, Environmental Auditor

The project entailed ISO 14001 certification and surveillance audits of four companies in various provinces of South Africa. Responsible for environmental auditing.

National strategy for the development of integrated environmental management (IEM), South Africa, Department of Environmental Affairs and Tourism (DEAT), 01/1998 - 01/1998, Assistant

The project involved the development of a discussion document, namely a national strategy for the development of integrated environmental management (IEM). Responsible for report writing and management of sub-consultants and stakeholders.

Environmental impact assessment (EIA) for Letsibogo Dam, Botswana, Cave Klapwijk & Associates (CKA), 01/1994 - 01/1995, Environmental Assistant

The project entailed an environmental impact assessment (EIA) of the Letsibogo Dam on the Motloutse River in north eastern Botswana. Responsible for report writing, quality control and review of the sub-consultant's deliverables.

Environmental management system (EMS) for Antarctica, [Unknown country], Department of Environmental Affairs and Tourism (DEAT), 01/1995 - 01/1995, Environmental Auditor

The project entailed the development of an environmental management system (EMS) for the South African National Antarctic Expedition's (SANAE's) IV Base. Responsible for environmental auditing.

Open cast coal mining rehabilitation, South Africa, Mpumalanga, Amcoal, 11/1991 - 01/1992, Researcher

The project entailed fieldwork for the rehabilitation of open cast coal mining, including vegetation monitoring and soil compaction monitoring on Amcoal's open cast coal mines. Responsible for the collection of field data.

