

## CURRICULUM VITAE OF JO-ANNE THOMAS

<b>Profession:</b>	Environmental Management and Compliance Consultant; Environmental Assessment Practitioner
<b>Specialisation:</b>	Environmental Management; Strategic environmental advice; Environmental compliance advice & monitoring; Environmental Impact Assessments; Policy, strategy & guideline formulation; Project Management; General Ecology
<b>Work experience:</b>	Twenty four (24) years in the environmental field

### VOCATIONAL EXPERIENCE

Provide technical input for projects in the environmental management field, specialising in Strategic Environmental Advice, Environmental Impact Assessment studies, environmental auditing and monitoring, environmental permitting, public participation, Environmental Management Plans and Programmes, environmental policy, strategy and guideline formulation, and integrated environmental management. Key focus on integration of the specialist environmental studies and findings into larger engineering-based projects, strategic assessment, and providing practical and achievable environmental management solutions and mitigation measures. Responsibilities for environmental studies include project management (including client and authority liaison and management of specialist teams); review and manipulation of data; identification and assessment of potential negative environmental impacts and benefits; review of specialist studies; and the identification of mitigation measures. Compilation of the reports for environmental studies is in accordance with all relevant environmental legislation.

Undertaking of numerous environmental management studies has resulted in a good working knowledge of environmental legislation and policy requirements. Recent projects have been undertaken for both the public- and private-sector, including compliance advice and monitoring, electricity generation and transmission projects, various types of linear developments (such as National Road, local roads and power lines), waste management projects (landfills), mining rights and permits, policy, strategy and guideline development, as well as general environmental planning, development and management.

### SKILLS BASE AND CORE COMPETENCIES

- Project management for a range of projects
- Identification and assessment of potential negative environmental impacts and benefits through the review and manipulation of data and specialist studies
- Identification of practical and achievable mitigation and management measures and the development of appropriate management plans
- Compilation of environmental reports in accordance with relevant environmental legislative requirements
- External and peer review of environmental reports & compliance advice and monitoring
- Formulation of environmental policies, strategies and guidelines
- Strategic and regional assessments; pre-feasibility & site selection
- Public participation processes for a variety of projects
- Strategic environmental advice to a wide variety of clients both in the public and private sectors
- Working knowledge of environmental planning processes, policies, regulatory frameworks and legislation

## EDUCATION AND PROFESSIONAL STATUS

### Degrees:

- B.Sc Earth Sciences, University of the Witwatersrand, Johannesburg (1993)
- B.Sc Honours in Botany, University of the Witwatersrand, Johannesburg (1994)
- M.Sc in Botany, University of the Witwatersrand, Johannesburg (1996)

### Short Courses:

- Environmental Impact Assessment, Potchefstroom University (1998)
- Environmental Law, Morgan University (2001)
- Environmental Legislation, IMBEWU (2017)
- Mining Legislation, Cameron Cross & Associates (2013)
- Environmental and Social Risk Management (ESRM), International Finance Corporation (2018)

### Professional Society Affiliations:

- Registered EAP with the Environmental Assessment Practitioners Association of South Africa (EAPASA) (2019/726)
- Registered with the South African Council for Natural Scientific Professions as a Professional Natural Scientist: Environmental Scientist (400024/00)
- Registered with the International Association for Impact Assessment South Africa (IAIASa): 5601
- Member of the South African Wind Energy Association (SAWEA)

## EMPLOYMENT

Date	Company	Roles and Responsibilities
January 2006 - Current:	Savannah Environmental (Pty) Ltd	Director Project manager Independent specialist environmental consultant, Environmental Assessment Practitioner (EAP) and advisor.
1997 – 2005:	Bohlweki Environmental (Pty) Ltd	Senior Environmental Scientist at. Environmental Management and Project Management
January – July 1997:	Sutherland High School, Pretoria	Junior Science Teacher

## PROJECT EXPERIENCE

Project experience includes large infrastructure projects, including electricity generation and transmission, wastewater treatment facilities, mining and prospecting activities, property development, and national roads, as well as strategy and guidelines development.

## RENEWABLE POWER GENERATION PROJECTS: PHOTOVOLTAIC SOLAR ENERGY FACILITIES

### Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Christiana PV 2 SEF, North West	Solar Reserve South Africa	Project Manager & EAP
De Aar PV facility, Northern Cape	iNca Energy	Project Manager & EAP
Everest SEF near Hennenman, Free State	FRV Energy South Africa	Project Manager & EAP
Graafwater PV SEF, Western Cape	iNca Energy	Project Manager & EAP
Grootkop SEF near Allanridge, Free State	FRV Energy South Africa	Project Manager & EAP
Hertzogville PV 2 SEF with 2 phases, Free State	SunCorp / Solar Reserve	Project Manager & EAP

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Karoshhoek CPV facility on site 2 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Kgabalatsane SEF North-East for Brits, North West	Built Environment African Energy Services	Project Manager & EAP
Kleinbegin PV SEF West of Groblershoop, Northern Cape	MedEnergy Global	Project Manager & EAP
Lethabo Power Station PV Installation, Free State	Eskom Holdings SoC Limited	Project Manager & EAP
Majuba Power Station PV Installation, Mpumalanga	Eskom Holdings SoC Limited	Project Manager & EAP
Merapi PV SEF Phase 1 – 4 South-East of Excelsior, Free State	SolaireDirect Southern Africa	Project Manager & EAP
Sannaspos Solar Park, Free State	SolaireDirect Southern Africa	Project Manager & EAP
Ofir-Zx PV Plant near Keimoes, Northern Cape	S28 Degrees Energy	Project Manager & EAP
Oryx SEF near Virginia, Free State	FRV Energy South Africa	Project Manager & EAP
Project Blue SEF North of Kleinsee, Northern Cape	WWK Development	Project Manager & EAP
S-Kol PV Plant near Keimoes, Northern Cape	S28 Degrees Energy	Project Manager & EAP
Sonnenberg PV Plant near Keimoes, Northern Cape	S28 Degrees Energy	Project Manager & EAP
Tutuka Power Station PV Installation, Mpumalanga	Eskom Transmission	Project Manager & EAP
Two PV sites within the Northern Cape	MedEnergy Global	Project Manager & EAP
Two PV sites within the Western & Northern Cape	iNca Energy	Project Manager & EAP
Upington PV SEF, Northern Cape	MedEnergy Global	Project Manager & EAP
Vredendal PV facility, Western Cape	iNca Energy	Project Manager & EAP
Waterberg PV plant, Limpopo	Thupela Energy	Project Manager & EAP
Watershed Phase I & II SEF near Litchtenburg, North West	FRV Energy South Africa	Project Manager & EAP
Alldays PV & CPV SEF Phase 1, Limpopo	BioTherm Energy	Project Manager & EAP
Hyperion PV Solar Development 1, 2, 3, 4, 5 & 6, Northern Cape	Building Energy	Project Manager & EAP
Vrede & Rondavel PV, Free State	Mainstream Renewable Energy Developments	Project Manager & EAP

#### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Aberdeen PV SEF, Eastern Cape	BioTherm Energy	Project Manager & EAP
Christiana PV 1 SEF on Hartebeestpan Farm, North-West	Solar Reserve South Africa	Project Manager & EAP
Heuningspruit PV1 & PV 2 facilities near Koppies, Free State	Sun Mechanics	Project Manager & EAP
Kakamas PV Facility, Northern Cape	iNca Energy	Project Manager & EAP
Kakamas II PV Facility, Northern Cape	iNca Energy	Project Manager & EAP
Machadodorp 1 PV SEF, Mpumalanga	Solar To Benefit Africa	Project Manager & EAP
PV site within the Northern Cape	iNca Energy	Project Manager & EAP
PV sites within 4 ACSA airports within South Africa, National	Airports Company South Africa (ACSA)	Project Manager & EAP
RustMo1 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
RustMo2 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
RustMo3 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
RustMo4 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP

Project Name & Location	Client Name	Role
Sannaspos PV SEF Phase 2 near Bloemfontein, Free State	SolaireDirect Southern Africa	Project Manager & EAP
Solar Park Expansion within the Rooiwal Power Station, Gauteng	AFRKO Energy	Project Manager & EAP
Steynsrus SEF, Free State	SunCorp	Project Manager & EAP
Sirius Solar PV Project Three and Sirius Solar PV Project Four (BA in terms of REDZ regulations), Northern Cape	SOLA Future Energy	Project Manager & EAP
Northam PV, Limpopo Province	Northam Platinum	Project Manager & EAP
Kolkies PV Suite (x 6 projects) and Sadawa PV Suite (x 4 projects), Western Cape	Mainstream Renewable Energy Developments	Project Manager & EAP

### Screening Studies

Project Name & Location	Client Name	Role
Allemans Fontein SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Amandel SEF near Thabazimbi, Limpopo	iNca Energy	Project Manager & EAP
Arola/Doomplaat SEF near Ventersdorp, North West	FRV & iNca Energy	Project Manager & EAP
Bloemfontein Airport PV Installation, Free State	The Power Company	Project Manager & EAP
Brakspuit SEF near Klerksorp, North West	FRV & iNca Energy	Project Manager & EAP
Carolus Poort SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Damfontein SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Everest SEF near Welkom, Free State	FRV & iNca Energy	Project Manager & EAP
Gillmer SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Grootkop SEF near Allansridge, Free State	FRV & iNca Energy	Project Manager & EAP
Heuningspruit PV1 & PV 2 near Koppies, Free State	Cronimat	Project Manager & EAP
Kimberley Airport PV Installation, Northern Cape	The Power Company	Project Manager & EAP
Kolonnade Mall Rooftop PV Installation in Tshwane, Gauteng	Momentous Energy	Project Manager & EAP
Loskop SEF near Groblersdal, Limpopo	S&P Power Unit	Project Manager & EAP
Marble SEF near Marble Hall, Limpopo	S&P Power Unit	Project Manager & EAP
Morgenson PV1 SEF South-West of Windsorton, Northern Cape	Solar Reserve South Africa	Project Manager & EAP
OR Tambo Airport PV Installation, Gauteng	The Power Company	Project Manager & EAP
Oryx SEF near Virginia, Free State	FRV & iNca Energy	Project Manager & EAP
Rhino SEF near Vaalwater, Limpopo	S&P Power Unit	Project Manager & EAP
Rustmo2 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
Spitskop SEF near Northam, Limpopo	FRV & iNca Energy	Project Manager & EAP
Steynsrus PV, Free State	Suncorp	Project Manager & EAP
Tabor SEF near Polokwane, Limpopo	FRV & iNca Energy	Project Manager & EAP
Upington Airport PV Installation, Northern Cape	The Power Company	Project Manager & EAP
Valeria SEF near Hartebeestpoort Dam, North West	Solar to Benefit Africa	Project Manager & EAP
Watershed SEF near Lichtenburg, North West	FRV & iNca Energy	Project Manager & EAP
Witkop SEF near Polokwane, Limpopo	FRV & iNca Energy	Project Manager & EAP
Woodmead Retail Park Rooftop PV Installation, Gauteng	Momentous Energy	Project Manager & EAP

### Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO and bi-monthly auditing for the construction of the Adams Solar PV Project Two South of Hotazel,	Enel Green Power	Project Manager

Project Name & Location	Client Name	Role
Northern Cape		
ECO for the construction of the Kathu PV Facility, Northern Cape	REISA	Project Manager
ECO and bi-monthly auditing for the construction of the Pulida PV Facility, Free State	Enel Green Power	Project Manager
ECO for the construction of the RustMo1 SEF, North West	Momentous Energy	Project Manager
ECO for the construction of the Sishen SEF, Northern Cape	Windfall 59 Properties	Project Manager
ECO for the construction of the Upington Airport PV Facility, Northern Cape	Sublary Trading	Project Manager
Quarterly compliance monitoring of compliance with all environmental licenses for the operation activities at the Kathu PV facility, Northern Cape	REISA	Project Manager
ECO for the construction of the Konkoonsies II PV SEF and associated infrastructure, Northern Cape	BioTherm Energy	Project Manager
ECO for the construction of the Aggeneys PV SEF and associated infrastructure, Northern Cape	BioTherm Energy	Project Manager

#### Compliance Advice and ESAP Reporting

Project Name & Location	Client Name	Role
Aggeneys Solar Farm, Northern Cape	BioTherm Energy	Environmental Advisor
Airies II PV Facility SW of Kenhardt, Northern Cape	BioTherm Energy	Environmental Advisor
Kalahari SEF Phase II in Kathu, Northern Cape	Engle	Environmental Advisor
Kathu PV Facility, Northern Cape	Building Energy	Environmental Advisor
Kenhardt PV Facility, Northern Cape	BioTherm Energy	Environmental Advisor
Kleinbegin PV SEF West of Groblershoop, Northern Cape	MedEnergy	Environmental Advisor
Konkoonsies II SEF near Pofadder, Northern Cape	BioTherm Energy	Environmental Advisor
Konkoonsies Solar Farm, Northern Cape	BioTherm Energy	Environmental Advisor
Lephalale SEF, Limpopo	Exxaro	Environmental Advisor
Pixley ka Seme PV Park, South-East of De Aar, Northern Cape	African Clean Energy Developments (ACED)	Environmental Advisor
RustMo1 PV Plant near Buffelspoort, North West	Momentous Energy	Environmental Advisor
Scuitdrift 1 SEF & Scuitdrift 2 SEF, Limpopo	Building Energy	Environmental Advisor
Sirius PV Plants, Northern Cape	Aurora Power Solutions	Environmental Advisor
Upington Airport PV Power Project, Northern Cape	Sublary Trading	Environmental Advisor
Upington SEF, Northern Cape	Abengoa Solar	Environmental Advisor
Ofir-ZX PV SEF near Keimoes, Northern Cape	Network S28 Energy	Environmental Advisor
Environmental Permitting for the Steynsrus PV1 & PV2 SEF's, Northern Cape	Cronimet Power Solutions	Environmental Advisor
Environmental Permitting for the Heuningspruit PV SEF, Northern Cape	Cronimet Power Solutions	Environmental Advisor

#### Due Diligence Reporting

Project Name & Location	Client Name	Role
5 PV SEF projects in Lephalale, Limpopo	iNca Energy	Environmental Advisor
Prieska PV Plant, Northern Cape	SunEdison Energy India	Environmental Advisor
Sirius Phase One PV Facility near Upington, Northern Cape	Aurora Power Solutions	Environmental Advisor

**Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Biodiversity Permit & WULA for the Aggeneys SEF near Aggeneys, Northern Cape	BioTherm Energy	Project Manager & EAP
Biodiversity Permit for the Konkoonises II SEF near Pofadder, Northern Cape	BioTherm Energy	Project Manager & EAP
Biodiversity Permitting for the Lephallale SEF, Limpopo	Exxaro Resources	Project Manager & EAP
Environmental Permitting for the Kleinbegin PV SEF West of Groblershoop, Northern Cape	MedEnergy	Project Manager & EAP
Environmental Permitting for the Upington SEF, Northern Cape	Abengoa Solar	Project Manager & EAP
Environmental Permitting for the Kathu PV Facility, Northern Cape	Building Energy	Project Manager & EAP
Environmental Permitting for the Konkoonsies Solar Farm, Northern Cape	BioTherm Energy	Project Manager & EAP
Environmental Permitting for the Lephallale SEF, Limpopo	Exxaro Resources	Project Manager & EAP
Environmental Permitting for the Scuitdrift 1 SEF & Scuitdrift 2 SEF, Limpopo	Building Energy	Project Manager & EAP
Environmental Permitting for the Sirius PV Plant, Northern Cape	Aurora Power Solutions	Project Manager & EAP
Environmental Permitting for the Steynsrus PV1 & PV2 SEF's, Northern Cape	Cronimet Power Solutions	Project Manager & EAP
Environmental Permitting for the Heuningspruit PV SEF, Northern Cape	Cronimet Power Solutions	Project Manager & EAP
Permits for the Kleinbegin and UAP PV Plants, Northern Cape	MedEnergy Global	Project Manager & EAP
S53 Application for Arriesfontein Solar Park Phase 1 – 3 near Danielskuil, Northern Cape	Solar Reserve / SunCorp	Project Manager & EAP
S53 Application for Hertzogville PV1 & PV 2 SEFs, Free State	Solar Reserve / SunCorp	Project Manager & EAP
S53 Application for the Bloemfontein Airport PV Facility, Free State	Sublunary Trading	Project Manager & EAP
S53 Application for the Kimberley Airport PV Facility, Northern Cape	Sublunary Trading	Project Manager & EAP
S53 Application for the Project Blue SEF, Northern Cape	WWK Developments	Project Manager & EAP
S53 Application for the Upington Airport PV Facility, Free State	Sublunary Trading	Project Manager & EAP
WULA for the Kalahari SEF Phase II in Kathu, Northern Cape	Engie	Project Manager & EAP

**RENEWABLE POWER GENERATION PROJECTS: CONCENTRATED SOLAR FACILITIES (CSP)**

**Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Ilanga CSP 2, 3, 4, 5, 7 & 9 Facilities near Upington, Northern Cape	Emvelo Holdings	Project Manager & EAP
Ilanga CSP near Upington, Northern Cape	Ilangethu Energy	Project Manager & EAP

Project Name & Location	Client Name	Role
Ilanga Tower 1 Facility near Upington, Northern Cape	Emvelo Holdings	Project Manager & EAP
Karoshhoek CPVPD 1-4 facilities on site 2 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Karoshhoek CSP facilities on sites 1.4; 4 & 5 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Karoshhoek Linear Fresnel 1 Facility on site 1.1 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP

#### Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the construction of the !Khi CSP Facility, Northern Cape	Abengoa Solar	Project Manager
ECO for the construction of the Ilanga CSP 1 Facility near Upington, Northern Cape	Karoshhoek Solar One	Project Manager
ECO for the construction of the folar Park, Northern Cape	Kathu Solar	Project Manager
ECO for the construction of the KaXu! CSP Facility, Northern Cape	Abengoa Solar	Project Manager
Internal audit of compliance with the conditions of the IWUL issued to the Karoshhoek Solar One CSP Facility, Northern Cape	Karoshhoek Solar One	Project Manager

#### Screening Studies

Project Name & Location	Client Name	Role
Upington CSP (Tower) Plant near Kanoneiland, Northern Cape	iNca Energy and FRV	Project Manager & EAP

#### Compliance Advice and ESAP reporting

Project Name & Location	Client Name	Role
Ilanga CSP Facility near Upington, Northern Cape	Ilangethu Energy	Environmental Advisor
Ilangalethu CSP 2, Northern Cape	FG Emvelo	Environmental Advisor
Kathu CSP Facility, Northern Cape	GDF Suez	Environmental Advisor
Lephalale SEF, Limpopo	Cennergi	Environmental Advisor
Solis I CSP Facility, Northern Cape	Brightsource	Environmental Advisor

#### Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Environmental Permitting for the Ilanga CSP Facility near Upington, Northern Cape	Ilangethu Energy	Project Manager & EAP
Environmental Permitting for the Kathu CSP, Northern Cape	GDF Suez	Project Manager & EAP
WULA for the Solis I CSP Facility, Northern Cape	Brightsource	Project Manager & EAP

## **RENEWABLE POWER GENERATION PROJECTS: WIND ENERGY FACILITIES**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Sere WEF, Western Cape	Eskom Holdings SoC Limited	EAP
Aberdeen WEF, Eastern Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Amakhala Emoyeni WEF, Eastern Cape	Windlab Developments	Project Manager & EAP
EXXARO West Coast WEF, Western Cape	EXXARO Resources	Project Manager & EAP
Goereesoe Wind Farm near Swellendam, Western Cape	iNca Energy	Project Manager & EAP
Hartneest WEF, Western Cape	Juwi Renewable Energies	Project Manager & EAP
Hopefield WEF, Western Cape	Umoya Energy	EAP
Kleinsee WEF, Northern Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Klipheuwel/Dassiesfontein WEF within the Overberg area, Western Cape	BioTherm Energy	Project Manager & EAP
Moorreesburg WEF, Western Cape	iNca Energy	Project Manager & EAP
Oyster Bay WEF, Eastern Cape	Renewable Energy Resources Southern Africa	Project Manager & EAP
Project Blue WEF, Northern Cape	Windy World	Project Manager & EAP
Rhebokfontein WEF, Western Cape	Moyeng Energy	Project Manager & EAP
Spitskop East WEF near Riebeeck East, Eastern Cape	Renewable Energy Resources Southern Africa	Project Manager & EAP
Suurplaat WEF, Western Cape	Moyeng Energy	Project Manager & EAP
Swellendam WEF, Western Cape	IE Swellendam	Project Manager & EAP
Tsitsikamma WEF, Eastern Cape	Exxarro	Project Manager & EAP
West Coast One WEF, Western Cape	Moyeng Energy	Project Manager & EAP

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Amakhala Emoyeni Wind Monitoring Masts, Eastern Cape	Windlab Developments	Project Manager & EAP
Beaufort West Wind Monitoring Masts, Western Cape	Umoya Energy	Project Manager & EAP
Hopefield Community Wind Farm near Hopefield, Western Cape	Umoya Energy	Project Manager & EAP
Koekenaap Wind Monitoring Masts, Western Cape	EXXARO Resources	Project Manager & EAP
Koingnaas WEF, Northern Cape	Just Palm Tree Power	Project Manager & EAP
Laingsburg Area Wind Monitoring Masts, Western Cape	Umoya Energy	Project Manager & EAP
Overberg Area Wind Monitoring Masts, Western Cape	BioTherm Energy	Project Manager & EAP
Oyster Bay Wind Monitoring Masts, Eastern Cape	Renewable Energy Systems Southern Africa (RES)	Project Manager & EAP
Wind Garden & Fronteer WEFs, Eastern Cape	Wind Relc	Project Manager & EAP

### **Screening Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Albertinia WEF, Western Cape	BioTherm Energy	Project Manager & EAP
Koingnaas WEF, Northern Cape	Just Pal Tree Power	Project Manager & EAP
Napier Region WEF Developments, Western Cape	BioTherm Energy	Project Manager & EAP
Tsitsikamma WEF, Eastern Cape	Exxarro Resources	Project Manager & EAP



Project Name & Location	Client Name	Role
Various WEFs within an identified area in the Overberg area, Western Cape	BioTherm Energy	Project Manager & EAP
Various WEFs within an identified area on the West Coast, Western Cape	Investec Bank Limited	Project Manager & EAP
Various WEFs within an identified area on the West Coast, Western Cape	Eskom Holdings Limited	Project Manager & EAP
Various WEFs within the Western Cape	Western Cape Department of Environmental Affairs and Development Planning	Project Manager & EAP
Velddrift WEF, Western Cape	VentuSA Energy	Project Manager & EAP
Wind 1000 Project	Thabo Consulting on behalf of Eskom Holdings	Project Manager & EAP
Wittekleibosch, Snylip & Doriskraal WEFs, Eastern Cape	Exxarro Resources	Project Manager & EAP

#### Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the construction of the West Coast One WEF, Western Cape	Aurora Wind Power	Project Manager
ECO for the construction of the Gouda WEF, Western Cape	Blue Falcon	Project Manager
EO for the Dassiesklip Wind Energy Facility, Western Cape	Group 5	Project Manager
Quarterly compliance monitoring of compliance with all environmental licenses for the operation activities at the Gouda Wind Energy facility near Gouda, Western Cape	Blue Falcon	Project Manager
Annual auditing of compliance with all environmental licenses for the operation activities at the West Coast One Wind Energy facility near Vredenburg, Western Cape	Aurora Wind Power	Project Manager
External environmental and social audit for the Amakhala Wind Farm, Eastern Cape	Cennergi	Project Manager
External environmental and social audit for the Tsitsikamma Wind Farm, Eastern Cape	Cennergi	Project Manager
ECO for the construction of the Excelsior Wind Farm and associated infrastructure, Northern Cape	BioTherm Energy	Project Manager
External compliance audit of the Dassiesklip Wind Energy Facility, Western Cape	BioTherm Energy	Project Manager

#### Compliance Advice

Project Name & Location	Client Name	Role
Amakhala Phase 1 WEF, Eastern Cape	Cennergi	Environmental Advisor
Dassiesfontein WEF within the Overberg area, Western Cape	BioTherm Energy	Environmental Advisor
Excelsior Wind Farm, Western Cape	BioTherm Energy	Environmental Advisor
Great Karoo Wind Farm, Northern Cape	African Clean Energy Developments (ACED)	Environmental Advisor
Hopefield Community WEF, Western Cape	African Clean Energy Developments (ACED)	Environmental Advisor

Rheboksfontein WEF, Western Cape	Moyeng Energy	Environmental Advisor
Tiqua WEF, Western Cape	Cennergi	Environmental Advisor
Tsitsikamma WEF, Eastern Cape	Cennergi	Environmental Advisor
West Coast One WEF, Western Cape	Moyeng Energy	Environmental Advisor

#### **Due Diligence Reporting**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Witteberg WEF, Western Cape	EDPR Renewables	Environmental Advisor
IPD Vredenburg WEF within the Saldanha Bay area, Western Cape	IL&FS Energy Development Company	Environmental Advisor

#### **Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Biodiversity Permitting for the Power Line between the Tsitsikamma Community WEF & the Diep River Substation, Eastern Cape	Cennergi	Project Manager & EAP
Biodiversity Permitting for the West Coast One WEF, Western Cape	Aurora Wind Power	Project Manager & EAP
Environmental Permitting for the Excelsior WEF, Western Cape	BioTherm Energy	Project Manager & EAP
Plant Permits & WULA for the Tsitsikamma Community WEF, Eastern Cape	Cennergi	Project Manager & EAP
S24G and WULA for the Rectification for the commencement of unlawful activities on Ruimsig AH in Honeydew, Gauteng	Hossam Soror	Project Manager & EAP
S24G Application for the Rheboksfontein WEF, Western Cape	Ormonde - Theo Basson	Project Manager & EAP
S53 Application & WULA for Suurplaat and Gemini WEFs, Northern Cape	Engie	Project Manager & EAP
S53 Application for the Hopefield Community Wind Farm near Hopefield, Western Cape	Umoya Energy	Project Manager & EAP
S53 Application for the Project Blue WEF, Northern Cape	WWK Developments	Project Manager & EAP
S53 for the Oyster Bay WEF, Eastern Cape	RES	Project Manager & EAP
WULA for the Great Karoo Wind Farm, Northern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP

#### **CONVENTIONAL POWER GENERATION PROJECTS (COAL)**

##### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Mutsho Power Station near Makhado, Limpopo	Mutsho Consortium	Project Manager & EAP
Coal-fired Power Station near Ogies, Mpumalanga	Ruukki SA	Project Manager & EAP
Thabametsi IPP Coal-fired Power Station, near Lephalale, Limpopo	Axia	Project Manager & EAP
Transalloys Coal-fired Power Station, Mpumalanga	Transalloys	Project Manager & EAP
Tshivasho IPP Coal-fired Power Station (with WML), near Lephalale, Limpopo	Cennergi	Project Manager & EAP
Umbani Coal-fired Power Station, near Kriel, Mpumalanga	ISS Global Mining	Project Manager & EAP

Project Name & Location	Client Name	Role
Waterberg IPP Coal-Fired Power Station near Lephallale, Limpopo	Exxaro Resources	Project Manager & EAP

#### Basic Assessments

Project Name & Location	Client Name	Role
Coal Stockyard on Medupi Ash Dump Site, Limpopo	Eskom Holdings	Project Manager & EAP
Biomass Co-Firing Demonstration Facility at Arnot Power Station East of Middleburg, Mpumlanaga	Eskom Holdings	Project Manager & EAP

#### Screening Studies

Project Name & Location	Client Name	Role
Baseload Power Station near Lephallale, Limpopo	Cennergi	Project Manager & EAP
Coal-Fired Power Plant near Delmas, Mpumalanga	Exxaro Resources	Project Manager & EAP
Makhado Power Station, Limpopo	Mutsho Consortium, Limpopo	Project Manager & EAP

#### Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the Camden Power Station, Mpumalanga	Eskom Holdings	Project Manager

#### Compliance Advice

Project Name & Location	Client Name	Role
Thabametsi IPP Coal-fired Power Station, near Lephallale, Limpopo	Axia	Environmental Advisor

#### Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Permit application for the Thabametsi Bulk Water Pipeline, near Lephallale, Limpopo	Axia	Project Manager & EAP
S53 & WULA for the Waterberg IPP Coal-Fired Power Station near Lephallale, Limpopo	Exxaro Resources	Project Manager & EAP
S53 Application for the Tshivasho Coal-fired Power Station near Lephallale, Limpopo	Cennergi	Project Manager & EAP

#### CONVENTIONAL POWER GENERATION PROJECTS (GAS)

##### Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Ankerlig OCGT to CCGT Conversion project & 400 kV transmission power line between Ankerlig and the Omega Substation, Western Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Gourikwa OCGT to CCGT Conversion project & 400kV transmission power line between Gourikwa & Proteus Substation, Western Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Richards Bay Gas to Power Combined Cycle Power Station, KwaZulu-Natal	Eskom Holdings SoC Limited	Project Manager & EAP
Richards Bay Gas to Power Plant, KwaZulu-Natal	Richards Bay Gas Power 2	Project Manager & EAP
Decommissioning & Recommissioning of 3 Gas Turbine Units at Acacia Power Station & 1 Gas Turbine Unit at Port Rex Power Station to the existing	Eskom Holdings	Project Manager & EAP

Project Name & Location	Client Name	Role
Ankerlig Power Station in Atlantis Industria, Western Cape		
320MW gas-to-power station in Richards Bay, KwaZulu-Natal	Phinda Power Projects	Project Manager & EAP

#### Screening Studies

Project Name & Location	Client Name	Role
Fatal Flaw Analysis for 3 area identified for the establishment of a 500MW CCGT Power Station	Globeleq Advisors Limited	Project Manager & EAP
Richards Bay Gas to Power Combined Cycle Power Station, KwaZulu-Natal	Eskom Holdings SoC Limited	Project Manager & EAP

#### GRID INFRASTRUCTURE PROJECTS

##### Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Aggeneis-Oranjemond Transmission Line & Substation Upgrade, Northern Cape	Eskom Transmission	Project Manager & EAP
Ankerlig-Omega Transmission Power Lines, Western Cape	Eskom Transmission	Project Manager & EAP
Karoshhoek Grid Integration project as part of the Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Koeberg-Omega Transmission Power Lines,, Western Cape	Eskom Transmission	Project Manager & EAP
Koeberg-Stikland Transmission Power Lines, Western Cape	Eskom Transmission	Project Manager & EAP
Kyalami Strengthening Project, Gauteng	Eskom Transmission	Project Manager & EAP
Mokopane Integration Project, Limpopo	Eskom Transmission	Project Manager & EAP
Saldanha Bay Strengthening Project, Western Cape	Eskom Transmission	Project Manager & EAP
Steelpoort Integration Project, Limpopo	Eskom Transmission	Project Manager & EAP
Transmission Lines from the Koeberg-2 Nuclear Power Station site, Western Cape	Eskom Transmission	Project Manager & EAP
Tshwane Strengthening Project, Phase 1, Gauteng	Eskom Transmission	Project Manager & EAP
Main Transmission Substation (MTS) associated with the Choje Wind Farm cluster, Eastern Cape	Wind Relic	Project Manager & EAP

#### Basic Assessments

Project Name & Location	Client Name	Role
Dassenberg-Koeberg Power Line Deviation from the Koeberg to the Ankerlig Power Station, Western Cape	Eskom Holdings	Project Manager & EAP
Golden Valley II WEF Power Line & Substation near Cookhouse, Eastern Cape	BioTherm Energy	Project Manager & EAP
Golden Valley WEF Power Line near Cookhouse, Eastern Cape	BioTherm Energy	Project Manager & EAP
Karoshhoek Grid Integration project as part of the Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Konkoonsies II PV SEF Power Line to the Paulputs Substation near Pofadder, Northern Cape	BioTherm Energy	Project Manager & EAP
Perdekraal West WEF Powerline to the Eskom Kappa Substation, Western Cape	BioTherm Energy	Project Manager & EAP
Rheboksfontein WEF Powerline to the Aurora Substation, Western Cape	Moyeng Energy	Project Manager & EAP
Soetwater Switching Station near Sutherland, Northern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP
Solis Power I Power Line & Switchyard Station near Upington, Northern Cape	Brightsource	Project Manager & EAP
Stormwater Canal System for the Ilanga CSP near Upington, Northern Cape	Karoshhoek Solar One	Project Manager & EAP
Tsitsikamma Community WEF Powerline to the Diep River Substation, Eastern Cape	Eskom Holdings	Project Manager & EAP
Two 132kV Chickadee Lines to the new Zonnebloem Switching Station, Mpumalanga	Eskom Holdings	Project Manager & EAP
Electrical Grid Infrastructure for the Kolkies and Sadawa PV clusters, Western Cape	Mainstream Renewable Energy Developments	Project Manager & EAP
Sadawa Collector substation, Western Cape	Mainstream Renewable Energy Developments	Project Manager & EAP
Electrical Grid Infrastructure for the Vrede and Rondavel PV facilities, Free State	Mainstream Renewable Energy Developments	Project Manager & EAP

#### **Environmental Compliance, Auditing and ECO**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
ECO for the construction of the Ferrum-Mookodi Transmission Line, Northern Cape and North West	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Gamma-Kappa Section A Transmission Line, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Gamma-Kappa Section B Transmission Line, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Hydra IPP Integration project, Northern Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Kappa-Sterrekus Section C Transmission Line, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Namaqualand Strengthening project in Port Nolloth, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
ECO for the construction of the Neptune Substation Soil Erosion Mitigation Project, Eastern Cape	Eskom	Project Manager
ECO for the construction of the Ilanga-Gordonia 132kV power line, Northern Cape	Karoshhoek Solar One	Project Manager

#### **Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Environmental Permitting and WULA for the Rockdale B Substation & Loop in Power Lines,	Eskom Holdings	Project Manager & EAP
Environmental Permitting and WULA for the Steelpoort Integration project, Limpopo	Eskom Holdings	Project Manager & EAP
Environmental Permitting for Solis CSP near Upington, Northern Cape	Brightsource	Project Manager & EAP

## **MINING SECTOR PROJECTS**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Elitheni Coal Mine near Indwe, Eastern Cape	Elitheni Coal	Project Manager & EAP
Groot Letaba River Development Project Borrow Pits	Iiso	Project Manager & EAP
Grootegeluk Coal Mine for coal transportation infrastructure between the mine and Medupi Power Station (EMPr amendment), Limpopo	Eskom Holdings	Project Manager & EAP
Waterberg Coal Mine (EMPr amendment), Limpopo	Sesoko Resources	Project Manager & EAP
Aluminium Plant WML & AEL, Gauteng	GfE-MIR Alloys & Minerals	Project Manager & EAP

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Rare Earth Separation Plant in Vredendal, Western Cape	Rareco	Project Manager & EAP
Decommissioning and Demolition of Kilns 5 & 6 at the Slurry Plant, Kwa-Zulu Natal	PPC	Project Manager & EAP

### **Environmental Compliance, Auditing and ECO**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
ECO for the construction of the Duhva Mine Water Recovery Project, Mpumalanga	Eskom Holdings SoC Limited	Project Manager
External compliance audit of Palesa Coal Mine's Integrated Water Use License (IWUL), near KwaMhlanga, Mpumalanga	HCI Coal	Project Manager
External compliance audit of Palesa Coal Mine's Waste Management License (WML) and EMP, near KwaMhlanga, Mpumalanga	HCI Coal	Project Manager
External compliance audit of Mbali Coal Mine's Integrated Water Use License (IWUL), near Ogies, Mpumalanga	HCI Coal	Project Manager
Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Mining Operations (Brand se Baai), Western Cape	Tronox Namakwa Sands	Project Manager
Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Mineral Separation Plant (MSP), Western Cape	Tronox Namakwa Sands	Project Manager
Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Smelter Operations (Saldanha), Western Cape	Tronox Namakwa Sands	Project Manager
Compliance Auditing of the Waste Management Licence for the PetroSA Landfill Site at the GTL Refinery, Western Cape	PetroSA	Project Manager

### **Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Waste Licence Application for the Rare Earth Separation Plant in Vredendal, Western Cape	Rareco	Project Manager & EAP

WULA for the Expansion of the Landfill site at Exxaro's Namakwa Sands Mineral Separation Plant, Western Cape	Exxaro Resources	Project Manager & EAP
S24G & WML for an Aluminium Plant, Gauteng	GfE-MIR Alloys & Minerals	Project Manager & EAP

### **INFRASTRUCTURE DEVELOPMENT PROJECTS (BRIDGES, PIPELINES, ROADS, WATER RESOURCES, STORAGE, ETC)**

#### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Bridge across the Ngotwane River, on the border of South Africa and Botswana	Eskom Holdings	Project Manager & EAP
Chemical Storage Tanks, Metallurgical Plant Upgrade & Backfill Plant upgrade at South Deep Gold Mine, near Westonia, Gauteng	Goldfields	Project Manager & EAP
Expansion of the existing Welgedacht Water Care Works, Gauteng	ERWAT	Project Manager & EAP
Golden Valley WEF Access Road near Cookhouse, Eastern Cape	BioTherm Energy	Project Manager & EAP
Great Fish River Wind Farm Access Roads and Watercourse Crossings near Cookhouse, Eastern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP
Ilanga CSP Facility Watercourse Crossings near Upington, Northern Cape	Karoshhoek Solar one	Project Manager & EAP
Modification of the existing Hartebeestfontein Water Care Works, Gauteng	ERWAT	Project Manager & EAP
N10 Road Realignment for the Ilanga CSP Facility, East of Upington, Northern Cape	SANRAL	Project Manager & EAP
Nxuba (Bedford) Wind Farm Watercourse Crossings near Cookhouse, Eastern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP
Pollution Control Dams at the Medupi Power Station Ash Dump & Coal Stockyard, Limpopo	Eskom	Project Manager & EAP
Qoboshane borrow pits (EMPr only), Eastern Cape	Emalahleni Local Municipality	Project Manager & EAP
Tsitsikamma Community WEF Watercourse Crossings, Eastern Cape	Cennergi	Project Manager & EAP
Clayville Central Steam Plant, Gauteng	Bellmall Energy	Project Manager & EAP
Msenge Emoyeni Wind Farm Watercourse Crossings and Roads, Eastern Cape	Windlab	Project Manager & EAP

#### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Harmony Gold WWTW at Doornkop Mine, Gauteng	Harmony Doornkop Plant	Project Manager & EAP
Ofir-ZX Watercourse Crossing for the Solar PV Facility, near Keimoes, Northern Cape	Networx S28 Energy	Project Manager & EAP
Qoboshane bridge & access roads, Eastern Cape	Emalahleni Local Municipality	Project Manager & EAP
Relocation of the Assay Laboratory near Carletonville, Gauteng	Sibanye Gold	Project Manager & EAP
Richards Bay Harbour Staging Area, KwaZulu-Natal	Eskom Holdings	Project Manager & EAP
S-Kol Watercourse Crossing for the Solar PV Facility, East of Keimoes, Northern Cape	Networx S28 Energy	Project Manager & EAP
Sonnenberg Watercourse Crossing for the Solar PV Facility, West Keimoes, Northern Cape	Networx S28 Energy	Project Manager & EAP

Project Name & Location	Client Name	Role
Kruisvallei Hydroelectric Power Generation Scheme, Free State	Building Energy	Project Manager & EAP
Masetjaba Water Reservoir, Pump Station and Bulk Supply Pipeline near Nigel, Gauteng	Naidu Consulting Engineers	Project Manager & EAP
Access Road for the Dwarsug Wind Farm, Northern Cape Province	South Africa Mainsteam Renewable Power	Project Manager & EAP

#### Screening Studies

Project Name & Location	Client Name	Role
Roodepoort Open Space Optimisation Programme (OSOP) Precinct, Gauteng	TIMAC Engineering Projects	Project Manager & EAP
Vegetable Oil Plant and Associated Pipeline, Kwa-Zulu Natal	Wilmar Oils and Fats Africa	Project Manager & EAP

#### Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO and bi-monthly auditing for the construction of the Olifants River Water Resources Development Project (ORWRDP) Phase 2A: De Hoop Dam, R555 realignment and housing infrastructure	Department of Water and Sanitation	Project Manager Auditor
ECO for the Rehabilitation of the Blaaupan & Storm Water Channel, Gauteng	Airports Company of South Africa (ACSA)	Project Manager
Due Diligence reporting for the Better Fuel Pyrolysis Facility, Gauteng	Better Fuels	Project Manager
ECO for the Construction of the Water Pipeline from Kendal Power Station to Kendal Pump Station, Mpumalanga	Transnet	Project Manager
ECO for the Replacement of Low-Level Bridge, Demolition and Removal of Artificial Pong, and Reinforcement the Banks of the Crocodile River at the Construction at Walter Sisulu National Botanical Gardens, Gauteng Province	South African National Biodiversity Institute (SANBI)	Project Manager
External Compliance Audit of the Air Emission Licence (AEL) for a depot in Bloemfontein, Free State Province and in Tzaneen, Mpumalanga Province	PetroSA	Project Manager

#### Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
WULA for the Izubulo Private Nature Reserve, Limpopo	Kjell Bismeyer, Jann Bader, Laurence Saad	Project Manager & EAP
WULA for the Masodini Private Game Lode, Limpopo	Masodini Private Game Lodge	Environmental Advisor
WULA for the Ezulwini Private Nature Reserve, Limpopo	Ezulwini Investments	Project Manager & EAP
WULA for the Masodini Private Game Lode, Limpopo	Masodini Private Game Lodge	Project Manager & EAP
WULA for the N10 Realignment at the Ilanga SEF, Northern Cape	Karoshhoek Solar One	Project Manager & EAP
WULA for the Kruisvallei Hydroelectric Power Generation Scheme, Free State	Building Energy	Project Manager & EAP



Project Name & Location	Client Name	Role
S24G and WULA for the Illegal construction of structures within a watercourse on EFF 24 Ruimsig Agricultural Holdings, Gauteng	Sorrer Language Services	Project Manager & EAP

## **HOUSING AND URBAN PROJECTS**

### **Basic Assessments**

Project Name & Location	Client Name	Role
Postmasburg Housing Development, Northern Cape	Transnet	Project Manager & EAP

### **Compliance Advice and reporting**

Project Name & Location	Client Name	Role
Kampi ya Thude at the Olifants West Game Reserve, Limpopo	Nick Elliot	Environmental Advisor
External Compliance Audit of WUL for the Johannesburg Country Club, Gauteng	Johannesburg Country Club	Project Manager

### **Environmental Compliance, Auditing and ECO**

Project Name & Location	Client Name	Role
Due Diligence Audit for the Due Diligence Audit Report, Gauteng	Delta BEC (on behalf of Johannesburg Development Agency (JDA))	Project Manager

## **ENVIRONMENTAL MANAGEMENT TOOLS**

Project Name & Location	Client Name	Role
Development of the 3rd Edition Environmental Implementation Plan (EIP)	Gauteng Department of Agriculture and Rural Development (GDARD)	Project Manager & EAP
Development of Provincial Guidelines on 4x4 routes, Western Cape	Western Cape Department of Environmental Affairs and Development Planning	EAP
Compilation of Construction and Operation EMP for the Braamhoek Transmission Integration Project, Kwazulu-Natal	Eskom Holdings	Project Manager & EAP
Compilation of EMP for the Wholesale Trade of Petroleum Products, Gauteng	Munaca Technologies	Project Manager & EAP
Operational Environmental Management Programme (OEMP) for Medupi Power Station, Limpopo	Eskom Holdings	Project Manager & EAP
Operational Environmental Management Programme (OEMP) for the Dube TradePort Site Wide Precinct	Dube TradePort Corporation	Project Manager & EAP
Operational Environmental Management Programme (OEMP) for the Kusile Power Station, Mpumalanga	Eskom Holdings	Project Manager & EAP
Review of Basic Assessment Process for the Wittekleibosch Wind Monitoring Mast, Eastern Cape	Exxaro Resources	Project Manager & EAP
Revision of the EMP for the Sirius Solar PV	Aurora Power Solutions	Project Manager & EAP

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
State of the Environment (SoE) for Emalahleni Local Municipality, Mpumalanga	Simo Consulting on behalf of Emalahleni Local Municipality	Project Manager & EAP
Aspects and Impacts Register for Salberg Concrete Products operations	Salberg Concrete Products	EAP
First State of Waste Report for South Africa	Golder on behalf of the Department of Environmental Affairs	Project Manager & EAP
Responsibilities Matrix and Gap Analysis for the Kruisvallei Hydroelectric Power Generation Scheme, Free State Province	Building Energy	Project Manager
Responsibilities Matrix and Gap Analysis for the Roggeveld Wind Farm, Northern & Western Cape Provinces	Building Energy	Project Manager

### **PROJECTS OUTSIDE OF SOUTH AFRICA**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Advisory Services for the Zizabona Transmission Project, Zambia, Zimbabwe, Botswana & Namibia	PHD Capital	Advisor
EIA for the Semonkong WEF, Lesotho	MOSCET	Project Manager & EAP
EMP for the Kuvaninga Energia Gas Fired Power Project, Mozambique	ADC (Pty) Ltd	Project Manager & EAP
Environmental Screening Report for the SEF near Thabana Morena, Lesotho	Building Energy	EAP
EPBs for the Kawambwa, Mansa, Mwense and Nchelenge SEFs in Luapula Province, Zambia	Building Energy	Project Manager & EAP
ESG Due Diligence for the Hilton Garden Inn Development in Windhoek, Namibia	Vatange Capital	Project Manager
Mandahill Mall Rooftop PV SEF EPB, Lusaka, Zambia	Building Energy	Project Manager & EAP
Monthly ECO for the PV Power Plant for the Mocuba Power Station	Scatec	Project Manager

## CURRICULUM VITAE OF NICOLENE VENTER

<b>Profession :</b>	Public Participation and Social Consultant
<b>Specialisation:</b>	Public participation process; stakeholder engagement; facilitation (workshops, focus group and public meetings; public open days; steering committees); monitoring and evaluation of public participation and stakeholder engagement processes
<b>Work Experience:</b>	23 years' experience as a Public Participation Practitioner and Stakeholder Consultant

### VOCATIONAL EXPERIENCE

Over the past 23 years Nicolene established herself as an experienced and well recognised public participation practitioner, facilitator and strategic reviewer of public participation processes. She has experience in managing public participation and stakeholder engagement projects and awareness creation programmes. Her experience includes designing and managing countrywide public participation and stakeholder engagement projects and awareness creation projects, managing multi-project schedules, budgets and achieving project goals. She has successfully undertaken several public participation processes for EIA, BA and WULA projects. The EIA and BA process include linear projects such as the NMPP, Eskom Transmission and Distribution power lines as well as site specific developments such as renewable energy projects i.e. solar, photo voltaic and wind farms. She also successfully managed stakeholder engagement projects which were required to be in line with the Equator Principles, locally and in neighbouring countries.

### SKILLS BASE AND CORE COMPETENCIES

- Project Management
- Public Participation, Stakeholder Engagement and Awareness Creation
- Public Speaking and Presentation Skills
- Facilitation (workshops, focus group meetings, public meetings, public open days, working groups and committees)
- Social Assessments (Stakeholder Analysis / Stakeholder Mapping)
- Monitoring and Evaluation of Public Participation and Stakeholder Engagement Processes
- Community Liaison
- IFC Performance Standards
- Equator Principles
- Minute taking, issues mapping, report writing and quality control

## EDUCATION AND PROFESSIONAL STATUS

### Degrees / Diplomas / Certificates:

- Higher Secretarial Certificate, Pretoria Technicon (1970)

### Short Courses:

- Techniques for Effective Public Participation, International Association for Public Participation, IAP2 (2008)
- Foundations of Public Participation (Planning and Communication for Effective Public Participation), IAP2 (2009)
- Certificate in Public Participation – IAP2SA Modules 1, 2 and 3 (2013)

Certificate in Public Relations, Public Relation Institute of South Africa, Damelin Management School (1989)

### Professional Society Affiliations:

- Member of International Association for Public Participation (IAP2): Southern Africa

## EMPLOYMENT

Date	Company	Roles and Responsibilities
November 2018 – current	Savannah Environmental (Pty) Ltd	<p>Public Participation and Social Consultant</p> <p><i>Tasks include:</i></p> <p><i>Tasks include: Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&amp;APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.</i></p> <p><i>Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved.</i></p>

Date	Company	Roles and Responsibilities
2016 – October 2018	Imaginative Africa (Pty) Ltd <i>(Director of Imaginative Africa)</i>	Independent Consultant  Consulting to various Environmental Assessment Practitioners for Public Participation and Stakeholder Engagements:  <u>Tasks include:</u>  Tasks include: Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.  Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved  <u>Clients:</u>  SiVEST Environmental Savannah Environmental Baagi Environmental Royal Haskoning DHV (previously SSI)
2013 - 2016	Zitholele Consulting  Contact person: Dr Mathys Vosloo  Contact number: 011 207 2060	Senior Public Participation Practitioner and Project Manager  <u>Tasks included:</u>  Project managed public participation process for EIA/BA/WULA/EAL projects. Manages two Public Participation Administrators. Public Participation tasks as outlined as above and including financial management of public participation processes.
2011 - 2013	Imaginative Africa (Pty) Ltd  <i>(company owned by Nicolene Venter)</i>	Independent Consultant  Consulting to various Environmental Assessment Practitioners for Public Participation and Stakeholder Engagements  <u>Tasks included:</u>  Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document,

		<p>Letters to Stakeholders and Interested and/or Affected Parties (I&amp;APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.</p> <p>Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved</p> <p><u>Clients:</u>  Bohlweki Environmental  Bembani Sustainability (Pty) Ltd  Naledzi Environmental</p>
<b>2007 – 2011</b>	SiVEST SA (Pty) Ltd  Contact person: Andrea Gibb  Contact number: 011 798 0600	Unit Manager: Public Participation Practitioner  <u>Tasks included:</u>  Project managed public participation process for EIA/BA projects. Manages two Junior Public Participation Practitioners. Public Participation tasks as outlined as above and including financial management of public participation processes.
<b>2005 – 2006</b>	Imaginative Africa (Pty) Ltd  (company owned by Nicolene Venter)	Independent Consultant  Public Participation and Stakeholder Engagement Practitioner  <u>Tasks included:</u>  Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, Tribal Chiefs, affected landowners, etc.  Managing interaction between Stakeholders and Team Members, liaising with National, Provincial and Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical

		<p>information communicated to and consultation with all level of stakeholders involved.</p> <p><u>Clients:</u></p> <p>Manyaka-Greyling-Meiring (previously Greyling Liaison and currently Golder Associates)</p>
<b>1997 - 2004</b>	<p>Imaginative Africa (Pty) Ltd</p> <p>(company owned by Nicolene Venter)</p>	<p>Independent Consultant: Public Participation Practitioner.</p> <p><u>Tasks included:</u></p> <p>Drafting of a Public Participation Plan with key deliverable dates and methodology to be followed, Background Information Document, Letters to Stakeholders and Interested and/or Affected Parties (I&amp;APs) inclusive of key project deliverables and responses to questions / concerns raised; Stakeholder identification; facilitating stakeholder workshops, focus group and public meetings; conduct one-on-one consultation with Community Leaders, affected landowners, etc.</p> <p>Managing interaction between Stakeholders and Team Members, liaising with National, Provincial Local Authorities, managing community consultation and communications in project affected areas, attend to the level of technical information communicated to and consultation with all level of stakeholders involved.</p> <p><u>Clients:</u></p> <p>Greyling Liaison (currently Golder Associates); Bemani Sustainability (Pty) Ltd; Lidwala Environmental; Naledzi Environmental</p>

## PROJECT EXPERIENCE

### RENEWABLE POWER GENERATION PROJECTS

#### PHOTOVOLTAIC SOLAR ENERGY FACILITIES

##### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>	
Lichtenburg PVs (3 PVs) & Power Lines (grid connection), Lichtenburg, North West Province	Atlantic Energy Partners EAP: Savannah Environmental	Project Manage the Public Participation Process Facilitate all meetings Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders	
Allepad PVs 4 PVs) & Power Lines (grid connection), Upington, Northern Cape Province	IL Energy EAP: Savannah Environmental		
Hyperion Solar PV Developments (4 PVs) and Associated Infrastructures, Kathu, Northern Cape Province	Building Energy EAP: Savannah Environmental		
Aggeneys Solar PV Developments (2 PVs) and Associated Infrastructures, Aggeneys, Northern Cape Province	Atlantic Energy Partners and ABO Wind EAP: Savannah Environmental		
Upilanga Solar Park, Northern Cape (350MW CSP Tower)	Emvelo Capital Projects (Pty) Ltd		
Khunab Solar Development, consisting of Klip Punt PV1, McTaggarts PV1, McTaggarts PV2, McTaggarts PV3 and the Khunab solar Grid Connection near Upington, Northern Cape Province	Atlantic Energy Partners and Abengoa		
Sirius Solar PV3 and PV4, near Upington, Northern Cape Province	Solal		
Geelster PV 1 and PV2 solar energy facilities, near Aggeneys, Northern Cape	ABO Wind		
Naledi PV and Ngwedi PV solar energy facilities, near Upington, Northern Cape	Atlantic Energy Partners and Abengoa		
Kotulo Tsatsi PV1, Kotulo Tsatsi PV3 and Kotulo Tsatsi PV4 solar energy facilities, near Kenhardt, Northern Cape	Kotulo Tsatsi Energy		
Thlitseng PV, including Substations & Power Lines, Lichtenburg, North West Province	BioTherm Energy EAP: SiVEST		Public Participation, Landowner and Community Consultation
Sendawo PVs, including Substations & Power Lines, Vryburg, North West Province			
Helena Solar 1, 2 and 3 PVs, Copperton, Northern Cape Province			
Farm Spes Bona 23552 Solar PV Plants, Bloemfontein, Free State Province	Surya Power EAP: SiVEST	Public Participation, Landowner and Community Consultation	
De Aar Solar Energy Facility, De Aar, Northern Cape Province	South Africa Mainstream Renewable Power Developments EAP: SiVEST	Public Participation, Landowner and Community Consultation	
Droogfontein Solar Energy Facility, Kimberley, Northern Cape Province			
Kaalspruit Solar Energy Facility, Loeriesfontein, Northern Cape Province			



Platsjambok East PV, Prieska, Northern Cape Province		
Renosterburg PV, De Aar, Northern Cape Province	Renosterberg Wind Energy Company EAP: SIVEST	Public Participation, Landowner and Community Consultation
19MW Solar Power Plant on Farm 198 (Slypklip), Danielskuil, Northern Cape Province	Solar Reserve South Africa EAP: SIVEST	Public Participation, Landowner and Community Consultation

### Basic Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Upilanga Solar Park, Northern Cape (x6 100MW PV's and x3 350MW PV Basic Assessments)	Emvelo Capital Projects (Pty) Ltd	Project Manage the Public Participation Process Facilitate all meetings Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders
Sirius Solar PV Solar Energy Facility, Upington, Northern Cape Province	SOLA Future Energy	
Khunab Solar Development, consisting of Klip Punt PV1, McTaggarts PV1, McTaggarts PV2, McTaggarts PV3 and the Khunab solar Grid Connection near Upington, Northern Cape Province	Atlantic Energy Partners and Abengoa	

### WIND ENERGY FACILITIES

#### Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Aletta Wind Farm, Copperton, Northern Cape Province	BioTherm Energy EAP: SIVEST	Public Participation
Eureka Wind Farm, Copperton, Northern Cape Province		
Loeriesfontein Wind Farm, Loeriesfontein, Northern Cape Province	South Africa Mainstream Renewable Power Developments EAP: SIVEST	Public Participation
Droogfontein Wind Farm, Loeriesfontein, Northern Cape Province		
Four Leeuwberg Wind Farms, Loeriesfontein, Northern Cape Province		
Noupoort Wind Farm, Noupoort, Northern Cape Province		
Mierdam PV & Wind Farm, Prieska, Northern Cape Province		
Platsjambok West Wind Farm & PV, Prieska, Northern Cape Province		

### Basic Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Cluster of Renewable Energy Developments, Eastern Cape Province	Wind Relic	

Nama Wind Energy Facility, Northern Cape Province	Genesis ECO EAP: Savannah Environmental	Project Manage the Public Participation Process Facilitate all meetings Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders
Zonnequa Wind Energy Facility, Northern Cape Province		

## **CONCENTRATED SOLAR FACILITIES (CSP)**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Upington Concentrating Solar Plant and associated Infrastructures, Northern Cape Province	Eskom Holdings EAP: Bohlweki Environmental	Project Manage the Public Participation Process Facilitate all meetings Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders

## **CONVENTIONAL POWER GENERATION PROJECTS (GAS)**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
450MW gas to power project and associated 132kV power line, Richards bay, KwaZulu-Natal	Phinda Power Producers	Project Manage the Public Participation Process Facilitate all meetings Consultation with Government Officials, Key Stakeholders & Landowners
4000MW gas to power project and associated 400kV power lines, Richards bay, KwaZulu-Natal	Phinda Power Producers	
Richards Bay Gas to Power Combined Cycle Power Station, KwaZulu-Natal	Eskom Holdings SoC Limited	

## **GRID INFRASTRUCTURE PROJECTS**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
132/11kV Olifantshoek Substation and Power Line, Northern Cape	Eskom	Project Manage the Public Participation Process Facilitate all meetings Consultation with Government Officials, Key Stakeholders, Landowners & Community Leaders
Grid connection infrastructure for the Namas Wind Farm, Northern Cape Province	Genesis Namas Wind (Pty) Ltd	
Grid connection infrastructure for the Zonnequa Wind Farm, Northern Cape Province	Genesis Zonnequa Wind (Pty) Ltd	
Khunab Solar Grid Connection, near Upington, Northern Cape Province	Atlantic Energy Partners and Abengoa	
Pluto-Mahikeng Main Transmission Substation and 400kV Power Line (Carletonville to Mahikeng), Gauteng and North West Provinces	Eskom Holdings EAP: Baagi Environmental	
Thyspunt Transmission Lines Integration Project, Eastern Cape Province	Eskom Holdings EAP: SIVEST	
Westrand Strengthening Project, Gauteng Province		Public Participation,

Mookodi Integration Project, North-West Province		
Transnet Coallink, Mpumalanga and KwaZulu-Natal Provinces		
Delarey-Kopela-Phahameng Distribution power line and newly proposed Substations, North-West Province		Public Participation, Landowner and Community Consultation
Invubu-Theta 400kV Eskom Transmission Power Line, KwaZulu-Natal Province	Eskom Holding EAP: Bemani Environmental	
Melkhout-Kudu-Grassridge 132kV Power Line Project (project not submitted to DEA), Eastern Cape Province	Eskom Holdings EAP: SIVEST	Public Participation, Landowner and Community Consultation
Tweespruit-Welroux-Driedorp-Wepener 132Kv Power Line, Free State Province		
Kuruman 132Kv Power Line Upgrade, Northern Cape Province	Eskom Holdings EAP: Zitholele	
Vaalbank 132Kv Power Line, Free State Province		
Pongola-Candover-Golela 132kV Power Line (Impact Phase), KwaZulu-Natal Province		

## **PART 2 AMENDMENTS**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Transalloys Coal-Fired Power Station near Emalahleni, Mpumalanga Province	Transalloys (Pty) Ltd	Project Manage the Public Participation Process
Zen Wind Energy Facility, Western Cape	Energy Team (Pty) Ltd	
Hartebeest Wind Energy Facility, Western Cape	juwi Renewable Energies (Pty) Ltd	
Khai-Ma and Korana Wind Energy Facilities	Mainstream Renewable Power (Pty) Ltd	

## **FACILITATION**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Meeting Type</b>
Bloemfontein Strengthening Project, Free State Province	Eskom Holdings EAP: Baagi Environmental	Public Meetings
Moodraai-Smitkloof 132kV Power Line and Substation, Northern Cape Province	Eskom Holdings EAP: SSI	Focus Group Meetings
Aggeneis-Oranjemond 400kV Eskom Transmission Power Line, Northern Cape Province	Eskom Holdings EAP: Savannah Environmental	Focus Group Meetings & Public Meetings
Ariadne-Eros 400kV/132kV Multi-Circuit Transmission Power Line (Public Meetings)	Eskom Holdings EAP: ACER Africa	Public Meetings
Majuba-Venus 765kV Transmission Power Lines, Mpumalanga Province		
Thabametsi IPP Power Station, Limpopo Province	Thabametsi Power Company EAP: Savannah Environmental	Focus Group Meeting & Public Meeting
Aggeneis-Oranjemond Transmission Line & Substation Upgrade, Northern Cape	Eskom Transmission	Focus Group Meetings & Public Meetings

## **SCREENING STUDIES**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Potential Power Line Alternatives from Humansdorp to Port Elizabeth, Eastern Cape Province	Nelson Mandela Bay Municipality EAP: SiVEST	Social Assessment

## **ASH DISPOSAL FACILITIES**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Medupi Flue Gas Desulphurisation Project (up to completion of Scoping Phase), Limpopo Province	Eskom Holdings SOC Ltd EAP: Zitholele Consulting	Public Participation, Landowner and Community Consultation
Kendal 30-year Ash Disposal Facility, Mpumalanga Province		
Kusile 60-year Ash Disposal Facility, Mpumalanga Province		
Camden Power Station Ash Disposal Facility, Mpumalanga Province		
Tutuka Fabric Filter Retrofit and Dust Handling Plant Projects, Mpumalanga Province	Eskom Holdings SOC Ltd EAP: Lidwala Environmental	
Eskom's Majuba and Tutuka Ash Dump Expansion, Mpumalanga Province		
Hendrina Ash Dam Expansion, Mpumalanga Province		

## **INFRASTRUCTURE DEVELOPMENT PROJECTS (BRIDGES, PIPELINES, ROADS, WATER RESOURCES, STORAGE, ETC)**

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Expansion of LOX and Diesel Storage at the Air Products Facility in Coega, Eastern Cape	Air Products South Africa (Pty) Ltd	Project Manage the Public Participation Process Facilitate all meetings Consultation with Government Officials, Key Stakeholders & Landowners
Transnet's New Multi-Products Pipeline traversing Kwa-Zulu Natal, Free State and Gauteng Provinces	Transnet EAP: Bohlweki Environmental	
Realignment of the Bulshoek Dam Weir near Klaver and the Doring River Weir near Clanwilliam, Western Cape Province	Dept of Water and Sanitation EAP: Zitholele	Public Participation

## **STAKEHOLDER ENGAGEMENT**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Socio-Economic Impact Study for the shutdown and repurposing of Eskom Power Stations: Komati Power Station, Hendrina Power Station & Grootvlei Power Station	Urban-Econ	Project Management for the stakeholder engagement with Community

		Representatives in the primary data capture area
First State of Waste Report for South Africa	Golder Associates on behalf of the Department of Environmental Affairs	Secretarial Services
Determination, Review and Implementation of the Reserve in the Olifants/Letaba System	Golder Associates on behalf of the Department of Water and Sanitation	
Orange River Bulk Water Supply System		
Levuvu-Letaba Resources Quality Objectives		

## **FACILITATION**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Meeting Type</b>
Determination, Review and Implementation of the Reserve in the Olifants/Letaba System	Department of Water and Sanitation	Secretarial Services
Orange River Bulk Water Supply System	Golder Associates	Secretarial Services
Levuvu-Letaba Resources Quality Objectives		Secretarial Services
SmancorCR Chemical Plant (Public Meeting), Gauteng Province	Samancor Chrome (Pty) Ltd EAP: Environmental Science Associates	Public Meeting
SANRAL N4 Toll Highway Project (2 <sup>nd</sup> Phase), Gauteng & North West Provinces	Department of Transport EAP: Bohlweki Environmental	Public Meetings

## **MINING SECTOR**

### **Environmental Impact Assessment and Environmental Management Programme**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Zero Waste Recovery Plant at highveld Steel, Mpumalanga Province	Anglo African Metals EAP: Savannah Environmental	Public Participation
Koffiefontein Slimes Dam, Free State Province	Petra Diamond Mines EAP: Zitholele	Public Participation
Baobab Project: Ethenol Plant, Chimbanje, Middle Sabie, Zimbabwe	Applicant: Green Fuel EAP: SIVEST	Public Participation & Community Consultation
BHP Billiton Energy Coal SA's Middelburg Water Treatment Plant, Mpumalanga	BHP Billiton Group EAP: Jones & Wagener	Public Participation

## **ENVIRONMENTAL AUTHORISATION AMENDMENTS**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Transalloys Coal-Fired Power Station near Emalahleni, Mpumalanga Province	Transalloys (Pty) Ltd	Public Participation
Zen Wind Energy Facility, Western Cape	Energy Team (Pty) Ltd	
Hartebeest Wind Energy Facility, Western Cape	juwi Renewable Energies (Pty) Ltd	
Khai-Ma and Korana Wind Energy Facilities	Mainstream Renewable Power (Pty) Ltd	
Beaufort West 280MW Wind Farm into two 140MW Trakas and Beaufort West Wind Farms, Western Cape	South Africa Mainstream Renewable Power Developments EAP: SIVEST	

## **SECTION 54 AUDITS**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Mulilo 20MW PV Facility, Prieska, Northern Cape	Mulilo (Pty) Ltd	Public Participation: I&AP Notification process
Mulilo 10MW PV Facility, De Aar, Northern Cape	Mulilo (Pty) Ltd	
Karoshhoek CSP 1 Facility/ Solar One, Upington, Northern Cape	Karoshhoek Solar One (Pty) Ltd	

## CURRICULUM VITAE OF TEBOGO MAPINGA

<b>Profession :</b>	Business Operations Manager and EAP
<b>Specialisation:</b>	Environmental Impact Assessments, Water Use Licencing, Waste Licencing, Environmental Permitting
<b>Work Experience:</b>	14 years' experience in Environmental Management, National Water Act, Mineral and Petroleum Resources Development Act, Project Management, Compliance Auditing, Stakeholder Engagement, Policy and Legislation Advisory and Peer Review.

### VOCATIONAL EXPERIENCE

Tebogo is an experienced professional with 14 years across the fields of Environment, Permitting, Project Management, Contract Management and Business Development, within the built infrastructure and most recently renewable energy sectors. I have an excellent track record and across-the-board proficiency within the following business environments: Business Development | Tender Management | Environmental Regulations & Compliance (Renewable Energy, Power, Infrastructure, Mining, ect) | Project Finance Environmental Due Diligence | Project Management (including contract management) | Design, Execution and management Project Permitting Processes | Team Management | Stakeholder Interfaces | Policy and Legislation Advisory.

I'm an assertive individual with a passion for renewable energy industry and power markets. I am a self-motivated and results orientated individual, able to effectively and expediently learn and absorb the nuances of new markets and take on strong leadership roles accordingly. I possess a strong business development, environmental and permitting acumen which also comes with the ability to cultivate significant synergies between stakeholders and authorities; and maintaining those relationships.

### SKILLS BASE AND CORE COMPETENCIES

- Renewable Energy Permitting;
- Environmental Management;
- Environmental Due Diligence and Analysis;
- Tender and Bid Management;
- Project Management and client liaison;
- Contract Management;
- Report Writing, drafting proposals and tenders;
- Review of ECO Monitoring Reports and External Audit Reports
- Financial management and marketing;
- Understanding and Implementation of all Environmental Regulations and all other relevant legislation;
- • Water Use Licence Applications (NWA)
- • General Authorisations (NWA)
- Ability to work independently and in a team;
- Good verbal, writing and presentation skills;
- Time management and workload management; and
- Facilitation and Training skills.

## EDUCATION AND PROFESSIONAL STATUS

### Degrees:

BSc (Zoology and Physiology), The University of Limpopo

### Short Courses:

- MS WORD- Computer Course (University of Limpopo (2006)
- Environmental Assessment Administration (2012)

### Professional Society Affiliations:

- South African Council for Scientific Natural Professionals (SACNASP): Certified Natural Scientist – Pr.Sci.Nat. (Membership No.: 115518)
- IAAsa Member

### Other Relevant Skills:

- GPS use, spatial data capturing and ground truthing

## EMPLOYMENT

Date	Company	Roles and Responsibilities
April 2021 - Current:	Savannah Environmental (Pty) Ltd	Business Operations Manager & EAP  <u>Tasks include:</u> Undertaking environmental impact assessments, basic assessments, environmental management programmes (EMPrs), environmental amendments, water use license applications, general authorisations, and permit applications, environmental compliance officer audits and reporting, Ensuring environmental compliance on permitting processes, project management, staff management and co-ordination, client liaison and relationship management.
February 2018 – March 2021	Zitholele Consulting (Pty) Ltd	Senior Environmental Consultant  <u>Tasks included:</u> Undertaking environmental impact assessments, basic assessments, environmental management programmes (EMPrs), environmental amendments, water use license applications, general authorisations, mining rights and permit applications, environmental compliance officer audits and reporting, Ensuring environmental compliance on permitting processes, client liaison and relationship management, public participation processes for environmental authorisations and conducting peer reviews. Conducted Rain Readiness Assessments for Eskom.



Date	Company	Roles and Responsibilities
<p><b>April 2014 – December 2017</b></p>	<p>Savannah Environmental (Pty) Ltd</p>	<p>Senior Environmental Consultant &amp; Principal Environmental Consultant</p> <p><u>Tasks included:</u> Undertaking environmental impact assessments, basic assessments, environmental management programmes (EMPrs), environmental amendments, water use license applications, general authorisations, mining rights and permit applications, environmental compliance officer audits and reporting, Ensuring environmental compliance on permitting processes, client liaison and relationship management, public participation processes for environmental authorisations and environmental screening reports..</p>
<p><b>April 2013 – March 2014</b></p>	<p>GIBB Engineering and Science</p>	<p>Senior Environmental Scientist</p> <p><u>Tasks included:</u> Undertaking environmental impact assessments, basic assessments, environmental management programmes (EMPrs), environmental amendments. Ensuring environmental compliance on permitting processes, client liaison and relationship management, public participation processes for environmental authorisations and environmental screening reports.</p>
<p><b>April 2010 – March 2013</b></p>	<p>Department of Forestry, Fisheries and the Environment</p>	<p>Environmental Officer Specialised Production:</p> <p><u>Tasks included:</u> The review of BARs, EIRs, EMPr's and Environmental Authorisations mainly for Parastatal projects (Eskom projects, SANRAL projects, Rand Water Project), Renewable energy projects and National Projects; and Drafting recommendations for EIA submissions.</p>
<p><b>April 2008 – March 2010</b></p>	<p>Strategic Environmental Focus</p>	<p>Environmental Consultant</p> <p><u>Tasks included:</u> Undertaking environmental impact assessments, basic assessments, environmental management programmes (EMPrs), environmental amendments. Ensuring environmental compliance on permitting processes, client liaison, project management and relationship management, public participation processes for environmental authorisations and environmental screening reports.</p>
<p><b>January 2007 – March 2008</b></p>	<p>Phaki Phakanani Environmental Consultants</p>	<p>Environmental Consultants</p> <p><u>Tasks included:</u> Undertaking environmental impact assessments, basic assessments, environmental management programmes</p>

Date	Company	Roles and Responsibilities
		(EMPrs), environmental amendments. Ensuring environmental compliance on permitting processes, client liaison, project management and relationship management, public participation processes for environmental authorisations and environmental screening reports.

## PROJECT EXPERIENCE

Project experience includes project management, EIA, BA and EMPr documentation development, integrated water use license applications, general authorisations, and impact assessments, compliance auditing and monitoring, vegetation rehabilitation and monitoring plans, integrated waste management plans and waste licencing.

Industry experience includes conduction Rain Readiness Assessments for Eskom Power Stations, the waste sector (IWMP's and waste licencing), road infrastructure (BAR, S&EIR, WUL/GA, Waste Licence), Filling station applications for Shell SA and BP, private sector clients across varying industries (various permits), mining sector (BAR & S&EIR), conservation sector (biodiversity plans), renewable energy industry (BAR, S&EIR) as well as the gas industry.

## RENEWABLE POWER GENERATION PROJECTS: WIND & SOLAR ENERGY FACILITIES

### Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Thabametsi Coal Fired Power Station	G7 Renewable Energy (Pty) Ltd	Environmental consultant
Richards Bay CCPP Power Project	Eskom SOC Ltd	Project Manager Environmental consultant
Gunstfontein Wind Energy Facility	Ginstfontein Wind Farm (Pty) Ltd	Project Manager Environmental consultant
Pofadder 3 Wind and 1 solar Energy Facilities	Mainstream Renewable Power South Africa	Project Manager Environmental consultant
Solar Reserve Kotulo Tsatsi PV 2 Facility	Solar Reserve Pty (Ltd)	Project Manager Environmental consultant

### Environmental Permitting, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Klawer Wind Farm FC Permitting	Building Energy and G7	Project Manager, Environmental consultant, Public Participation
Karusa Wind Farm FC Permitting (GA and Biodiversity Permit)	Karusa Wind Farm (Pty) Ltd	Project Manager, Environmental consultant, Public Participation
Roggeveld Wind Farm FC Permotting	Building Energy and G7	Project Manager, Environmental consultant, Public Participation
Soetwater Wind Farm FC Permitting (GA and Biodiversity Permit)	Soetwater Wind Farm (Pty) Ltd	Project Manager, Environmental consultant, Public Participation

Nxuba Wind Farm FC Permitting (GA and Biodiversity Permit)	Nxuba Wind Farm (Pty) Ltd	Project Manager, Environmental consultant, Public Participation
Adams PV Facility Upgrading of Charles Street FC Permitting	Aurora Power Solutions (Pty)	Project Manager, Environmental consultant, Public Participation
Bellatrix PV Facility FC Closure	Aurora Power Solutions (Pty)	Project Manager, Environmental consultant, Public Participation

## **HOUSING AND URBAN PROJECTS**

### **Environmental Impact Assessments and Environmental Management Programmes**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Proposed Housing Development on Portion 237 of the Farm Hartebeestpoort 328 in Koedoespoort, Gauteng Province	Housing Development Agency	Project Manager, Environmental consultant, Public Participation

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Pienaarspoort Wind Energy Facility, Northern Cape Province	ABO Wind renewable energies (Pty) Ltd	Environmental consultant
Doornkop Maize Mill EIA, Mpumalanga Province	Department of Rural Development and Land Reform	Project Manager, Environmental consultant, Public Participation
Proposed Housing Development on Portion 237 of the Farm Hartebeestpoort 328 in Koedoespoort, Gauteng Province	Housing Development Agency	Project Manager, Environmental consultant, Public Participation
Karusa Wind Energy Facility Grid Connection BAR	Karusa Wind Farm (Pty) Ltd	Project Manager, Environmental consultant, Public Participation
Soetwater Wind Energy Facility Grid Connection BAR	Soetwater Wind Farm (Pty) Ltd	Project Manager, Environmental consultant
Gunstfontein Wind Energy Facility Grid Connection	Gunstfontein Ind Farm (Pty) Ltd	Project Manager, Environmental consultant
Great Fish River Watercourse Crossing BAR	African Clean Energy Developers (Pty) Ltd (ACED)	Project Manager, Environmental consultant

### **Screening Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Bobididi Solar Facility	Environmental Screening-Root 60FOUR Energy (Pty) Ltd	Project Manager, EAP
Hazelwood Stormwater Environmental Screening	Johannesburg Water	Project Manager, Environmental consultant

### **Environmental Compliance, Auditing and ECO**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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Transnet Depot and Siding compliance auditing programme, Johannesburg, Gauteng & Rustenburg, North-West Province	Transnet SOC Ltd	ECO
Environmental compliance monitoring for the office complex development within the Pretoria National Botanical Gardens, Pretoria, Gauteng	South African National Biodiversity Institute (SANBI)	Project Manager, Environmental consultant, Public Participation, ECO

#### **Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
EIA, WULA and waste variation for the retrofitting of the FGD at Medupi Power Station	Eskom SOC Ltd	Project Manager, Environmental consultant, Public Participation

#### **SPECIALIST STUDIES**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Rain Readiness Assessments for the Matla, Kriel, Majula and Kusile Substations	Eskom SOC Ltd	Environmental specialist

## CURRICULUM VITAE

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<b>Name</b>	Anita Rautenbach
<b>Profession</b>	Zoological/Ecological Consultant
<b>Name of Firm</b>	Rautenbach Biodiversity Consulting
<b>Present Appointment</b>	Zoologist/Ecologist
<b>Date of Birth</b>	18 March 1971
<b>Nationality</b>	South African
<b>ID No.</b>	710318 0154 085



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### OVERVIEW

Anita graduated with a Master's degree in Biological Science from the School of Life Sciences, University of KwaZulu-Natal Durban. Her Master's dissertation investigated patterns and processes of rodent and shrew assemblages in the Savanna Biome of KwaZulu-Natal.

Her main interest involves fauna taxonomy, distribution patterns and ecology. She has been involved in various research projects and ecological assessments in southern Africa. Anita has approximately 12 years of in the environmental field and is currently registered as a Professional Natural Scientist with the South African Council for Natural Scientific Professions (SACNASP).

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### EDUCATION

- 2007: BSc. Zoology & Geography – University of South Africa
- 2010 – BSc. Honours (Biological Science – University of KwaZulu-Natal)
- 2013 – MSc (Biological Science) – University of KwaZulu-Natal

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### PROFESSIONAL QUALIFICATIONS

- MSc (Biological Science)

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### MEMBERSHIP TO PROFESSIONAL SOCIETIES

- SACNASP – Professional Natural Scientist – (400725/15) – Zoological sciences
- Zoological Society of Southern Africa

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### PUBLICATIONS

- Solano, E., Taylor, P. J., Rautenbach, A., Ropiquet, A., Castiglia, R. 2014. Cryptic speciation and chromosomal repatterning in the African climbing mice *Dendromus* (Rodentia, Nesomyidae). PLoS One (DOI:10.1371/journal.pone.0088799).
- Rautenbach, A., Dickerson, T., Schoeman, M.C. 2013. Diversity of rodents and shrew assemblages in different vegetation types of the savannah biome in South Africa: no support for nested subset or competition hypotheses. African Journal of Ecology 5(1) pp. 30-40.
- Taylor, P.J., Rautenbach, A., Schoeman, M.C., Combrink, X. 2007. A winter survey of the smaller mammals of the uMkhuze section of the iSimangaliso Wetland Park, KwaZulu-Natal Province, South Africa. (<https://www.researchgate.net/228787004>)

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### EMPLOYMENT RECORD

- March 2015 – current Rautenbach Biodiversity Consulting – (Full time)

## CURRICULUM VITAE

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- March 2012 – March 2015 Fauna/flora/vegetation/biodiversity/ecological assessments)  
Rautenbach Biodiversity Consulting – Part time – Fauna assessments
- March 2012 – Feb 2013 GVK Siya Zama Building and Renovations – HSE officer
- March 2013 – March 2015 GVK Siya Zama Building and Renovations – Regional HSE Manager
- April 2007 – August 2011 Durban Natural Science Museum – Mammal technician
- 1997 – 2007 Dr D Storm – Receptionist
- 1992 – 1997 Drs Smith, Snyman & Partners (Medical typist)
- 1990 – 1991 Drs Brits & Griesel Pathologists (Medical typist)

## LANGUAGE PROFICIENCY

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LANGUAGE	SPEAK	READ	WRITE
• English	Fluent	Fluent	Fluent
• Afrikaans	Fluent	Fluent	Fluent

## YEARS OF WORKING EXPERIENCE

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12+ Years

## COUNTRIES OF WORK EXPERIENCE

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- South Africa
- Swaziland
- Mozambique
- Kenya
- Madagascar

## FIELDS OF SPECIALISATION

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- Biodiversity/ecological assessments
- Fauna assessments
- Flora & vegetation assessments – (KZN & Mpumalanga vegetation types)
- Threatened species assessments.

## PROJECTS EXPERIENCE (selected projects)

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### Ecological assessments (inclusive of fauna)

- Section 24G contravention – Retrospective ecological assessment related to the unlawful construction of an irrigation dam on the Farm Neederland 202 HT, Mpumalanga. Commissioned by Enprocon (Pty) Ltd. 2019.
- Proposed development of the Pavua dam hydropower facility, Mozambique. Commissioned by The Biodiversity Company. 2017.
- Proposed housing development in Amaoti, KwaZulu-Natal. Commissioned by The Biodiversity Company.
- Proposed Thukela-Goedertrou pipeline development, KwaZulu-Natal. Commissioned by The Biodiversity Company. 2017.
- Proposed development of the Shixini 3 Macadamia Orchards, Eastern Cape. Commissioned by Afzelia Environmental Consultants. 2005.
- Proposed Kingsburg housing development, Durban, KwaZulu-Natal. Commissioned by Afzelia Environmental Consultants.
- Proposed Ingogo dams development, KwaZulu-Natal. Commissioned by Enprocon (Pty) Ltd.
- Proposed upgrade of Queen Nandi, Kwamashu and Inanda interchanges, KwaZulu-Natal. SANRAL
- Proposed development of a new dig-out port in Durban, KwaZulu-Natal Projects. Transnet capital projects.

### Small mammal (rodents, shrews, bats) assessments

- Proposed development of a new mine in Kenya. Base Titanium.

## CURRICULUM VITAE

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- Small mammal (rodents & shrews) assessments, Phinda, KwaZulu-Natal. Phinda Game Reserve.
- Small mammal assessment (rodents, shrews) Albert Falls Dam, KwaZulu-Natal. Durban Natural Science Museum.
- Small mammal assessment as part of the Ecorat project, Swaziland. Durban Natural Science Museum. 2005.
- Small mammal assessment (rodents, bats, shrews) as part of the Operation Wallacea Bioblitz. Durban Natural Science Museum.
- Small mammal assessment in Madagascar – University of KwaZulu-Natal. 2005.

### **Ecological assessments (inclusive of fauna, flora and vegetation)**

- Biodiversity Assessments – Hulamin Aluminium - Ongoing
- Section 24G contravention – Retrospective ecological assessment related to the unlawful enlargement of an irrigation dam on the Farm Witklip 4/207 HT, Mpumalanga. Commissioned by Enprocon (Pty) Ltd
- Proposed housing development on Erf 2082, Shelley Beach, KwaZulu-Natal. Commissioned by The Biodiversity Company.
- Proposed development of an opencast pit and underground decline shaft, ZAC Colliery, KwaZulu-Natal. Commissioned by The Biodiversity Company.
- Proposed development of the Richards Bay Combined Cycle Gas Turbine Power Plant, Richards Bay, KwaZulu-Natal. Commissioned by Savannah Environmental. 2018.
- Proposed development of a new abattoir in the Inkosi Langibalele municipal area. Commissioned by The Biodiversity Company.
- Section 24 G contravention – Retrospective assessment for the unlawful construction of a dam on Portion 5 of the Farm Tweefontein 3344, Newcastle, KwaZulu-Natal.
- Proposed housing development in Craigside, Newcastle. Commissioned by Enprocon (Pty) Ltd. 2017.
- Proposed Mdzonyana open-cast mining development, Limpopo province. Commissioned by Afzelia Environmental Consultants.
- Section 24G contravention – Retrospective ecological assessment related to the unlawful construction of a dam on the Farm Stefco 4/428, KwaZulu-Natal. Commissioned by Enprocon (Pty) Ltd. 2017.
- Retrospective terrestrial ecological assessment relating to the non-compliance of the provisions of Section 24F and Section 1 of NEMA on the Farm Doornkloof 376 HT.
- Proposed Umzimkhulu housing development, KwaZulu-Natal. Commissioned by The Biodiversity Company. 2017.
- Proposed development of pecan nut orchards and irrigation dams on Mtebeni Ranches, Pongola, KwaZulu-Natal. Commissioned by Enprocon (Pty) Ltd. 2020.
- Proposed Wilmar vegetable oil processing facility, Richards Bay, KwaZulu-Natal. Commissioned by Savannah Environmental. 2019.
- Proposed Wilmar vegetable oil pipeline development, Richards Bay, KwaZulu-Natal. Commissioned by Savannah. 2019.
- Proposed 1800 gas to power plant development, Richards Bay, KwaZulu-Natal. Commissioned by Savannah Environmental.

### **Threatened species assessments**

- Specialist input to the wetland offset plan for the proposed Richards Bay Combined Cycle Gas Turbine Power Plant, Richards Bay, KwaZulu-Natal Province (*Hemisus guttatus* & *Crocidura mariquensis* assessment). Commissioned by Savannah Environmental. 2019.
- Proposed development of a housing estate, Coral Lagoon (Pty) Ltd, Durban, KwaZulu-Natal. *Bradypodion melanocephalum* assessment – Commissioned by Coral Lagoon (Pty) Ltd. 2017.

### **Flora and vegetation assessments**

- Proposed development of Msinsi Mews in Waterfall, Durban. KJS Developers. Ongoing.
- Proposed business park development on Erf 947, Port Edwards, KwaZulu-Natal. Commissioned by The Biodiversity Company. 2019.

## CURRICULUM VITAE

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- Proposed mining development on the farm The Corner RE/11328, Umzumbe, KwaZulu-Natal. Commissioned by The Biodiversity Company. 2019
- Proposed development of a hospital in Newcastle, KwaZulu-Natal. Commissioned by Enprocon (Pty) Ltd. 2018.
- Proposed development of the Maphumulo Integrated Energy Centre, Glendale, KwaZulu-Natal. Commissioned by The Biodiversity Company.
- Proposed development of Portion 1 of Erf 286, Forest Hills, KwaZulu-Natal. Commissioned by The Biodiversity Company. 2017

## COMPUTER LITERACY

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- Microsoft Windows platforms
- Microsoft Office Suites including Office 365
- Google Earth
- QGIS 3.2 (GIS Software)
- Statistica
- BINMATNEST
- Ecosim
- Primer
- Distance

## COURSES / CONFERENCES / WORKSHOPS

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- 2007 Introduction to Bats – Bat Interest Group KZN
- 2009 ArcGIS Desktop – University of KwaZulu-Natal
- 2018 Conference – ‘Bringing IAIA Back’ - IAIAAsa
- 2021 Guide to snake identification – African Snakebite institute (certificate)
- 2020 Verreauxs Eagle and Wind Farms – Birdlife South Africa (certificate)
- 2020 Cape Vulture Guidelines – Birdlife South Africa (certificate)
- 2021 Guidelines for pre-construction monitoring of bats at wind energy facilities – Inkululeko Wilflife Services (certificate)

## REFERENCES

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Bukhali Environmental Resource Consulting  
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# CURRICULUM VITAE LOURENS DU PLESSIS

## PERSONAL INFORMATION AND CONTACT DETAILS

Name: Lourens Martinus du Plessis  
Date of birth: 1969-11-13  
Marital status: Married  
Nationality: South African  
Profession/specialisation: Geographer/environmental GIS specialist  
Company: MetroGIS (Pty) Ltd  
Years with firm: 11 years  
Position: Director  
Experience: 20 years  
Postal address: PO Box 384, La Montagne, 0184  
Telephone/fax: 012 349 2884/5 (w) 082 922 9019 (cell) 012 349 2880 (fax)  
E-mail: lourens@metrogis.co.za

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## KEY QUALIFICATIONS AND EXPERIENCE

### Primary function

The application of Geographic Information Systems (GIS) in environmental planning and management, impact assessments and spatial modeling.

### Experience and expertise

- Data sourcing and acquisition
- Data capture
- Data evaluation
- Data conversion and transfer
- GIS database development, implementation and maintenance
- Spatial analysis/modelling (visibility, slope, aspect, shadow, surface, raster, proximity, etc.)
- Digital terrain/elevation modeling
- Terrain evaluation
- Image processing
- Impact assessment and impact management
- Environmental management
- Decision support systems interface development
- Project management
- Map production, display, queries and reporting
- Environmental sciences expertise
- Process development
- Visual impact assessment

### Technological (software) expertise

- Arc/Info and ArcGIS
- ArcView
- PlanetGIS
- Vistapro (virtual landscape rendering software)
- Various GIS support software packages and applications
- Range of Microsoft standard applications (including Microsoft Word/Excel/Access, etc.)

## **Awards**

Award: Best South African Environmental Technical Paper  
Awarded for: National Environmental Potential Atlas (ENPAT National)  
Awarded by: Environmental Planning Professions Interdisciplinary Committee (EPPIC)  
Date: 1995

Award: Map Gallery Most Analytical Competition - 3rd Place  
Awarded for: Environmental Potential Atlas for South Africa  
Awarded by: Environmental Systems Research Institute (ESRI)  
Date: 1997 International ESRI User Conference

Award: Best Cartographic Map Gallery Competition - 3rd Place  
Awarded for: Environmental Potential Atlas for South Africa (Publication)  
Awarded by: Environmental Systems Research Institute (ESRI)  
Date: 1998 International ESRI User Conference

Award: QDC Performance Award  
Awarded for: ENPAT Development  
Awarded by: Q Data Consulting  
Date: 1998

Award: Best South African Environmental Technical Paper  
Awarded for: Environmental Potential Atlas for South Africa (Publication)  
Awarded by: Environmental Planning Professions Interdisciplinary Committee (EPPIC)  
Date: 1998

## **Publications/maps featured in publications**

Name: Environmental Potential Atlas for South Africa  
Authors: W. van Riet, J. van Rensburg, P. Claassen, L. du Plessis and T. van Viegen  
Publisher: J.L. van Schaik  
Date: 1997

Name: ESRI Map Book (Volume 13)  
Authors: Various  
Publisher: Environmental Systems Research Institute (ESRI)  
Date: 1998

Name: Pilanesberg Official Map and Park Guide  
Authors: North-West Parks & Tourism Board and Jacana  
Publisher: Jacana Media (Pty) Ltd  
Date: 2001

Name: KwaZulu-Natal - A celebration of biodiversity  
Authors: Jacana  
Publisher: Jacana Media (Pty) Ltd  
Date: 2001

Name: Garden Route - Still Bay to Storms River (Discover the Magic)  
Authors: Jacana  
Publisher: Jacana Media (Pty) Ltd  
Date: 2003

Name: Lowveld and Kruger Guide

Authors: High Branching Team  
Publisher: Jacana Media (Pty) Ltd  
Date: 2004

Name: Heights to Homes to Oceans (H<sub>2</sub>O) Water Wise information poster  
Authors: Rand Water  
Publisher: Rand Water  
Date: 2004

Name: Kruger National Park Map and Photographic Guide  
Authors: Andy Tinker Photography  
Publisher: Andy Tinker Photography  
Date: 2007

## **WORK EXPERIENCE/EMPLOYMENT DETAILS**

**GisLAB CC** (Geographic Information Systems Laboratory - University of Pretoria)  
Period: 4/1990 - 9/1997  
Position: Member / Project Manager

**GISBS** (Geographic Information Systems Business Solutions - Q Data Consulting)  
Period: 10/1997 - 10/1999  
Position: Project Manager

**MetroGIS (Pty) Ltd**  
Period: 11/1999 - to date  
Position: Director / Project Manager

## **EDUCATION/QUALIFICATIONS**

Degree: BA (University of Pretoria) Geography and Anthropology (Majors)  
Other Subjects: Archaeology, Philosophy and Political Science  
Date Received: 1993

## **PROJECTS SUMMARY**

*(A brief description of **some** prominent and relevant projects)*

### **General projects**

GIS mapping and database for Black Eagle habitats and flight patterns in the Karoo National Park

Environmental planning and development control schemes for the Drakensberg *Babangibone, Cathkin Peak and Garden Castle* development nodes

Goukou River (Stilbaai) Environmental Structure Plan

Conservation and open space proposals for the Umhlanga Forest

Grootvlei mine water pumping operation (Blesbokspruit sub-catchment)

GIS services for the Saldannah steel plant

ENPAT Provincial (1:250,000 scale GIS decision support systems) based on an inventory of environmental and socio-economic geographic data

- ENPAT Northern Province (Limpopo Province)
- ENPAT Mpumalanga
- ENPAT North-West

ENPAT Metropolitan (1:50,000 scale GIS decision support systems) containing environmental and socio-economic geographic data that were evaluated for conservation opportunities, development constraints and agricultural constraints

- ENPAT Gauteng
- ENPAT Cape Town
- ENPAT Durban Functional Region (DFR)
- ENPAT Bloemfontein/Botshabello
- ENPAT Port Elizabeth

ENPAT National (1:1,000,000 scale GIS decision support system) and ENPAT publication

Environmental Management Frameworks (EMF). Frameworks of spatially represented information connected to environmental management parameters designed to aid in the pro-active identification of potential conflict between development proposals and critical and/or sensitive environments

- EMF Northern Province (Limpopo Province)
- EMF Mpumalanga
- EMF North-West

Spatial Development Initiatives (SDI). The fast tracking of the EMF concept for priority SDI's

- Lubombo Corridor SDI
- Coega Industrial Development Zone (IDZ)
- Wild Coast SDI
- West Coast Investment Initiative

Sigma colliery: North-West strip operation

Development masterplan for the Tswaing Crater Museum

Conservation plan for the Rietvlei Nature Reserve

GIS services for the planning and management of the Chobe National Park (Botswana)

GIS services for an environmental overview of South Africa

Demarcation/delineation of regions in South Africa

Orange-Vaal (ORVAAL) transfer scheme - Caledon cascades scheme

ENPAT Provincial (1:250,000 scale GIS decision support systems) based on an inventory of environmental and socio-economic geographic data

- ENPAT Eastern Cape
- ENPAT Free State
- ENPAT Kwa-Zulu Natal

Environmental Management Frameworks (EMF). Frameworks of spatially represented information connected to environmental management parameters designed to aid in the pro-active

identification of potential conflict between development proposals and critical and/or sensitive environments

- EMF Eastern Cape
- EMF Free State
- EMF Kwa-Zulu Natal

Hennops River EMF (environmental inventory and management proposals in Centurion)

The Important Bird Areas (IBA) of South Africa map and database

Centurion Metropolitan Substructure Environmental Management Framework (EMF)

Alexandra renewal project EMF

Carbon Sinks and Sequestration - Eastern Cape Wild Coast. Information maps for the "*Carbon Sinks - A Rehabilitation Option for South Africa's Natural Environment*" report

Prince Edward and Marion Islands. Maps for the World Heritage Site (WHS) bid document

Theewaterskloof and Genadendal - Integrated spatial data management system

Gauteng Communication Network Strategy (GAUCONS). Environmental zones for the control of the construction of telecommunication structures

Gauteng Industries Buffer Zones. The mapping of industrial and mining activities, the creation of buffer control zones and the development of a GIS-based decision support system for the Gauteng Province

Limpopo National Park (LNP) Mozambique. Base maps for fieldwork and planning

Schmidtsdrift Environmental Management Program Report (EMPR)

Loch Vaal Environmental Management Framework (EMF)

Rustenburg - Strategic Environmental Assessment (SEA). The creation of environmental control zones, a GIS-based decision support system and information poster

Faerie Glen Nature Reserve Strategic Environmental Assessment (SEA)

Willow Quarries - Environmental Impact Assessment (EIA). Modeling of mining expansion plan and the potential impact on Golden Mole habitats

Ekurhuleni Metropolitan Municipality (EMM) Environmental Management Framework (EMF)

Limpopo - State of the Environment Report (SoER)

Windhoek (Namibia) - Environmental Structure Plan (ESP)

Gauteng Supplementation and Implementation of EIA Regulations Project (EIA SIP)

Siyanda District Municipality Environmental Management Framework (EMF)

Olifants and Letaba River Catchments Environmental Management Framework (EMF)

### **Regional Strategic Environmental Assessments (Regional Assessments)**

Regional assessment for the Eskom Wind Energy Facility (Sere) in the Western Cape

Regional assessments for the Eskom Wind Integration Project (WIP)

- Area 1: West Coast (Saldanha to Garies)
- Area 2: Overberg Region
- Area 3: Beaufort West region
- Area 4: Eastern Cape (Tsitsikamma to Port Elizabeth)
- Area 5: Northern Cape (Hondeklipbaai to Port Nolloth)

Sandveld wind energy Regional Assessment

West Coast National Park (Saldanha area) Regional Assessment

Regional Assessment for the Theewaterskloof Municipal area

Brand-se-Baai (Exxaro) wind energy regional assessment

Overberg (BioTherm) wind energy regional assessments

- Area 1: Gordons Bay to Pearly Beach)
- Area 2: Napier RA (Agulhas NP/Swellendal region)

Suurplaat/Sutherland (Investec Wind Energy Development) Regional Assessment

Waterberg (Limpopo) Concentrating Solar Power (CSP) Regional Assessment (Exxaro)

### **Visual Impact Assessments (VIA), viewshed analyses and visual assessments**

*Some recent or current projects include:*

- Coal strip mining in Zimbabwe viewshed analyses
- Viewshed analyses and sensitivity mapping for telecommunication masts in the northern provinces (Limpopo, Mpumalanga and North-West)
- Siemens 3<sup>rd</sup> license cellular communications infrastructure EIAs. Viewshed analyses and sensitivity mapping for over 4,000 telecommunication mast sites in all major metropolitan areas of South Africa.
- CSIR high mast viewshed analysis and sensitivity mapping
- Atlantis Open Cycle Gas Turbine power station VIA
- Kynoch Gypsum Tailings dam extension VIA
- N1 Western Bypass Shell service station VIA
- Coega regional hazardous waste processing facility VIA
- Robinson Deep landfill extension VIA
- Hazardous waste blending platform VIA
- Mercury-Ferrum-Garona transmission line integration VIA
- Matimba B (Medupi) coal-fired power station VIA
- Concentrating Solar Power (CSP) plant in Upington VIA
- Zeus to Mercury transmission line (comparative viewshed analyses)
- Mmamabula (Botswana) transmission line and power station viewshed analyses
- Petronet new multi-products pipeline VIA
- Wind energy facility (Sere) in the Western Cape province VIA
- Ankerlig power station conversion and transmission line VIA
- Gourikwa power station conversion and transmission line VIA
- Kyalami strengthening project VIA
- Steelpoort integration project VIA
- Medupi reservoir and telecommunication mast VIA
- Cookhouse wind monitoring masts VIA for a Basic Assessment Report
- Hopefield wind monitoring masts VIA for a Basic Assessment Report
- Amakhala wind monitoring masts VIA for a Basic Assessment Report
- Caledon, Worcester and Tulbach wind monitoring masts VIAs for Basic Assessment

## Reports

- Overberg masts VIA for a Basic Assessment Report
- Britannia Bay wind monitoring mast VIA for a Basic Assessment Report
- Brand-se-Baai wind monitoring masts VIA for a Basic Assessment Report
- Deep River wind monitoring masts VIA for a Basic Assessment Report
- Happy Valley wind monitoring masts VIA for a Basic Assessment Report
- River Bank wind monitoring mast VIA for a Basic Assessment Report
- Uiekraal wind monitoring masts VIA for a Basic Assessment Report
- Beaufort West wind monitoring masts VIA for a Basic Assessment Report
- Laingsburg Wind monitoring masts VIA for a Basic Assessment Report
- Rheboksfontein, Suurplaat and West Coast wind monitoring masts VIAs for Basic Assessment Reports
- Cookhouse wind energy facility VIA
- Hopefield wind energy facility VIA
- Mokopane Integration Project VIA
- Cradle of Humankind World Heritage Site (WHS) viewshed protection zone, visual character assessment and visual zonation plan
- Proposed Indwe wind energy facility VIA
- Proposed Amakhala wind energy facility VIA
- Proposed Boontjieskraal wind energy facility VIA
- Proposed Britannia Bay wind energy facility VIA
- Proposed Brand-se-Baai wind energy facility VIA
- Proposed Upington and Pofadder solar thermal facilities VIAs
- Proposed Dorper wind energy facility VIA
- Proposed Flagging Trees wind energy facility VIA
- Proposed Rheboksfontein, Suurplaat and West Coast wind energy facilities VIAs
- Proposed Riverbank wind energy facility VIA
- Proposed Waterberg photovoltaic plant VIA
- Eskom wind intergration projects VIAs (current)
- Welgedacht water care works VIA

## PROFESSIONAL AFFILIATIONS

Application for *Geographical Information Sciences (GISc) Professional Practitioner* submitted to (and currently under review by) The South African Council for Professional and Technical Surveyors (PLATO).

## LANGUAGES

	<b>Reading</b>	<b>Writing</b>	<b>Speaking</b>
Afrikaans	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent

# Morné de Jager

## Personal Data

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Identity Number	711221 5062 080
Date of Birth	21 December 1971
Sex	Male
Marital Status	Married, three children
Driver's license	Code 08
Nationality	South African
Home Language	Afrikaans (speak, read and write)
Other Languages	English (speak, read and write)
Higher Educational Qualifications	B.Eng (Chemical Engineering) [Pretoria University]
Previous Employment	JCI Wates Meiring and Barnard Department of Water Affairs and Forestry M2 Environmental Connections cc
Current Employment	Enviro-Acoustic Research cc

## Short Resumé

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Morné started his career in the mining industry as a bursar Learner Official (JCI, Randfontein), working in the mining industry, doing various mining related courses (Rock Mechanics, Surveying, Sampling, Safety and Health [Ventilation, noise, illumination etc] and Metallurgy. He did work in both underground (Coal, Gold and Platinum) as well as opencast (Coal) for 4 years. He changed course from Mining Engineering to Chemical Engineering after his second year of his studies at the University of Pretoria.

After graduation he worked as a Water Pollution Control Officer at the Department of Water Affairs and Forestry for two years (first year seconded from Wates, Meiring and Barnard), where duties included the perusal (evaluation, commenting and recommendation) of various regulatory required documents (such as EMPR's, Water Licence Applications and EIA's), auditing of licence conditions as well as the compilation of Technical Documents.

Since leaving the Department of Water Affairs, Morné has been in private consulting for the last 15 years, managing various projects for the mining and industrial sector, private developers, business, other environmental consulting firms as well as the Department of Water Affairs. During that period he has been involved in various projects, either as specialist, consultant, trainer or project manager, successfully completing these projects within budget and timeframe. During that period he gradually moved towards environmental acoustics, focusing on this field exclusively since 2007.

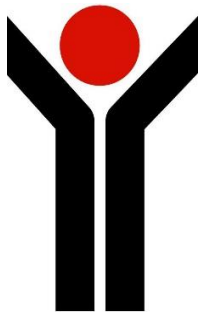
He has been interested in acoustics as from school days, doing projects mainly related to loudspeaker design. Interest in the matter brought him into the field of Environmental Noise Measurement, Prediction and Control. He has been doing work in this field for the past 8 years, and was involved with the following projects in the last few years:



# Project Experience – Acoustics

<b>Wind Energy Facilities</b>	<p>Full Environmental Noise Impact Assessments for - Bannf (Vidigenix), iNca Gouda (Aurecon SA), Kangnas (Aurecon), Plateau East and West (Aurecon), Wolf (Aurecon), Outeniqwa (Aurecon), Zen (Savannah Environmental – SE), Goereesoe (SE), Springfontein (SE), Garob (SE), Project Blue (SE), ESKOM Kleinzee (SE), Walker Bay (SE), Oyster Bay (SE), Hidden Valley (SE), Happy Valley (SE), Deep River (SE), Tsitsikamma (SE), AB (SE), West Coast One (SE), Hopefield II (SE), Namakwa Sands (SE), VentuSA Gouda (SE), Dorper (SE), Amakhala Emoyeni (SE), Klipheuwel (SE), Cookhouse (SE), Cookhouse II (SE), Rhebokfontein (SE), Suurplaat (SE), Karoo Renewables (SE), Koningaas (SE), Eskom Aberdene (SE), Spitskop (SE), Castle (SE), Khai Ma (SE), Poortjies (SE), Korana (SE), IE Moorreesburg (SE), Saldanha (Terramanzi), Loeriesfontein (SiVEST), , Rhenosterberg (SiVEST), Noupoot (SiVEST), Prieska (SiVEST), Canyon Springs (Canyon Springs), Msenge Emoyeni (Windlab), Gunstfontein (SE), Komsberg (ARCUS), Umsinde Emoyeni (ARCUS), Dwarsrug (SiVEST)</p>
<b>Mining and Industry</b>	<p>Full Environmental Noise Impact Assessments for - BECSA – Middelburg (Golder Associates), Kromkrans Colliery (Geovicon Environmental), SASOL Borrow Pits Project (JMA Consulting), Lesego Platinum (AGES), Tweefontein Colliery (Cleanstream), Evraz Vametco Mine and Plant (JMA), Goedehoop Colliery (Geovicon), Haca Project (Prescali Environmental), Der Brochen Platinum Project (J9 Environment), Delft Sand (AGES), Brandbach Sand (AGES), Verkeerdepan Extension (CleanStream), Dwaalboom Limestone (AGES), Jagdlust Chrome (MENCO), WPB Coal (MENCO), Landau Expansion (CleanStream), Otjikoto Gold (AurexGold), Klipfontein Colliery (MENCO), Imbabala Coal (MENCO), ATCOM East Expansion (Jones and Wagner), IPP Waterberg Power Station (SE), Kangra Coal (ERM), Schoongesicht (CleanStream), EastPlats (CleanStream), Chapudi Coal (Jacana Environmental), Generaal Coal (JE), Mopane Coal (JE), Glencore Boshhoek Chrome (JMA), Langpan Chrome (PE), Vlakpoort Chrome (PE), Sekoko Coal (SE), Frankford Power (REMIG), Strahrae Coal (Ferret Mining), Transalloys Power Station (Savannah), Pan Palladium Smelter, Iron and PGM Complex (Prescali), Fumani Gold (AGES), Leiden Coal (EIMS), Colenso Coal and Power Station (SiVEST/EcoPartners), Klippoortjie Coal (Gudani), Rietspruit Crushers (MENCO), Assen Iron (Tshikovha), Transalloys (SE), ESKOM Ankerlig (SE), Pofadder CSP (SE), Nooitgedacht Titano Project (EcoPartners), Algoa Oil Well (EIMS), Spitskop Chrome (EMAssistance), Klippoortjie Coal (Gudani), Vlakfontein South (Gudani), Leandra Coal (Jacana), Grazvalley and Zoetveld (Prescali), Tjate Chrome (Prescali), Langpan Chromite (Prescali), Vereeniging Recycling (Pro Roof), Meyerton Recycling (Pro Roof), Hammanskraal Billeting Plant 1 and 2 (Unica)</p>
<b>Road and Railway</b>	<p>K220 Road Extension (UrbanSmart), Boskop Road (MTO), Sekoko Mining (AGES), Davel-Swaziland-Richards Bay Rail Link (Aurecon), Moloto Transport Corridor Status Quo Report and Pre-Feasibility (SiVEST), Postmasburg Housing Development (SE), Tshwane Rapid Transport Project, Phase 1 and 2 (NRM Consulting/City of Tshwane), Transnet Apies-river Bridge Upgrade (Transnet), Gautrain Due-diligence (SiVest), N2 Piet Retief (SANRAL)</p>
<b>Airport</b>	<p>Oudtshoorn Noise Monitoring (AGES), Sandton Heliport (Alpine Aviation), Tete Airport Scoping</p>
<b>Noise monitoring</b>	<p>Peerboom Colliery (EcoPartners), Thabametsi (Digby Wells), Doxa Deo (Doxa Deo), Harties Dredging (Rand Water), Xstrata Coal – Witbank Regional (Xstrata), Sephaku Delmas (AGES), Amakhala Emoyeni WEF (Windlab Developments), Oyster Bay WEF (Renewable Energy Systems), Tsitsikamma WEF (Cennergi and SE), Hopefield WEF (Umoya), Wesley WEF (Innowind), Ncora WEF (Innowind), Boschmanspoort (Jones and Wagner), Nqamakwe WEF (Innowind), Hopefield WEF Noise Analysis (Umoya), Dassiesfontein WEF Noise Analysis (BioTherm), Transnet Noise Analysis (Aurecon), Jeffries Bay Wind Farm (Globeleq), Sephaku Aganang (Exigo), Sephaku Delmas (Exigo), Beira Audit (BP/GPT), Nacala Audit (BP/GPT), NATREF (Nemai), Rappa Resources (Rayten)</p>
<b>Small Noise Impact Assessments</b>	<p>TCTA AMD Project Baseline (AECOM), NATREF (Nemai Consulting), Christian Life Church (UrbanSmart), Kosmosdale (UrbanSmart), Louwlerdia K220 (UrbanSmart), Richards Bay Port Expansion (AECOM), Babalegi Steel Recycling (AGES), Safika Slag Milling Plant (AGES), Arcelor Mittal WEF (Aurecon), RVM Hydroplant (Aurecon), Grootvlei PS Oil Storage (SiVEST), Rhenosterberg WEF, (SiVEST), Concerto Estate (BPTrust), Ekuseni Youth Centre (MENCO), Kranskop Industrial Park (Cape South Developments), Pretoria Central Mosque (Noman Shaikh), Soshanguve Development (Maluleke Investments), Seshego-D Waste Disposal (Enviroxcellence), Zambesi Safari Equipment (Owner), Noise Annoyance Assessment due to the Operation of the Gautrain (Thornhill and Lakeside Residential Estate), Upington Solar (SE), Ilangaletu Solar (SE), Pofadder Solar (SE), Flagging Trees WEF (SE), Uyekraal WEF (SE), Ruuki Power Station (SE), Richards Bay Port Expansion (AECOM), Babalegi Steel Recycling (AGES), Safika Ladium (AGES), Safika Cement Isando (AGES), RareCo (SE), Struisbaai WEF (SE), Perdekraal WEF (ERM), Kotula Tsatsi Energy (SE), Olievenhoutbosch Township (Nali)</p>
<b>Project reviews and amendment reports</b>	<p>Loperberg (Savannah), Dorper (Savannah), Penhoek Pass (Savannah), Oyster Bay (RES), Tsitsikamma (Cennergi), Amakhala Emoyeni (Windlab), Spreeukloof (Savannah), Spinning Head (SE), Kangra Coal (ERM), West Coast One (Moyeng Energy), Rhebokfontein (Moyeng Energy), De Aar WEF (Holland)</p>





# INFOTOX (Pty) Ltd

2001/000870/07

**Retrieval and scientific interpretation of ecotoxicological information**

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Fax: 086 513 5478

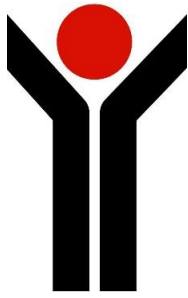
Cell: 082 416 5864

e-mail: [Info@infotox.co.za](mailto:Info@infotox.co.za)

[www.infotox.co.za](http://www.infotox.co.za)

<b>Name of Firm:</b>	INFOTOX (Pty) Ltd	<b>Name of Staff:</b>	Marlene (Martha Helena) Fourie
<b>Years with Firm:</b>	20	<b>Profession:</b>	Toxicological Scientist
<b>Date of Birth:</b>	19/09/1964	<b>Nationality:</b>	South African
<b>Professional Registration</b>	<ul style="list-style-type: none"> <li>The South African Council for Natural Scientific Professions (SACNASP): Professional Natural Scientist (Pr Sci Nat) Toxicological Science, No 400190/14</li> </ul>		
<b>Membership of Professional Societies:</b>	<ul style="list-style-type: none"> <li>Toxicology Society of South Africa (TOXSA)</li> </ul>		
<b>Detailed Tasks Assigned:</b>	Environmental Human Health Risk Assessment according to: <ul style="list-style-type: none"> <li>Hazard assessment of relevant chemical substances</li> <li>Exposure assessment of human receptor communities</li> <li>Dose-response assessment</li> <li>Noncancer (systemic) human health risk quantification</li> <li>Cancer risk quantification, if applicable</li> <li>Risk characterisation</li> </ul>		
<b>Key Qualifications:</b>	<ul style="list-style-type: none"> <li>BSc (Biochemistry), University of Stellenbosch, 1985.</li> <li>BSc (Hons) (Biochemistry), University of Stellenbosch, 1986.</li> <li>MSc (Reproductive Biology), University of Pretoria, 1996.</li> <li>PhD (Reproductive Biology), University of Pretoria, 1999.</li> <li>MSc (Epidemiology), University of Pretoria, 2009.</li> </ul>		
<b>Employment record:</b>	<ul style="list-style-type: none"> <li>Medical Natural Scientist at the Andrology Unit, Department of Urology, University of Pretoria and the Pretoria Academic Hospital, 1987 to 2001. Duties were laboratory and toxicological research to conduct technique development with the aim of improving the diagnosis and treatment of male infertility.</li> <li>Toxicological Scientist, INFOTOX (Pty) Ltd, 2001 to present. Duties are environmental human health risk assessment and impact assessment, assessment of effects of environmental contaminants on domestic animal and wildlife health and welfare, hazard classification of chemical substances and waste according to the United Nations Globally Harmonised System for Hazard Classification and Labelling of Chemical Substances.</li> </ul>		
<b>Selected experience:</b>	Dr Fourie is a registered Professional Natural Scientist (Pr Sci Nat, Toxicological Science). She has specialised in environmental toxicology, human health risk assessment and human health impact assessments. Dr Fourie is also competent in other areas of expertise including epidemiology, community health baseline assessments, data processing, statistical interpretation of analytical data, radionuclide risk assessment and chemical hazard classification according to international criteria. Dr Fourie has in-depth practical experience in the assessment of health risks associated with exposure to the criteria air pollutants and other airborne		

	<p>toxicants. She is proficient in health-risk based contaminated site investigations with single- or multi-pathway risk assessment of contaminated soil, water and food. Clarification of the association and causality of exposure to toxic substances and the manifestation of adverse health effects in communities is a key competence of INFOTOX.</p> <p>Dr Fourie has conducted community health risk assessments for a wide range of exposures associated with airborne emissions from industries. This includes acute-duration exposures (e.g., hydrogen sulfide, ammonia, hydrogen fluoride) and chronic exposures to systemic toxicants and carcinogens. She has experience in dioxin risk assessment and assessment of hazards in the category Unknown or Variable Composition, Complex Reaction Products or Biological Materials (UVCB) group, which is characteristic of petroleum industries.</p> <p>Dr Fourie has also conducted Rapid Appraisal Health Impact Assessments (RAHIAs), according to the Good Practice guidance of the International Finance Corporation (IFC), a member of the World Bank Group. She has extensive experience in full community health risk assessments, including quantitative food chain health risk assessment, based on soil or water contamination, uptake into food commodities and assessment of health risks based on food consumption rates characteristic of particular communities.</p> <p>Dr Fourie has extensive experience in the application of SANS 10234 and has completed the UNITAR training course on GHS classifications. She has conducted classifications for many waste streams of organic and inorganic nature, new veterinary medicines, agricultural products, and more.</p> <p>Full-time participation in INFOTOX projects has been on a continuous basis since 2002 to the present date.</p>
<p><b>Publications and Conferences</b></p>	<ul style="list-style-type: none"> <li>• Due to the confidential nature of work done for clients, unfortunately, few of the client reports illustrating professional competence in Toxicology are available in the public domain.</li> <li>• Conferences are attended on a regular basis as required for SACNASP registration.</li> </ul>
<p><b>Certification:</b></p>	<p>I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describes me, my qualifications and my experience.</p>  <p>November 2021</p>



# INFOTOX (Pty) Ltd

2001/000870/07

**Retrieval and scientific interpretation of ecotoxicological information**

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## CURRICULUM VITAE

### Dr WCA VAN NIEKERK (April 2021 Rev 1.0)

Dr Willie van Niekerk holds BSc, Hons BSc and MSc degrees from the University of Potchefstroom (South Africa), and a PhD from the University of South Africa. He is the Managing Director of INFOTOX (Pty) Ltd. INFOTOX is a specialist company in the discipline of Health Sciences. Dr Van Niekerk is a Qualified Environmental Professional (QEP)<sup>1</sup>, Environmental Toxicologist, certified by the Institute of Professional Environmental Practice (IPEP) in the USA, and a registered Professional Natural Scientist (Pr Sci Nat, Environmental Science) in South Africa. He has specialised in environmental toxicology and health risk assessment, but has experience in many other areas in the disciplines of analytical and environmental sciences, including radionuclide risk assessment. Among these are health-risk based contaminated land investigations, the assessment of exposure to the criteria air pollutants and other airborne toxicants, sampling and chemical analysis of soil, water and other materials for industrial or environmental characterisation, statistical interpretation of analytical data, and the development of quality assurance documentation for scientific studies. Clarification of the association and causality of exposure to toxic substances and the manifestation of adverse health effects in communities is a key competence of INFOTOX.

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<sup>1</sup> The Qualified Environmental Professional (QEP) certification is the first and only credential of its kind in the USA. It is a multi-media, multi-disciplinary, board-certified credential that requires environmental professionals to view “the big picture” and to have the skills and knowledge to resolve “real world problems”. It is international in scope and has received accreditation by the Council of Engineering and Scientific Specialty Boards (CESB). The CESB is an independent organization which accredits engineering, scientific, and technology certification programs. The QEP certification is now recognized by the Board for Global EHS Credentialing.



It is notable that Dr Van Niekerk wrote a chapter on human and wildlife risk assessment in the Risk Assessment Manual for Abandoned Mines in Namibia, which was funded by the German Federal Ministry for Economic Cooperation and Development, through the Federal Institute for Geosciences and Natural Resources. The project was coordinated under the Ministry of Mines and Energy of the Government of the Republic of Namibia. INFOTOX also conducted an assessment of reproductive effects of sulfur dioxide on commercial wildlife farming, and the health effects of chlorine on domestic animals.

Cancer risks are quantified and non-cancer risks are interpreted for acute and chronic exposure to hazardous substances. Quantitative exposure assessment and an understanding of the toxicology and mode of action of hazardous chemicals and mixtures of chemicals are fundamental in the health risk assessment approach.

Dr Van Niekerk has extensive experience in waste hazard assessment, treatment and disposal. He has conducted assessments of waste treatment and destruction such as pyrolysis followed by high-temperature oxidation, burning of waste as alternative fuel in cement kilns, and waste incineration. He has pertinent experience in the assessment of formation of dioxins and other products of incomplete combustion in waste combustion processes, and the multi-pathway assessment of exposure and health risks associated with exposure to these hazardous substances.

He is a specialist in risk-based classification of mining and processing wastes and has carried out many site-specific investigations in this field.

As part-time Professor in Vista University in Pretoria, he lectured for three years on the chemistry and toxicology of hazardous waste.

Dr Van Niekerk has worked with several law firms on environmental health risk projects and has acted as expert witness in litigation cases. Dr Van Niekerk assisted Dr Marlene Fourie of INFOTOX in preparing health-risk based defense of class actions on behalf of law firms in London. He is currently conducting a number of health risk assessment projects under legal privilege. Several of these studies are structured in anticipation of potential class actions.

## **QUALIFICATIONS**

- BSc (Chemistry), Potchefstroom, 1965.
- Hons BSc (Chemistry), Potchefstroom, 1966.
- MSc (Chemistry), Potchefstroom, 1967.
- PhD (Chemistry), UNISA, 1973.
- QEP (Qualified Environmental Professional), IPEP, USA, 1996.

### **Other training programmes:**

- Time Management Training, DIMENCI, 1982.
- Selling: Getting Down to Basics and Selling: Without Seeing, Chris Penman, UK (presented in Johannesburg).
- Performance Appraisal Management, DIMENCI, 1983.
- Introspection, DIMENCI, 1983.
- Recession Survival, Johan Coetzee Consultants, 1983.
- Management of Conflict, AEC, 1985.

- Situation Leadership, Leadership Studies Productions, CA (presented in Pretoria), 1986.
- Selective Analysis of Ideas, Sales Analysis Institute, USA (presented in Pretoria), 1986.
- Principles of Marketing, UNISA, 1989.
- Rational Management, Kepner Tregoe, 1990.
- Strategic Thinking for Strategic Planning, The Pacific Institute Inc, USA (presented in Pretoria), 1991.
- Effective Communication of Health Risks, Air & Waste Management Association, Denver CO, 1993.
- Management of Technology, University of Stellenbosch, 1995.
- Implementation of ISO 14000 in Environmental Management, Air & Waste Management Association, Nashville TE, 1996.

## **CAREER HISTORY**

- Soil and Irrigation Research Institute, 1968 to 1971.
- Atomic Energy Board, 1971 to 1982.
- SMM Instruments, 1982 to 1984.
- Atomic Energy Corporation, 1984 to August 1997.
- INFOTOX, 1997 onwards (Managing Director).

## **INTERNATIONAL EXPERIENCE**

- Illinois Institute of Technology, Chicago, 1980: Visiting scientist, participated in Love Canal environmental pollution studies.
- Visited research institutes and other organisations in the USA, England, Belgium, The Netherlands, Germany, Switzerland and Italy. Visits relating specifically to environmental sciences and technologies:
  - United Nations, Geneva, 1991.
  - RIVM, The Netherlands, 1991.
  - Sever Trent Water, England, 1991.
  - Battelle, Columbus, Ohio, 1993.
  - University of Illinois at Chicago, USA, 1993, 1996
  - USA Geological Survey, Virginia, USA, 1993.
  - Triangle Laboratories, North Carolina, USA, 1993.
  - USEPA, Cincinnati, Ohio, USA, 1996.
  - TERA, Cincinnati, Ohio, 1996.
  - USEPA, Cincinnati, Ohio, USA, 1997.
  - TERA, Cincinnati, Ohio, 1997.

## **PROFESSIONAL INSTITUTIONS**

- Member of the South African Chemical Institute (SACI), Council member 1987 to 1988 and 1992 to 1993, Chairman of Northern Transvaal Section 1992 to 1993, member of committee, 1980 to 1995. Active member until 1996.

- Founder member of the South African Association for Mass Spectrometry (SAAMS), first chairman and member of the committee, 1981 to 1991. Active member until 1996.
- Member of the Chromatography Association of South Africa (ChromSA). Active member until 1996.
- Member of the National Association for Clean Air (NACA).
- Member of the Toxicology Society of South Africa (TOXSA).





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## CURRICULUM VITAE



**Jenna Lavin**

Tel: 083 619 0854 (c); 013 0131 (w)  
E-mail address: jenna.lavin@cedartower.co.za  
ID number: 8512050014089

### **EDUCATION:**

#### **Tertiary**

- 2014 - M.Phil in Conservation of the Built Environment (University of Cape Town)  
Ongoing - expected to graduate in 2015
- 2011 Continued Professional Development Course in Urban Conservation Management (University of Cape Town) Part I and Part II
- 2010 M.Sc. with Distinction in Archaeology (University of Cape Town)  
Title: *Palaeoecology of the KBS member of the Koobi Fora Formation: Implications for Pleistocene Hominin Behaviour.*
- 2007 B.Sc. Honours in Archaeology (University of Cape Town)  
Title: *The Lost Tribes of the Peninsula: An Investigation into the historical distribution of Chacma baboons (*Papio ursinus*) at the Cape Peninsula, South Africa.*  
Koobi Fora Field School, Rutgers University (U.S.A.)/ National Museums of Kenya
- 2006 B.Sc. Archaeology (University of Cape Town)  
B.Sc. Environmental and Geographic Science (University of Cape Town)

#### **Secondary**

- 1999-2003 Rustenburg High School for Girls  
Firsts in English, Afrikaans, Mathematics HG, Biology HG, History HG, Entrepreneurship.



CEDAR TOWER  
SERVICES

## **EMPLOYMENT HISTORY:**

### **PROFESSIONAL DEVELOPMENT**

#### **Environmental and Heritage Management:**

- Head of Heritage Operations for Heritage CTS Consultants and member of OpenHeritage NPC.  
*July 2016 to present*
- Assistant Director for Policy, Research and Planning at Heritage Western Cape.  
*August 2014 to June 2016*

Responsibilities include drafting of new heritage related policy, the grading and declaration of Provincial Heritage Sites, the development of Conservation Management Plans, facilitating the development of inventories of heritage resources through local authorities as well as managing the development of the Western Cape's Heritage Information Management System (HIMS).

Acting Deputy Director from April to December 2015.

- Heritage Officer for Palaeontology and for the Mpumalanga Province at the South African Heritage Resources Agency (SAHRA).  
*January 2013 to June 2014*

Responsibilities include dealing with palaeontological permit applications in terms of Section 35 of the NHRA and development applications in terms of Section 38 of the NHRA. Projects included the development of a National Palaeotechnic Report identifying significant palaeontological deposits throughout SA, as well as developing professional relationships between SAHRA and the Palaeontological Society of South Africa (PSSA) and the Geological Society of South Africa (GSSA). During this time, I was part of the team that developed the digitised National Palaeontological Sensitivity Map (<http://www.sahra.org.za/about/news/nov2013/palaeosensitivitymap>), the first of its kind in the world.

- Heritage Officer for Archaeology, Palaeontology and Meteorites at Heritage Western Cape (HWC).  
*September 2010 to December 2012*

HWC is a Public Entity that forms part of the Heritage Resource Management Component of the Provincial Governments' Department of Cultural Affairs and Sport (DCAS). Projects included the declaration of Pinnacle Point and the West Coast Fossil Park as Provincial Heritage Sites (PHS), the management of the development of the Baboon Point PHS Conservation Management Plan as well as an educational outreach program as part of the DCAS MOD Centre Project.



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- Heritage Officer for the Archaeology, Palaeontology and Meteorites Unit of the South African Heritage Resources Agency (SAHRA) as part of a three month contract.  
*January 2010 to March 2010*
- Environmental Control Officer, Amathemba Environmental Management Consulting  
*Part time: 2007 to 2009*

### **Other**

My private experience as a traveler in South Africa, Tanzania, Kenya, Namibia, Zambia, Malawi and Mozambique has inspired a passion for the conservation of environmental and heritage resources. I am passionate about sustainable living, with my Bachelor of Science in Environmental and Geographical Science providing a framework on which to base my values.

With a friend, I established the fundraising initiative, Chicks4Change, through which we managed to organize a number of successful events and raise R40 000 for Project Rhino to assist with anti-poaching initiatives.

In 2013 I was asked to join the panel of judges for the Ministerial awards for Heritage in the Western Cape. From 2013 to July 2014, I was a member of the Heritage Western Cape Archaeology, Palaeontology and Meteorites Committee. In July 2014, I presented at the Conference for the Palaeontological Society of South Africa on the use of GIS in the management of palaeontological resources in the face of increased development pressures. In April 2015 I participated in a conference on Landscape Archaeology hosted by the Leakey Foundation in San Fransisco, presenting on the management of archaeological landscapes in South Africa. In April 2016, I presented at the ICAHM Conference in Salalah, Oman on the management of archaeological heritage in South Africa.

In November 2013, I was awarded a bursary from the Department of Arts and Culture to complete the Masters in Philosophy in Conservation of the Built Environment through the UCT Faculty of Engineering and the Built Environment in 2014 and 2015.

I am a paid up member of the Association for Southern African Professional Archaeologists (ASAPA), the Association of Professional Heritage Practitioners (APHP), the Palaeontological Society of South Africa (PSSA) and ICOMOS South Africa, for which I am Vice-President of the Board. I am also a member of the International Committee for Archaeological Heritage Management (ICAHM).

## **CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF**

### **MICHAEL PAUL OBERHOLZER**

**Proposed Position:** Risk Assessor  
**Name of Company:** RISCUM (PTY) LTD  
**Name of Staff:** Michael Paul Oberholzer  
**Profession:** Chemical Engineer  
**Date of Birth:** 20 August 1959  
**Years with Company:** 20  
**Nationality:** South African

#### **Membership in Professional Societies:**

- Registered Professional Engineer (Registration No.: 910085) with the Engineering Council of South Africa
- Member of the South African Institute of Chemical Engineers
- Chartered Chemical Engineer Institute of Chemical Engineers (UK) (Registration No: 20561539)
- Approved Inspection Authority for Major Hazard Installation (MHI) Risk Assessments, South Africa
- Technical Steering Committee for Risk Assessments

#### **Key Qualifications:**

Michael Oberholzer is currently director of RISCUM. He is a registered professional engineer and holds a BSc (Chemical Engineering) from the University of the Witwatersrand (1982). Mike has over 20 years of experience with Dow chemicals and Sentrachem in all aspects of project implementation. This includes Process Engineering Manager, Project Manager and Commissioning Manager. Since leaving Dow, Mike has concentrated on process safety and has completed a number of risk assessments studies and process hazard analyses in various industries, including assignments in the chemical, petrochemical, agrochemical, mining, offshore oil and gas and food industries.

A selection of relevant projects is included in the following sections.

#### **NUCLEAR**

2008 to present	Safety report for marine and land-based incidents for proposed nuclear sites
2008	Safety report for aircraft accidents into nuclear facility
2008	Appointed to conduct risk assessment of fuel plant, Pelindaba
2006	Risk assessment of tank farm for PBNR
2005	Consequence analysis of fuel plant layout, Pelindaba
2003–2005	Chairman of HAZOP studies for PBNR

## LNG

Lead Process Engineer for quantitative risk assessment of:

2020	Importation and Distribution of liquid natural gas (LNG) into the COEGA SEZ
2020	The proposed Tema terminal from LNG to VRA in Ghana, West Africa
2020	LNG importation, storage and transportation for SRK
2020	LNG importation, storage and power production for SE Solutions
2020	LNG based power plant for Mulilo
2014	LNG importation and storage facilities for the CSIR in the Western Cape
2016	LNG based power plant, Western Cape
2016	LNG importation and transportation for Delta Natural Gas

## OIL AND GAS

Lead Process Engineer for quantitative risk assessment of:

2021	The Puma Energy Depot at Walvis Bay, Namibia
2021	The Proposed Novo LNG Hub at the Highveld Industrial Park near Emalaheni, Mpumalanga Province
2021	MHI risk assessment of the Sunrise Energy LPG overland pipeline at Saldanha Bay
2021	MHI risk assessment of the Sunrise Energy LPG terminal at Saldanha Bay
2021	MHI risk assessment of the OTMS Pipelines at Saldanha Bay, Western Cape
2019	Fire risk assessment for SamCol, Mozambique
2019	Occupied building risk assessment for Tema Fuel Company, Ghana
2019	Fire risk assessment for Thebe Unico, Durban
2019	LPG pipeline changes as part of the Port of Berbera, Somiland
2017	Fire risk assessment for condensate tanks, Kenya
2015	A natural gas pipeline for the Transnet in Durban North
2014	LNG facilities for the CSIR in the Western Cape
2014	CNG overland pipeline in Groutville, KwaZulu-Natal
2013	LPG installations for NGK, Cape Town
2013	LPG installations for Easigas (Port Shepstone)
2013	LPG installations for Sunrise Energy in Saldanha Bay
2012	LPG installations for Trelidor, Durban
2011	LPG installations for Afripak, Durban
2010–2011	LPG installations for Monsanto, Brits and Groblersdal
2010	LPG installations for Air Liquide
2009	A compressed natural gas plant, Gauteng
2004-2005	The Egoli Gas depots in Langlaagte and Cottesloe

Lead Process Engineer for:

2006	An emergency plan and oil spill contingency for Petronas, with regards to offshore drilling (Mozambique)
2006	Determination of hazardous areas from releases of H <sub>2</sub> S from vents and pipelines
2005	Flare studies for Total facilities in Angola The studies consisted of calculating the radiation from flares at various locations and the subsequent evaluation of the safety distances from the flares The studies included air dispersion for H <sub>2</sub> S in the event of flameout

## TANK FARM AND FLAMMABLE STORAGE AND TRANSPORTATION

Lead Process Engineer for quantitative risk assessment of:

2021	MHI risk assessment of the Cape Ocean terminal at the Saldanha Bay IDZ
2021	MHI risk assessment of the Bayer facility in Brits, North West
2021	75 MW thermal dual fuel facility near Kathu, Northern Cape
2020	Ola Energy LPG Terminal in Mombasa, Kenya
2020	X-Storage facility in Beira, Mozambique
2020	MHI risk assessment of the Saldehco Pipelines in Saldanha Bay, Western Cape
2020	MHI risk assessment for the Teraco data centre in Brackengate, Cape Town
2020	MHI risk assessment for the Amazon data centre in Atlantic Hills, Cape Town
2020	MHI risk assessment for the Amazon data centre at the Film Studios, Cape Town
2020	MHI risk assessment for the Amazon data centre in Brackengate, Cape Town
2019	EIA risk assessment for new tank farm, Coega
2019	MHI risk assessment for OTGT, Coega
2018	Bulk tank farm and LPG facility at Coega
2018	LPG facility for Monsanto at Brits
2017	New fuel depot and import pipeline at Durban
2017	New fuel depot at Alrode
2017	Fire risk assessment at fuel storage tanks, KwaZulu Natal
2017	LPG and liquid tank farm in Tema, Ghana
2017	LPG facility in Kenya
2016	The OTGC facility in Cape Town
2016	LPG facility for Monsanto at Groblersdal
2015	A bulk crude-oil tank farm for Oil tanking MOGS in Saldanha Bay
2014	The First Rand Bank data centre facilities in Pretoria and Johannesburg
2014	The Vopak facility in the Island View Complex in Durban
2014	The Econ Oil facility in Marble Hall, Limpopo
2014	An occupied building risk assessment of BP facilities in Mozambique
2013	The Air BP facility in East London
2013	A crude storage facility at Saldanha Bay
2013	VSAD Terminal Lesedi at Heidelberg
2012	Kenmare Moma Mine in Mozambique
2012	Golder Africa study for tank farm (LPG and other fuels) near Heidelberg, Gauteng
2012	CSIR study for tank farm (LPG and other fuels) at Coega, Eastern Cape
2011-2012	BP fuel depots at Langlaagte and Pretoria
2010	Transnet Pipelines fuel depots around South Africa
2008	Multi-product tank farms in the Island View Complex in Durban
2007	Petroleum tank farm in the Western Cape
2005	An overland pipeline near Mossel Bay
2005	Holcim waste fuel blending
2004	Petroleum tank farms in Island View Complex in Durban and the Western Cape

## WAREHOUSING

Lead Process Engineer for quantitative risk assessment of:

2020	MHI risk assessment for the Arch Wood protection facility in Port Shepstone
2017	Warehouse for Lonza, Chloorkop
2017	Storage of hazardous goods at Umbogintwini, KwaZulu Natal
2017	Storage of hazardous goods, Johannesburg

## POWER PLANTS

Lead Process Engineer for quantitative risk assessment of:

2021	The proposed Impofu Wind Farm battery storage (West) near Clarkson
2021	The proposed Impofu Wind Farm battery storage (North) near Clarkson
2021	The proposed Impofu Wind Farm battery storage (East) near Oyster Bay
2021	Mulilo Total gas to power plant at the Coega SEZ
2021	Engie gas to power plant at the Coega SEZ
2021	320 MW Phinda Power plant at Richards Bay, KwaZulu Natal
2020	Newcastle gas engine power plant at Newcastle, KwaZulu Natal
2020	315 MW Gas engine power plant at Saldanha Bay
2020	200 MW Gas-to-Power plant at Atlantis, Western Cape
2020	1000 MW Gas-to-Power plant Zone 13 at Coega, Eastern Cape
2020	1000 MW Gas-to-Power plant Zone 10 (North) at Coega, Eastern Cape
2020	1000 MW Gas-to-Power plant Zone 10 (South) at Coega, Eastern Cape
2020	MHI risk assessment of the Richards Bay Gas power 2 plant in Richards Bay
2020	The proposed Coal to Urea project at EMalahleni, Mpumalanga
2020	The proposed Nseleni Independent floating power plant at the port of Richards Bay
2018	EIA risk assessment for new power plant, Richards Bay
2016	LNG based power plant, Western Cape
2015	An Eskom power plant in the Free State
2013	A refurbished power plant in Maputo, Mozambique
2012	Matla power station in the Witbank areas
2012	Energy recovery project for Anglo American
2010	Coal-based power plants in the Witbank areas
2009	Coal-based power plants in the Waterberg areas
2008	Proposed gas-fired power plants in Mozambique
2008	The conversion of the peaking power to a CCGT plant located at Atlantis, Western Cape
2006	Coal-based power plants near Witbank and Vaal South
2006	Proposed peaking power plants in KZN and Eastern Cape
2006	The expansion of the peaking power plant located at Atlantis, Western Cape
2005	The EcoElecrica Independent Power Generation Project at Mittal Steel in Vanderbijlpark
2004	Iscor Power Project at Vanderbijlpark

## FOODS AND BEVERAGES

Lead Process Engineer for quantitative risk assessment of:

2021	MHI risk assessment of the Chill Beverages International facility in Stellenbosch
2017	Johnson & Johnson static ignition study, in Cape Town
2014-2016	The Spar distribution centres in the South Rand, North Rand, Western Cape and Eastern Cape
2015	A soya crushing facility for Russell Stone Protein in Bronkhorstspuit
2014	The Sasko Bakery facility in Bloemfontein
2014	The Peninsula Beverage Company facility in Cape Town
2014	The Chill Beverages International facility in Stellenbosch
2014	The Kynoch fertilizer facility in Endicott, Gauteng
2013-2014	The Coca-Cola Fortune facilities in Port Elizabeth, Port Shepstone and Polokwane
2013	The Quantum Food chicken processing plant at Hartesbeesfontein
2013	The ABI bottling facility in Johannesburg reviewed
2013	The new Unilever ice cream factory facilities at Chloorkop
2011	The Rainbow Chickens processing plant, Rustenburg
2010	The Famous Brands facility in Midrand
2010	The McCain Foods facility in George
2010	The Coca-Cola Canners facility in Germiston
2005	The ABI bottling facilities in Johannesburg, Midrand and Pretoria

## CHEMICALS AND MANUFACTURING

Lead Process Engineer for quantitative risk assessment of:

2022	MHI risk assessment of the Lanxess Facility in Merebank, Durban
2022	MHI risk assessment of the Dow Chemicals in New Germany, KwaZulu Natal
2022	MHI risk assessment of the Isegen Facility at Isipingo, KwaZulu Natal
2021	MHI risk assessment of the FFS refiners' facility in Prospecton, KwaZulu Natal
2021	MHI risk assessment of the Belgotex Floorcoverings LPG Installation in Pietermaritzburg, KwaZulu Natal
2021	MHI risk assessment of the Emalahleni Water Reclamation Plant
2021	The Caustic Soda Make-up Plant in Chloorkop, Kempton Park
2021	MHI risk assessment for the Tweefontein water reclamation plant located near Ogies
2020	MHI risk assessment for Foskor, KwaZulu Natal
2019	MHI risk assessments for Isegen, Durban and Germiston.
2017	Relocation of chemical plant from Port Shepstone to Cato Ridge
2016	A-Gas storage and handling facility in Cape Town
2016	NCP chlor-alkali facility at Chloorkop
2016	The Arch Water Products facility at Chloorkop
2015	Two SA Calcium Carbide facilities in KwaZulu-Natal
2015	The Arch Wood Protection facility in Port Shepstone
2015	The Arengo ethanol plant in Cradock
2015	A water reclamation facility at the Optimum Colliery in Mpumalanga
2014	The Foskor facility in Richards Bay
2013	The Eagle Inks facility in Pinetown
2013–2016	New bio-generation plants converting animal waste to electricity
2013	The Unilever facility in Phoenix, Durban
2013	A rapid wall facility in Richards Bay
2013	The Transnet Rail Engineering facilities in Germiston and Uitenhage
2012	The BAE Systems Land Systems facility in Alrode
2012	The CONSOL Glass facility in Nigel
2012	An ArcelorMittal polyurethane facility
2012	Isegen facilities at Durban and Germiston
2012	A MAP plant in Richards Bay
2012	An occupied building risk assessment and hazardous area classification for Synthomer, Durban
2012	New hydrogen fluoride and aluminum fluoride plant in Richards Bay
2012	The Chevron lubricant manufacturing facility
2011	Steel plant in Witbank
2011	Steel plant in Saldanha Bay
2011	Platinum refinery in Springs
2011	New hydrogen fluoride and aluminum fluoride plant in Gauteng
2010	Steel plant in Cato Ridge
2010	A bulk argon storage facility in Johannesburg
2009	An aluminum fluoride plant in KwaZulu-Natal
2009	Shell Chemicals, Durban
2009	The Unico facility in Durban
2008	The Revertex facility in Durban
2007	A new chlor-alkali facility in the Eastern Cape
2002–2008	Ammonia refrigeration plants throughout South Africa
2007	Alkylation plant in KwaZulu-Natal
2006	The Element Six facility in Springs
2006	The Singisi Forest Products wood product facility in Kokstad
2006	The Lanxess facility in Merebank, Durban
2006	A 900 t butane storage facility in Durban
2005	This study considered fires and explosions from an accidental loss of containment of material
2005	Impala Platinum BMR expansion



	This included the consequent modelling of fires and explosions of flammable liquid and gases as well as air dispersion of toxic gases
2005	NCP Chlorchem expansion
	This included the consequent modelling of fires and explosions of flammable liquid and gases as well as air dispersion of toxic gases
2005	The Dow Chemical Company facilities at Canelands, Chloorkop, Sasolburg and Berlin
	This included the consequent modelling of fires and explosions of large flammables and toxic gases
2004	The Magalies Water purification plant at Vaalkop

## REFINERIES

Lead Process Engineer for quantitative risk assessment of:

2009	A refinery expansion in Suriname
2006	Fire zoning classification of Saudi Aramco's Luberef facility, Saudi Arabia. The study defined the fire zones as per the requirements of Saudi Aramco
2006	Building risk assessment of the Saudi Aramco Luberef facility, Saudi Aramco. The study consisted of a full quantitative risk assessment as per API 752
2005	PetroSA refinery near Mossel Bay

## HAZOP AND LOPA/SIL STUDIES

HAZOP Chairman for:

2010 to present	BP Southern Africa covering depots at Langlaagte, Pretoria, East London and Cape Town
2022	The Total Gantry Secondary Shut Down Valves
2022	The Total IVT Rail Siding Upgrade at the Island View Terminal in Durban
2021	The Puma HFO Terminal at Matola, Mozambique
2021	The Puma Energy Terminal at Walvis Bay, Namibia
2021	The Biodiesel Blending Project at the Shell Depot in Witbank
2021	Valve Replacement at the Shell Depot at Alrode, Gauteng
2021	The MLA Stripping Pump Project, Island View in Durban
2021	The Engen SDCO Depot Located at Elliot, Eastern Cape
2021	The Shell Kroonstad Depot ULP Conversion Project, Free State
2021	The Firewater Pump House Changes at the Airports Company South Africa at the Cape Town International Airport
2021	The Valve Operation Tank at the Shell Mossel Bay Depot
2021	The Totalgaz Depot at Blackheath in Cape Town
2021	The Totalgaz Depot at Polokwane
2021	The Totalgaz Depot at Chamdor, Gauteng
2021	The Pump House changes at the Engen Terminal, East London
2021	The Engen Aliwal North depot at Aliwal North, Eastern Cape
2021	The tank 10 repairs, modification and upgrade project at the Shell depot at Alrode
2021	The West Coast petroleum (SDCO) depot build review at Morreesburg
2021	The Total IVT rail siding upgrade project in Durban
2021	The Shell Witbank Depot firefighting compliance project
2021	The Idwala Carbonates Ore Sorter project in Port Shepstone
2021	Process Hazard Analysis for firefighting at the Engen SDCO in Vryburg
2021	Adjustment of the set pressure of the crude line surge relief valve at the Natcos Fynland site 2 at the Island View complex in Durban
2021	Process Hazard Analysis for remedial work at the Engen terminal in Vryburg
2021	Natcos Fynland site tie-in to the multiple product pipeline at the Island View complex in Durban
2021	Process Hazard Analysis for remedial work at the Engen SDCO in Queenstown

2021 Process Hazard Analysis for a fire protection upgrade at Rheinmetall Denel Munition in Somerset West and Wellington, Cape Town

2020 LRP to Diesel change over at the Total Island View terminal in Durban

2020 Shell Rocky Drift depot additive underground tank replacement project at White River

2020 T-009 MOV changes at the Shell depot at Alrode

2020 The Bushveld Electrolyte company's vanadium electrolyte plant in East London

2020 Shell Island view terminal VRU rail connection project located in Durban

2020 Underground additive tank replacement at the Shell depot located at Alberton

2020 Underground additive tank replacement at the Shell depot located at Mossel Bay

2020 Shell Rocky Drift Tank 03 conversion project in White River

2020 Process Hazard Analysis for the AIR BP Beira depot underground tank replacement in Beira

2020 Bidvest bank terminal bulk liquid, handling and storage facility (LPG section) in Richards Bay

2020 Fire Hazard Assessment of the Indy Oil facility in Pietermaritzburg

2020 Biodiesel storage and blending pipeline upgrade at the Shell depot in Witbank

2020 Biodiesel storage and blending pipeline upgrade at the Shell depot in Alberton

2020 Underground tank replacement for the Shell depot in Polokwane

2020 New HFO tank farm at Mali (completed using teleconferencing)

2020 Automation of the road gantry at the Puma depot in Malawi

2020 Tank changes for the Puma depot at Matola, Mozambique

2020 Extension of the fuel lines at Cape Town International Airport

2020 Changes to the additive tanks at the Shell depot at Kroonstad

2020 Changes to the Shell depot at Kroonstad

2019 Automation of the tank inlet valves at the Shell depot, Alrode

2019 New LNG facility at Tema, Ghana

2019 New fuel tank for Puma Energy, Malawi

2019 New tank for SamCol, Mozambique

2019 Fertilizer blending facility and warehouse, Durban

2019 Astron berth changes, island View

2019 ULP product line changes at the Shell depot, Witbank

2019 Dust HAZOP for Johnson & Johnson, Cape Town

2019 Revalidation of BP depot at East London

2019 Revalidation of BP depot at Pretoria

2018 Changes to ULP tank at the Shell depot in Witbank

2018 New diesel tank farms for Vivo, at the port and mine in Guinea (completed using Teleconferencing)

2018 New double walled tanks at the Total depot, Alrode

2018 Diesel tank for Total, Aldag

2018 Changes to the Oily Water System at BP Cape Town

2018 Firefighting system upgrades at the Total depot, Ladysmith

2018 New LPG facility at Richards Bay

2017 Changes to acrylates storage at Vopak, Island View Complex, Durban

2017 New fuel tanks for Vopak at the Island View Complex, Durban

2017 Pipeline changes for Total at the Island View Complex, Durban

2017 New LPG facility at Coega

2016 Vopak tank farms at Island View, Durban

2016 Engen depots in Namibia

2016 A reactor upgrade at the Engen facility in Durban

2015 An ice-cream factory for Unilever at Chloorkop

2015 The national multi-product pipeline for Transnet in Durban

2015 Fuel transport pipelines for Oiltanking MOGS in Saldanha Bay

2014 The Enerwaste medical waste facility in Waltloo, Pretoria

2014 The Tongaat-Hulett Starch mill in Germiston

2014 to 2016 The VTTI Burgan Oil facility in Cape Town

2013 The Sunrise Energy LPG terminal in Saldanha

2013 The SimsGas facility in Chamdor

2013 The Vanchem Vanadium Products facility in eMalahleni

2013 The ArcelorMittal facility in Newcastle

2013	The Proxa brine treatment facility in New Vaal
2010	Sasol projects at Secunda and Sasolburg
2007–2010	A chrome chemical facility, KZN
2007	Chlorine expansion, Gauteng
2007	LOPA study for a large LPG installation and chemicals, Durban
2004–2004	Project upgrades at petroleum tank farms
2003–2005	Proposed nuclear installation at PBMR
2002–2004	Chevron on eight oil platforms off the coast of Cabinda

**Education:**

BSc (Chemical Engineering), University of the Witwatersrand, South Africa, 1982

**Employment Record:**

**2002 to present Director, RISCOM, South Africa**

Involved in process safety consulting including MHI risk assessments and facilitating process hazard analysis studies (HAZOP, SIL & LOPA)

**2001–2002 Managing Member, Penoc Consulting, South Africa**

Involved in Process Engineering Project Management and Process Safety Consulting for various projects

**1995–2001 Process Manager for Dow Chemicals, South Africa**

Managed the cost estimation, project approvals, process designs and commissioning of various plants within the group

**1993–1995 Technical Manager for Sentrachem, Durban South Africa**

Managed the Technical Department of a facility conducting technical investigations, projects and continual plant improvements

**1986–1993 Process Engineer for Sentrachem, Germiston, South Africa**


This involved conducting plant investigations, design of new plants, installing and commissioning new equipment

**Languages:**

	<b>Speaking</b>	<b>Reading</b>	<b>Writing</b>
English (first)	Excellent	Excellent	Excellent
Afrikaans	Good	Good	Average

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.



**Date:** 28<sup>th</sup> of January 2022

**Full name of staff member:** Michael Paul Oberholzer