

## CURRICULUM VITAE OF MMAKOENA MMOLA

**Profession :** Environmental Consultant

**Specialisation:** Environmental Permitting, Environmental Assessments, and Compliance

**Work Experience:** 3 years

### VOCATIONAL EXPERIENCE

Mmakoena is an Environmental Consultant with 3 years of experience in the environmental field. She holds a B.Sc. (Hons) in Geochemistry from the University of the Witwatersrand, and is currently completing her B.Sc. (Hons) in Environmental Management with the University of South Africa.

Mmakoena's experience includes undertaking basic assessments (BAs), providing assistance on local environmental impact assessments (EIAs), environmental authorisation applications (EAs), water use licence applications (WULAs), public participation, environmental compliance auditing and providing environmental control officer (ECO) services. Mmakoena has a well-developed knowledge of environmental legislation (National Environmental Management Act, National Water Act, etc.), and has successfully managed a number of basic assessments from the application phase through to receipt of environmental authorisation. She also has experience in preparing proposal documents and budgets in response to requests for quotations/proposals and tenders.

### SKILLS BASE AND CORE COMPETENCIES

- Well-developed communication and report writing skills
- Adaptability and ability to handle pressure
- Organisational skills
- Ability to build and maintain client relationships
- Loyalty, dedication and dependability
- Ability to coordinate and synthesize environmental information
- Ability to work to tight deadlines and on multiple projects
- Thorough knowledge of environmental legislation and the environmental impact assessment process
- Quality focus and attention to detail
- Ability to deliver high quality work to agreed budgets
- MS Office Package (Word, PowerPoint and Excel)
- Adobe Acrobat
- Google Earth

- ArcGIS

## EDUCATION AND PROFESSIONAL STATUS

### Degrees:

- Bachelor of Science (Hons) Environmental Management, in progress, University of South Africa
- Bachelor of Science (Hons) Geochemistry, 2016, University of the Witwatersrand
- Bachelor of Science Geology, 2015, University of the Witwatersrand

### Short Courses:

- Environmental Management and Regulations, 2018, Kuvimbika
- Research Methodology and Report Writing, 2017, Imsimbi Training

### Professional Society Affiliations:

- Candidate Natural Scientist, Environmental Science, South African Council for Natural and Scientific Professions  
– Registration Number: 126748

## EMPLOYMENT

Date	Company	Roles and Responsibilities
<b>2021 - Current:</b>	Savannah Environmental (Pty) Ltd	<p><i>Environmental Consultant</i></p> <p><u>Tasks include:</u></p> <ul style="list-style-type: none"> <li>• <i>Environmental permitting and Environmental Authorisation applications</i></li> <li>• <i>Environmental Authorisation amendment applications</i></li> <li>• <i>Liaison with clients and competent authorities</i></li> <li>• <i>Public participation process</i></li> <li>• <i>Preparation of proposals and budgets</i></li> <li>• <i>Report writing (Environmental Impact Assessment reports, Basic Assessment report, motivation reports and Environmental Management Programmes)</i></li> <li>• <i>Preparation of specialist terms of reference</i></li> </ul>
<b>2019 - 2020</b>	Golder Associates Africa (Pty) Ltd	<p><i>Junior Environmental Consultant</i></p> <p><u>Tasks included:</u></p> <ul style="list-style-type: none"> <li>• <i>Water use license applications</i></li> <li>• <i>Environmental compliance and water use license audits</i></li> <li>• <i>Environmental control officer services</i></li> <li>• <i>Annual integrated water and waste management plan updates</i></li> <li>• <i>Assist with wetland assessments</i></li> <li>• <i>Assist with mine closure and rehabilitation plans</i></li> </ul>

Date	Company	Roles and Responsibilities
		<ul style="list-style-type: none"> <li>• Liaise with clients and competent authorities</li> <li>• Provide assistance on local environmental and social impact assessments</li> <li>• Undertake site visits</li> <li>• Compile environmental reports</li> <li>• Generate environmental screening reports</li> <li>• Undertake administrative tasks</li> </ul>
2017 - 2019	Shango Solutions	<p>Junior Consultant</p> <p>Tasks included:</p> <ul style="list-style-type: none"> <li>• Conduct environmental compliance and financial provision audits for prospecting sites as per the MPRDA</li> <li>• Environmental authorisation applications</li> <li>• Prospecting right and mining permit applications</li> <li>• Basic assessment reports</li> <li>• Environmental management programmes/plans</li> <li>• Execute the public participation process</li> <li>• Section 102 amendment applications as per the MPRDA</li> <li>• Prepare maps</li> <li>• Liaise with sub-consultants/specialists</li> <li>• Undertake administrative tasks</li> </ul>

#### PROJECT EXPERIENCE

Project experience includes environmental impact assessments and permitting for mining, exploration and prospecting projects.

#### GAS PROJECTS

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

Project Name & Location	Client Name	Role
Kroonstad Gas Exploration Right and Environmental Authorisation, Free State Province	Western Allen Ridge Gold Mines (Pty) Ltd	Assistant EAP and Public Participation Consultant

#### MINING SECTOR PROJECTS

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

Project Name & Location	Client Name	Role
Pure Source Mine Mining Right Application, Free State Province	Monte Cristo Commercial Park (Pty) Ltd	Assistant EAP and Public Participation Consultant

#### Basic Assessments

Project Name & Location	Client Name	Role
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Basic Assessment for Western Margin Gap West Prospecting Right, Free State Province	White Rivers Exploration (Pty) Ltd	Assistant EAP
Basic Assessment for Ventersburg Consolidated Prospecting Right, Free State Province	White Rivers Exploration (Pty) Ltd	Assistant EAP
Basic Assessment for Nkunzana Prospecting Right, KwaZulu-Natal Province	WRE Base Metals (Pty) Ltd	Junior EAP
Basic Assessment for Kroonstad North Prospecting Right, Free State Province	White Rivers Exploration (Pty) Ltd	Junior EAP
Basic Assessment for Vredefort West Extension Prospecting Right, Free State Province	White Rivers Exploration (Pty) Ltd	Junior EAP
Basic Assessment for Beisa North Prospecting Right, Free State Province	Sunshine Mineral Reserves (Pty) Ltd	EAP
Basic Assessment for Palmietfontein Mining Permit, North West Province	Palm Chrome (Py) Ltd	Assistant EAP

#### Specialist Studies

Project Name & Location	Client Name	Role
New Largo Mine Closure and Rehabilitation Plan, Mpumalanga Province	Seriti Coal	Junior Environmental Consultant
Smarty Minerals Integrated Environmental Authorisation: Wetland Impact Assessment Report, Limpopo Province	Smarty Minerals Investment (Pty) Ltd	Junior Environmental Consultant
Glencore Water Treatment Plant Pipeline: Wetland Monitoring, Mpumalanga Province	Glencore	Junior Environmental Consultant

#### Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
Glencore Merafe Wonderkop Smelter, Regulation 34 Audit, North West Province	Glencore	Auditor
Tshipi Borwa Mine Water Use Licence Audit, Northern Cape Province	Tshipi Borwa Mine	Auditor
Samancor Middelburg Ferrochrome: Construction of ore dryer, Mpumalanga Province	Samancor Middelburg Ferrochrome	ECO
Various Annual Financial Provision and Environmental Compliance Audits for prospecting sites as per the MPRDA, Free State and KwaZulu-Natal Province	White River's Exploration (Pty) Ltd	Auditor
Impala Platinum Limited – Springs annual external Water Use Licence Audit, Gauteng Province	Impala Platinum Limited	Auditor
Grootegeluk Water Use Licence Audits, Limpopo Province	Exxarro	Auditor

***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>
<i>Turvflakte Water Use Licence Application, Limpopo Province</i>	<i>Exxaro</i>	<i>Junior Environmental Consultant (providing assistance)</i>

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

***Specialist Studies***

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
<i>Closure cost model estimate and closure cost report for Proposed Surface Pipeline and Associated Infrastructure, Gauteng Province</i>	<i>AngloGold Ashanti</i>	<i>Junior Environmental Consultant</i>
<i>Wetland Impact Assessment report for Proposed Surface Pipeline and Associated Infrastructure, Gauteng Province</i>	<i>AngloGold Ashanti</i>	<i>Junior Environmental Consultant</i>

**AGRICULTURE PROJECTS**

***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>
<i>Dew Crisp Water Use Licence Application, Gauteng Province</i>	<i>Dew Crisp(Pty) Ltd</i>	<i>Junior Environmental Consultant (providing assistance)</i>



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## CURRICULUM VITAE OF GIDEON RAATH

<b>Profession :</b>	Environmental and Permitting Consultant
<b>Specialisation:</b>	Environmental Impact Assessments, Water Use Licencing, Waste Licencing, Environmental Compliance Officer, Ecological Specialist, Wetland Specialist, GIS, MPRDA permitting
<b>Work Experience:</b>	4.5 years' experience in environmental management, National Water Act, Mineral and Petroleum Resources Development Act, ECO and compliance auditing, wetland and ecological specialist reporting

### VOCATIONAL EXPERIENCE

Gideon holds an MSc (Geography and Environmental Management; SU), a BSc Honours (Ecology and Environmental Studies - Cum laude; Wits) and a BSc (Geography and Environmental Management; UJ). His MSc thesis focused on the hydrological impact on the spatial distribution of invasive Eucalyptus trees along the Breede River, while his honours thesis evaluated ethnobotanical relationships around the Rio Tinto copper mine in Phalaborwa. Most recently he has worked as an Environmental Consultant at EOH Coastal and Environmental Services (EOH CES), conducting environmental authorisations applications (NWA, NEMA, MPRDA), Public Participation Processes, GIS specialisation as well as Ecological and Wetland specialist studies. Previously, Gideon worked as the Monitoring & Evaluation Project Manager for the City of Cape Town's invasive species unit (Environmental Resources Management Department).

Gideon's GIS background includes the management of the City of Cape Town invasive species GIS database, involving the storage, management, recall and quality control off all sightings, clearance visits and known infestations. Further experience include mapping for various consulting projects, boundary verification through ground-truthing and the spatial mapping and delineation component of this MSc research. Gideon has further attended public participation workshops, and has been involved with IAP identification, translation, public meetings and engagement for a variety of projects, mainly within the Afrikaans speaking Northern Cape. Gideon is interested in invasion ecology, treatment of groundwater pollution through phytoremediation, botanical and wetland specialist studies, GIS application for ecology and environmental management, and the EIA processes in general.

### SKILLS BASE AND CORE COMPETENCIES

- Environmental Management
- GIS data manipulation, storage, management and mapping
- EIA Impact Assessments and Basic Assessment
- Environmental Management Programmes
- Environmental Compliance Monitoring
- Mining Rights, Mining Permits, Prospecting Rights (and renewal) applications (MPRDA & NEMA)
- Public and Stakeholder Engagement (NEMA)
- Ecological/Botanical Specialist Studies

- Wetland Delineation, Functional and Impact Assessment studies
- Water Use Licence Applications (NWA)
- General Authorisations (NWA)

## EDUCATION AND PROFESSIONAL STATUS

### Degrees:

- M.Sc. Geography and Environmental Science (2014), Stellenbosch University (2014)
- B.Sc. (Hons) Ecology, Environment and Conservation (Cum Laude), University of the Witwatersrand (2011)
- B.Sc. Life and Environmental Sciences, University of Johannesburg (2010)

### Short Courses:

- GroundTruth SASS5 competency course, GroundTruth Aquatic Consulting (2017)
- DWS 21C&I GA training workshop, Department of Water and Sanitation (2016)
- IAIA Public Participation Process Workshop, IAIA South Africa (2016)
- EIA Theory and application, EOH Coastal and Environmental Services (2015)
- Water Safety Training, City of Cape Town Environmental Resources Department (2014)
- Herbicide safety and application for weed control, City of Cape Town Environmental Resources Department (2014)
- Snake awareness training, City of Cape Town Environmental Resources Department (2014)
- Habitable Planet Workshop, Applied Centre for Climate & Earth Systems Science, Cape Town (2011)

### Professional Society Affiliations:

- Golden Key International Honour Society – University of the Witwatersrand Chapter
- South African Council for Scientific Natural Professionals (SACNASP): Certified Natural Scientist – Pr.Sci.Nat. (Membership No.: 117178)
- IAIA (Membership No.: 3619)

### Other Relevant Skills:

- GPS use, spatial data capturing and ground truthing

## EMPLOYMENT

Date	Company	Roles and Responsibilities
October 2018 - Current:	Savannah Environmental (Pty) Ltd	<p>Environmental and Permitting Consultant</p> <p><u>Tasks include:</u> Undertaking environmental impact assessments, basic assessments, environmental management programmes (EMPrs), environmental amendments, water use license applications, general authorisations, wetland assessments, botanical/ecological assessments, mining rights and permit applications, prospecting rights applications, environmental compliance officer audits and reporting, Ensuring environmental compliance on permitting processes, client liaison and relationship management.</p>



Date	Company	Roles and Responsibilities
<b>February 2015 – September 2018</b>	EOH Coastal and Environmental Services (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, wetland assessments, botanical/ecological assessments, mining rights and permit applications, prospecting rights applications, environmental compliance officer audits and reporting, Ensuring environmental compliance on permitting processes, client liaison and relationship management, public participation processes for environmental authorisations.
<b>March 2014 – February 2015</b>	Invasive Species Unit (ISU), Environmental Resources Management Department (ERMD), City of Cape Town	Professional Officer  <u>Tasks included:</u> Managed the Monitoring & Evaluation project portfolio, entailing the establishment of an invasive species monitoring & evaluation system for the ISU, as well as GIS database management, quality assurance and reporting thereof. Position required managing a small staff compliment (dealing directly with GIS database management), managing time and budgets for the monitoring division, conducting monitoring trials and research, writing species management plans as well as handling the GIS database, quality control, verification and integrity for the ISU.
<b>January 2012 – March 2014</b>	University of Stellenbosch	Departmental Assistant  <u>Tasks included:</u> Technical editing of academic reports. Formatting of PhD and MSc reports on a weekly basis, with short turnaround time and good quality feedback.
<b>January 2011 – January 2012</b>	University of the Witwatersrand	Departmental Assistant  <u>Tasks included:</u> Responsible for practical tutorials and marking of 1st year medical students. Included zoology and botany.
<b>January 2006 – November 2010 (part time)</b>	Codeon Networking CC	Co-founder and web developer  <u>Tasks included:</u> Small business owner, responsible for all facets of the business. Self-taught HTML, CSS, PHP and MySQL. Won and produced two medium enterprise websites serving the gaming community. Websites required user profiles & permissions, CMS system and automated payment options as functionality. Development

Date	Company	Roles and Responsibilities
		and maintenance of a user database and account management system.

**PROJECT EXPERIENCE**

Project experience includes project management, EIA, BA and EMPr documentation development, integrated water use license applications, general authorisations, specialist botanical and ecological impact assessments, specialist wetland delineation and impact assessments, GIS applications and mapping, compliance auditing and monitoring, vegetation rehabilitation and monitoring plans, integrated waste management plans and waste licencing, mining right & permits, as well as prospecting rights applications.

Industry experience includes the waste sector (IWMP's and waste licencing), road and rail infrastructure (BAR, S&EIR, WUL/GA, Waste Licence), ports and harbours (management plans), private sector clients across varying industries (various permits), mining sector (BAR, S&EIR, mining permits and rights, prospecting rights), conservation sector (biodiversity plans), renewable energy industry (BAR, S&EIR) as well as the gas and oil industry (biodiversity reports).

**RENEWABLE POWER GENERATION PROJECTS: SOLAR ENERGY FACILITIES**

**Environmental Compliance, Auditing and ECO**

Project Name & Location	Client Name	Role
Enel Paleisheuwel Solar compliance auditing, Paleisheuwel, Northern Cape	Enel Green Power RSA (EGP RSA)	Environmental consultant

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

**Environmental Impact Assessments and Environmental Management Programmes**

Project Name & Location	Client Name	Role
G7 Brandvalley S&EIR, Matjiesfontein, Northern Cape	G7 Renewable Energy (Pty) Ltd	Environmental consultant
G7 Rietkloof S&EIR, Matjiesfontein, Northern Cape	G7 Renewable Energy (Pty) Ltd	Environmental consultant

**Basic Assessments**

Project Name & Location	Client Name	Role
G7 Renewable Energy 132kV BAR & EMPr, Matjiesfontein, Northern Cape	G7 Renewable Energy (Pty) Ltd	Project Manager, Environmental consultant, Public Participation

**Compliance Advice and ESAP reporting**

Project Name & Location	Client Name	Role
Biotherm Energy Golden Valley Wind Energy Facility ESAP, Bedford, Eastern Cape	Biotherm Energy Pty Ltd	Environmental consultant

**Amendments**

Project Name & Location	Client Name	Role
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Mosselbay Energy EA Amendment, Mosselbay, Western Cape	Mosselbay Energy IPP (Pty) Ltd	Environmental consultant
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## **GAS PROJECTS**

### **Screening Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
iGas integrated biodiversity screening, Saldanha, Western Cape	Central Energy Fund - iGas (subsidiary)	Environmental consultant, Faunal specialist (assistant)

## **MINING SECTOR PROJECTS**

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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Triton Minerals Limited Ancuabe and Nicanda Hills EPDA, Ancuabe, Cabo Del Gado Province, Mozambique	Triton Minerals Ltd	Environmental consultant
Ancuabe graphite mine Environmental and Social Impact Assessment (ESIA), Cabo Del Gado Province, Mozambique	Grafex Limitada Mozambique	Environmental consultant

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
SANRAL material sourcing BAR (DMR), Hendrina, Mpumalanga Province	SANRAL SOC Ltd & Leo consulting engineers	Project Manager, Environmental consultant, Public Participation
SANRAL Bierspruit R510 Borrow Pit authorisation, Thabazimbi, Limpopo Province	SANRAL SOC Ltd & Royal HaskoningDHV South Africa	Project Manager, Environmental consultant, Ecological specialist, Public Participation
Almenar tin prospecting BAR, Carnarvon, Northern Cape	Almenar Property Investments (Pty) Ltd	Environmental consultant

### **Rehabilitation Studies**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Ancuabe baseline vegetation monitoring assessment and programme, Ancuabe, Cabo Del Gado Province, Mozambique	Grafex Limitada Mozambique	Botanical specialist
Prospecting pit rehabilitation programme, Ancuabe, Cabo Del Gado Province, Mozambique	Grafex Limitada Mozambique	Botanical specialist, Environmental consultant
Mayfield Quarry rehabilitation plan, Grahamstown, Eastern Cape	Mayfield Quarry	Environmental consultant

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

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Construction monitoring and DMR environmental authorisation, Hendrina, Mpumalanga Province	SANRAL SOC Ltd & Leo consulting engineers	Project Manager, ECO,
SANRAL Caledon N2 Section 3 road upgrade ECO Audits and Reporting, Caledon, Western Cape Province	JG Afrika Engineering	Project Manager, ECO

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

Project Name & Location	Client Name	Role
VMC Mining permit renewal application, Rust De Winter, Gauteng	Vergenoeg Mining Company (Pty) Ltd	Environmental consultant
Zirco Resources Kamiesberg heavy mineral sand mine water use licence, Kamiesberg, Northern Cape	Zirco Roode Heuwel (Pty) Ltd	Environmental consultant

**INFRASTRUCTURE DEVELOPMENT PROJECTS (BRIDGES, PIPELINES, ROADS, WATER RESOURCES, STORAGE, ETC)****Environmental Impact Assessments and Environmental Management Programmes**

Project Name & Location	Client Name	Role
S&EIR authorisation for the SANRAL Zandkraal-Windburg N1 road upgrade, Windburg, Free State Province	SANRAL SOC Ltd & SMEC Consulting Engineers	Project Manager, Environmental consultant, Public Participation
Thabazimbi Local Municipality Integrated Waste Management Plan, Thabazimbi, Limpopo Province	Thabazimbi Local Municipality & Anglo American Plc	Environmental consultant, Public Participation

**Basic Assessments**

Project Name & Location	Client Name	Role
SANRAL Masekwaspoort N1 Road Upgrade BA, Louis Trichardt, Limpopo Province	SANRAL SOC Ltd & Knight Piésold Consulting	Project Manager, Environmental consultant, Public Participation
SANRAL Polokwane N1 Ring Road Upgrade Basic Assessment, Polokwane, Limpopo Province	SANRAL SOC Ltd & KBK Engineers	Environmental consultant
Boshoek Loop Rail Upgrade BAR, Rustenburg, North-West Province	Transnet SOC Ltd	Project Manager, Environmental consultant, Wetland specialist, Public Participation
Heysterkrand Loop Rail Upgrade BAR, Rustenburg, North-West Province	Transnet SOC Ltd	Project Manager, Environmental consultant, Public Participation
SANRAL Bierspruit R510 road upgrade Basic Assessment, Thabazimbi, Limpopo Province	SANRAL SOC Ltd & Royal HaskoningDHV South Africa	Project Manager, Environmental consultant, Ecological specialist, Public Participation
Barberton IAPS Waste Water Treatment Works development BAR, Barberton, Mpumalanga Province	Umjindi Local Municipality and Rhodes University	Project Manager, Environmental consultant, Public Participation
SANRAL Caledon N2 Section 3 road upgrade project Basic Assessment, Caledon, Western Cape Province	JG Afrika Engineering	Project Manager, Environmental consultant, Ecological specialist, ECO

**Environmental Compliance, Auditing and ECO**

Project Name & Location	Client Name	Role
Construction Monitoring and DMR environmental authorisation, Hendrina, Mpumalanga Province	SANRAL SOC Ltd & Leo consulting engineers	Project Manager, Environmental consultant, ECO

**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>
Water use licence for the SANRAL Zandkraal-Windburg N1 road upgrade and quarrying, Windburg, Free State Province	SANRAL SOC Ltd & SMEC Consulting Engineers	Project Manager, Environmental consultant, Public Participation
SANRAL Masekwaspoort N1 road upgrade water use licence application, Louis Trichardt, Limpopo Province	SANRAL SOC Ltd & Knight Piésold Consulting	Project Manager, Environmental consultant, Public Participation
Boshoek Loop Rail Upgrade water use licence application, Rustenburg, North-West Province	Transnet SOC Ltd	Project Manager, Environmental consultant, Wetland specialist, Public Participation
SANRAL Bierspruit R510 road water use licence, Thabazimbi, Limpopo Province	SANRAL SOC Ltd & Royal HaskoningDHV South Africa	Project Manager, Environmental consultant, Ecological specialist, Public Participation
Barberton IAPS Waste Water Treatment Works water use licence and SASS 5 assessment, Barberton, Mpumalanga Province	Umjindi Local Municipality and Rhodes University	Project Manager, Environmental consultant, Aquatic specialist, Public Participation
SANRAL Caledon N2 Section 3 road upgrade water use licence and specialist reports, Caledon, Western Cape Province	JG Afrika Engineering	Project Manager, Environmental consultant, Ecological specialist, 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>
Scoping and EIR authorisation, Water Use Licence, for the Ganspan tourism facility development, Jan Kempdorp, Northern Cape	Frances Baard Local Municipality	Project Manager, Environmental consultant, Public Participation

### **Basic Assessments**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Basic Assessment 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
Corner Berg and Drooge Street township development BAR, Zeerust, North-West Province	Ramotshere Moiloa Local Municipality	Project Manager, Environmental consultant, Public Participation
Corner Kort and Bree Street township development BAR, Zeerust, North-West Province	Ramotshere Moiloa Local Municipality	Project Manager, Environmental consultant, Public Participation
Hope Village township development BAR, Johannesburg, Gauteng	Door of Hope Charity Organisation	Project Manager, Environmental consultant, Public Participation
ACSA Jones Road Filling Station Basic Assessment, Johannesburg, Gauteng	Airports Company South Africa SOC Ltd	Project Manager, Environmental consultant, Public Participation

### Screening Studies

Project Name & Location	Client Name	Role
Kibler Park Church Development ecological assessment, Johannesburg, Gauteng	Riverside Community Church	Project Manager, Ecological specialist
DEA Quoin Point dune specialist assessments, Gansbaai, Western Cape	Department of Environmental Affairs (national)	Project Manager, Environmental consultant

### Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
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

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

Project Name & Location	Client Name	Role
Atmospheric Emissions Licence, Section 24G for the ER Galvanizing plant and operations, Johannesburg, Gauteng	ER Galvanizers Pty Ltd	Project Manager, Environmental consultant, Public Participation
City of Johannesburg nature reserve proclamation (Phase II), Johannesburg, Gauteng	City of Johannesburg SOC Ltd	Project Manager, Environmental consultant, Public Participation, Botanical specialist
Hope Village township development water use licence, Johannesburg, Gauteng	Door of Hope Charity Organisation	Project Manager, Environmental consultant, Public Participation
Diamond Park Township Development Section 24G, Kimberley, Northern Cape	Sol Plaatje Local Municipality	Project Manager, Environmental consultant, Public Participation
Boschendal Wine Estate hydro-electric power station Water Use Licence and S24G application, Stellenbosch, Western Cape	Boschendal Wine Estate	Environmental consultant
City of Johannesburg nature reserve proclamation boundary verification (Phase I), Johannesburg, Gauteng	City of Johannesburg SOC Ltd	Environmental consultant
PRDW Cape Town harbour breakwater rehabilitation EMPr, Cape Town, Western Cape	PRDW Engineering	Project Manager, Environmental consultant
PRDW Bushman's Estuary dune encroachment project management, Kenton-on-sea, Eastern Cape	PRDW Engineering	Environmental consultant
Corner Berg and Drooge Street township development water use licence application, Zeerust, North-West Province	Ramotshere Moiloa Local Municipality	Project Manager, Environmental consultant
Corner Kort and Bree Street township development water use licence, Zeerust, North-West Province	Ramotshere Moiloa Local Municipality	Project Manager, Environmental consultant
Bloekombos (Kraaifontein) hospital water use licence application, Cape Town, Western Cape	Western Cape Provincial Government (PGWC)	Project Manager, Environmental consultant, Botanical specialist, Wetland specialist

**SPECIALIST STUDIES**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Boshoek Loop Rail Upgrade BAR and Water Use Licence, Rustenburg, North-West Province	Transnet SOC Ltd	Wetland specialist
City of Johannesburg nature reserve proclamation (Phase II), Johannesburg, Gauteng	City of Johannesburg SOC Ltd	Botanical specialist
SANRAL Bierspruit R510 road upgrade Water Use Licence, Basic Assessment, Thabazimbi, Limpopo Province	SANRAL SOC Ltd & Royal HaskoningDHV South Africa	Ecological specialist
Kibler Park Church Development Ecological Assessment, Johannesburg, Gauteng	Riverside Community Church	Ecological specialist
Barberton IAPS Waste Water Treatment Works development BAR, water use licence and SASS 5 assessment, Barberton, Mpumalanga Province	Umjindi Local Municipality and Rhodes University	Aquatic specialist
Wijnberg Trust Dam 2 expansion Aquatic Impact Assessment	Wijnberg Trust	Aquatic specialist
SANRAL Caledon N2 Section 3 road upgrade project Basic Assessment, Water Use Licence and Specialist reports, Caledon, Western Cape Province	JG Afrika Engineering	Ecological specialist
City of Johannesburg nature reserve proclamation boundary verification (Phase I), Johannesburg, Gauteng	City of Johannesburg SOC Ltd	GIS specialist
iGas integrated biodiversity screening, Saldanha, Western Cape	Central Energy Fund - iGas (subsidiary)	Faunal specialist (assistant)
Bloekombos (Kraaifontein) botanical baseline and impact assessment, Cape Town, Western Cape	Western Cape Provincial Government (PGWC)	Wetland specialist Botanical specialist

## 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 one (21) 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 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
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

Project Name & Location	Client Name	Role
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	Building Energy	Project Manager & EAP

#### Basic Assessments

Project Name & Location	Client Name	Role
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
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

Project Name & Location	Client Name	Role
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

### 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/Doornplaat 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, Northern Cape	Enel Green Power	Project Manager
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	Windfall 59 Properties	Project Manager

Project Name & Location	Client Name	Role
Cape		
ECO for the construction of the Upington Airport PV Facility, Northern Cape	Sublunary 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 Konkoonies 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	Engie	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
Konkoonies II SEF near Pofadder, Northern Cape	BioTherm Energy	Environmental Advisor
Konkoonies 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	Sublunary Trading	Environmental Advisor
Upington SEF, Northern Cape	Abengoa Solar	Environmental Advisor
Ofir-ZX PV SEF near Keimoes, Northern Cape	Networx 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

Project Name & Location	Client Name	Role
Biodiversity Permit & WULA for the Aggeneys SEF near Aggeneys, Northern Cape	BioTherm Energy	Project Manager & EAP
Biodiversity Permit for the Konkoonies II SEF near Pofadder, Northern Cape	BioTherm Energy	Project Manager & EAP

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
Biodiversity Permitting for the Lephhalale 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 Lephhalale 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
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

Project Name & Location	Client Name	Role
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	llangethu Energy	Environmental Advisor
Ilangaletu 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	llangethu 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

Project Name & Location	Client Name	Role
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

Project Name & Location	Client Name	Role
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
Rheboksfontein 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

Project Name & Location	Client Name	Role
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

#### Screening Studies

Project Name & Location	Client Name	Role
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
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

Project Name & Location	Client Name	Role
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
Rhebokfontein 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

Project Name & Location	Client Name	Role
Witteberg WEF, Western Cape	EDPR Renewables	Environmental Advisor



Project Name & Location	Client Name	Role
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**

Project Name & Location	Client Name	Role
Biodiversity Permitting for the Power Line between the Tsitikamma 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 Rhebokfontein 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**

Project Name & Location	Client Name	Role
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
Waterberg IPP Coal-Fired Power Station near Lephalale, 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

Project Name & Location	Client Name	Role
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 & 400 kV 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	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 Ankerlig Power Station in Atlantis Industria, Western Cape	Eskom Holdings	Project Manager & EAP
Two 132kV Chickadee Lines to the new Zonnebloem Switching Station, Mpumalanga	Eskom Holdings	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

#### 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
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
Rhebokfontein 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

#### **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	liso	Project Manager & EAP
Grootegeeluk 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
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#### **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

Project Name & Location	Client Name	Role
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

Project Name & Location	Client Name	Role
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
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
S24G and WULA for the illegal construction of structures within a watercourse on EFF 24 Ruimsig Agricultural Holdings, Gauteng	Sorrow 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**

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

**ENVIRONMENTAL MANAGEMENT TOOLS**

<b>Project Name &amp; Location</b>	<b>Client Name</b>	<b>Role</b>
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
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 Mocupu Power Station	Scatec	Project Manager

### **Certification:**

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

**Date:** 16 October 2020

### **Signature of staff member or authorised official from the firm**

Full name of staff member: Jo-Anne Thomas



Signed:

## 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><u>Tasks include:</u></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 (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

Project Name & Location	Client Name	Role
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	
Geelstert 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, McTaggart PV1, McTaggart PV2, McTaggart 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	Public Participation, Landowner and Community Consultation
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: Bemhani 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 Emalaheni, 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
Moidraai-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 Klawer 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: Environment al 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 Emalaheni, 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>
<i>Mulilo 20MW PV Facility, Prieska, Northern Cape</i>	<i>Mulilo (Pty) Ltd</i>	<i>Public Participation: I&amp;AP Notification process</i>
<i>Mulilo 10MW PV Facility, De Aar, Northern Cape</i>	<i>Mulilo (Pty) Ltd</i>	
<i>Karoshhoek CSP 1 Facility/ Solar One, Upington, Northern Cape</i>	<i>Karoshhoek Solar One (Pty) Ltd</i>	

# CURRICULUM VITAE:

Gerhard Botha



Name: : Gerhardus Alfred Botha  
Date of Birth : 11 April 1986  
Identity Number : 860411 5136 088  
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Email Address : [gabotha11@gmail.com](mailto:gabotha11@gmail.com)  
Profession/Specialisation : Ecological and Biodiversity Consultant  
Nationality: : South African  
Years Experience: : 8  
Bilingualism : Very good – English and Afrikaans

## Professional Profile:

Gerhard is a Managing Director of Nkurenkuru Ecology and Biodiversity (Pty) Ltd. He has a BSc Honours degree in Botany from the University of the Free State Province and is currently completing a MSc Degree in Botany. He began working as an environmental specialist in 2010 and has since gained extensive experience in conducting ecological and biodiversity assessments in various development field, especially in the fields of conventional as well as renewable energy generation, mining and infrastructure development. Gerhard is a registered Professional Natural Scientist (Pr. Sci. Nat.)

## Key Responsibilities:

Specific responsibilities as an Ecological and Biodiversity Specialist include, inter alia, professional execution of specialist consulting services (including flora, wetland and fauna studies, where required), impact assessment reporting, walk through surveys/ground-truthing to inform final design, compilation of management plans, compliance monitoring and audit reporting, in-house ecological awareness training to on-site personnel, and the development of project proposals for procuring new work/projects.

## Skills Base and Core Competencies

- Research Project Management
- Botanical researcher in projects involving the description of terrestrial and coastal ecosystems.

- Broad expertise in the ecology and conservation of grasslands, savannahs, karroid wetland, and aquatic ecosystems.
- Ecological and Biodiversity assessments for developmental purposes (BAR, EIA), with extensive knowledge and experience in the renewable energy field (Refer to Work Experiences and References)
- Over 3 years of avifaunal monitoring and assessment experience.
- Mapping and Infield delineation of wetlands, riparian zones and aquatic habitats (according to methods stipulated by DWA, 2008) within various South African provinces of KwaZulu-Natal, Mpumalanga, Free State, Gauteng and Northern Cape Province for inventory and management purposes.
- Wetland and aquatic buffer allocations according to industry best practice guidelines.
- Working knowledge of environmental planning policies, regulatory frameworks, and legislation
- Identification and assessment of potential environmental impacts and benefits.
- Assessment of various wetland ecosystems to highlight potential impacts, within current and proposed landscape settings, and recommend appropriate mitigation and offsets based on assessing wetland ecosystem service delivery (functions) and ecological health/integrity.
- Development of practical and achievable mitigation measures and management plans and evaluation of risk to execution
- Qualitative and Quantitative Research
- Experienced in field research and monitoring
- Working knowledge of GIS applications and analysis of satellite imagery data
- Completed projects in several Provinces of South Africa and include a number of projects located in sensitive and ecological unique regions.

## Education and Professional Status

### ***Degrees:***

- 2015: Currently completing a M.Sc. degree in Botany (Vegetation Ecology), University of the Free State, Bloemfontein, RSA.
- 2009: B.Sc. Hons in Botany (Vegetation Ecology), University of the Free State, Bloemfontein, RSA.
- 2008: B.Sc. in Zoology and Botany, University of the Free State, University of the Free State, Bloemfontein, RSA.

### ***Courses:***

- 2013: Wetland Management (ecology, hydrology, biodiversity, and delineation) – University of the Free State accredited course.
- 2014: Introduction to GIS and GPS (Code: GISA 1500S) – University of the Free State accredited course.

### ***Professional Society Affiliations:***

- The South African Council of Natural Scientific Professions: Pr. Sci. Nat. Reg. No. 400502/14 (Botany and Ecology).

## Employment History

- December 2017 – Current: Nkurenkuru Ecology and Biodiversity (Pty) Ltd
- 2016 – November 2017: ECO-CARE Consultancy
- 2015 - 2016: Ecologist, Savannah Environmental (Pty) Ltd

- 2013 – 2014: Working as ecologist on a freelance basis, involved in part-time and contractual positions for the following companies
  - Enviroworks (Pty) Ltd
  - GreenMined (Pty) Ltd
  - Eco-Care Consultancy (Pty) Ltd
  - Enviro-Niche Consulting (Pty) Ltd
  - Savannah Environmental (Pty) Ltd
  - Esicongweni Environmental Services (EES) cc
- 2010 - 2012: Enviroworks (Pty) Ltd

## Publications

### **Publications:**

- Botha, G.A. & Du Preez, P.J. 2015. A description of the wetland and riparian vegetation of the Nxamasere palaeo-river's backflooded section, Okavango Delta, Botswana. *S. Afr. J. Bot.*, **98**: 172-173.

### **Congress papers/posters/presentations:**

- Botha, G.A. 2015. A description of the wetland and riparian vegetation of the Nxamasere palaeo-river's backflooded section, Okavango Delta, Botswana. 41<sup>st</sup> Annual Congress of South African Association of Botanists (SAAB). Tshipise, 11-15 Jan. 2015.
- Botha, G.A. 2014. A description of the vegetation of the Nxamasere floodplain, Okavango Delta, Botswana. 10<sup>th</sup> Annual University of Johannesburg (UJ) Postgraduate Botany Symposium. Johannesburg, 28 Oct. 2014.

## Other

- Guest speaker at IAIAsa Free State Branch Event (29 March 2017)
- Guest speaker at the University of the Free State Province: Department of Plant Sciences (3 March 2017):

## References:

- Christine Fouché  
Manager: GreenMined (Pty) LTD  
Cell: 084 663 2399
- Professor J du Preez  
Senior lecturer: Department of Plant Sciences  
University of the Free State  
Cell: 082 376 4404



# Chris van Rooyen Consulting

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## Curriculum vitae: Chris van Rooyen

Name : Chris van Rooyen  
Profession/Specialisation : Avifaunal Specialist  
Highest Qualification : LLB  
Nationality : South African  
Years of experience : 19 years

## Key Qualifications

Chris van Rooyen has twenty years' experience in the assessment of avifaunal interactions with industrial infrastructure. He was employed by the Endangered Wildlife Trust as head of the Eskom-EWT Strategic Partnership from 1996 to 2007, which has received international acclaim as a model of co-operative management between industry and natural resource conservation. He is an acknowledged global expert in this field and has consulted in South Africa, Namibia, Botswana, Lesotho, New Zealand, Texas, New Mexico and Florida. He also has extensive project management experience and he has received several management awards from Eskom for his work in the Eskom-EWT Strategic Partnership. He is the author and/or co-author of 17 conference papers, co-author of two book chapters, several research reports and the current best practice guidelines for avifaunal monitoring at wind farm sites. He has completed more than 100 power line assessments; and has to date been employed as specialist avifaunal consultant on more than 30 renewable energy generation projects. He has also conducted numerous risk assessments on existing power lines infrastructure. He also works outside the electricity industry and he has done a wide range of bird impact assessment studies associated with various residential and industrial developments (see key project experience below).

## Key Project Experience

### **Bird Impact Assessment Studies for Solar Energy Plants:**

1. Concentrated Solar Power Plant, Upington, Northern Cape.
2. De Aar and Droogfontein Solar PV Pre- and Post-construction avifaunal monitoring
3. JUWI Kronos PV project, Copperton, Northern Cape
4. Sand Draai CSP project, Groblershoop, Northern Cape (underway)
5. Biotherm Helena PV Project, Copperton, Northern Cape
6. Biotherm Letsiao CSP Project, Aggenys, Northern Cape
7. Biotherm Enamandla PV Project, Aggenys, Northern Cape
8. Biotherm Sendawo PV Project, Vryburg, North-West
9. Biotherm Tlisitseng PV Project, Lichtenburg, North-West

### **Bird Impact Assessment Studies for the following overhead line projects:**

1. Chobe 33kV Distribution line
2. Athene - Umfolozi 400kV
3. Beta-Delphi 400kV
4. Cape Strengthening Scheme 765kV
5. Flurian-Louis-Trichardt 132kV
6. Ghanzi 132kV (Botswana)
7. Ikaros 400kV
8. Matimba-Witkop 400kV
9. Naboomspruit 132kV
10. Tabor-Flurian 132kV
11. Windhoek - Walvisbaai 220 kV (Namibia)
12. Witkop-Overysse 132kV
13. Breyten 88kV
14. Adis-Phoebus 400kV
15. Dhuvu-Janus 400kV
16. Perseus-Mercury 400kV

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17. Gravelotte 132kV
18. Ikaros 400 kV
19. Khanye 132kV (Botswana)
20. Moropule – Thamaga 220 kV (Botswana)
21. Parys 132kV
22. Simplon –Everest 132kV
23. Tutuka-Alpha 400kV
24. Simplon-Der Brochen 132kV
25. Big Tree 132kV
26. Mercury-Ferrum-Garona 400kV
27. Zeus-Perseus 765kV
28. Matimba B Integration Project
29. Caprivi 350kV DC (Namibia)
30. Gerus-Mururani Gate 350kV DC (Namibia)
31. Mmamabula 220kV (Botswana)
32. Steenberg-Der Brochen 132kV
33. Venetia-Paradise T 132kV
34. Burgersfort 132kV
35. Majuba-Umfolozi 765kV
36. Delta 765kV Substation
37. Braamhoek 22kV
38. Steelpoort Merensky 400kV
39. Mmamabula Delta 400kV
40. Delta Epsilon 765kV
41. Gerus-Zambezi 350kV DC Interconnector: Review of proposed avian mitigation measures for the Okavango and Kwando River crossings
42. Giyani 22kV Distribution line
43. Liphobong-Kao 132/11kV distribution power line, Lesotho
44. 132kV Leslie – Wildebeest distribution line
45. A proposed new 50 kV Spoornet feeder line between Sishen and Saldanha
46. Cairns 132kv substation extension and associated power lines
47. Pimlico 132kv substation extension and associated power lines
48. Gyani 22kV
49. Matafin 132kV
50. Nkomazi\_Fig Tree 132kV
51. Pebble Rock 132kV
52. Reddersburg 132kV
53. Thaba Combine 132kV
54. Nkomati 132kV
55. Louis Trichardt – Musina 132kV
56. Endicot 44kV
57. Apollo Lepini 400kV
58. Tarlton-Spring Farms 132kV
59. Kuschke 132kV substation
60. Bendstore 66kV Substation and associated lines
61. Kuiseb 400kV (Namibia)
62. Gyani-Malamulele 132kV
63. Watershed 132kV
64. Bakone 132kV substation
65. Eerstegoud 132kV LILO lines
66. Kumba Iron Ore: SWEP - Relocation of Infrastructure
67. Kudu Gas Power Station: Associated power lines
68. Steenberg Booyendal 132kV
69. Toulon Pumps 33kV
70. Thabatshipi 132kV
71. Witkop-Silica 132kV
72. Bakubung 132kV
73. Nelsriver 132kV

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74. Rethabiseng 132kV
75. Tilburg 132kV
76. GaKgapanne 66kV
77. Knobel Gilead 132kV
78. Bochum Knobel 132kV
79. Madibeng 132kV
80. Witbank Railway Line and associated infrastructure
81. Spencer NDP phase 2 (5 lines)
82. Akanani 132kV
83. Hermes-Dominion Reefs 132kV
84. Cape Pensinsula Strengthening Project 400kV
85. Magalakwena 132kV
86. Benfiosa 132kV
87. Dithabaneng 132kV
88. Taunus Diepkloof 132kV
89. Taunus Doornkop 132kV
90. Tweedracht 132kV
91. Jane Furse 132kV
92. Majeje Sub 132kV
93. Tabor Louis Trichardt 132kV
94. Riversong 88kV
95. Mamatsekele 132kV
96. Kabokweni 132kV
97. MDPP 400kV Botswana
98. Marble Hall NDP 132kV
99. Bokmakiere 132kV Substation and LILO lines
100. Styldrift 132kV
101. Taunus – Diepkloof 132kV
102. Bighorn NDP 132kV
103. Waterkloof 88kV
104. Camden – Theta 765kV
105. Dhuvu – Minerva 400kV Diversion
106. Lesedi –Grootpan 132kV
107. Waterberg NDP
108. Bulgerivier – Dorset 132kV
109. Bulgerivier – Toulon 132kV
110. Nokeng-Fluorspar 132kV
111. Mantsole 132kV
112. Tshilamba 132kV
113. Thabamoopo - Tshebela – Nhlovuko 132kV
114. Arthurseat 132kV
115. Borutho 132kV MTS
116. Volspruit - Potgietersrus 132kV
117. Neotel Optic Fibre Cable Installation Project: Western Cape
117. Matla-Glockner 400kV
118. Delmas North 44kV
119. Houwhoek 11kV Refurbishment
120. Clau-Clau 132kV
121. Ngwedi-Silwerkrans 134kV
122. Nieuwehoop 400kV walk-through
123. Booyendal 132kV Switching Station
124. Tarlton 132kV

## **Bird Impact Assessment Studies for the following residential and industrial developments:**

1. Lizard Point Golf Estate
2. Lever Creek Estates
3. Leloko Lifestyle Estates

4. Vaaloewers Residential Development
5. Clearwater Estates Grass Owl Impact Study
6. Sommerset Ext. Grass Owl Study
7. Proposed Three Diamonds Trading Mining Project (Portion 9 and 15 of the Farm Blesbokfontein)
8. N17 Section: Springs To Leandra –“Borrow Pit 12 And Access Road On (Section 9, 6 And 28 Of The Farm Winterhoek 314 Ir)
9. South African Police Services Gauteng Radio Communication System: Portion 136 Of The Farm 528 Jq, Lindley.
10. Report for the proposed upgrade and extension of the Zeekoegat Wastewater Treatment Works, Gauteng.
11. Bird Impact Assessment for Portion 265 (a portion of Portion 163) of the farm Rietfontein 189-JR, Gauteng.
12. Bird Impact Assessment Study for Portions 54 and 55 of the Farm Zwartkop 525 JQ, Gauteng.
13. Bird Impact Assessment Study Portions 8 and 36 of the Farm Nooitgedacht 534 JQ, Gauteng.
14. Shumba's Rest Bird Impact Assessment Study
15. Randfontein Golf Estate Bird Impact Assessment Study
16. Zilkaatsnek Wildlife Estate
17. Regenstein Communications Tower (Namibia)
18. Avifaunal Input into Richards Bay Comparative Risk Assessment Study
19. Maquasa West Open Cast Coal Mine
20. Glen Erasmia Residential Development, Kempton Park, Gauteng
21. Bird Impact Assessment Study, Weltevreden Mine, Mpumalanga
22. Bird Impact Assessment Study, Olifantsvlei Cemetery, Johannesburg
23. Camden Ash Disposal Facility, Mpumalanga
24. Lindley Estate, Lanseria, Gauteng

## **Ongoing involvement in Bird Impact Assessment Studies for wind-powered generation facilities:**

1. Eskom Klipheuwel Experimental Wind Power Facility, Western Cape
2. Mainstream Wind Facility Jeffreys Bay, Eastern Cape (EIA and monitoring)
3. Biotherm, Swellendam, (Excelsior), Western Cape (EIA and monitoring)
4. Biotherm, Napier, (Matjieskloof), Western Cape (pre-feasibility)
5. Windcurrent SA, Jeffreys Bay, Eastern Cape (2 sites) (EIA and monitoring)
6. Caledon Wind, Caledon, Western Cape (EIA)
7. Innowind (4 sites), Western Cape (EIA)
8. Renewable Energy Systems (RES) Oyster Bay, Eastern Cape (EIA and monitoring)
9. Oelsner Group (Kerriefontein), Western Cape (EIA)
10. Oelsner Group (Langefontein), Western Cape (EIA)
11. InCa Energy, Vredendal Wind Energy Facility Western Cape (EIA)
12. Mainstream Loeriesfontein Wind Energy Facility (EIA and monitoring)
13. Mainstream Noupoot Wind Energy Facility (EIA and monitoring)
14. Biotherm Port Nolloth Wind Energy Facility (Monitoring)
15. Biotherm Laingsburg Wind Energy Facility (EIA and monitoring)
16. Langhoogte Wind Energy Facility (EIA)
17. Vleesbaai Wind Energy Facility (EIA and monitoring)
18. St. Helena Bay Wind Energy Facility (EIA and monitoring)
19. Electrawind, St Helena Bay Wind Energy Facility (EIA and monitoring)
20. Electrawind, Vredendal Wind Energy Facility (EIA)
21. SAGIT, Langhoogte and Wolseley Wind Energy facilities
22. Renosterberg Wind Energy Project – 12 month preconstruction avifaunal monitoring project (2014)
23. De Aar – North (Mulilo) Wind Energy Project – 12 month preconstruction avifaunal monitoring project (2014)
24. De Aar – South (Mulilo) Wind Energy Project – 12 month bird monitoring (2014)
25. Namies – Aggenys Wind Energy Project – 12 month bird monitoring (2014)
26. Pofadder - Wind Energy Project – 12 month bird monitoring (2014)
27. Dwarsrug Loeriesfontein - Wind Energy Project – 12 month bird monitoring (2014)
28. Waaihoek – Utrecht Wind Energy Project – 12 month bird monitoring (2014)
29. Amathole – Butterworth Utrecht Wind Energy Project – 12-month bird monitoring & EIA specialist

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30. Noupoort East and West Wind Energy Projects 12-month bird monitoring & EIA specialist study (Innowind)
31. Beaufort West Wind Energy Facility 12-month bird monitoring & EIA specialist study (Mainstream)
32. Leeuwdraai Wind Energy Facility 12-month bird monitoring & EIA specialist study (Mainstream)
33. Sutherland Wind Energy Facility 12-month bird monitoring (Mainstream)
34. Maralla Wind Energy Facility 12-month bird monitoring & EIA specialist study (Biotherm)
35. Esizayo Wind Energy Facility 12-month bird monitoring & EIA specialist study (Biotherm)
36. Humansdorp Wind Energy Facility 12-month bird monitoring & EIA specialist study (Cennergi)
37. Aletta Wind Energy Facility 12-month bird monitoring & EIA specialist study (Biotherm)
38. Eureka Wind Energy Facility 12-month bird monitoring & EIA specialist study (Biotherm)
39. Makambako Wind Energy Facility (Tanzania) 12-month bird monitoring & EIA specialist study (Windlab) study (underway)

## **Bird Impact Assessment Studies for Solar Energy Plants:**

1. Concentrated Solar Power Plant, Upington, Northern Cape.
2. De Aar and Droogfontein Solar PV Pre- and Post-construction avifaunal monitoring
3. JUWI Kronos PV project, Copperton, Northern Cape
4. Sand Draai Solar project, Groblershoop, Northern Cape
5. Helena PV Project, Copperton, Northern Cape
6. Letsitsing Solar Project, Lichtenburg, North-West
7. Sendawo Solar Project, Vryburg, North-West
8. Letsoai Solar Project, Aggeneys Northern Cape
9. Enamandla Solar Project, Aggeneys, Northern Cape

## Professional affiliations

I work under the supervision of and in association with Albert Froneman (SACNASP Zoological Science Registration number 400177/09) as stipulated by the Natural Scientific Professions Act 27 of 2003.



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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.



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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 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

# Curriculum Vitae

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## Tony Barbour

### ENVIRONMENTAL CONSULTING AND RESEARCH

10 Firs Avenue, Claremont, 7708, South Africa  
(Tel) 27-21-761 2355, (Fax) 27-21-761 2355, (Cell) +27-82 600 8266  
(E-Mail) [tbarbour@telkomsa.net](mailto:tbarbour@telkomsa.net)

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Tony Barbour has 24 years' experience in the environmental sector. His experience includes ten years as an environmental consultant in the private sector in South Africa followed by four and a half years at the University of Cape Town's Environmental Evaluation Unit. In 2004 he established his own environmental consulting company, Tony Barbour Environmental Consulting and Research, with a focus on Social Impact Assessment (SIA), Strategic Environmental Assessment (SEA), Independent Review Work, Training and Capacity Building and Environmental Project Management.

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### PERSONAL DETAILS

Tony Barbour, born on 8 June 1961  
Nationality: South African and Irish  
Marital Status: Married

### EDUCATION

- BSc (Geology and Economics) Rhodes, 1984;
- BEcon (Honours) Rhodes, 1985;
- MSc (Environmental Science) University of Cape Town, 1992

### ADDITIONAL QUALIFICATIONS

- Advanced and basic mediation/facilitation skills training course, Centre for Conflict Resolution, University of Cape Town (1999);
- Multi-party negotiation and facilitation skills for natural resource management, MEPC/CIDA (1999).

### ACADEMIC AWARDS

- Schwartz Award, Top Student, Geology III, Rhodes University;
- Shell Medal of Excellence, Top student, Masters Course Work, MSc Environmental Science, UCT.

### AREAS OF EXPERIENCE AND EXPERTISE

Project management, proposal writing, preparation, review and editing of reports and documents, environmental planning and management, Social Impact Assessment (SIA); Environmental Impact Assessment (EIA); Strategic Environmental Assessment (SEA); waste management, environmental economics, facilitation, public participation, training and teaching. Countries with work experience include South Africa, Namibia, Angola, Botswana, Zambia, Lesotho, Swaziland, Ghana, Mozambique, Mauritius, Kenya, Ethiopia, South Sudan, Sudan and Oman.



## **EMPLOYMENT RECORD**

- **Private Consultant:** November 2004-current.
- **University of Cape Town:** August 2000-October 2004, Environmental Evaluation Unit (EEU), University of Cape Town. Senior Environmental Consultant and Researcher;
- **Private sector: 1991-August 2000.** 1991-1996: Ninham Shand Consulting (Cape Town). Senior Environmental Scientist, 1996-August 2000: Steffen, Robertson and Kirsten (SRK Consulting) – Associate Director, Manager Environmental Section, SRK Consulting, Cape Town.

## **RELEVANT AREAS OF EXPERIENCE AND EXPERTISE**

### ***SOCIAL IMPACT ASSESSMENT***

#### ***Infrastructure and development projects***

- SIA for small scale hydropower project on Orange River, South Africa (2015);
- SIA for 150 MW coal power station, Mpumalanga, South Africa (2014);
- SIA for waste to energy plant, Pretoria, South Africa (2014);
- SIA for mixed use development in Khayelitsha, Western Cape (2014);
- SIA for small scale hydro scheme on the Orange River, South Africa (2014);
- SIA for Eskom sub-station and power lines, George, South Africa (2014);
- SIA for Trawal Dam, Clanwilliam, Western Cape Province (2013);
- SIA for Eskom transmission lines from proposed Bantamsklip Nuclear Power Station, Western Cape (2010). Project put on hold after initial scoping phase;
- SIA for Eskom transmission lines from proposed Koeberg Nuclear Power Station, Western Cape (2010);
- SIA Bloubos Road, Somerset West, Western Cape (2010);
- SIA for Boschendal Farm Mixed Use Development, Stellenbosch, Western Cape (2008-current);
- SIA Driftsands Nature Reserve, Cape Town, Western Cape (2009);
- SIA Kidds Beach Golf Estate, East London (2009);
- SIA Swartland Regional Mall, Malmesbury, Western Cape (2009);
- SIA Klipfontein Mixed Use Residential Development, Malmesbury, Western Cape (2009);
- SIA Struisbaai Harbour Development, Struisbaai, Western Cape (2009);
- SIA De Plaat Mixed Use Residential Development, Velddrift, Western Cape (2009);
- SIA Woodlands Golf Estate, East London, Eastern Cape (2009);
- SIA Duttons Cove Residential Development, Herolds Bay, Western Cape (2008);
- SIA Ashton Mixed Use Development, Ashton, Western Cape (2009);
- SIA for Mandela Bay Mixed Development Precinct, Mandela Bay, Eastern Cape (2008);
- SIA for Annandale Mixed Development Precinct, Cape Town, Western Cape (2008);
- SIA for Garden Route Dam development, George, Western Cape (2008);
- SIA for Moropule Coal Power Station, Botswana (2007);
- SIA for proposed residential development near Stillbaai, Western Cape (2007);
- SIA for proposed residential development near Gansbaai, Western Cape (2007);
- SIA Bulk Water Scheme, City of Cape Town, Western Cape (2007);
- SIA Montague Golf Estate, Western Cape (2006);
- SIA for Schalkenbosch Golf Estate, Tulbagh, Western Cape (2006);
- SIA for 2010 World Cup Stadium on Green Point Common, Cape Town (2006);
- SIA for raising of the Clanwilliam Dam, Western Cape (2005-06);
- SIA Kransvlei Golf Estate, Clanwilliam, Western Cape (2005);
- SIA for road up-grade between Gansbaai and Bredadorp, Southern Cape (2005);
- SIA Zeekoevlei Golf Estate, Somerset West, Western Cape (2005)
- SIA Silwersand Golf and Resort Estate, Robertson, Western Cape (2003)
- SIA Assessment for Valkenberg East Site, Cape Town (2003).
- N2 – Outeniqua Pass by-pass, George, SA. Socio-economic assessment for proposed by-pass options between the N2 and the Outeniqua Pass (1997).
- Social Assessment for Sparrebosch Golf Course, Knysna, SA (1996).
- Social Assessment for Riversonderend Road By-pass (1991).

### ***Mining and Industrial projects***

- SIA for Lucunga Mine, Angola (2016);
- Social Labour Plan for Granite Quarry, North West Province, South Africa (2015);
- Social Labour Plan for coal mine in Mpumalanga, South Africa (2014);
- SIA for heavy mineral separation plant, Vredendal, Western Cape Province (2012);
- SIA Otjizondo Manganese Mine, Namibia (2011);
- SIA for upgrade of PPC Riebeeck cement plant, Western Cape, South Africa (2009);
- SIA for Elitheni Coal Mine, Eastern Cape (2008);
- SIA and Resettlement Action Plan (RAP) for Southern Ashanti Gold Mining Project, Ghana (2007);
- SIA for Valencia Uranium Mine, Swakopmund, Namibia (2007);
- SIA for expansion of PPC cement factory, Riebeck West, Western Cape (2007);
- SIA and Social Labour Plan for Xolobeni Heavy Mineral Sands Project, Eastern Cape, South Africa (2007);
- SIA and Social Labour Plan for Tormin Heavy Mineral Sands Project, Western Cape, South Africa (2007);

### ***Renewable energy projects***

- SIAs for wind energy facilities: SIAs for over 50 wind energy projects in Western Cape, Eastern Cape and Northern Cape Province of South Africa (2008-current);
- SIAs for solar energy facilities: SIAs for over 60 solar energy projects in Western Cape, Northern Cape, Free State, North West, Mpumalanga and Limpopo Provinces of South Africa (2009-current).

### ***Strategic social input into projects***

- Social Specialist for funder review based on IFC standards for hydropower project in Zambia (2014-2015);
- Social Specialist for identification of multi-sector investment opportunities in the Eastern Nile Basin, World Bank and Eastern Nile Technical Office (2015);
- SIA as part of SEA undertaken for industrial area located near Wellington, Western Cape Province (2014);
- Social specialist for assessment of large dam developments on the Eastern Nile Basin, specifically the Blue Nile (Abbay River) in Ethiopia and the consequences for the downstream countries of Sudan and Egypt, World Bank and Eastern Nile Technical Office (2012-2013);
- Social specialist for development and design of Decision Support System for the Nile Basin. Input included development of social indicators used to assess water related projects and development scenarios (dams and irrigation schemes) in the Nile Basin (2012);
- Social specialist for the water resource classification of the Olifants/Doorn Catchment Area (Western and Northern Cape Province) (2011-2012).

### ***Social Impact Assessment and Resettlement Guidelines***

- Development of Guidelines for Social Impact Assessment for Department of Environmental Affairs and Development Planning, Western Cape, (2007);
- Development of a Social Assessment and Development Framework for Department of Water Affairs and Forestry, South Africa, including development of guidelines for Social Impact Assessment, Conflict Management, Relocation and Resettlement and Monitoring and Evaluation (2005). The aim of these guidelines was to assist DWAF to identify, assess and manage social impacts (positive and negative) during the design, development, operation and closure of projects.

### ***Resettlement Action Plans (RAPs)***

- RAP for farming community located near Paarl in the Western Cape (current);
- SIA and RAP for Southern Ashanti Gold Mining Project, Ghana (2007);
- RAP for Mare Chicose Landfill Site, Mauritius (2005);
- Maguga Dam, Swaziland. Development of socio-economic monitoring and evaluation programme, including indicators, for the resettlement programme, Swaziland (2001).

### ***Waste management projects***

- SIA for Integrated Waste Management Facility, City of Cape Town (2015);
- SIA for Waste to Energy Facility, Wellington, Western Cape (current);
- SIA for Vissershok landfill expansion, Cape Town (2014);
- SIA for Stellenbosch Landfill Site (2011);
- SIA for Barka Landfill Site, Barka, Oman (2011);
- SIA Helderberg Waste Transfer Station, Western Cape, (2009);
- SIA for Mare Chicose Landfill Site, Mauritius (2005);
- SIA for Coastal Park Landfill Site (1998).

### ***STRATEGIC ENVIRONMENTAL ASSESSMENT***

- Project Manager SEA for assessment of option to develop biofuels in Northern Namibia (2010-2011);
- Project Manager SEA City of Windhoek, Namibia (2010-2011);
- Project manager and environmental specialist for SEA for Phase 2 of the National Roads Strategy for Mozambique (2007);
- Joint project manager for SEA of Cape Town 2004 Olympic Bid, Cape Town, SA (1999);
- Baralink SEA, Johannesburg, SA. Specialist input on socio-economic aspects for Baralink SEA (1998).
- Series of 4 Strategic Environmental Assessment training courses for officials of the Government of Botswana, 2000 & 2001.
- Guest lecturer in SEA for MPhil course in Environmental Management at University of Cape Town, 2000-2004.
- Paper presented at IAIA 98, Christchurch, New Zealand (1998). Strategic Environmental Assessment of the Cape Town 2004 Olympic Bid,

### ***ENVIRONMENTAL IMPACT ASSESSMENT***

Experience includes developing proposals (technical and financial), liaising with clients, authorities and the public, developing terms of reference for specialist sub-consultants, project management and reviewing reports. Projects include:

- Barka Landfill Site, Barka, Oman (2011);
- Darling Wind Farm, Western Cape, South Africa. Environmental assessment of proposed Wind Farm near the town of Darling (2002).
- Walvis Bay Naval Facility, Walvis Bay, Namibia. Environmental assessment of the proposed naval facilities in Walvis Bay (2001).
- Portnet Saldanha, Western Cape, SA. EIA for the expansion of a bulk iron ore export facility at the Port of Saldanha (2000).
- Coastal Park Waste General Waste Site, Cape Town, SA. EIA, including public participation for a large, general waste site (1998).
- Sanderlings Development Plettenberg Bay, SA. EA, including public participation, for proposed residential development adjacent to the coast (1999).
- Stellenbosch Mountain Golf Course Development, Stellenbosch, SA. EIA, including public participation, for golf course, hotel and residential development (1998).
- Sparrebosch EIA, Knysna, South Africa (SA). EIA, including public participation, for golf course, hotel and residential development (1996).
- Stones Hill by-pass, Grahamstown, SA. EIA, including public participation, of a proposed by-pass near Stones-Hill, Grahamstown (1992).
- Riversonderend N2 by-pass, Riversonderend, SA. EIA, including public participation, of a proposed by-pass of the N2 around the town of Riversonderend (1991).

### ***REVIEW***

- Review of SIA for N3 by-pass around Harrismith, Free State Province, (2015-16)
- Review of social implications associated with proposed SANRAL N1-N2 Winelands Toll Road

- Project as part of the City of Cape Town's legal challenge of SANRAL's proposal to develop toll roads (2015);
- Internal Review of Gamsberg Zinc Mine SIA for ERM (Northern Cape Province, South Africa), March, 2013;
  - Internal Review of Waterval Tailings Dam SIA for WSP (North West Province, South Africa), March, 2013,
  - Review of SIA for the proposed N1-N2 Winelands Toll Road Project as part of the City of Cape Town's legal challenge to the proposed project (2011-2012);
  - Review of SIA for Nuclear 1 for Arcus Gibb (3 conventional nuclear power plants) located along the western and south eastern coasts of South Africa (2009);
  - Review of SIA for proposed PMBR Plant at Koeberg, Western Cape (2008);
  - Review of specialist reports for the Groot Letaba Dam EIA, Mpumalanga, South Africa (2008).
  - External Review Consultant for SIA component of N2 Wild Coast Toll Road EIA (2008).
  - Internal Review Consultant for Golder Associates on Namakwa Sands Heavy Mineral Mining EIA, Western Cape (2006);
  - Review of EIA for Palm Valley Golf Course Estate, Durbanville, Western Cape (2005);
  - Review of EIA for Zeekoevlei Golf Course Estate, Somerset West, Western Cape (2005);
  - Review of EIA for Oostenberg Waste Transfer Station, Brackenfell, Western Cape (2004);
  - Review of Socio-Economic Study undertaken for the R300 Toll Road EIA, Cape Town, Western Cape (2004);
  - Review of EIA for proposed establishment of Toll booths on Chapman's Peak Drive, Cape Town, Western Cape (2003);
  - Review of EIA for Cell Phone Mast, Cedeberg, Western Cape (2003);
  - Review of EIA for Hotel and Conference Center, Durbanville, Western Cape (2003);
  - Review of EIA for N7 Road Up-grade, Clanwilliam, Western Cape (2002);
  - Review of EIA for Up-grade of Sewage Works, Western Cape (2002).

## **ENVIRONMENTAL RESEARCH**

Experience and projects include:

- Environmental and social specialist for the development of Mozambique Biofuels Strategy (2007).
- Development of strategy for the development of the Environmental Goods and Service Industry in the Western Cape for the Department of Environmental Affairs and Development Planning in the Western Cape (2006).
- Review of the Environmental Goods and Service Industry in South Africa and development of a strategy for the Department of Trade and Industry, South Africa (2006).
- Chapter on the South African Environmental Goods and Services Industry for study commissioned by the Department of Environmental Affairs and Tourism (2006).
- Integrating Sustainable Development into the Integrated Development Planning Process in South Africa. Review of 4 case studies in SA for the World Summit on Sustainable Development, Johannesburg (2002).
- Development of Integrated Sustainable Transportation Assessment Framework for Transportation Planning in South Africa. Project Manager for joint project between EEU and Urban Transportation Research Group at UCT (2003).
- Project Manager for South African Cleaner Development Mechanism (CDM) initiative being undertaken by South South North Trust. Project involves the recovery of methane gas from the Bellville South Landfill Site in Cape Town (2004)
- Development of Toolkit for incorporating Sustainable Development in to the Integrated Development Planning Process in South Africa (2004).
- Integrating Sustainable Development into the Eastern Cape Province Provincial Growth and Development Plan, 2004-2020 (2003-2004).
- Department of Housing, South Africa. Assessment of options for the development of energy and water efficient low cost housing in South Africa and an assessment of potential financing mechanisms, South Africa (2000).

## **ENVIRONMENTAL PLANNING**

- Development of a Rehabilitation and Land Use Plan for the Alexkor Mining Area in the Richtersveld in the Northern Cape Province (2003-2007). This formed part of a land claim for the Richtersveld Community and included acting as the lead expert witness for the community in the associated court case.
- Southern Cape Spatial Development Framework (SCSDF), Southern Cape Region, SA. Environmental opportunities and constraints assessment for SCSDF study (2000).
- Stellenbosch Rivers Management Plan, Stellenbosch, SA. Integrated management plan for the urban river systems in Stellenbosch (1998).
- Wetton-Lansdowne corridor project, Cape Town, SA. Habitat conservation and biodiversity study to inform planning proposals for the Wetton-Lansdowne corridor (1998).
- Tygerberg Spatial Development Framework, City of Tygerberg, Cape Town, SA. Environmental baseline study for the spatial development framework study for the City of Tygerberg (1999).
- Protea Valley development options, City of Tygerberg, Cape Town, SA. Assessment and identification of suitable land use development options for Protea Valley (2000).

## **WASTE MANAGEMENT**

- Project Manager, Al Wusta Regional Waste Site Investigation, Oman (2011).
- Project Manager, Al Batinah Regional Waste Site Investigation, Oman (2011);
- Project Manager, Barka Landfill Site EIA, Muscat, Oman (2010);
- Mare Chicose Landfill, Mauritius. SIA and Compensation and Relocation Plan for proposed expansion of the current landfill site (2005).
- Robertson Waste Site, Robertson, SA. EA, including public participation, for the identification of a new waste site (2000).
- Project Manager, Coastal Park General Waste Site, Cape Town, SA. EIA for proposed expansion of a large, general waste site (1998).
- Project Manager, Windhoek general and hazardous waste site, Windhoek, Namibia. Investigation to identify new general and hazardous waste disposal site for Windhoek (1997).
- Project Manager, Walvis Bay general and hazardous waste site, Walvis Bay, Namibia. Investigation to identify new general and hazardous waste disposal site for Walvis Bay (1998).
- Project Manager, Port Elizabeth Waste Site, Port Elizabeth, SA. Environmental Assessment for permit application (1998).
- Project Manager, Brackenfell general waste site, Cape Town, SA. Permit application report and environmental assessment for Brackenfell waste site (1995).
- Project Manager, Ceres general waste site, Ceres, SA. Permit application report and environmental assessment for Ceres waste site (1995)
- Project Manager, Caledon general waste site, Caledon, SA. Permit application report and environmental assessment for Caledon waste site (1996).
- Project Manager, Wellington general waste site, Wellington, SA. Permit application report and environmental assessment for Wellington waste site (1996).
- Project Manager, Greyton general waste site, Greyton, SA. Permit application report and environmental assessment for Greyton waste site (1999);

## **ENVIRONMENTAL TRAINING AND CAPACITY BUILDING**

Experience includes design of training courses, development of training manuals and running courses for both the private and public sector. Courses include:

- 2 X 5 day course on Resource Economics for Coastal Managers and Government Officials, Namibian Government (2009).
- 5 day course on EIA and Environmental Management course for Swaziland Local Authorities, 2004.
- Integrated Coastal Management course for Department of Marine and Coastal Management, 2004.
- 5 regional Social Assessment Training Workshops for officials from the South African Department of Water Affairs and Forestry, 2004.

- EIA training course for officials of the South African National Parks, Kruger National Park, 2003.
- Environmental Management course for Shell South Africa, 2003.
- 10 Local Agenda (LA) 21 training courses for provincial and local government departments in South Africa during period 2000-2002.
- Resource Economics Workshop for South African Department of Water Affairs and Forestry, 2002.
- Conflict Resolution Workshop for subsistence fishermen, Kwa-Zulzu Natal, 2002.
- Integrating the principles of LA 21 into Integrated Development Planning. Course presented at World Summit on Sustainable Development, Johannesburg, 2002.
- Environmental facilitation, mediation and conflict management. Training course for Independent Mediation Services in South Africa (IMSSA) facilitators, 1998, 1999 and 2000.
- Series of 4 Strategic Environmental Assessment training courses for officials of the Government of Botswana, 2000 & 2001.
- EIA training course for officials of the Government of Lesotho, 2000 and 2001.
- EIA training courses for local government officials in Cape Town, 2000.

### **LECTURING AND TEACHING**

Experience includes lecturing and teaching at an under and post-graduate level since 1990. The areas of interest include Environmental Economics, EIA, SEA, SIA and Waste Management.

- Guest Lecturer in SIA, Department of Environmental and Geographical Science and Department of Planning, University of Cape Town (current);
- Lecturer in Environmental Economics for the MPhil course in Environmental Management at University of Cape Town from 1990 –2006.
- Guest lecturer in SIA, EIA and SEA for MPhil course in Environmental Management at UCT, 2000-2004.
- Coordinator and lecturer in Environmental Economics at Cape Technikon, 1999.
- Coordinator and lecturer of waste management course, Peninsula Technikon in 1998.
- Guest lecturer at Peninsula Technikon for waste management, 1994 – 1998.
- Moderator for Peninsula Technikon waste management course, 1994-2002.
- Environmental Management for senior managers, module on a business management course for AngloVaal Management run by Prof John Simpson of UCT, 2000 and 2001.
- Guest lecturer on SIA and EIA for Geography and Environmental Science Honours, UCT. 2000-2004.
- Presenter and coordinator on annual Integrated Environmental Management Short Course run by the Environmental Evaluation Unit at UCT (2000-2006).
- Presenter on Integrated Coastal Management course run by Environmental Evaluation Unit at UCT 2005-2006.

### **PUBLIC PARTICIPATION**

Experience includes designing public participation processes and facilitating public meetings and workshops. Projects include:

- SEA for Wellington Industrial Area, managed and facilitated public meetings and workshops (2014).
- Green Point Common, Cape Town. Public participation and facilitation processes for development of new market area for informal traders (2005);
- Chapman's Peak Drive. Managed and facilitated the public participation processes for looking at the technical and funding options for re-opening Chapman's Peak Drive on the Cape Peninsula as a toll road (2001).
- Visserhok Hazardous waste disposal sites, Cape Town City Council and Wastetech, Cape Town, SA. Managed and facilitated the public participation processes for the permit application for two hazardous waste sites located at Visserhok (1994).
- Grand West Casino, Cape Town. Public participation processes for proposed establishment of the Grand West Casino at the Cape Show Grounds, Cape Town (1997).
- Coastal Park waste site, Cape Town, SA. Managed and facilitated public participation processes for the permit application for the Coastal Park general waste site (1998).

- Managed and facilitated public participation processes associated with EIA's listed above.

### ***ENVIRONMENTAL MANAGEMENT PLANS AND REHABILITATION REPORTS***

- Development of rehabilitation programme and cost estimate for damage caused by 80 years of alluvial diamond mining between Alexander Bay and Port Nolloth, West Coast, South Africa (current). This project is linked to the Richtersveld Land Claim and involved acting as an expert witness in the associated court case.
- Corridor Sands Heavy Mineral Project, Mozambique. Development of an Environmental Management Plan (EMP) for the construction phase of the project (2001).
- Walvis Bay Naval facilities, Walvis Bay, Namibia. EMP for the construction phase of the project (2001).
- APC cement factory, Otjiwarongo, Namibia. Operational management plan for up-grade to meet the legislative requirements (2000).
- Sparrebosch golf course, hotel and residential development, Knysna, SA. Environmental Management Plan (EMP) for the construction phase (1997).
- M3 highway up-grade, Johannesburg, SA. EMP for the design and construction phase of the M3 (1995).
- Trunk Road 46, Grahamstown-Port Alfred, Eastern Cape, SA. EMP for the construction phase (1994).
- Trunk Road 46, Grahamstown to Port Alfred, Eastern Cape, SA. Rehabilitation proposals for borrow pits, quarries, cuts, fills and road surfaces (1993).
- Trunk Road 19, Maclear to Halcyon Drift, Eastern Cape, SA. Rehabilitation proposals for borrow pits and quarries (1992).
- Namakwa Sands, Heavy Mineral Mining Operation, West Coast SA. Conceptual Rehabilitation Plan (1991).

### ***ENVIRONMENTAL MANAGEMENT SYSTEMS AND AUDITS***

- APC Cement Factory, Otjiwarongo, Namibia. Operational audit of APC cement factory to assess compliance with Namibian legislation (2000).
- Vodacom, SA. Conceptual Development of an Environmental Policy and outline for an Environmental Management System for Vodacom, SA (1998).
- Marine Oil, SA, initial site audit (1999).
- Rose Foundation, SA. Audit of 15 waste oil-recycling facilities in SA (1997).
- Zambian Copper Belt, Zambia. Pre-acquisition audit of 20 electrical transformer stations (1997).

### ***SUPERVISION OF STUDENTS***

- 1994-2006: Supervision of the thesis component of MPhil in Environmental Management for a number of students. Usually requested to act as supervisor for at least one or two students per year.
- Internal and external examiner for a number of theses submitted in fulfillment of the MPhil Environmental Management at UCT.

### ***PUBLICATIONS AND PAPERS***

#### ***Environmental publications and guidelines***

- Principal Author of Health, Safety and Environmental Guidelines for Bitumen and Coal Tar Products, prepared for the SA Bitumen Association (Sabita), in 1994 and revised in 1998.
- Co-author of document outlining an integrated Waste Management Strategy for the Western Cape, SA, produced in 1995;
- Principal Author of Guidelines for Waste Management in South Africa, a handbook for local authorities, produced by Ninham Shand in 1993.

## ***Papers and articles***

The majority of the articles aimed at the layperson as opposed to journal articles.

1. SOWMAN, M R, GLAZEWSKI, J I, FUGGLE, R F, BARBOUR, A (1990) " Planning and legal responses to sea-level rise in South Africa", South African Journal of Science, v 86, 1990.
2. BARBOUR, T (1992) 'Addressing the social impacts of waste disposal by incorporating permit applications into the latest Integrated Environmental Management (IEM) procedures", Paper presented at Wastecon '92, 3 – 5 November 1992.
3. BARBOUR, T (1992) "Internalising externalities: An attempt to address social costs", paper presented at a workshop on the Economy and Environment, 25 November 1992.
4. BARBOUR, T (1993) "The importance of taking waste disposal seriously", IMIESA, v 18 no 7 July 1993.
5. BARBOUR, T (1993) "Community based waste collection", Earthyear 5<sup>th</sup> edition, winter 1993.
6. BARBOUR, T (1993) "Guidelines for waste management in South Africa", Ninham Shand, 1993.
7. BARBOUR, T (1994) "Quarry Rehabilitation Reports: Are they effective working documents or merely legal requirements?", EPM, v 5, no 2, February 1994.
8. BARBOUR, T (1994) "Environmental factors relating to site selection for dams", Paper presented at SAICE one-day seminar on earth dam design, 3 June 1994.
9. BARBOUR, T (1994) "Environmental Economics", Earthyear 7<sup>th</sup> edition, Summer 1994.
10. BARBOUR, T (1996) "Lessons learnt from Vissershok for public participation and landuse planning", Paper presented at Wastecon 96, Durban, South Africa.
11. BARBOUR, T and COLEMAN, A (1996) "Towards an integrated waste management strategy for the Western Cape", Paper presented at Wastecon 96, Durban, South Africa.
12. BARBOUR, T (1998) Strategic Environmental Assessment of the Cape Town 2004 Olympic Bid", paper presented at IAIA 98, Christchurch, New Zealand.
13. BARBOUR, T (2000) Robertson Waste Site: A Case Study, paper presented at Wastecon 2000, Somerset West, SA.
14. BARBOUR, T (2000) National Environmental Management Act: Implications for Waste Management and the Minimum Requirements, paper presented at Wastecon 2000, Somerset West, SA.
15. BARBOUR, T (2001). The role of economic incentives in promoting and/or improving environmental rights. Paper presented a Conference on Environmental Rights, Cape Town, 30 July 2001.
16. BARBOUR, T (2002). The role of environmental assessments in land-use planning. Paper presented at Southern African Town Planning Conference, Somerset West, 18-19 March 2002.
17. BARBOUR, T (2002). Incorporating principles of environmental sustainability into policy making. Conference on Environmental Practices for the 21<sup>st</sup> Century, Somerset West, 24-25 May, 2002.
18. BARBOUR, T and Brownlie, S (2002). Have mandatory environmental impact assessments improved decision-making in South Africa, and are they making a significant contribution to sustainable development? International Association for Impact Assessment (SA), National Conference, 7-9 October 2002.
19. Barbour, T (2003). Developing and evaluating effective strategies for managing hazardous materials and wastes. Paper prepared for Chemical and Toxic Waste Management Conference Park Hyatt, Rosebank, Johannesburg, February 2003.
20. Barbour T (2004). Incorporating Sustainable Development considerations in to the IDP process. Paper prepared for conference on Environmental Management for Local Government, Johannesburg, June 2004.
21. THESIS TOPIC "Quarry Rehabilitation: The need to adopt a pre-planning approach towards rehabilitation (MSc Environmental Science)." An important component of the study was the development of a Rehabilitation Programme and Rehabilitation checklist to assist those involved in carrying out rehabilitation work.