

CURRICULUM VITAE OF ARLENE SINGH

- Profession:** Environmental Assessment Practitioner (EAP) / Director
- Specialisation:** Environmental Assessments, report writing, report reviewing, development of project proposals for procuring new projects and project administration.
- Work Experience:** 9 years' experience in Environmental Assessments and 1 year in Sustainability Consulting.

VOCATIONAL EXPERIENCE

Professional execution of consulting services for projects in the environmental management field, specialising in Environmental Impact Assessment studies, environmental permitting, public participation, compilation of Environmental Management Plans and Programmes, environmental policy, and integrated environmental management. Responsibilities include report writing, project management, review of specialist studies and the identification and assessment of potential negative environmental impacts and benefits. Compilation of the reports for environmental studies is in accordance with all relevant environmental legislation.

Experience in conducting environmental impact assessments for infrastructure development projects (roads, stormwater, pipelines), Mixed Use Developments and Section 24G Applications for complex projects. She has extensive experience in managing and monitoring ECO functions and compliance on relevant projects. She has gained the ability to conduct sustainability assurance audits for non-financial environmental KPI's through her experience with listed mining corporations.

SKILLS BASE AND CORE COMPETENCIES

- Compilation of environmental impact assessment reports and environmental management programmes in accordance with relevant environmental legislative requirements;
- Identification and assessment of potential negative environmental impacts and benefits through the review of specialist studies;
- Key experience in the assessment of impacts associated with complex Section 24G Applications.
- Review of environmental impact assessment reports, impacts matrices and environmental management programme reports;
- Conducting of ECO audits, managing ECO staff, review of ECO reports and liaison with the client;
- Review of Carbon Footprint Analysis report and provision of recommendations for industry;
- Developing Business Development Plans, action plans and carrying out Business Development initiatives;
- Compilation of Integrated Reports in line with King IV;
- Conducting Mining Permit Applications with the DMR and the associated Basic Assessment process in line with the MPRDA;
- Extensive experience in compilation and submission of Tenders and Proposals;

EDUCATION AND PROFESSIONAL STATUS

Degrees:

- B.Sc. (Hons.) Environmental Management (2016), University of South Africa (UNISA);
- B.Sc. Environmental Science (2012), University of Kwa-Zulu Natal, Westville

Short Courses:

- Official DWS Section 21 (c) and (i) Water Use Authorisation Course (2018)- Dr Wietsche Roets, Specialist Scientist: (In Stream Water Use);
- SMME Green Building Face to Face Workshop (2018)- GBCSA hosted by JP Morgan;
- ArcGISBasic 10,3 (2016)- Esri South Africa
- Energy within Environmental Constraints (2020)- Harvard (Online)
- Becoming an Entrepreneur (2020)- Massachusetts Institute of Technology (Online)

Professional Society Affiliations:

- South African Council for Natural Scientific Professionals - Professional Natural Scientist: Environmental Scientist) – Reg No. 118872
- Environmental Assessment Practitioners Association of South Africa- Reg No: 2019/898

Other Relevant Skills:

- Compiling and submission of invoices on projects;
- Registration of Waste Management Facilities on GWIS

EMPLOYMENT

Date	Company	Roles and Responsibilities
16 December 2020- Current	Nala Environmental (Pty) Ltd	Environmental Assessment Practitioner / Director <i>Tasks include:</i> <i>Compilation of Environmental Impact Assessment (EIA) reports; Basic Assessment (BA) reports and Environmental Management Programmes; Environmental Screening reports; Co-ordination of the public participation process; Project management; project proposals and tenders; Client liaison and Marketing; Process EIA Applications. Business Development, Integrated reporting. Strategy, policy and procedure</i>

Date	Company	Roles and Responsibilities
		<i>development. Planning of staff on engagements and Invoicing of clients.</i>
08 April 2019- 15 December 2020:	Savannah Environmental (Pty) Ltd	<p>Environmental Assessment Practitioner</p> <p><i>Tasks include:</i> <i>Compilation of Environmental Impact Assessment (EIA) reports; Basic Assessment (BA) reports and Environmental Management Programmes; Environmental Screening reports; Co-ordination of the public participation process; Project management; project proposals and tenders; Client liaison and Marketing; Process EIA Applications.</i></p>
01 January 2016- 05 April 2019	Tripl04 Sustainable Solutions (Pty) Ltd	<p>Environmental Consultant/Gauteng Office Manager</p> <p><i>Tasks included:</i> <i>Review of Basic Assessment reports, Environmental Management Programme reports, Impact Matrices. Review of Environmental Control Officer functions, report and planning of site visits. Compiling Waste Management License Applications and Section 24G Application with reports for review by company Director. Review of specialist reports. Compilation of tenders, proposals and fee proposals. Co-ordinate public participation processes. Liaison with clients, stakeholders and competent authorities. Business Development, Integrated reporting. Strategy, policy and procedure development. Planning of staff on engagements and Invoicing of clients.</i></p>
01 October 2014 – 31 December 2015	PricewaterHouse Coopers (PwC)	<p>Sustainability Consultant 2</p> <p><i>Tasks included:</i> <i>Non-financial auditing of Environmental KPI's (Primary water, Total Waste, Total Electricity, Total GDP Calc, Scope 1, 2 and 3 emissions, Total CSI spend, Total Environmental incidents and Total Rock waste generated) for listed mining companies. Role included, testing of controls, applications of audit standards and guidelines, preparation and conclusions of audit papers and files, reporting to management and preparation of audit reports.</i></p>

Date	Company	Roles and Responsibilities
01 January 2013- 30 September 2014	Triplo4 Sustainable Solutions (Pty) Ltd	Junior Environmental Consultant <i>Tasks included:</i> <i>Conducting Environmental Control Officer audits and drafting of ECO reports for review. Drafting of Basic Assessment (BA) reports, Environmental Management Programme reports for review by Environmental Consultant. Conducting public participation by liaison with competent authorities and stakeholders. Assisting with compiling of Basic Assessment documents.</i>

PROJECT EXPERIENCE

Arlene has extensive experience in conducting environmental impact assessments for infrastructure development projects (roads, stormwater, pipelines) and renewable energy projects (solar, wind, csp and hybrid projects), Mixed Use Developments and Section 24G Applications for complex projects and housing developments. She has extensive experience in managing and monitoring ECO functions and compliance on relevant projects. She has gained the ability to conduct sustainability assurance audits for non-financial environmental KPI's through her experience with listed mining corporations. She has also been involved in undertaking Part 2 Amendment Applications and impact assessments for Renewable Energy Projects in South Africa. She currently manages staff and undertakes project planning to ensure that projects are executed within the appropriate timeframes and within budget.

MINING SECTOR PROJECTS

Environmental Impact Assessments and Environmental Management Programmes

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>Yzermyn Coal Mine EMP, Piet Retief, Mpumalanga</i>	<i>Atha Group</i>	<i>EAP</i>

Basic Assessments

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>Shaya Quarry Basic Assessment process, Empangeni, Kwazulu-Natal</i>	<i>Mbavuzi Minerals</i>	<i>Project Manager</i>
<i>Umvoti River Sand Mining Basic Assessment process, Kwazulu-Natal</i>	<i>Izimpiwe Minerals Pty Ltd</i>	<i>Project Manager</i>

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

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
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<i>Shaya Quarry Mining Permit Application, Empangeni, Kwazulu-Natal</i>	<i>Mbavuza Minerals</i>	<i>Project Manager</i>
<i>Umvoti River Sand Mining Mining Permit Application, Kwazulu-Natal</i>	<i>Izimbiwe Minerals Pty Ltd</i>	<i>Project Manager</i>
<i>Newark Quarry, Ilembe Municipality, Kwazulu-Natal</i>	<i>iLembe Concrete Pty Ltd</i>	<i>Junior EAP</i>

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

Basic Assessments

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>Replacement of Nseleni Bridge- Empangeni, Kwazulu-Natal</i>	<i>RHDHV</i>	<i>EAP</i>
<i>Construction of the GOML Ntuzuma Reservoir, Ntuzuma, Kwazulu-Natal</i>	<i>eThekweni Metropolitan Municipality</i>	<i>Project Manager</i>
<i>Upgrade of the Nyathikazi box culvert, Darnell, Kwazulu-Natal</i>	<i>KwaDukuza Municipality</i>	<i>Junior EAP</i>
<i>Upgrade and Expansion Provincial Main Road D887, Kwazulu-Natal</i>	<i>RHDHV</i>	<i>Junior EAP</i>
<i>Expansion of LOX and Diesel Storage at the Air Products Facility in Coega, Eastern Cape</i>	<i>Air Products South Africa (Pty) Ltd</i>	<i>EAP</i>

Environmental Compliance, Auditing and ECO

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>ECO Monitoring for Construction of Offtake 1 Reservoir, KwaDukuza, Kwazulu-Natal</i>	<i>KwaDukuza Municipality</i>	<i>Project Manager</i>
<i>ECO Monitoring for Construction of Offtake 6A2, 6D, 8C, 8D, 9, 11D Pipelines, KwaDukuza, Kwazulu-Natal</i>	<i>KwaDukuza Municipality</i>	<i>Project Manager</i>
<i>ECO Monitoring for the Construction of the Jozini RCWSS Phase 1A, Jozini, Kwazulu-Natal</i>	<i>RHDHV</i>	<i>ECO (1 year), Project Manager</i>
<i>ECO Monitoring for the Greytown BWSS, Greytown, Kwazulu-Natal</i>	<i>RHDHV</i>	<i>Project Manager</i>
<i>ECO Monitoring for the Kranskop Water Supply Scheme, Kranskop, Kwazulu-Natal</i>	<i>RHDHV</i>	<i>ECO</i>
<i>ECO Monitoring for the Zulti South Access Road, Richards Bay, Kwazulu-Natal</i>	<i>RHDHV</i>	<i>Project Manager</i>

Compliance Advice and ESAP reporting

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>Ethafeni Cemetery Environmental Assessment Report, KwaDukuza, Kwazulu-Natal</i>	<i>KwaDukuza Municipality</i>	<i>EAP</i>

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

Project Name & Location	Client Name	Role
<i>General Authorisation for the Replacement of the Nseleni Bridge, Empangeni, Kwzulu-Natal</i>	<i>RHDHV</i>	<i>EAP</i>
<i>Water Use Licence Amendment for Country Club Johannesburg</i>	<i>Country Club Johannesburg</i>	<i>EAP</i>

HOUSING AND URBAN PROJECTS**Environmental Impact Assessments and Environmental Management Programmes**

Project Name & Location	Client Name	Role
<i>Ethafeni Precinct Project Section 24G Application- Groutville , Kwazulu- Natal.</i>	<i>KwaDukuza Municipality</i>	<i>Project Manager/Lead Consultant</i>
<i>Environmental Management Programme report Brettenwood Residential Development, Kwazulu-Natal.</i>	<i>Brettenwood Coastal Estate</i>	<i>EAP</i>
<i>Environmental Management Programme report for CTM Ballito, Ballito, Kwazulu-Natal</i>	<i>CTM</i>	<i>EAP</i>

Basic Assessments

Project Name & Location	Client Name	Role
<i>Upgrade of residential dwelling on Colwyn Drive, Salt Rock, Kwazulu-Natal</i>	<i>Mike Graham</i>	<i>Junior EAP</i>
<i>Ethafeni Precinct Project Basic Assessment, Groutville, Kwazulu-Natal</i>	<i>KwaDukuza Municipality</i>	<i>Project Manager</i>
<i>105 Nkwazi Drive Single Residential House Basic Assessment, Zinkwazi, Kwazulu-Natal</i>	<i>Ituwiz Pty Ltd</i>	<i>Project Manager</i>

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
<i>88 Compensation ECO Audits – Ballito, Kwazulu- Natal</i>	<i>Imali Corp</i>	<i>Environmental Control Officer (ECO)</i>
<i>Oceans Umhlanga Hotel & Residential Development, Umhlanga, Kwazulu-Natal</i>	<i>Edison Property Group</i>	<i>Project Manager</i>
<i>Inoxa Cookware Factory Warehouse, Woodmead Estate, Shakaskraal, Kwazulu-Natal</i>	<i>Shree Property</i>	<i>Project Manager</i>
<i>Woodmead Estate Warehousing, Gauteng</i>	<i>Shree Property</i>	<i>Project Manager</i>
<i>Ridgeside Commercial Development, Umhlanga, Kwazulu-Natal</i>	<i>Shree Property</i>	<i>Project Manager</i>

<i>Construction of Jozini Shopping Centre, Jozini, Kwazulu-Natal</i>	<i>GK Projects</i>	<i>ECO</i>
<i>Birdhaven Residential Development, Ballito, Kwazulu-Natal</i>	<i>Mike Graham Trust</i>	<i>ECO</i>
<i>Foxhill Church and Residential Development, Ballito, Kwazulu-Natal</i>	<i>M&C Janigh Trust</i>	<i>ECO</i>
<i>Beema Bamboo Plantation Site (Bamboo to Energy project, Kwazulu-Natal)</i>	<i>Green Grid Energy</i>	<i>ECO</i>

OTHER PROJECTS

Environmental Compliance, Auditing and ECO

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>Beema Bamboo Plantation Site (Bamboo to Energy project, Kwazulu-Natal)</i>	<i>Green Grid Energy</i>	<i>ECO</i>
<i>Mkondeni Medical Waste External Waste Management License Audit, Pietermaritzburg</i>	<i>Ecocycle Waste Solutions</i>	<i>Auditor</i>
<i>Dube Tradeport External Audit, eThekwini</i>	<i>Dube Tradeport Corporation</i>	<i>Junior Auditor</i>

Carbon Footprint Analysis

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>Carbon footprint analysis of Newcastle and Sasolburg Plants, (Kwazulu Natal & North West)</i>	<i>Karbochem Pty Ltd</i>	<i>EAP</i>
<i>Measure Carbon Emissions and provide updated baseline that would enable DTPC to quantify, monitor and assess carbon footprint and its climate change impact for DTPC, eThekwini</i>	<i>Dube Tradeport Corporation</i>	<i>Junior EAP</i>

Waste Management

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>Waste Classification Assessment for Karbochem Newcastle facility, Kwazulu-Natal</i>	<i>Karbochem Pty Ltd</i>	<i>EAP</i>
<i>Waste Management Licenses for Wadeville & Rosslyn Waste Management Facilities, Gauteng.</i>	<i>Planet Care Pty Ltd</i>	<i>EAP</i>

Compliance Advice and ESAP reporting

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
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<i>Environmental Opinion and Enquiry for the Rosslyn Tyre Pyrolysis Plant, Gauteng</i>	<i>Cosmic Energy</i>	<i>EAP</i>
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Non-Financial Auditing

<i>KPI'S Audited</i>	<i>Client Name & Location</i>	<i>Role</i>
<i>Total Primary Water Use, Total Electricity Used, Total Waste Generated, Scope 1, 2 & 3 Emissions and Total Number of Environmental Incidents.</i>	<i>Anglo Platinum (South Africa)</i>	<i>Sustainability Consultant</i>
<i>Total Primary Water Use, Total Waste Generate and Total Number of Environmental Incidents.</i>	<i>De Beers (Namibia)</i>	<i>Sustainability Consultant</i>
<i>Scope 1, 2 & 3 Emissions, Total Electricity Purchased, Total Primary Water Used.</i>	<i>Harmony Gold (South Africa)</i>	<i>Sustainability Consultant</i>
<i>Scope 1, 2 & 3 Emissions, Total Electricity Purchased, Total Primary Water Used and Total Rock Waste Generated.</i>	<i>Exxaro (South Africa, Papua New Guinea)</i>	<i>Sustainability Consultant</i>
<i>Total Corporate Social Investment fund spend by Barclays Group</i>	<i>Barclays Group</i>	<i>Sustainability Consultant</i>
<i>Audit Environmental and Social Risk Finance Projects - Equator Principles</i>	<i>MTN (South Africa & Nigeria)</i>	<i>Sustainability Consultant</i>

Renewable Energy Projects

Part 2 Amendment Applications and Motivation Reports

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>Transalloys Coal-Fired Power Station near Emalahleni, Mpumalanga Province</i>	<i>Transalloys (Pty) Ltd</i>	<i>EAP</i>
<i>Zen Wind Energy Facility, Western Cape</i>	<i>Energy Team (Pty) Ltd</i>	<i>EAP</i>
<i>Hartebeest Wind Energy Facility, Western Cape</i>	<i>juwi Renewable Energies (Pty) Ltd</i>	<i>EAP</i>
<i>Khai-Ma and Korana Wind Energy Facilities</i>	<i>Mainstream Renewable Power (Pty) Ltd</i>	<i>EAP</i>
<i>Korana Solar PV facility</i>	<i>Mainstream Renewable Power (Pty) Ltd</i>	<i>EAP</i>
<i>Sutherland Wind Energy Facility</i>	<i>Mainstream Renewable Power (Pty) Ltd</i>	<i>EAP</i>
<i>Rietrug Wind Energy Facility</i>	<i>Mainstream Renewable Power (Pty) Ltd</i>	<i>EAP</i>

Basic Assessments

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>Upilanga Solar Park, Northern Cape (x6 100MW PV's and x3 350MW PV Basic Assessments)</i>	<i>Emvelo Capital Projects (Pty) Ltd</i>	<i>EAP</i>
<i>Kolkies and Sadawa PV facilities and associated grid infrastructure</i>	<i>Mainstream Renewable Power South Africa (Pty) Ltd</i>	<i>EAP</i>
<i>Hyperion Overhead Powerline</i>	<i>Red Rocket (Pty) Ltd</i>	<i>EAP</i>
<i>132KkV Phinda Power underground transmission line</i>	<i>Phinda Power Producers (Pty) Ltd</i>	<i>EAP</i>
<i>Msenge Emoyeni Wind Energy Facility supporting infrastructure</i>	<i>Windlab (Pty) Ltd</i>	<i>EAP</i>
<i>Sutherland Wind Energy Facility Grid Infrastructure</i>	<i>Mainstream Renewable Power South Africa (Pty) Ltd</i>	<i>EAP</i>
<i>Rietrug Wind Energy Facility Grid Infrastructure</i>	<i>Mainstream Renewable Power South Africa (Pty) Ltd</i>	<i>EAP</i>

Environmental Impact Assessments

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>Upilanga Solar Park, Northern Cape (350MW GSP Tower)</i>	<i>Emvelo Capital Projects (Pty) Ltd</i>	<i>EAP</i>
<i>350MW Risk Mitigation Power Plant (Gas to Power facility)</i>	<i>Phinda Power Producers (Pty) Ltd</i>	<i>EAP</i>
<i>75mw Thermal Dual Fuel Facility and associated infrastructure (Hybrid facility i.e. gas to power and solar pv)</i>	<i>Red Rocket (Pty) Ltd</i>	<i>EAP</i>
<i>Berg River Wind Energy Facility</i>	<i>Energy Team (Pty) Ltd</i>	<i>EAP</i>

Section 54 Audits

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>Mulilo 20MW PV Facility, Prieska, Northern Cape</i>	<i>Mulilo (Pty) Ltd</i>	<i>Auditor</i>
<i>Mulilo 10MW PV Facility, De Aar, Northern Cape</i>	<i>Mulilo (Pty) Ltd</i>	<i>Auditor</i>
<i>Karashoek CSP 1 Facility/ Solar One., Upington, Northern Cape</i>	<i>Karashoek Solar One (Pty) Ltd</i>	<i>Audit</i>



herewith certifies that

Arlene Singh

Registration Number: 118872

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)

Environmental Science (Professional Natural Scientist)

Effective **6 June 2018**

Expires **31 March 2023**



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Chairperson

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Chief Executive Officer





Registration No. 2019/898

Herewith certifies that

Arlene Singh

is registered as an

Environmental Assessment Practitioner

***Registered in accordance with the prescribed criteria of Regulation 15. (1)
of the Section 24H Registration Authority Regulations
(Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the
National Environmental Management Act (NEMA), Act No. 107 of 1998, as
amended).***

Effective: 01 March 2022

Expires: 28 February 2023

Chairperson

Registrar



CURRICULUM VITAE OF NORMAN CHETSANGA

Profession:	Environmental Assessment Practitioner (EAP)
Specialisation:	Environmental Assessments, report writing, report reviewing, development of project proposals for procuring new projects and project administration.
Work Experience:	10 years' experience in Environmental Management (8 years in Environmental Regulatory Body and 2 years in Environmental Assessments and Health & Safety Consulting).

VOCATIONAL EXPERIENCE

Well advanced in environmental auditing, ECO execution on various construction projects. Is a consultant in the environmental management field capable of drafting Environmental Management Plans, carrying out work focused on Environmental authorisation processes (Public participation, report drafting and project management of the authorisation process)

Vast experience in environmental impact assessments review, approval and associated environmental compliance inspections. Well experienced in environmental legislation interpretation and compliance thereof. Has also attained auditing skills in Health and Safety matters during his career.

SKILLS BASE AND CORE COMPETENCIES

- Reliable experience in environmental compliance monitoring and auditing.
- Adequate environmental legislation interpretation and assessment for the purposes of policy formulation.
- Comprehensive report writing and compilation in terms of Environmental authorisation reviews and draft compilations of BAR's, and EMPs
- ECO experience in monitoring
- Water quality testing
- Air quality testing

EDUCATION AND PROFESSIONAL STATUS

Degrees:

- Bachelor of Environmental Science. (Hons.) Pollution Science(2008), Bindura University of Science Education;

Short Courses:

- Auditor Training Course ISO 14001:2004 (April 2009) with Southern African Auditor and Training Certification Association:
- ISO 17020 IBA Conformity Assessment Awareness Certificate with Deutsche Zertifizierung in association with Fleet Consultants

Professional Society Affiliations:

- South African Council for Natural Scientific Professionals - Professional Natural Scientist: Environmental Scientist) – Reg No. 115364

Other Relevant Skills:

- Environmental quality testing (Water sampling and air quality testing)
- Report writing
- SAP

EMPLOYMENT

Date	Company	Roles and Responsibilities
		<p>Junior Environmental Assessment Practitioner</p> <p><i>Tasks include:</i> Play a key role in environmental permitting, environmental authorisation applications, and compliance advice and assurance. Manage the delivery of EIA report and EMPs. Execute and further develop and manage environmental permitting requirements (including, but not limited to, WUL, AEL, WML, biodiversity permits). Client liaison, networking and building on marketing strategies</p>
April 2019- July 2021	EnviroFact Consulting cc	<p>Environmental Control Officer/ Consultant.</p> <p><i>Tasks include:</i> Conducting ECO work, inspections and reporting. Conducting HSE inspections as an independent agent for projects. Development of Environmental Management</p>

Date	Company	Roles and Responsibilities
		Plans for project sites. Monitoring and Management of environmental activities on project sites. Preliminary compilation of EIAs, BARs and WULA processes. Development and implementation of Quality, Health, Safety & Environmental Management systems for clients. Auditing QHSE management systems and operations.
October 2010- March 2019		Provincial Environmental Quality Scientist <u>Tasks included:</u> <i>Environmental Permitting and compliance monitoring Inspections. Regulatory Environmental protection in Hazardous substances and Wastes, Air quality, Water and effluent, Solid waste sections. Environmental Impact Assessment reviews including EMPRs and all associated EAs. Coordinating a biomonitoring and surface water sampling program for seven districts. Air quality testing and analysis. Hazardous substances spill response and contaminated land remediation. Data and trend analysis. Environmental billing, report writing, departmental budgeting. Stakeholder liason as required.</i>

PROJECT EXPERIENCE

Norman has comprehensive experience in environmental management and monitoring at all levels of industry (mining, construction, timber processing, manufacturing and small scale enterprises). ECO experience in development and construction industries with greater exposure in road construction and bridge construction. Has also gained substantial experience in environmental management systems auditing in all levels of industry and recently extended to the motor industry.

PROJECTS

Environmental Impact Assessments and Environmental Management Programmes

<i>Project Name & Location</i>	<i>Client Name</i>	<i>Role</i>
<i>EMPr and maintenance management plan to conduct maintenance and repair related activities in and around the</i>	<i>Gauteng Department of Roads and Transport</i>	<i>Junior EAP</i>



Kikuyu Waterfall
Cnr. Old Pretoria Main Road & Maxwell Drive
Johannesburg, South Africa

Email: norman@veersgroup.com
Tel: +27 74 366 7048

<i>floodplain of klipspruit watercourse around bridges b1727a and b1727b on road p186/1 (N12) in eldorado park</i>		
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Basic Assessments

Project Name & Location	Client Name	Role
<i>Basic assessment and water use authorization process for the PRASA construction Of a bridge at Koelenhof level crossing, Stellenbosch Local municipality, Western cape</i>	<i>PRASA</i>	<i>Junior EAP</i>

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
<i>ECO Monitoring for Construction of road streets and stormwater in Masakeng and Thusanong, LadyBrand, Free State</i>	<i>Mantsopa Municipality</i>	<i>ECO</i>
<i>ECO Monitoring for upgrade of AH Roads, for City of Ekurhuleni, Pomona, Kempton Park, Gauteng.</i>	<i>City of Ekurhuleni</i>	<i>ECO</i>
<i>ECO Monitoring for the Construction of the Limpopo Low level bridge and access road, Limpopo</i>	<i>Modimolle-Mookgophong Local Municipality</i>	<i>ECO</i>
<i>ECO Monitoring for the construction of 2.0km road in Orange farm, Gauteng</i>	<i>JDA</i>	<i>ECO</i>
<i>ECO Monitoring for the upgrade to National Route 3, section 2, from Cato ridge (km 20.2) to Dardanelles (km 26.6), Kwazulu-Natal</i>	<i>RHDHV</i>	<i>ECO</i>

Compliance Advice and ESAP reporting

Project Name & Location	Client Name	Role
<i>Waste Impact Report, Wadeville Gauteng</i>	<i>Umsa Construction</i>	<i>Junior EAP</i>

Environmental management systems Auditing

Systems Audited/Developed	Client Name & Location	Role
<i>HSE systems Internal auditing</i>	<i>Johnson Matthey (South Africa)</i>	<i>Candidate Systems Auditor</i>
<i>QHSE systems development and Implementation</i>	<i>Gancri Tropicus Transport and Logistics (Namibia)</i>	<i>Candidate Systems Auditor</i>



herewith certifies that

Norman Chetsanga

Registration Number: 115364

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)

Environmental Science (Professional Natural Scientist)

Effective 20 July 2016

Expires 31 March 2023



A handwritten signature in black ink, appearing to read 'Botha', is written over a horizontal line.

Chairperson

A handwritten signature in black ink, appearing to read 'M. ...', is written over a horizontal line.

Chief Executive Officer

