

MR. ANDREW HUSTED (TERRESTRIAL ECOLOGY, WETLANDS,
AVIFAUNA & AGRICULTURAL)

Andrew Husted

M.Sc Aquatic Health (*Pr Sci Nat*)

Cell: +27 81 319 1225

Email: andrew@thebiodiversitycompany.com

Identity Number: 7904195054081

Date of birth: 19 April 1979



Profile Summary

Working experience throughout South Africa, West and Central Africa and also Armenia & Serbia.

Specialist experience in exploration, mining, engineering, hydropower, private sector and renewable energy.

Experience with project management for national and international multi-disciplinary projects.

Specialist guidance, support and facilitation for the compliance with legislative processes, for in-country requirements, and international lenders.

Specialist expertise include Instream Flow and Ecological Water Requirements, Freshwater Ecology, Terrestrial Ecology and also Ecosystem Services.

Areas of Interest

Sustainability and Conservation.

Instream Flow and Ecological Water Requirements.

Publication of scientific journals and articles.

Key Experience

- Familiar with World Bank, Equator Principles and the International Finance Corporation requirements
- Environmental, Social and Health Impact Assessments (ESHIA)
- Environmental Management Programmes (EMP)
- Ecological Water Requirement determination experience
- Wetland delineations and ecological assessments
- Rehabilitation Plans and Monitoring
- Fish population structure assessments
- The use of macroinvertebrates to determine water quality
- Aquatic Ecological Assessments
- Aquaculture

Country Experience

Botswana, Cameroon
Democratic Republic of Congo
Ghana, Ivory Coast, Lesotho
Liberia, Mali, Mozambique
Nigeria, Republic of Armenia,
Senegal, Serbia, Sierra Leone, South Africa
Tanzania

Nationality

South African

Languages

English – Proficient

Afrikaans – Conversational

German - Basic

Qualifications

- MSc (University of Johannesburg) – Aquatic Health.
- BSc Honours (Rand Afrikaans University) – Aquatic Health
- BSc Natural Science
- Pr Sci Nat (400213/11)
- Certificate of Competence: Mondi Wetland Assessments
- Certificate of Competence: Wetland WET-Management
- SASS 5 (Expired) – Department of Water Affairs and Forestry for the River Health Programme
- EcoStatus application for rivers and streams

SELECTED PROJECT EXPERIENCE

Project Name: A Joint Basin Survey of the Upper Orange, Lower Orange and Vaal catchments to determine the current status of the systems: Specialist Consultants to conduct Ecological Studies (Fish, Macroinvertebrate, Diatoms, Water Quality and Habitat) and report on the current status (defining system trends).

Personal position / role on project: Specialist Ichthyologist.

Location: South Africa (including Namibia, Botswana & Lesotho) (2021).

Main project features: To determine the current status of the catchments and to discuss the temporal and spatial trends of the monitoring reaches.

Project Name: The Environmental and Social Impact Assessment (ESIA) for the Zrenjanin Wastewater Treatment Plant Project

Personal position / role on project: Project Manager/ Ecologist

Location: Republic of Serbia

Main project features: To compile a terrestrial and aquatic ecological baseline & impact assessment for the proposed project. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: Environmental Sustainability Review for the EMIRA Property Group

Personal position / role on project: Project Manager/ Ecologist

Location: South Africa

Main project features: To review the degree of Biodiversity Mainstreaming to evaluate the various Environmental and Biodiversity related management practices and report on these in terms of the applicable clauses of ISO14001:2015 as these are internationally recognised.

Project Name: Biodiversity baseline assessment for the Kingline Gas Power Project

Personal position / role on project: Project Manager/ Mammal Lead

Location: Nigeria

Main project features: To conduct a wet season terrestrial and aquatic ecological baseline assessment for the proposed project. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: The Environmental and Social Impact Assessment (ESIA) the proposed Nondvo Dam

Personal position / role on project: Project Manager.

Location: Swaziland

Main project features: To conduct a dual season terrestrial and aquatic ecological baseline and impact assessment for the proposed dam. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: The Lower Mara Environmental Flow Assessment

Personal position / role on project: Specialist Ichthyologist.

Location: Tanzania

Main project features: To determine and prescribe environmental flows (eflows) for the Mara River system, with specific consideration for the Mara Wetland.

Project Name: The Environmental and Social Impact Assessment (ESIA) the proposed solar photovoltaic facility and transmission in Cuamba

Personal position / role on project: Project Manager.

Location: Mozambique

Main project features: To conduct a single season terrestrial and aquatic ecological baseline and impact assessment for the proposed facility. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: A biodiversity baseline and impact assessment for the proposed Siguiri Gold Mine Project, in Kankan Province, Guinea.

Personal position / role on project: Project Manager.

Location: Siguiri, Guinea, West-Africa (2018/2019).

Main project features: To conduct a dual season ecological baseline assessment for the expected impact footprint area. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: A biodiversity baseline and impact assessment for the proposed Lesotho Bulk Water Supply Scheme, Lesotho.

Personal position / role on project: Wetland & Aquatic Ecologist, PROBFLO and Project Manager.

Location: Mophale's Hoek, Lesotho (2018).

Main project features: To conduct a dual season terrestrial and aquatic ecological baseline and impact assessment for the pipeline route and proposed weir. The study was required to meet national and IFC requirements, including a Critical Habitat assessment. The study also contributed to prescribing Instream Flow Requirements using PROBFLO for the system.

Project Name: A biodiversity baseline and impact assessment for the proposed Pavua Hydropower Project, in Sofala Province, Central Mozambique.

Personal position / role on project: Project Manager.

Location: Sofala Province, Mozambique (2017).

Main project features: To conduct a dual season terrestrial and aquatic ecological baseline and impact assessment for the expected impact footprint area, including Gorongosa National. The study was required to meet national and IFC requirements, including a Critical Habitat assessment. The study also contributed to prescribing Instream Flow Requirements for the system.

Project Name: An aquatic and wetland specialist baseline and impact assessment for the proposed Onshore 2D seismic Survey in Block P5-A, in Maputo and Gaza Provinces.

Personal position / role on project: Wetland / Aquatic Specialist.

Location: Maputo & Gaza Provinces, Mozambique (2016).

Main project features: To conduct a dry season (Winter) ecological baseline and impact assessment of the watercourses for the proposed Delonex Energy project.

Project Name: The ecological constraints mapping and Critical Habitat re-evaluation for the Anadarko LNG project: Specialist Consultant to conduct Ecological Studies (Fauna and Habitat) and the delineation of wetland systems.

Personal position / role on project: Wetland Specialist.

Location: Afungi, Mozambique (2015).

Main project features: To identify and map the ecological constraints is to support contractor activities. To redefine the critical habitats within the project area

Project Name: A Joint Basin Survey of the Upper Orange, Lower Orange and Vaal catchments to determine the current status of the systems: Specialist Consultants to conduct Ecological Studies (Fish, Macroinvertebrate, Diatoms, Water Quality and Habitat) and report on the current status (defining system trends).

Personal position / role on project: Specialist Ichthyologist.

Location: South Africa (including Namibia, Botswana & Lesotho) (2015).

Main project features: To determine the current status of the catchments and to discuss the temporal and spatial trends of the monitoring reaches.

Project Name: Ecological baseline assessment of local river systems for the Ntem Iron Ore Mine: Specialist Consultants to Undertake Baseline Studies (Fish, Macroinvertebrate, Water Quality and Habitat).

Personal position / role on project: Senior Ichthyologist.

Location: Cameroon (2013).

Main project features: Establishment of the ecological baseline status and functioning assessment of the local river systems.

Project Name: Instream Flow Requirement determination study for the Kibali River hydropower project: Specialist Consultants to Undertake Baseline Studies (Flow, Water Quality and Geomorphology) and Instream Flow Requirement (IFR) Assessment.

Personal position / role on project: Ichthyologist and IFR.

Location: DRC (2012).

Main project features: Establishment of the ecological flow requirements of fishes within the Kibali River.

Project Name: Cost analysis, including the current and potential earning potential of an aquaculture facility: Specialist Consultants to determine the Cost (Current & Potential Earnings) and the Construction of an identical facility (Physical Costs).

Personal position / role on project: Ichthyologist.

Location: Ghana (2012).

Main project features: Conduct a detailed costs analysis of an aquaculture facility for the compensation for the removal of the operation.

Project Name: Instream Flow Requirement determination study for the Nzoro River hydropower project: Specialist Consultants to Undertake Baseline Studies (Flow, Water Quality and Geomorphology) and Instream Flow Requirement (IFR) Assessment.

Personal position / role on project: Ichthyologist and IFR.

Location: DRC (2011).

Main project features: Establishment of the ecological flow requirements of fishes within the Nzoro River.

Project Name: Environmental study to establish the baseline biological and physical conditions of the Letsibogo Dam.

Personal position / role on project: Ichthyologist.

Location: Selebi-Phikwe, Botswana (2007 - 2009).

Main project features: Evaluation of the existing fish communities within the Letsibogo Man-made lake with specific consideration of the threats of alien invasive fishes in the lake. The study resulted in the publication of two peer-reviewed papers titled: Comparative behavioural assessment of an established and a new Tigerfish *Hydrocynus vittatus* population in two man-made lakes in the Limpopo (O'Brien et al., 2013) and First observation of Africa Tigerfish (*Hydrocynus vittatus*) predating on Barn Swallows (*Hirundo rustica*) in flight (O'Brien et al., in press).

Project Name: Environmental and Social Impact Assessment of the Kazungula Bridge, Zambezi River.

Personal position / role on project: Ichthyologist.

Location: Botswana, Zambia, Namibia and Zimbabwe (2009-2010).

Main project features: Evaluation of the current ecological integrity status of various living and non-living components of the Zambezi River ecosystem and the potential ecological and social consequences of the construction and use of the Kazungula Bridge. The study showed that although water quality and habitat modification impacts will occur as a result of the construction and use of the bridge the long term impacts associated with the operation of the bridge should not result in any major impacts to the local aquatic ecosystem.

OVERVIEW

An overview of the specialist technical expertise include the following:

- Aquatic ecological state and functional assessments of rivers and dams.
- Instream Flow Requirement or Ecological Water Requirement using PROBFLO studies for river systems.
- Ecological wetland assessment studies, including the integrity (health) and functioning of the wetland systems.
- Wetland offset strategy designs.
- Wetland rehabilitation plans.
- Monitoring plans for rivers and other wetland systems.

- Toxicity and metal analysis of water, sediment and biota.
- Bioaccumulation assessment of fish communities.
- Fish telemetry assessment that included the translocation of fish as well as the monitoring of fish in order to determine the suitability of the hosting system.
- Faunal surveys which includes mammals, birds, amphibians and reptiles.
- The design, compilation and implementation of Biodiversity and Land Management Plans and strategies.

TRAINING

Some of the more pertinent training undergone includes the following:

- Wetland and Riparian Delineation Course for Consultants (Certificate of Competence) – DWAF 2008
- The threats and impacts posed on wetlands by infrastructure and development: Mitigation and rehabilitation thereof – Gauteng Wetland Forum 2010
- Ecological State Assessment of Lentic Systems using Fish Population Dynamics – University of Johannesburg/Rivers of Life 2010
- Soil Classification and Wetland Delineation – Terra Soil Science 2010
- Wetland Rehabilitation Methods and Techniques - Gauteng Wetland Forum 2011
- Application of the Fish Response Assessment Index (FRAI) and Macroinvertebrate Response Assessment Index (MIRAI) for the River Health Programme 2011
- Tools for a Wetland Assessment (Certificate of Competence) – Rhodes University 2011
- PROBFLO for conducting Ecological Flow Assessments – 2018/19

EMPLOYMENT EXPERIENCE

The Biodiversity Company (January 2015 – Present)

Director / Ecologist.

Digby Wells Environmental (August 2008 – December 2014)

Freshwater & Terrestrial Ecologist

PREVIOUS EMPLOYMENT: Econ@UJ (University of Johannesburg)

Freshwater Ecologist

ACADEMIC QUALIFICATIONS

University of Johannesburg, Johannesburg, South Africa (2009): MAGISTER SCIENTIAE (MSc) - Aquatic Health:

Title: *Aspects of the biology of the Bushveld Smallscale Yellowfish (Labeobarbus polylepis): Feeding biology and metal bioaccumulation in five populations.*

Rand Afrikaans University (RAU), Johannesburg, South Africa (2004): BACCALAUREUS SCIENTIAE CUM HONORIBUS (Hons) – Zoology

Rand Afrikaans University (RAU), Johannesburg, South Africa (2001 - 2004): BACCALAUREUS SCIENTIAE IN NATURAL AND ENVIRONMENTAL SCIENCES. Majors: Zoology and Botany.

PUBLICATIONS

Desai M., Husted A., Fry C., Downs C.T., & O'Brien G.C. 2019. Spatial shifts and habitat partitioning of ichthyofauna within the middle–lower region of the Pungwe Basin, Mozambique. *Journal of Freshwater Ecology*, 34(1), 685–702. doi: 10.1080/02705060.2019.1673221

Tate R.B. and Husted, A. 2015. Aquatic Biomonitoring in the upper reaches of the Boesmanspruit, Carolina, Mpumalanga, South Africa. *African Journal of Aquatic Science*.

Tate R.B. and Husted A. 2013. Bioaccumulation of metals in *Tilapia zillii* (Gervai, 1848) from an impoundment on the Badeni River, Cote D'Ivoire. *African Journal of Aquatic Science*.

O'Brien G.C., Bulfin J.B., Husted A. and Smit N.J. 2012. Comparative behavioural assessment of an established and new Tigerfish (*Hydrocynus vittatus*) population in two manmade lakes in the Limpopo catchment, Southern Africa. *African Journal of Aquatic Science*.

Tomschi H., Husted A., O'Brien G.C., Cloete Y., Van Dyk C., Pieterse G.M., Wepener V., Nel A. and Reisinger U. 2009. Environmental study to establish the baseline biological and physical conditions of the Letsibogo Dam near Selebi Phikwe, Botswana. EC Multiple Framework Contract Beneficiaries.8 ACP BT 13 – Mining Sector (EDMS). Specific Contract N° 2008/166788. Beneficiary Country: Botswana. By: HPC HARRESS PICKEL CONSULT AG

Husted A. 2009. Aspects of the biology of the Bushveld Smallscale Yellowfish (*Labeobarbus polylophus*): Feeding biology and metal bioaccumulation in five populations. The University of Johannesburg (Thesis).



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Basic Assessment and Water Use Licence Application for the construction and operation of the Kiwano Solar PV Plant, Battery Energy Storage System, Substation and 132 KV Powerline near Upington, Northern Cape Province.

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1.

1. SPECIALIST INFORMATION

Specialist Company Name:	The Biodiversity Company		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition
Specialist name:	ANDREW HUSTED		
Specialist Qualifications:	MSc AQUATIC HEALTH		
Professional affiliation/registration:	SACNASP 400213/11		
Physical address:	777 PERIDOT STREET, JUKSKEI PARK		
Postal address:			
Postal code:	2188	Cell:	081 319 1225
Telephone:		Fax:	
E-mail:	andrew@thebiodiversitycompany.com		

2. DECLARATION BY THE SPECIALIST

I, ANDREW HUSTED, declare that -

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



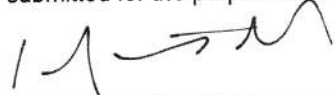
Signature of the Specialist

THE BIODIVERSITY COMPANY
Name of Company:

12/08/2022
Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, ANDREW HUSTED, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



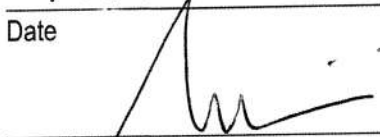
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THE BIODIVERSITY COMPANY

Name of Company

12/08/22

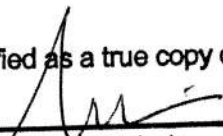
Date



Signature of the Commissioner of Oaths

Date

Certified as a true copy of original


Farai Shadreck Mbirimi BD52805
Minister of Religion / Commissioner of Oaths
391 11th Road, Erand, Midrand 1685

Date 12/AUGUST/2022

MS. LEIGH-ANN DE WET (TERRESTRIAL ECOLOGY, AVIFAUNA)

Leigh-Ann de Wet

M.Sc Botany (*Pr Sci Nat*)

Cell: +27 83 352 1936

Email: leigh-ann@thebiodiversitycompany.com

Identity Number: 8209010127081

Date of birth: 1 September 1982



Profile Summary

Working experience throughout South Africa, Southern Africa West and Central Africa and also Madagascar.

Specialist experience in exploration, mining, engineering, hydropower, private sector and renewable energy.

Experience with project management for national and international biodiversity projects.

Experience with IFC Performance Standards, Critical Habitat and High Conservation Value Assessments. Experience in numerous vegetation and habitat types throughout Africa,

Specialist expertise includes botany, forest ecology, avifauna and terrestrial fauna.

Methodology development, conservation management and terrestrial monitoring.

Areas of Interest

Forest ecology and ecosystem functionality.

Ecology and plant identification.

Field methodology.

Publication of scientific journals and articles.

Key Experience

- Familiar with World Bank, Equator Principles and the International Finance Corporation requirements.
- Familiar with High Conservation Value assessments as per ProForest guidelines.
- Conservation Management Plans.
- Flora assessments.
- Avifauna assessments.
- Terrestrial fauna assessments.
- Monitoring.
- Ecosystem services
- Rehabilitation Plans.
- Alien Invasive Plant Management Plans.
- Permitting.

Country Experience

Mozambique,

Malawi,

Zambia,

Madagascar,

Liberia,

Guinea'

Democratic Republic of the Congo,

South Africa

Nationality

South African

Languages

English – Proficient

Afrikaans – Conversational

Zulu - Basic

Qualifications

- MSc (Rhodes University) – Botany.
- BSc Honours (Rhodes University) – Botany
- BSc Natural Science (Botany and Entomology)
- Pr Sci Nat (400233/12)
- Certificate of Competence: UFS Introduction to wetland delineation.
- Certificate of Competence: UFS Introduction to wetland law
- Certificate of competence: Africa Land Use Training Grass Identification (long and short course)
- Certificate of Competence: ASI Snake Awareness, first aid for snake bite and venomous snake handling.

EMPLOYMENT EXPERIENCE

The Biodiversity Company (March 2022 – Present)

Terrestrial Ecologist.

LD Biodiversity (August 2014 – March 2022)

Director and Terrestrial Ecologist

Digby Wells Environmental (July 2012 – September 2014)

Terrestrial Ecologist

Coastal and Environmental Services (March 2009 – June 2012)

Terrestrial Ecologist

PREVIOUS EMPLOYMENT: Rhodes University Department of Botany

Research Assistant

ACADEMIC QUALIFICATIONS

Rhodes University, Grahamstown, South Africa (2007): MAGISTER SCIENTIAE (MSc) - Botany:

Title: *Pollinator mediated selection in Pelargonium reniforme Curtis (Geraniaceae): Patterns and Process.*

Rand Afrikaans University (RAU), Johannesburg, South Africa (2004): BACCALAUREUS SCIENTIAE CUM HONORIBUS (Hons) – Botany

Rand Afrikaans University (RAU), Johannesburg, South Africa (2001 - 2004): BACCALAUREUS SCIENTIAE IN NATURAL AND ENVIRONMENTAL SCIENCES. Majors: Entomology and Botany.

PUBLICATIONS

Taylor, S, Ripley, B, Martin, T, **de Wet, L**, Woodward, I and Osborne, C (2014.) Physiological advantages of C4 grasses in the field: a comparative experiment demonstrating the importance of drought. *Global Change Biology* – in Press.

Ripley BS, **de Wet, L** and Hill MP (2008). Herbivory-induced reduction in photosynthetic productivity of water hyacinth, *Eichhornia crassipes* (Martius) Solms-Laubach (Pontederiaceae), is not directly related to reduction in photosynthetic leaf area. *African Entomology* 16(1): 140-142.

de Wet LR, Barker NP and Peter CI (2008). The long and the short of gene flow and reproductive isolation: Inter-Simple Sequence Repeat (ISSR) markers support the recognition of two floral forms in *Pelargonium reniforme* (Geraniaceae). *Biochemical Systematics and Ecology* 36: 684-690.

de Wet L, NP Barker and CI Peter (2006). Beetles and Bobartia: an interesting herbivore-plant relationship. *Veld & flora*. September: 150 – 151.

de Wet LR and Botha CEJ (2007). Resistance or tolerance: An examination of aphid (*Sitobion yakini*) phloem feeding on Betta and Betta-Dn wheat (*Triticum aestivum* L.). *South African Journal of Botany* 73(1): 35-39.

de Wet L (2005). Is *Pelargonium reniforme* in danger? The effects of harvesting on *Pelargonium reniforme*. *Veld & Flora*. December: 182-184.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:	(For official use only)
NEAS Reference Number:	DEA/EIA/
Date Received:	

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PROJECT TITLE

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Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
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3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za


1. SPECIALIST INFORMATION

Specialist Company Name:	The Biodiversity Company			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)		Percentage Procurement recognition	
Specialist name:	Leigh-Ann de Wet			
Specialist Qualifications:	MSc			
Professional affiliation/registration:	SANASP (400233/12)			
Physical address:	12 Sunningdale Avenue, Howick			
Postal address:	12 Sunningdale Avenue, Howick			
Postal code:	3290	Cell:	0833521936	
Telephone:	0833521936	Fax:	N/A	
E-mail:	Leigh-ann@thebiodiversitycompany.com			

2. DECLARATION BY THE SPECIALIST

I, Leigh-Ann de Wet, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

The Biodiversity Company

Name of Company:

11 August 2022

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Leigh-Ann de Wet, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



Signature of the Specialist

The Biodiversity Company

Name of Company

11 August 2022

Date



Signature of the Commissioner of Oaths

11 August 2022

Date



MR. IVAN BAKER (WETLANDS)

Ivan Baker

M.Sc Environmental Science and Hydropedology (*Pr Sci Nat*)

Cell: +27 79 898 4056

Email: ivan@thebiodiversitycompany.com

Identity Number: 9401105251087

Date of birth: 10 January 1994



Profile Summary

Working experience throughout Southern Africa

Working experience in West-Africa

Specialist experience with mining, construction and agriculture.

Specialist expertise include hydropedology, pedology, land contamination, agricultural potential, land rehabilitation, rehabilitation management and wetlands resources.

Experience hydropedological modelling (HYDRUS model)

Areas of Interest

Mining, Oil & Gas, Renewable Energy & Bulk Services Infrastructure Development, Farming, Land contamination, Sustainability and Conservation.

Key Experience

- Environmental Impact Assessments (EIA)
- Environmental Management Programmes (EMP)
- Wetland delineations and ecological assessments
- Rehabilitation Plans and Monitoring
- Soil-and rock classification
- Level 1, 2 and 3 hydropedology assessments
- Agriculture potential assessments
- Land contamination assessments
- Modulation of surface- and subsurface flows (HYDRUS model)

Country Experience

South Africa	Mozambique
Swaziland	Zimbabwe
Guinea	Zambia

Nationality

South African

Languages

English – Proficient

Afrikaans – Proficient

Qualifications

- MSc (North-West University of Potchefstroom) – Hydropedology
- BSc Honours (North-West University of Potchefstroom) – Environmental geology- Pedology and rehabilitation
- BSc Environmental sciences
- Pr Sci Nat 119315
- Certificate of Competence: Fertiliser Society of South Africa
- Certificate of Competence: Tools for Wetland Assessments

SELECTED PROJECT EXPERIENCE

Project Name: Freshwater Ecology Baseline and Risk Assessment Report for the Proposed Kalgold Expansion Project

Personal position / role on project: Wetland ecologist

Location: Mahikeng, North-West Province, South Africa

Main project features: To conduct a wetland assessment considering the latest DWS requirements to delineate watercourses and ultimately conduct functional assessments. Impact assessments were completed to identify the level of risk, the effectiveness of various mitigation measures as well as making recommendations to ensure the conservation of sensitive receptors.

Project Name: Wetland Baseline and Impact Assessment for the Perdekraal West Wind Energy Facility

Personal position / role on project: Wetland ecologist

Location: Touwsrivier, Western Cape Province, South Africa

Main project features: To conduct a wetland assessment considering the latest DWS requirements to delineate watercourses and ultimately conduct functional assessments. Impact assessments were completed to identify the level of risk associated with the proposed wind farm, the effectiveness of various mitigation measures as well as making recommendations to ensure the conservation of sensitive receptors.

Project Name: Biodiversity Baseline & Impact Assessment Report for the proposed Nondvo Dam Project

Personal position / role on project: Wetland ecologist

Location: Mbabane, Swaziland

Main project features: To conduct various assessments according to IFC standards in regard to delineation of wetlands and assessing ecosystem services.

Project Name: Agricultural Potential Assessment - Proposed Kalabasfontein Coal Mining Project Extension

Personal position / role on project: Project Manager and Soil Specialist.

Location: Bethal, Mpumalanga, South Africa

Main project features: To conduct a soil assessment to identify any sensitive resources that might be affected by the proposed mining activities and associated infrastructure as part of an environmental impact assessment.

Project Name: Soil assessment for the closure of the St Helena Shaft, Harmony

Personal position / role on project: Soil specialist

Location: Welkom, Free State, South Africa

Main project features: To conduct a thorough soil and fertility assessment to recommend relevant mitigation and rehabilitation measures to finalise closure at the relevant mine

Project Name: Wetland Functionality Assessment for the Environmental, Health and Socio-Economic Baseline Studies for Block 2 at Siguiri Gold Mine

Personal position / role on project: Wetland ecologist

Location: Siguiri, Guinea, West-Africa

Main project features: To conduct various assessments according to IUCN standards in regard to delineation of wetlands and assessing ecosystem services.

Project Name: Hydropedological Environmental Impact Assessment for the Emakhazeni Mine Pit BE

Personal position / role on project: Hydropedologist

Location: Belfast, Mpumalanga, South-Africa

Main project features: To conduct various assessments to determine the hillslope hydrology and to acquire information relevant to the vadose zone's hydraulic properties to quantify sub-surface flows by means of modelling.

Project Name: Level 3 Hydropedological Assessment for the Buffalo Coal Mining Project

Personal position / role on project: Hydropedologist

Location: Dundee, KwaZulu-Natal, South-Africa

Main project features: To conduct various assessments to determine the hillslope hydrology and to acquire information relevant to the vadose zone's hydraulic properties to quantify sub-surface flows by means of modelling

Project Name: Biodiversity Baseline & Impact Assessment for the proposed Teterane 15MW Solar PV Plant

Personal position / role on project: Ecosystem Services Specialist

Location: Cuamba, Mozambique, Southern-Africa

Main project features: To conduct various assessments according to IUCN standards in regard to ecosystem services

Project Name: Land contamination assessment for the proposed Fleurhof Development

Personal position / role on project: Soil Specialist

Location: Fleurhof, South Africa

Main project features: To conduct assessments relevant to the determination of land contamination, including recommendations, mitigations and risk assessments.

Project Name: Environmental Impact Statement for Mopani Copper Mine, Zambia

Personal position / role on project: Soi Specialist

Location: Mufulira and Kitwe, Zambia, Africa

Main project features: General pedology impact assessment including soil delineations in accordance with the USDA "Soil Taxonomy" (1970) system. This assessment included the calculation of soil erosion potential as well as recommendations pertaining to the sustainability of soil resources and future rehabilitation strategies.

OVERVIEW

An overview of the specialist technical expertise include the following:

- Ecological wetland assessment studies, including the integrity (health) and functioning of the wetland systems.
- Wetland offset strategy designs.
- Wetland rehabilitation plans.
- Monitoring plans for wetland systems.
- Soil classification and agricultural assessments.
- Stripping and stockpiling guidelines.
- Soil rehabilitation plans.
- Soil and stockpile monitoring plans.
- Hydropedological assessments.

TRAINING

Some of the more pertinent training undergone includes the following:

- Tools for a Wetland Assessment (Certificate of Competence) – Rhodes University 2018; and
- Workshop on digital soil mapping.

EMPLOYMENT EXPERIENCE

Internship at SRK consulting (January 2017-August 2017)

- **Field assistant** for SRK consulting during 2017 included the sampling of surface and groundwater as well as on site tests, the accumulation of various different data sets from field loggers, presenting and arranging the relevant data and ultimately using it for my own personal post-graduate studies.
-

Internship at The Biodiversity Company (August 2017-December 2017)

Employed as an intern (wetland and soil scientist) during the last few months of 2017. During this period, I was part of a variety of soil- and wetland projects, both as report writer and/or field assistant.

CURRENT EMPLOYMENT: The Biodiversity Company (January 2018 – Present)

- **Scientific report writing** to ensure that the relevant standards and requirements have been attained, namely local country legislation, as well as WB, EP and IFC requirements.

ACADEMIC QUALIFICATIONS

North-West University of Potchefstroom: MAGISTER SCIENTIAE (MSc) - Hydropedology:

Title: *Characterisation of vadose zone processes in a tailings facility*

North-West University of Potchefstroom (2016): BACCALAUREUS SCIENTIAE HONORIBUS (Hons) – Environmental Geology- Pedology and rehabilitation

North-West University of Potchefstroom (2015): BACCALAUREUS SCIENTIAE IN NATURAL AND ENVIRONMENTAL SCIENCES. Majors: Geology and Geography

MS. MALETSATSI MOHAPI (AGRICULTURAL COMPLIANCE STATEMENT)

Maletsatsi Octovia Mohapi

Master of Science (MSc) Agriculture - Soil Science

Cell: +27 736592695

Email: maletsatsi@thebiodiversitycompany.com

Identity Number: 9506260425084

Date of birth: 26 June 1995



Profile Summary

Working experience throughout South Africa.

Specialist has experience in agriculture and wetland ecology.

Specialist expertise include soil identification and classification, soil chemistry, physics, pedology, wetland delineation, rehabilitation and management.

Areas of Interest

Farming, Mining, Soil and Wetlands sustainability and conservation, Infrastructure development, Vegetation monitoring and rehabilitation.

Key Experience

- Soil taxonomic classification
- Soil chemical and physical laboratory analysis
- Wetland delineations
- Vegetation Monitoring
- Rehabilitation Plans
- Agriculture potential assessments
- Environmental Impact Assessments (EIA)
- Environmental Management Programmes (EMP)

Country Experience

South Africa: All Provinces

Nationality

South African

Languages

English – Proficient

Sesotho, Setswana and Sepedi – Proficient

Qualifications

- MSc (University of the Free State) – Agriculture (Soil Science)
- BSc Honours (University of the Free State) – Soil Science (Soil chemistry, Pedology, Biology and Physics)
- BSc Geography and Environmental science (Geography, Soil science and Ecology)
- SSSSA- Membership no: 1092

SELECTED PROJECT EXPERIENCE

Project Name: Characterising ephemeral pans in the Northern Cape Province, NRF/SAEON Arid Lands Node.

Personal position / role on project: Environmental specialist

Location: Kalahari, Bushmanland, Upper Karoo and Ghaap Plateau geomorphic provinces (Northern Cape, South Africa)

Main project features: To characterise ephemeral pans in the Northern Cape Province with particular focus on biodiversity. The main objective investigated the distribution of branchiopods in the ephemeral pans of the Northern Cape Province. Soil and water survey sampling, soil texture analysis, wetlands mapping and technical report deliverables.

Project Name: Soil and geomorphological characterization of ephemeral pans in the Northern Cape Province, UFS.

Personal position / role on project: Soil and wetland specialist

Location: Kalahari, Bushmanland, Upper Karoo and Ghaap Plateau geomorphic provinces (Northern Cape, South Africa)

Main project features: To determine how environmental factors (soil, geology, topography climate and vegetation) can be used to characterize and categorize ephemeral pans in the Northern Cape Province. Soil sampling, soil chemical and physical analysis, wetland and environmental factors (geology, climate, topography and vegetation) mapping.

OVERVIEW

An overview of the specialist technical expertise includes the following:

- Soil classification and agricultural assessments.
- Soil and stockpile monitoring plans
- Hydopedological assessments
- Wetland rehabilitation and monitoring plans

TRAINING

Some of the more pertinent training undergone includes the following:

- Soil Science Society of South Africa (SSSSA) workshop (May 2019 and March 2020): Soil classification and agricultural assessments.
- GIS short course (April 2021): Introduction to GIS, mapping, publishing and basic analysis methods.

EMPLOYMENT EXPERIENCE

NRF/SAEON Arid Lands Node, Kimberley (April 2018 – March 2019)

- **Environmental intern:** Soil analysis, vegetation monitoring, assisting with the dryland wetland (ephemeral pans) data collection, community outreach and administrative duties.

University of the Free States (January 2020 - December 2021)

- **Laboratory and research assistant:** soil chemistry and physical analysis, soil sampling and classification and report writing.

CURRENT EMPLOYMENT: The Biodiversity Company (June 2022 – Present)

- **Scientific report writing** to ensure that the relevant standards and requirements have been attained, namely local country legislation, as well as WB, EP and IFC requirements.

ACADEMIC QUALIFICATIONS

University of the Free State (2021): Master of Science (MSc) – Agriculture (Soil Science)

Title: *Soil and geomorphological characterization of ephemeral pans in the Northern Cape Province*

University of the Free State (2018): Bachelor of Science Honours (Hons) – Soil Science

University of the Free State (2017): Bachelor of Science in Geography and Environmental Science.
Majors: Geography, Soil Science and Ecology.

CONFERENCE AND WORKSHOP PRESENTATIONS

- 2018 - National Wetlands Indaba, Northern Cape. Title: Soil texture of ephemeral pans in the Northern Cape Province.
 - 2018 - Arid Zone Ecology Forum, Western Cape. Title: Soil texture of ephemeral pans in the Northern Cape Province.
 - 2019 - Combined Congress (SSSSA), UFS. Title: The influence of selected soil properties on the functionality of ephemeral pans in the Northern Cape Province, South Africa.
 - 2021 - Graduate Student Network. Title: Using soil chemical and physical properties to understand the soil composition of ephemeral pans in the Northern Cape Province.
 - 2022 - SAEON Seminar. Title: Soil and geomorphological characterisation of selected ephemeral pans in the Northern Cape Province.
-



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:	(For official use only)
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Basic Assessment and Water Use Licence Application for the construction and operation of the Kiwano Solar PV Plant, Battery Energy Storage System, Substation and 132 KV Powerline near Upington, Northern Cape Province.

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1.


SPECIALIST INFORMATION

Specialist Company Name:	THE BIODIVERSITY COMPANY		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition
Specialist name:	MALETSATSI MOHAPI		
Specialist Qualifications:	MSc IN AGRICULTURE, MAJORING IN SOIL SCIENCE		
Professional affiliation/registration:			
Physical address:	11 BARKLEY MEWS, BELLARS DRIVE, NORTHRIDING		
Postal address:			
Postal code:	2188	Cell:	073 65 92 695
Telephone:		Fax:	
E-mail:	maletsatsi@thebiodiversitycompany.com		

2. DECLARATION BY THE SPECIALIST

I, MALETSATSI MOHAPI, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

THE BIODIVERSITY COMPANY
Name of Company:

12 August 2022
Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, MALETSATSI MOHAPI, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



Signature of the Specialist

THE BIODIVERSITY COMPANY

Name of Company

12 August 2022

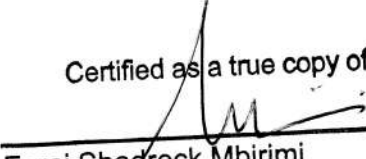
Date



Signature of the Commissioner of Oaths

Date

Certified as a true copy of original



Farai Shadreck Mbirimi BD52805
Minister of Religion / Commissioner of Oaths
391 11th Road, Erand, Midrand 1685
Date 12 August 2022

MR. LEO QUAYLE (VISUAL)

LEO QUAYLE

PrSciNat, MPhil, BSc (Hons), BSc



ADDRESS:

Pietermaritzburg,
South Africa

CONTACT DETAILS:

Cell: +27 (0)82 669 9298

Email: leo@geonest.co.za

QUALIFICATIONS:

UCT 2001 MPhil (Env. Management)

UKZN 1999 BSc Hons (Geography - GIS).

UKZN 1998 BSc (Chemistry, Geography)

PROFESSIONAL REGISTRATION:

SACNASP Professional Natural Scientist
(PrSciNat Reg No 400165/15 Ecology, Water
Resources Science)

LANGUAGE:

English: Excellent

Afrikaans: Fair

PROFESSIONAL PROFILES:



https://www.researchgate.net/profile/Leo_Quayle



<https://www.linkedin.com/in/leoquayle/>



BIOGRAPHY:

Leo is a registered Professional Natural Scientist and a specialist in GIS and environmental spatial planning. He has a master's degree in environmental management and 19 years of experience working in various environmental management and planning fields. This includes working permanently for various periods in the United Kingdom, Ghana, and South Africa. He has worked as a project leader, GIS specialist and spatial environmental planner in several local and international environmental management roles and projects and has led the development of several GIS tools for various environmental planning projects including Environmental Management Frameworks (EMF) and Environmental Constraint Frameworks (for Eskom distribution master planning). He has worked in a number of visual impact assessment roles and the assessment of landscape character. The most relevant of these are:

1. He has assessed and described the character of landscapes in seven local municipalities adjacent to the uKhahlamba World Heritage Site and developed development capacity zones for these areas based on visual impact, sense of place, cultural value etc. These zones have been included in the development of the WHS buffer zone, which aims to (amongst other things) preserve the character of the landscapes associated with the WHS, including views of the surrounding landscape from within the WHS.
2. He undertook the visual impact assessment for the proposed development of a residential complex on the Hilton College Estate.
3. He undertook the visual impact assessment for the development of a high voltage powerline and associated substation for a proposed automotive supplier park in Winkelspruit.
4. He undertook a visual impact assessment and landscape characterisation as part of the Watson North Functional Area Plan development in eThekweni Metro.
5. As the GIS officer for the City of London Corporation, he was responsible for maintaining the view corridors associated with St Paul's Cathedral and assessing city development proposals for impacts on these views.

KEY AREAS OF EXPERIENCE:

▪ Geographic Information Systems (GIS) and spatial planning.

Leo has worked extensively as a GIS specialist in environmental management (environmental spatial planning, EIA, visual impact assessment, water resources management, ecological Infrastructure mapping, ecosystem services assessments, risk and vulnerability mapping, and prioritisation tools and systematic conservation plans). He is competent in both ESRI and QGIS products and has software development experience in Javascript, HTML5, CSS, Visual Basic and VBA.

▪ **Integrated Environmental Management (IEM)**

Leo has worked in various areas in IEM, largely with a focus on strategic environmental planning and auditing. Relevant experience includes:

- ✓ GIS lead for the development of the eThekweni Strategic Environmental Assessment (SEA);
- ✓ Undertook landscape characterisation and visual impact assessments for a number of EIA and planning projects;
- ✓ Participated in and on one occasion led the development of Environmental Management Frameworks (EMF) for four Local and District Municipalities in South Africa;
- ✓ Developed online Environmental Information Systems for the uMgungundlovu District EMF and the Amajuba District EMF;
- ✓ Development of the KZN EDTEA strategy for Environmental Information Management

EMPLOYMENT HISTORY

2021 - Present	GeoNest (Pty) Ltd. Professional Environmental Scientist: Leo has started his own consultancy focusing on GIS, environmental information systems and natural resources management.
2015 – 2020	Institute of Natural Resources - Principal Environmental Scientist: Responsible for co-leading the Ecosystems Theme at the INR, and leading the GIS focus areas, covering environmental information (GIS), remote sensing, spatial analysis and mapping.
2011 – 2014	Institute of Natural Resources - Senior Environmental Scientist: INR leader in GIS and spatial analysis. Project leader / co-ordinator for water and biodiversity related studies.
2008 – 2010	Institute of Natural Resources - Environmental Scientist: INR leader in GIS and spatial analysis. Primary researcher on water related studies on aquatic biota and water quality.
2004 – 2008	Self-employed contracting to various UK Based organisations (UK): GIS Specialist: Providing GIS support to various London local municipality (borough) functions, primarily town planning and maintaining borough GIS data.
2002 – 2003	SAPPI Ltd (Mpumalanga, RSA) - GIS Specialist: Responsible for maintaining the GIS based inventory of timber and other forestry assets and providing GIS training and support to foresters and planning personnel.

RELEVANT PROJECTS

Visual Impact Assessment for the Proposed the proposed construction of a 58 Mega Watt Kiwano Battery Energy Storage System (BESS) and photovoltaic (PV) facility (KBPF) near Upington in the Northern Cape province.

Client: Zitholele Consulting (Pty) Ltd; Date: 2022; Location: Upington, Northern Cape Province; Role: Visual impact specialist. Leo was responsible for undertaking a landscape characterisation and visual impact assessment of this renewable energy development in the Renewable Energy Development Zone outside Upington. This included assessing two alternative sites, characterising the landscape around the proposed development sites, developing a viewshed model, identifying sensitive views, identification of impact corridors, evaluating impact severity and significance and recommending relevant mitigation measures.

Visual Impact Assessment Report for the Proposed Residential Development on the Old Dairy Site, Hilton.

Client: Gwen's Stream Estates (Pty) Ltd; Date: 2018; Location: Hilton, KwaZulu-Natal; Role: Project leader and visual impact specialist. Leo was responsible for undertaking a visual impact assessment of this contentious housing development in the Natal Midlands. This included assessing three alternative sites, developing a viewshed model, identifying sensitive views, identification of impact corridors, evaluating impact severity and significance and recommending relevant mitigation measures.

Visual Impact Assessment Report for the Proposed Development of a 132kv Powerline and Associated Substation for the Proposed Automotive Supplier Park, Illovo, KZN.

Client: Gibb Engineering and Architecture; Date: 2019; Location: Illovo, KwaZulu-Natal; Role: Project leader and visual impact specialist. Leo was responsible for undertaking a visual impact assessment of this powerline development on the

KZN South Coast. This included assessing four alternative routes for the powerline, identifying sensitive views, identification of impact corridors, evaluating impact severity and significance and recommending relevant mitigation measures.

Landscape Characterisation of Local Municipalities Adjacent to the uKhahlamba Drakensberg World Heritage Site (WHS).

Client: Ezemvelo KZN Wildlife; Date: 2011; Location: South Africa; Role: Project leader and lead researcher. Leo lead the characterisation of the landscapes of seven local municipalities which border the uKhahlamba Drakensberg WHS as part of a greater project to inform the delineation of the buffer area for the WHS, to inform planning guidelines in these areas and to protect the sensitive visual components of this wilderness area. As part of this study, landscape character units (avg area approx. 300 - 500Ha) were delineated for the study area based on factors such as land cover, topography, geology, and settlement patterns. The tourism development capacity of all units was then calculated based on an assessment of the units' sensitivity (generated from factors such as wildness, sense of place, ecological sensitivity and viewsheds of the Drakensberg) and value (extracted from stakeholder consultation and sources such as heritage data, review of policies and legislation, protection status etc.). The product was packaged per municipality as an interactive GIS application.

Watson North functional area plan visual assessment.

Client: eThekweni Metro; Date: 2016; Location: eThekweni Metro, KwaZulu-Natal; Role: Project leader and visual impact specialist. Leo was responsible for undertaking a landscape character based visual assessment of the area included in the Watson North / Greylands functional area plan. This included an assessment of landscape visual sensitivity, landscape value and the visual capacity of landscapes to absorb development.

Strategic Environmental Assessment for eThekweni Municipality.

Client: eThekweni Municipality; Date: 2018 to 2020; Role: Freshwater ecosystems component lead and GIS and spatial assessment lead. As the lead specialist for the river ecosystem section, Leo was responsible for the development of the river ecosystem section as well as the environmental hazard section of the status quo report. Leo was also responsible for the synthesis of the spatial information from all status quo sections to inform the strategic assessment of environmental issues and the analysis of the environmental status quo against the eThekweni Municipality's SDF.

Amajuba District Municipality (ADM) Environmental Management Framework (EMF).

Client: ADM; Date: 2019 – 2020; Location: South Africa; Role: Project leader, Water Quality specialist and Development of the EMF online information system. Leo was also responsible for editing and collation of the various phase reports including the Status Quo report, the Strategic Environmental Assessment, the environmentally sensitive areas and assessment guidelines report and the final EMF report. Leo was responsible for the development of an EMF decision support tool to enable planners and developers to make informed decisions aimed at sustainable development. Leo also oversaw the compilation of various specialist reports including the Water Quality, Water Production, Flood Areas,

uMgungundlovu District Municipality (uMDM) Environmental Management Framework (EMF).

Client: uMDM; Date: 2016 – 2017; Location: South Africa; Role: Water Quality specialist input and Development of the EMF online information system. The INR has recently completed the Environmental Management Framework for UMDM. This includes identifying sensitive areas from the perspective of a number of sectors including agriculture, infrastructure, biodiversity and water resources. These areas are integrated and combined with characteristic land use impacts to identify areas suitable for various land use developments. This information is then built into a decision support tool to enable planners and developers to make informed decisions aimed at sustainable development.

Authentication

I declare the above information to be true and correct.



Leo Quayle



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:
NEAS Reference Number:
Date Received:

(For official use only)

DEA/EIA/

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

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3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
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Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

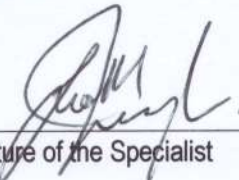
1. SPECIALIST INFORMATION

Specialist Company Name:	GeoNest (Pty) Ltd.		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition
Specialist name:	Leo Quayle		
Specialist Qualifications:	MPhil – Environmental Management		
Professional affiliation/registration:	SACNASP PrSciNat		
Physical address:	2 Athlone Road, Athlone, Pietermaritzburg, 3201		
Postal address:	2 Athlone Road, Athlone, Pietermaritzburg, 3201		
Postal code:	3201	Cell:	0826699298
Telephone:	0826699298	Fax:	
E-mail:	leo@geonest.co.za		

2. DECLARATION BY THE SPECIALIST

I, Leo Quayle, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.


Signature of the Specialist

GeoNest (Pty) Ltd.

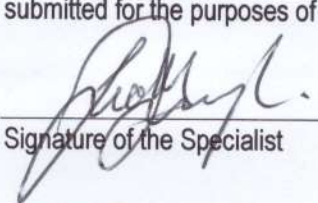
Name of Company:

05th August 2022

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Leo Quayle, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



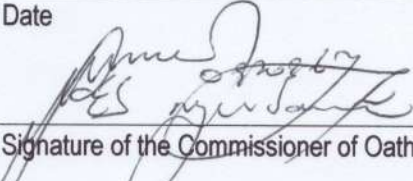
Signature of the Specialist

GeoNest (Pty) Ltd.

Name of Company

05th August 2022

Date



Signature of the Commissioner of Oaths



Date

SOUTH AFRICAN POLICE SERVICE
STATION COMMANDER
2022 -08- 24
TOWNHILL
KWAZULU-NATAL

MS. URSULA PAPÉ (SOCIO-ECONOMIC)

Ursula Papé

Consultant

Contact

ursula@solarys.co.za
+2783 415 4388
www.solarys.co.za

23 Sneeu-blom Street, Jukskei
Park, Randburg

Key Skills

Social impact assessment
Social and labour planning
Stakeholder engagement
Project management
Labour and human rights
compliance
Due diligence audits
Report writing
Legal research
Environmental law

Memberships

Environmental Law Association,
South Africa

International Association for
Impact Assessment, South
Africa (IAIAsa)

International Association for
Public Participation

Profile

Social performance and legal compliance consultant with 14 years of experience which includes preparation of social impact assessments; Social and Labour Plans (SLPs); undertaking social and labour related legal compliance audits; regulatory stakeholder engagement processes; legal research focused on various environmental aspects; and project coordination of environmental and social impact assessments in the power, mining and oil & gas sectors.

Experience

August 2020 - present

Consultant / Director • Solarys (Pty) Ltd • Randburg, South Africa

- Undertake social impact assessments as part of environmental impact assessment processes.
- Plan, facilitate and undertake public participation processes required in terms of environmental legislation.
- Manage regulatory processes associated with preparation of SLPs including engagement with key stakeholders and preparation of required reports.
- Undertake employee accommodation / housing surveys and audits.
- Prepare housing and living conditions plans.
- Identify legal process requirements associated with environmental permitting/licence applications in terms of the South African regulatory framework and international standards.
- Manage all day-to-day business functions including business development; project management; quality control; client deliverables; and financial administration.

February 2008 – July 2020

Consultant/project coordinator • Golder Associates Africa (Pty) Ltd • Midrand, South Africa

- Coordinate and undertake environmental and human resource due diligence processes as part of company mergers / acquisitions.
- Coordination; financial administration; quality control and report writing as part of environmental impact assessments.
- Assessing client compliance with environmental and labour legislation as part of regulatory audit requirements.
- Plan, undertake and document public participation processes required in terms of environmental legislation.
- Research legal issues for senior environmental assessment practitioners and prepare technical memoranda outlining relevant aspects; risks; and processes.

Education

September 2021

Master of Laws (LLM) with distinction • Constitutional and Administrative Law • University of Pretoria

Academic Honorary Colours, University of Pretoria, Student Representative Council

March 2018

Bachelor of Laws (LLB) • University of South Africa

Training completed

Protection of Personal Information Act Workshop

Ark Training, 2017

Social and Labour Planning

Prospen Africa, July 2017

Contract Management

Golder Associates, February 2016

Project Risk Management

Golder Associates, August 2015

Microsoft Projects

Executrain, March 2017

Project experience

Social impact assessments and SLPs

Ukwazi Mining Services, Centurion, South Africa 2022 (ongoing)	Undertake a social baseline and impact assessment for the proposed Kameelhoek Mine near Postmasburg, Northern Cape.
Ukwazi Mining Services, Centurion, South Africa 2022 (ongoing)	Prepare an updated SLP for the proposed Kameelhoek Mine near Postmasburg, Northern Cape.
SATIVA Travel and Environmental Consultants, South Africa, 2021-2022	Undertake a social baseline and impact assessment for the proposed Greenleaf Energies 3000MW gas-to-power development, Mossel Bay, Western Cape Province.
EVA Solutions, South Africa, 2021-2022 (ongoing)	Prepare a SLP for a proposed development located on the Western Cape coastline.
EVA Solutions, South Africa, 2021	Undertake a five-year SLP review process for Siyanda Bakgatla Platinum Mine, Moses Kotane Local Municipality, North West Province. Coordinate public participation processes related to SLP review process as well as mandatory publication of an approved SLP.
Prospen Africa, South Africa, 2021	Prepare Housing and Living Conditions Plans for Kalkpoort Soutwerke and Saamwerk Sout for their operations located near Upington, Northern Cape Province.
Vizirama 148 (Pty) Ltd (China Minmetals), South Africa, 2019	Update SLP baseline socio-economic data. Engage with Local and Provincial Government officials to secure sign-off on Local Economic Development (LED) projects. Advise and assist client with early implementation of local economic development projects. Prepare annual report for submission to Department of Mineral Resources and Energy (DMRE).
Era Stene (Pty) Ltd, Delmas and Olifantsfontein Mines South Africa, 2018-2019	Update SLP for Era Stene Delmas and Olifantsfontein mines, compile annual compliance reports for both mines. Assist and support client during DMRE audits.
Anglo American Coal, Goedehoop Colliery South Africa, 2017	Undertake a closure focused desktop compliance review of the mine's SLP.
Mafube Nooitgedacht and Wildfontein Collieries South Africa, 2017	Undertake a desktop compliance review of the mine's SLP.
Smarty (South Africa) Minerals Investment (Pty) Ltd South Africa, 2016	Undertake background research and compile social baseline report in support of a SLP for a proposed copper mine near Musina, Limpopo Province. Undertake tasks related to a public participation process.
Exxaro Resources Limited South Africa, 2016	Undertake background research and compile social baseline report in support of a Social Impact Assessment and SLP which forms part of the rehabilitation and closure plan for Arnot Coal Mine near Middleburg, Mpumalanga.

Project experience

Public participation and project coordination

SATIVA Travel and Environmental Consultants, Midrand, South Africa, 2021-2022	Undertake a social baseline and impact assessment for the proposed Greenleaf Energies 3000MW gas-to-power development, Mossel Bay, Western Cape Province.
EnviroSaint (Pty) Ltd, Pretoria, South Africa, 2022	Undertake and manage a public participation process related to an application for environmental authorisation for the proposed 9Five Integrated Nutrient System organic composting facility near Brits, North West Province.
EnviroSaint (Pty) Ltd, Pretoria, South Africa, 2022	Undertake and manage a public participation process related to an application for environmental authorisations for a proposed Solar Park and associated infrastructure at the Glen Douglas Mine, Midvaal Local Municipality, Gauteng.
EnviroSaint (Pty) Ltd, Pretoria, South Africa, 2021	Undertake and manage a public participation process related to a waste management licence application by ClinX Waste Management CC for infrastructure to treat Health Care Risk Waste (HCRW) at its facility situated in Germiston, Gauteng.
SATIVA Travel and Environmental Consultants, Midrand, South Africa, 2021-2022	Undertake and manage public participation processes related to three applications for environmental authorisations for the proposed decommissioning of kilns at PPC facilities in Germiston, Mahikeng and Pretoria.
SATIVA Travel and Environmental Consultants, South Africa, 2020	Undertake and manage a public participation process related to an application for environmental authorisations for the proposed decommissioning of a sand drying facility located at Ezee Tile Adhesives (Pty) Ltd premises, Blackheath, City of Cape Town.
SATIVA Travel and Environmental Consultants, South Africa, 2020	Undertake and manage a public participation process related to the amendment of environmental authorisations for five approve solar developments near De Aar, Northern Cape Province.
Seriti Coal (Pty) Ltd South Africa, 2019	Review specialist baseline and impact assessment studies and consolidate findings into a draft environmental impact assessment and environmental management programme report for the Seriti Coal Metsimaholo underground coal mine. Coordination of public participation process in support of a mining right application and application for environmental authorisation for related listed activities.
Tullow Oil Plc Kenya, 2019	Coordinate stakeholder engagement activities and social baseline assessment surveys for a proposed 800km crude oil pipeline between Lokichar and Lamu, Kenya.
De Beers Consolidated Mines (Pty) Ltd, South Africa, 2018	Compile draft environmental authorisation and environmental management programme report amendment application and notify registered interested and affected parties accordingly.

China National Offshore Oil Corporation (CNOOC), Uganda, 2018	Coordination of ESIA for the proposed development of oilfields in three government-designated oil license areas on the eastern border of Lake Albert in western Uganda.
Sasol Technology, Vilanculos Mozambique, 2019	Coordination of scoping/baseline studies for a proposed gas to power project near Vilanculos, Mozambique.
South32 Hillside South Africa, 2018	Coordinate public participation process in support of a proposed Water Use License Application under the National Water Act 36 of 1998. Compile required public participation report.
Eskom Holdings SOC Limited, Medupi and Matimba Power Stations, South Africa, 2018	Management of a public participation process in support of a proposed Water Use License Application under the National Water Act 36 of 1998. Compile required public participation report.
Exxaro Grootegeeluk Coal Mine South Africa, 2018	Management of a public participation process in support of a proposed Water Use License Application under the National Water Act 36 of 1998. Compile required public participation report.
African Carbon Energy (Pty) Ltd, Theunissen South Africa, 2017	Management of a public participation process as part of an ESIA for a proposed 50-megawatt net electrical power plant and underground coal-gasification project.
Blyvoor Gold Capital (Pty) Ltd, Carletonville, South Africa, 2016	Undertake background research and compile a social baseline report in support of a SLP for Blyvoor Gold, Blyvooruitzicht Mine near Carletonville.

Project experience

Audits, permitting and legal research

Dew Crisp (Pty) Ltd, Bapsfontein, South Africa, 2022	Survey of on-site employee accommodation to determine the level of compliance with applicable local legislation; regulations; standards; and guidelines.
WSP Golder (Pty) Ltd, Midrand, South Africa, 2022	Provide an outline of the applicable legislative framework for mine closure as it relates to social aspects at Palabora Copper (Pty) Ltd, Palabora Mine, Limpopo Province.
SATIVA Travel and Environmental Consultants, Midrand, South Africa, 2022	Prepare a draft Basic Assessment and Environmental Management Programme Report for the proposed PPC Cement (Pty) Ltd, Waste Tyre Storage Facility, Mahikeng, North West Province.
EnviroSaint (Pty) Ltd, Pretoria, 2022	Prepare a draft Basic Assessment and Environmental Management Programme Report for the proposed 9Five Integrated Nutrient System organic composting facility near Brits, North West Province.
Standard Executors and Trustees (Pty) Ltd South Africa 2020 and 2022	Assess various legal aspects related to requests to transfer funds from a mine rehabilitation trust to insurance guarantee instruments.
Confidential Waste Management Company, South Africa, 2020	Project coordination of environmental health and safety due diligence audits of waste disposal sites across South Africa and other African states.
Broll Property Group South Africa, 2020	Detail legal aspects applicable to the use and presence of hazardous building materials (asbestos, lead based paint, PCBs and mercury) with a view to outlining owner and tenant's responsibilities.
Water Research Commission South Africa, 2019	As part of the process of developing an enabling operating environment for ash backfilling into disused mines, compile an integrated regulatory process summary focusing on waste and other related environmental legislated instruments.
Chemipharm Pharmaceutical Industries, Giza, Egypt, 2019	Undertake a Pharmaceutical Supply Chain Initiative (PSCI) audit at Chemipharm's Cephalosporin Factory.
Epiroc South Africa (Pty) Ltd, Kitwe, Kitwe, Zambia 2015	As part of a Phase I Environmental Site Assessment of a warehousing and assembly facility, assess compliance with national legislation and municipal by-laws.
Averda, South Africa, 2015	Compile human resources due diligence audit report.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:
NEAS Reference Number:
Date Received:

(For official use only)

DEA/EIA/

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Basic Assessment and Water Use Licence Application for the construction and operation of the Kiwano Solar PV Plant, Battery Energy Storage System, Substation and 132 KV Powerline near Uptington, Northern Cape Province.

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1. SPECIALIST INFORMATION

Specialist Company Name:	Solarys (Pty) Ltd		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition
Specialist name:	Ursula Pape		
Specialist Qualifications:	LLM (with distinction), University of Pretoria		
Professional affiliation/registration:	Environmental Law Association, South Africa (ELA) International Association for Public Participation (IAP2) International Association for Impact Assessment, South Africa (IAIAsa)		
Physical address:	23 Sneeubloem Street, Jukskei Park, Randburg		
Postal address:	P O Box 71279, Branstion		
Postal code:	2021	Cell:	083 415 4388
Telephone:	076 677 1235	Fax:	
E-mail:	ursula@solarys.co.za		

2. DECLARATION BY THE SPECIALIST

I, URSULA PAPE declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the Specialist



SOLARYS (PTY) LTD

Name of Company:

29 September 2022

Date

Details of Specialist, Declaration and Undertaking Under Oath

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, URSULA PAPE, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist



SOLARYS (PTY) LTD

Name of Company

Date 29 SEPTEMBER 2022



GORDON MACINDOE MARTIN

Ex-officio Commissioner Of Oaths
Practising Attorney RSA
37 Sneeubom Street
Jukskei Park, Randburg
011 026 0030 / 082 441 7543

Signature of the Commissioner of Oaths

29 September 2022

Date

MR. JACO VAN DER WALT (HERITAGE AND ARCHAEOLOGY)

CURRICULUM VITAE

1. **Name:** Jaco van der Walt
2. **Contact Details:** Cell 082 373 8491. E-mail: jaco@heritageconsultants.co.za
3. **Date of Birth:** 4 November 1977
4. **Nationality:** South African
5. **Years of experience:** 22
6. **Education:**

MA Archaeology -	University of the Witwatersrand –	2012
BA Hons Archaeology -	University of the Witwatersrand –	2003
BA Archaeology -	University of Pretoria -	2001

7. **Key Accreditations:**
 - Association of Southern African Professional Archaeologists (ASAPA). Member number #159
 - Association of Professional Heritage Practitioners (APHP). Member Number #114
 - Accredited Cultural Resource Management (CRM) Archaeologist with SAHRA
 - Accredited CRM Archaeologist with AMAFA
 - Co-opted council member for the CRM Section of ASAPA (2011 – 2012 and 2022 - 2023)
8. **Countries of Work Experience:** South Africa, Botswana, Zimbabwe, Mozambique, Tanzania, The Democratic Republic of the Congo, Lesotho, Afghanistan, Nigeria, Guinea and Zambia.

9. **Key qualifications**

Jaco van der Walt has been practising as a Cultural Resource Management (CRM) archaeologist for 22 years. He obtained an MA degree in Archaeology from the University of the Witwatersrand and has conducted more than 500 Heritage and Archaeological Impact Assessments in Limpopo, Mpumalanga, North West, Free State, Gauteng, KZN as well as the Northern and Eastern Cape Provinces in South Africa.

Jaco has worked on various international projects in Botswana, Zimbabwe, Mozambique, Tanzania, The Democratic Republic of the Congo, Lesotho, Afghanistan, Nigeria, Guinea and Zambia. Through this he has a sound understanding of the IFC Performance Standard requirements, with specific reference to Performance Standard 8 – Cultural Heritage.

10. **Languages**

- English: write, read, speak
- Afrikaans: write, read, speak

11. **Employment history**

2011 – Present	HCAC Heritage Consultants now known as Beyond Heritage Archaeologist and project manager
2007 - 2010	Managed the Heritage Contracts Unit at the University of the Witwatersrand - CRM Archaeologist and project manager as well as lecturing a course on CRM Archaeology
2005 – 2007	Director of Matakoma Heritage Consultants CRM Archaeologist and project manager

2004	Department of Anatomy University of Pretoria – Technical Assistant
2003	Mapungubwe World Heritage Site Archaeologist and site supervisor
2001 – 2002	R & R Cultural Resource Consultants, Polokwane CRM Archaeologist
2000	Fort Klapperkop Museum Assistant

12. Professional Skills

- Project management and coordination;
- Management of non- renewable heritage resources within the framework of national and international legislation;
- Archaeological site identification and spatial analysis;
- Archaeological Excavations and research skills;
- Proficient in GIS;
- Heritage impact assessments (HIA);
- Data capturing in the field using mobile applications like Fulcrum;
- Practical instruction and training of both students and interns;
- Management of staff and general project management including management of finances, logistics and tasks;
- Team-focused, both working as part of a team and managing teams;
- Planning and organizational skills, able to prioritize effectively and bring motivation to any task;
- Strong interpersonal skills, able to build productive relationships with others;
- Analytical problem solver, uses initiative to deliver outcomes;
- Meticulous attention to detail, ability to analyse data and compile reports;
- Good communication skills, written and verbal, able to engage with a range of people at all levels;
- Target driven, works with accuracy to challenging deadlines;
- Committed to professional development;
- Excellent IT skills in MS Excel, MS Word, BaseCamp and Power Point;
- Proficient in both English and Afrikaans.

13. Experience

Representative Archaeological Impact Assessments and HIAs

Batoka Gorge Hydro Electric Power Project

As lead archaeologist on the team for ERM UK Jaco was responsible for the archaeological survey and interviews with local communities as well as report compilation for the archaeological impact assessment for the infrastructure component of the Batoka Gorge Hydro-Electric Scheme, Zambia adhering to IFC requirements.

Kisanfu Environmental Impact Study, Democratic Republic of the Congo.

As part of the Heritage team for SRK Consulting (South Africa) Jaco conducted archaeological surveys, compiled the results of previous studies and compiled the archaeological assessment report for the Kisanfu open cast mine in the Democratic Republic of the Congo.

Kalungwishi Hydropower Project in the Luapula and Northern Provinces, Zambia

Jaco was lead archaeologist and part of the team who conducted the cultural heritage assessment for the hydropower project. Jaco was responsible for establishing a representative cultural heritage baseline for the project through targeted ground surveys of areas deemed as having a higher potential for important cultural heritage sites within the impact areas. The study included identifying, documenting and assessing the importance of cultural heritage sites; as well as evaluating negative impacts on non-renewable heritage resources according to IFC PS 8.

Heritage study for the Environmental, Health and Socio-Economic Baseline Studies for Block 2 at Siguiri Mine, Guinea

As part of the ESIA team for SRK consulting Jaco was responsible for the heritage survey, documentation of identified cultural heritage sites according to best practice standards for heritage related studies. He also assessed the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value and compiled a heritage report with cognisance of the applicable legislative requirements.

Afghanistan Gas Project (Pipeline and Amine Plant), Afghanistan

Jaco was lead archaeologist and provided guidance for local specialists with regards to field work and information collection and compiled the Baseline Heritage Report with impact assessment, mitigation and management measures adhering to international best practice.

Representative Heritage Management Plans

Afghanistan Gas Project (Pipeline and Amine Plant), Afghanistan

Jaco compiled heritage management measures with chance find procedures.

SKA Management Plan

Jaco was the lead archaeologist on the the South African Radio Astronomy Observatory Square Kilometre Array Heritage Impact Assessment and Conservation Management Plan Project with inputs into the heritage management plan for the project. The project was carried out in accordance with the South African environmental legal framework and IFC performance standards.

Platreef Platinum Mine

Leading the Platreef heritage mitigation project Jaco was responsible for the compilation of the conservation management plan.

Representative heritage due diligence projects

Heritage Due Diligence Report – Erf 2 Frankenwald, Johannesburg in Gauteng.

Heritage Due Diligence Report – Umlazi, Kwa-Zulu Natal.

Heritage Due Diligence Report – Sandhurst, Johannesburg in Gauteng.

Heritage Due Diligence Study for the Bashokuhle Primary School, Durban in Kwa-Zulu Natal.

Representative Water Management and Water Infrastructure Projects

Archaeological impact assessment, Sekuruwe Pipelines, Mokopane, Limpopo.

Archaeological Impact assessment, Seema Pipelines, Mokopane, Limpopo.

Archaeological impact assessment, Tshamahansi Pipelines, Mokopane, Limpopo.

A cultural heritage evaluation for the proposed Spencer Venulu Power line.

Archaeological walkdown of the Mareetsane Powerline, North West Province.

Phase 1 Heritage Assessment of Doornpoort 312 JS Witbank, Mpumalanga.

Representative Renewable Energy Projects

HIA for the proposed Karoshoek Solar Development, Northern Cape.

HIA for the proposed Buffels Solar Farm 1 , Klerksdorp, North West Province.

HIA for the proposed Buffels Solar Farm 2 , Klerksdorp, North West Province.

HIA for the proposed Woodhouse Solar Development, North West Province.

HIA for the proposed Orkney Solar Farm, Orkney, North West Province.

HIA for the proposed Henneman Solar AIA, Free State Province.

Heritage Assessment for the project Batoka Gorge HIA, Zambia.

Heritage assessment for the project Kalungwishi Heritage study, Zambia.

Representative Heritage Mitigation Projects

Principle investigator for the archaeological mitigation for Booyseendal Platinum Mine, Steelpoort, Limpopo Province.

Monitoring of heritage sites affected by the ARUP Transnet Multipurpose Pipeline under directorship of Gavin Anderson.

Field director for the Phase 2 mapping of a late Iron Age site located on the farm Kameelbult, Zeerust, North West Province.

Field director for the Phase 2 surface sampling of Stone Age sites affected by the Medupi – Spitskop Power Line, Limpopo Province

Principle investigator for the Platreef heritage mitigation project

14. Publications and Presentations

A Culture Historical Interpretation, Aimed at Site Visitors, of the Exposed Eastern Profile of K8 on the Southern terrace at Mapungubwe.

J van der Walt, A Meyer, WC Nienaber

Poster presented at Faculty day, Faculty of Medicine University of Pretoria 2003

‘n Reddingsondersoek na Anglo-Boereoorlog-ammunisie, gevind by Ifafi, Noordwes-Provinsie.

A. van Vollenhoven and Jaco van der Walt.

South-African Journal for Cultural History 16(1) June 2002,

Fieldwork Report: Mapungubwe Stabilization Project.

WC Nienaber, M Hutten, S Gaigher, J van der Walt

Paper read at the Southern African Association of Archaeologists Biennial Conference 2004

A War Uncovered: Human Remains from Thabantšho Hill (South Africa), 10 May 1864.

M. Steyn, WS Boshoff, WC Nienaber, J van der Walt

Paper read at the 12th Congress of the Pan-African Archaeological Association for Prehistory and Related Studies 2005

Field Report on the mitigation measures conducted on the farm Bokfontein, Brits, North West Province.

J van der Walt, P Birkholtz, W. Fourie

Paper read at the Southern African Association of Archaeologists Biennial Conference 2007

Field report on the mitigation measures employed at Early Farmer sites threatened by development in the Greater Sekhukhune area, Limpopo Province.

J van der Walt

Paper read at the Southern African Association of Archaeologists Biennial Conference 2008

Ceramic analysis of an Early Iron Age Site with vitrified dung, Limpopo Province South Africa.

J van der Walt.

Poster presented at SAFA, Frankfurt Germany 2008

Bantu Speaker Rock Engravings in the Schoemanskloof Valley, Lydenburg District, Mpumalanga (In Prep)

J van der Walt and J.P Celliers

Sterkspruit: Micro-layout of late Iron Age stone walling, Lydenburg, Mpumalanga.

W. Fourie and J van der Walt.

A Poster presented at the Southern African Association of Archaeologists Biennial Conference 2011

Detailed mapping of LIA stone-walled settlements' in Lydenburg, Mpumalanga.

J van der Walt and J.P Celliers

Paper read at the Southern African Association of Archaeologists Biennial Conference 2011

Bantu-Speaker Rock engravings in the Schoemanskloof Valley, Lydenburg District, Mpumalanga. J.P Celliers and J van der Walt

Paper read at the Southern African Association of Archaeologists Biennial Conference 2011

Pleistocene hominin land use on the western trans-Vaal Highveld ecoregion, South Africa, Jaco van der Walt.

Poster presented at SAFA, Toulouse, France. Biennial Conference 2016

Kite-like structures in the Nama Karoo of South Africa. *Antiquity*, 92(363).

Van der Walt, J. and Lombard, M., 2018.

The effects of heavy-duty machinery on the formation of pseudo-knapping debitage in Stone Age cultural landscapes. *Antiquity*, 92(366), pp.1429-1444.

Van Der Walt, J. and Bradfield, J., 2018.

The Keimoes 3 'desert kite' site, South Africa: An aerial LiDAR and micro-topographic exploration *Antiquity* (in Press)

Marlize Lombard , Matthew V. Caruana , Jaco van der Walt and Anders Högberg

Evidence of Earlier Stone Age occurrences on in the North West Grassland Biome, Barberspan, South Africa. *South African Archaeological Bulletin* (In Press)

Matthew V. Caruana, Jaco van der Walt, Marlize Lombard



DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:

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Departmental Details

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Pretoria
0001

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Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1. SPECIALIST INFORMATION

Specialist Company Name:	Beyond Heritage		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4 EME	Percentage Procurement recognition
Specialist name:	Jaco van der Walt		
Specialist Qualifications:	MA Archaeology		
Professional affiliation/registration:	EPHP #114 PSAPR #159		
Physical address:	37 Oliefontein street Modimolle		
Postal address:	Suite 34 P.O. Bag X1049		
Postal code:	0510	Cell:	0823738491
Telephone:		Fax:	
E-mail:	jaco@heritageconsultants.co.za		

2. DECLARATION BY THE SPECIALIST

I, Jaco v.d Walt, declare that -

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

[Signature]
Signature of the Specialist

Beyond Heritage
Name of Company:

15/8/2022
Date

Details of Specialist, Declaration and Undertaking Under Oath

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Jaco v.d. Walt, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

[Signature]
Signature of the Specialist

Beyond Heritage
Name of Company

15/8/2022
Date

[Signature]
Signature of the Commissioner of Oaths

2022/08/15
Date

SUSARAH ELIZABETH POTGIETER
COMMISSIONER OF OATH/KOMMISSARIS VAN EDE
NYLSTENE Pty Ltd
8 NELSON MANDELA DRIVE MODIMOLLE 0510
SOUTH AFRICAN INSTITUTE
OF PROFESSIONAL ACCOUNTANTS (SAPPA)
REPUBLIC OF SOUTH AFRICA/
REPUBLIEK VAN SUID-AFRIKA

PROF. MARION BAMFORD (PALAEONTOLOGY)

Curriculum vitae (short) - Marion Bamford PhD

November 2020

I) Personal details

Surname : **Bamford**
First names : **Marion Kathleen**
Present employment : Professor; Director of the Evolutionary Studies Institute.
Member Management Committee of the NRF/DST Centre of Excellence Palaeosciences, University of the Witwatersrand, Johannesburg, South Africa-
Telephone : +27 11 717 6690
Fax : +27 11 717 6694
Cell : 082 555 6937
E-mail : marion.bamford@wits.ac.za ; marionbamford12@gmail.com

ii) Academic qualifications

Tertiary Education: All at the University of the Witwatersrand:
1980-1982: BSc, majors in Botany and Microbiology. Graduated April 1983.
1983: BSc Honours, Botany and Palaeobotany. Graduated April 1984.
1984-1986: MSc in Palaeobotany. Graduated with Distinction, November 1986.
1986-1989: PhD in Palaeobotany. Graduated in June 1990.

iii) Professional qualifications

Wood Anatomy Training (overseas as nothing was available in South Africa):
1994 - Service d'Anatomie des Bois, Musée Royal de l'Afrique Centrale, Tervuren, Belgium, by Roger Dechamps
1997 - Université Pierre et Marie Curie, Paris, France, by Dr Jean-Claude Koeniguer
1997 - Université Claude Bernard, Lyon, France by Prof Georges Barale, Dr Jean-Pierre Gros, and Dr Marc Philippe

iv) Membership of professional bodies/associations

Palaeontological Society of Southern Africa
Royal Society of Southern Africa - Fellow: 2006 onwards
Academy of Sciences of South Africa - Member: Oct 2014 onwards
International Association of Wood Anatomists - First enrolled: January 1991
International Organization of Palaeobotany – 1993+
Botanical Society of South Africa
South African Committee on Stratigraphy – Biostratigraphy - 1997 - 2016

SASQUA (South African Society for Quaternary Research) – 1997+
 PAGES - 2008 –onwards: South African representative
 ROCEEH / WAVE – 2008+
 INQUA – PALCOMM – 2011+onwards

vii) Supervision of Higher Degrees

All at Wits University

Degree	Graduated/completed	Current
Honours	7	0
Masters	10	4
PhD	12	5
Postdoctoral fellows	10	3

viii) Undergraduate teaching

Geology II – Palaeobotany GEOL2008 – average 65 students per year
 Biology III – Palaeobotany APES3029 – average 25 students per year
 Honours – Evolution of Terrestrial Ecosystems; African Plio-Pleistocene Palaeoecology;
 Micropalaeontology – average 2-8 students per year.

ix) Editing and reviewing

Editor: Palaeontologia africana: 2003 to 2013; 2014 – Assistant editor
 Guest Editor: Quaternary International: 2005 volume
 Member of Board of Review: Review of Palaeobotany and Palynology: 2010 –

Review of manuscripts for ISI-listed journals: 25 local and international journals

x) Palaeontological Impact Assessments

Selected – list not complete:

- Thukela Biosphere Conservancy 1996; 2002 for DWAF
- Vioolsdrift 2007 for Xibula Exploration
- Rietfontein 2009 for Zitholele Consulting
- Bloeddrift-Baken 2010 for TransHex
- New Kleinfontein Gold Mine 2012 for Prime Resources (Pty) Ltd.
- Thabazimbi Iron Cave 2012 for Professional Grave Solutions (Pty) Ltd
- Delmas 2013 for Jones and Wagener
- Klipfontein 2013 for Jones and Wagener
- Platinum mine 2013 for Lonmin
- Syferfontein 2014 for Digby Wells
- Canyon Springs 2014 for Prime Resources
- Kimberley Eskom 2014 for Landscape Dynamics
- Yzermyne 2014 for Digby Wells
- Matimba 2015 for Royal HaskoningDV

- Commissiekraal 2015 for SLR
- Harmony PV 2015 for Savannah Environmental
- Glencore-Tweefontein 2015 for Digby Wells
- Umkomazi 2015 for JLB Consulting
- Ixia coal 2016 for Digby Wells
- Lambda Eskom for Digby Wells
- Alexander Scoping for SLR
- Perseus-Kronos-Aries Eskom 2016 for NGT
- Mala Mala 2017 for Henwood
- Modimolle 2017 for Green Vision
- Klipoortjie and Finaalspan 2017 for Delta BEC
- Ledjadja borrow pits 2018 for Digby Wells
- Lungile poultry farm 2018 for CTS
- Olienhout Dam 2018 for JP Celliers
- Isondlo and Kwasobabili 2018 for GCS
- Kanakies Gypsum 2018 for Cabanga
- Nababeep Copper mine 2018
- Glencore-Mbali pipeline 2018 for Digby Wells
- Remhoogte PR 2019 for A&HAS
- Bospoort Agriculture 2019 for Kudzala
- Overlooked Quarry 2019 for Cabanga
- Richards Bay Powerline 2019 for NGT
- Eilandia dam 2019 for ACO
- Eastlands Residential 2019 for HCAC
- Fairview MR 2019 for Cabanga
- Graspan project 2019 for HCAC
- Lieliefontein N&D 2019 for Enviropo
- Skeerpoort Farm Mast 2020 for HCAC
- Vulindlela Eco village 2020 for 1World
- KwaZamakhule Township 2020 for Kudzala
- Sunset Copper 2020 for Digby Wells
-

xi) Research Output

Publications by M K Bamford up to November 2020 peer-reviewed journals or scholarly books: over 150 articles published; 5 submitted/in press; 10 book chapters.

Scopus h-index = 29; Google scholar h-index = 36; -i10-index = 80

Conferences: numerous presentations at local and international conferences.

xii) NRF Rating

NRF Rating: B-2 (2016-2020)

NRF Rating: B-3 (2010-2015)

NRF Rating: B-3 (2005-2009)

NRF Rating: C-2 (1999-2004)



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:
NEAS Reference Number:
Date Received:

(For official use only)

DEA/EIA/

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Basic Assessment and Water Use Licence Application for the construction and operation of the Kiwano Solar PV Plant, Battery Energy Storage System, Substation and 132 KV Powerline near Upington, Northern Cape Province.

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1. SPECIALIST INFORMATION

Specialist Company Name:	Marion Bamford Consulting		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	Exempt	Percentage Procurement recognition
Specialist name:	Marion Bamford		
Specialist Qualifications:	PhD Palaeontology (Wits, 1990)		
Professional affiliation/registration:	FRSSAf, mASSAf, PSSA, SASQUA, INQUA, IOP, IAWA		
Physical address:	24A 8 th Avenue, Parktown North, 2193		
Postal address:	P O Box 652, WITS		
Postal code:	2050	Cell:	082 555 6937
Telephone:	011 717 6690	Fax:	-
E-mail:	Marion.bamford@wits.ac.za ; marionbamford12@gmail.com		

2. DECLARATION BY THE SPECIALIST

I, Marion Kathleen Bamford, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

MLBamford

Signature of the Specialist

Marion Bamford Consulting

Name of Company:

29 August 2020

Date

Details of Specialist, Declaration and Undertaking Under Oath

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Marion Kathleen Bamford, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

MBamford
Signature of the Specialist

Marion Bamford Consulting
Name of Company

29 August 2022
Date

Aminya
Signature of the Commissioner of Oaths

29 August 2022
Date

I certify that the DEPONENT has acknowledged that he/she knows and understands the contents of this affidavit, that he/she does not have any objection to taking the oath, and that he/she considers it to be binding on his/her conscience, and which was sworn to and signed before me at Johannesburg on this day of 29th August 2022 and that the administering oath complied with the regulations contained in Government Gazette No. R 1256 of 21 July 1972, as amended.

Signature: Aminya
Name: MUCHADURA ANDREY MINJA
Commissioner of Oaths, District of Johannesburg
Ex. Officio Title: Finance Officer
Faculty/Office: Management Accounting
University of the Witwatersrand, Johannesburg
1 Jan Smuts Avenue, Braamfontein 2001 Johannesburg