## CURRICULUM VITAE ADIE (Adrienne) ERASMUS (nee' Daines)

M.Sc., Pr. Sci. Nat. (400078/96);

Registered Environmental Assessment Practitioner (EAP): 2019/604

#### **Educational qualifications**

B. Sc (Botany and Zoology): University of Port Elizabeth, 1987

B. Sc (Hons) (Botany): University of Port Elizabeth, 1989

M. Sc (Botany): University of Port Elizabeth, 1991

Registered (15 August 1996) as a Professional Natural Scientist (ecological and botanical scientist) with the South African Council for Natural Scientific Professions (Registration number: 400078/96).

Registered (7 February 2020) with the Environmental Assessment Practitioners Association of South Africa (EAPASA): Registered Environmental Assessment Practitioner (EAP) (Registration number: 2019/604).

#### **Specialisation**

Ecological surveys (including wetlands) and monitoring, vegetation-land use mapping, urban open space planning, coastal zone planning and management, coastal ecology. The co-ordination of the environmental impact assessment process, including public participation. The compilation of environmental reports and environmental impact assessment reports. Evaluation of environmental management programme reports and environmental impact assessment reports.

#### Total years of environmental experience

25 years

#### **Professional Qualifications**

- Courses attended as part of the Danced Training Programme in Environmental Management Governance:
  - Environmental Law (April 1997) Presented by Environmental Management Unit PU for CHE and Technikon Pretoria)
  - Environmental Impact Assessment (May 1997) Presented by Environmental Management Unit, PU for CHE and Technikon Pretoria).
  - Environmental Management (May 1997) Presented by Environmental Management Unit, PU for CHE and Technikon Pretoria,
  - EMS systems (11 14 August 1997) Presented by Environmental Management Unit, PU for CHE and Technikon Pretoria),
  - Environmental Management in Industry (15 19 September 1997) Presented by Environmental Management Unit, PU for CHE and Technikon Pretoria).
  - Environmental Standards and Guidelines.
  - Monitoring Systems and Equipment (18 21 May 1998) Presented by Environmental Management Unit, PU for CHE and Technikon Pretoria)
- Successfully completed the Environmental Auditing Course (23 27 March 1998) Presented by SENRIO (Centre for Regional Development), University of Potchefstroom.
- Diploma in Project Management, Damelin Management School, Witbank (29 July 1999).
- Merit Award for Top Student in Project Management, Damelin Management School, Witbank (1999).
- Diploma in Bookkeeping, Damelin Management School, Witbank (2 August 2000).

#### **Employment History**

- March 2016 present: Owner: AdiEnvironmental cc (previously Clean Stream Environmental Services: Coalfields cc). Please refer to the attached Company Profile for further details.
- July 1999 28 February 2016: Managing member: Clean Stream Environmental Services: Coalfields cc. Please see the attached Company Profile for further details.
- 1 September 1996 June 1999: Environmental Officer, Environmental Management (Impact Management), Department of Environmental Affairs and Tourism (Mpumalanga), Witbank.

- April 1994 November 1995: Environmental Officer, Wetland Conservation Programme,
   Department of Environmental Affairs and Tourism, Pretoria
- 1 May 1991 31 May 1993: Contract Researcher, National Botanical Institute, Kirstenbosch, Cape Town.
- ⊕ 1 January 31 December 1989: Temporary Research Assistant, Coastal Dunes Programme, Botany Department, University of Port Elizabeth, Port Elizabeth.

#### **Professional Experience**

Professional experience gained over the years includes the following:

- Conducting vegetation surveys (including wetlands) and producing vegetation-land use maps.
- Experience and training in coastal ecology and coastal zone planning and management.
- Experience in urban open space planning.
- The co-ordination and implementation of the regulations in terms of:
  - Section 21, 22 and 26 of the Environment Conservation Act, 1989 (Act 73 of 1989);
  - Environmental Impact Assessment (EIA) Regulations, 2006;
  - Environmental Impact Assessment (EIA) Regulations, 2010;
  - Environmental Impact Assessment (EIA) Regulations, 2014;
  - Environmental Impact Assessment (EIA) Regulations, 2014 (as amended);
  - Minerals Act, 1991;
  - Mineral and Petroleum Resources Development Act, 2002;
- · Compilation and review of:
  - Basic Assessment Reports;
  - Scoping and Environmental Impact Assessment Reports;
  - Environmental Management Plans (EMP/EMPR);
  - Section 24G applications;
  - Exemption applications.
- Commissioning and management of specialist studies as part of the Basic Assessment or Environmental Impact Assessment (e.g. ecological (plant and animal life); wetland; soil/geotechnical; aquatic; surface water; traffic; air quality; noise, heritage, etc.).
- Coordination and facilitation of public participation (including public meetings) in terms of the above-mentioned legislation;
- Co-ordination and facilitation of Environmental Forums for mining companies on a quarterly basis;
- Conducting Environmental Compliance Assessments/Audits;
- Carrying out the functions of an Environmental Control Officer (ECO) on construction sites;
- Compiling Water Use License Applications (WULA) in terms of the National Water Act, 1998;
- Compiling Waste Management Licenses in terms of the National Environmental Management:
   Waste Act:
- Compiling Prospecting & Mining applications in terms of the Minerals Act, 1991 and the Mineral and Petroleum Resources Development Act, 2002;
- Compiling performance assessment reports as required in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002);
- · Independent Environmental Reporting.

Projects have been undertaken in Mpumalanga, Limpopo Province, Gauteng, North-West, KwaZulu-Natal and the Eastern Cape.

For the past 20 years as environmental consultant I have worked closely with other professionals (e.g. town planners, engineers, etc.) on project teams and provided input on a regular basis in order to ensure the best outcome of a project from an environmental point of view.

#### Training and mentorship

I have mentored and trained a number of persons (R. Janse van Rensburg, J. van Driel, L. Richards – see attached project list) with regards to conducting Environmental Impact Assessments.

Ms. Riana van Rensburg, who has worked for the company for more than 18 years, received her Masters in Environmental Management from the University of Free State in 2012. I acted as her mentor during the said studies.

During 2017, I participated in the IAIAsa Student Mentorship Programme and acted as mentor to Annemie du Randt.

#### Research projects:

Daines, A. 1993. Cape Metropolitan Area: West Coast Environmental Survey. Prepared for the Regional Planning Department, Western Cape Regional Services Council.

Daines, A., J. Adams and G. C, Bate. 1992. Vegetation of the Cape St. Francis bypass dunefield. Institute for Coastal Research Report no. 27.

Daines, A. 1991. The status of barrier dunes along the Eastern Cape coastline, South Africa. M.Sc Thesis. University of Port Elizabeth.

#### **Environmental Reports Compiled:**

Please refer to the attached list of projects for further information regarding projects compiled from 1999 until 2019.

#### **International experience:**

Member of the South African Mbeki-Gore Binational Commission delegation: Mining Study Tour to the USA (13 August – 5 September 1998).

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

South African Council for Natural Scientific Professions (SACNASP)

#### **Societies:**

Member of IAIA(SA) – Mpumalanga Branch Mpumalanga Wetland Forum: Secretary – 2015, 2016, 2017 Friends of the Witbank Nature Reserve – Committee member

#### **Contact details:**

Adie Erasmus M.Sc., Pr. Sci. Nat. (400078/96); Registered Environmental Assessment Practitioner (EAP): 2019/604

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Website: www.adienvironmental.co.za

### CURRICULUM VITAE RIANA JANSE VAN RENSBURG

#### **Educational qualifications**

N. Dip (Nature Conservation): Technicon Pretoria, 1997 Masters in Environmental Management: University of the Free State, 2012

Registered (25 February 2020) with the Environmental Assessment Practitioners Association of South Africa (EAPASA): Registered Environmental Assessment Practitioner (EAP) (Registration number: 2019/1341).

#### **Professional Qualifications**

- Environmental Impact Assessment Course presented by CEM (Centre for Environmental Management), North-West University, Potchefstroom.
- Wetland Training Course presented by the University of Pretoria.
- Certificate: Project Management for Environmental Management Systems, University of the Free State
- Certificate: Basic GIS, University of the Free State
- Certificate: Excel 2010, Options in Training
- NOSA: Basic Fire Awareness, First Aid Level 1, Introduction to OHS Act, SHE Representative.
  - Courses attended at Damelin: A+ (PC Technology); N+ (Network Technology); Basic Bookkeeping.

#### Total years of environmental experience - 18 years

#### **Employment History**

- December 1996 December 1997: In service training at the Hoedspruit Cheetah Project/Kapama Game Reserve as part of the National Diploma: Nature Conservation.
- January 1998 April 2000: Tourguide, Shop Assistant and Assistant Manager: Hoedspruit Cheetah Project; regularly assisted with Game Ranger duties at Kapama Game Reserve.
- April 2001 present: Environmental Scientist: Clean Stream Environmental Services: Coalfields (now AdiEnvironmental cc).

#### **Professional Experience**

- The co-ordination and implementation of the Environmental Impact Assessment Regulations.
- The compilation of the following documentation: basic assessment reports, scoping reports, plan of study for environmental impact assessments, environmental impact assessment reports and environmental management plans.
- Overall project management (including client/government liaison) with regards to the compilation of environmental impact assessments (i.e. basic assessments, scoping, environmental impact assessment, environmental management plans, authorisations).
- The compilation of Section 24G applications (i.e. rectification of illegally commenced with activities).
- Facilitating and managing public participation as required in terms of the Environmental Impact Assessment Regulations, 2010 and the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002).
- Water Use Licenses.

#### **Projects**

Please find attached a list of projects (supervised by Mrs. A. Erasmus *Pr. Sci. Nat.*) that I have been involved in to date.

#### **Contact details:**

Riana Janse van Rensburg AdiEnvironmental cc P.O. Box 647, Witbank, 1035

Tel: 013-697 5021 E-mail: <a href="mailto:riana@adienvironmental.co.za">riana@adienvironmental.co.za</a>

# ADIENVIRONMENTAL CC (previously Clean Stream Environmental Services: Coalfields cc) LIST OF PROJECTS, 2008 - 2020

### ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2006: BASIC ASSESSMENT REPORTS

2008. Basic Assessment Report: Upgrading of an outfall sewer (phase 2) adjacent to the Merriespruit, Middelburg. Report prepared for: Steve Tshwete Local Municipality. Report dated: January 2008. Report number: BA 2007/13. (Authors: R. van Rensburg and A. Erasmus)

2008. Basic Assessment Report: The development of a residential and light industrial area (to be known as Die Heuwel X 13) on a part of Portion 47 of the farm Zeekoewater 311 JS, Emalahleni. Report prepared for: Fine Assets Investments 69 (Pty) Ltd. Report dated: March 2008. Report number: BA 2007/16. (Authors: R. van Rensburg and A. Erasmus)

2008. Basic Assessment Report: The development of a residential and light industrial area on a part of Portion 47 of the farm Zeekoewater 311 JS, Emalahleni. Report prepared for: Four Arrows Investments 294 (Pty) Ltd. Report dated: March 2008. Report number: BA 2007/18. (Authors: R. van Rensburg and A. Erasmus)

2008. Basic Assessment Report: The installation of an aboveground diesel tank (4th tank) at an existing diesel depot located on the Remaining Extent of Portion 21 of the farm Kromdraai 12 HS, Standerton. Report prepared for: Quantum Energy cc. Report number: BA 2007/24. (Authors: R. van Rensburg and A. Erasmus)

2008. Basic Assessment Report: Construction and operation of a permanent diesel and lube facility at Inyanda Coal Mine, Emalahleni. Report prepared for: Exxaro Coal (Pty) Ltd. – Inyanda Coal Mine. Report number: BA 2008/4. (Authors: R. van Rensburg and A. Erasmus).

2009. Basic Assessment Report: The installation of a 315mm diameter water pipeline and 200mm diameter sewer line from Duvha Park X2 to the proposed Benicon Park light industrial development, Emalahleni. Report prepared for: N.J. van der Merwe. Report number: BA 2009/1. (Authors: R. van Rensburg and A. Erasmus)

2009. Basic Assessment Report: The construction and operation of a sewage package plant at the Waterpan 2 Seam Access West Shaft, Witbank. Report prepared for: Xstrata Coal South Africa (Tweefontein Complex). Report number: BA 2009/3 (Authors: A. Erasmus and L. Richards).

2011. Basic Assessment Report: Proposed business/commercial development on the Remaining Extent of Portion 3 of the farm Grasfontein 199 IS, Hendrina. Report prepared for: Grasfontein Boerdery. Report number: BA 2011/02. (Authors: R. van Rensburg and A. Erasmus)

## ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2006: SCOPING REPORTS & ENVIRONMENTAL IMPACT ASSESSMENT REPORTS

2007. Scoping Report: The development of a Residential - cum - Equestrian Estate on Portion 146 Kromdraai 292 JS, Witbank. Report prepared for: Mr. J.J. Groenewald and Mrs. H.C Groenewald. Report dated: February 2008. Report number: EIA 2007/2. (Authors: L. Richards and A. Erasmus)

2008. Scoping and Environmental Impact Report: The development of a light industrial area on various Portions of the farm Naauwpoort 335 JS, Witbank. Report prepared for: Mr. N.J. van der Merwe. Report number: EIA 2006/6. (Authors: R. van Rensburg and A. Erasmus)

2009. Scoping Report and Environmental Impact Report: The development of a residential area on Portions 58, 59 and 62 of the farm Rondebosch 403 JS, Middelburg. Report prepared for: Quickstep 419 (Pty) Ltd. Report number: EIA 2008/1. (Authors: R. van Rensburg and A. Erasmus)

2009. Scoping Report and Environmental Impact Report: The development of a residential area on Portions 63 and 64 of the farm Rondebosch 403 JS, Middelburg. Report prepared for: Middelbro Property Company (Pty) Ltd. Report number: EIA 2008/2. (Authors: R. van Rensburg and A. Erasmus)

2009. Scoping and Environmental Impact Report: The construction and operation of a solid waste disposal facility on the Remaining Extent of Portion 1 and Portion 18 of the farm Wildebeestfontein 327 JS, Phola. Report prepared for: Emalahleni Local Municipality. Report number EIA 2002/10.(Authors: R. van Rensburg and A. Erasmus)

2009. Scoping Report. The development of a residential area on a portion of the Remainder of Portion 134 and a portion of Portion 112 of the farm Nooitgedacht 300 JS, Emalahleni. Report prepared for: Emalahleni Local Municipality. (Authors: R. van Rensburg and A. Erasmus)

2009. Scoping Report and Environmental Impact Report: The construction and operation of a filling station and associated infrastructure on the Remaining Extent of Portion 4 of the farm Winkelhaak 135 IS, Kinross. Report prepared for: 8 Mile Investments 126 (Pty) Ltd. Report number: EIA 2007/5. (Authors: R. van Rensburg and A. Erasmus)

2009. Scoping and Environmental Impact Report: The construction and operation of a private rail siding, coal handling facility and associated infrastructure on Portion 28 and Portion 29 of the farm Heuvelfontein 215 IR, Kendal. Report prepared for: Shanduka Coal (Pty) Ltd. Report number: EIA 2007/8. (Authors: R. van Rensburg and A. Erasmus)

## ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2010: BASIC ASSESSMENT REPORTS

- 2010. Basic Assessment Report: The construction and operation of a diesel depot on Stand 194, Extension 1, Hectorspruit. Report prepared for: Mohwelere Trading (Pty) Ltd. Report number: BA 2009/06. (Authors: R. van Rensburg and A. Erasmus)
- 2010. Basic Assessment Report: Proposed township establishment (businesses) on Portion 234 of the farm Zeekoewater 311 JS, eMalahleni. Report prepared for: Horatia Investments 8. Report number: BA 2010/5. (Authors: R. van Rensburg and A. Erasmus)
- 2011. Basic Assessment Report: The establishment of a light industrial area on a portion of Portion 44 and a portion of the Remaining Extent of Portion 22 of Klipfontein 322 JS, as well as Erf 4490, Witbank X41, eMalahleni. Report prepared for: Zambli 9 (Pty) Ltd. Report number: BA 2010/06. (Author: A. Erasmus)
- 2011. Basic Assessment Report: The construction and operation of new chicken batteries on a portion of the farm Kopermyn 435 JS, Middelburg. Report prepared for: Alzu Enterprises (Pty) Ltd. Report number: BA 2010/07. (Authors: R. van Rensburg and A. Erasmus)
- 2012. Basic Assessment Report: The construction and operation of a sewage modular plant on Stand 11112 (originally indicated as Stand 11109) of Middelburg X34, Middelburg. Report prepared for: Cross Point Trading 36 (Pty) Ltd. Report number: BA 2010/09. (Authors: R. van Rensburg and A. Erasmus)
- 2012. Basic Assessment Report: The installation of a 400 mm diameter water pipeline for the new Rockdale residential area, Middelburg. Report prepared for: Steve Tshwete Local Municipality. Report number: BA 2011/03. (Authors: R. van Rensburg and A. Erasmus)
- 2012. Basic Assessment Report: The utilization of Public Open Space (Erf 409, Tasbet Park, eMalahleni) for business purposes. Report prepared for: Roossenekal Foods (Pty) Ltd. Report number: BA 2012/01. (Authors: R. van Rensburg and A. Erasmus)
- 2012. Basic Assessment Report: The establishment of a residential area and smallholdings on Portion 93 of the farm Rondebosch 403 JS, Middelburg. Report prepared for: Middelburg Muslim Jamaat. Report number: BA 2011/04. (Authors: R. van Rensburg and A. Erasmus)
- 2012. Basic Assessment Report: The utilization of Public Open Space (Erf 6386, Middelburg X22, Middelburg) for residential purposes. Report prepared for: Inframax Developments. Report number: BA 2012/02. (Authors: R. van Rensburg and A. Erasmus)
- 2013. Basic Assessment Report: The excavation of Pan 1 for mining purposes, Mafube Colliery, Middelburg. Report prepared for: Mafube Coal Mining (Pty) Ltd. Report number: BA 2013/01. (Authors: R. van Rensburg and A. Erasmus)
- 2013. Basic Assessment Report: The upgrading of the existing raw water abstraction facility within the Lusushwana River and the construction and refurbishment of associated infrastructure as part of the Lusushwana Bulk Water Supply Scheme. Report prepared for: Gert Sibande District Municipality. Report number: BA 2012/03. Report dated: September 2013. (Authors: R. van Rensburg and A. Erasmus)
- 2014. Basic Assessment Report: The construction and operation of chicken houses (layer hens) on the farms Kopermyn 435 JS and Kwaggafontein 460 JS, Middelburg. Report prepared for: Alzu Enterprises (Pty) Ltd. Report number: BA 2014/02. Report dated: June 2015. (Authors: R. van Rensburg and A. Erasmus)
- 2014. Basic Assessment Report: The development of a light industrial area (Benicon Park X1) and filling station on a portion of the Remaining Extent of Portion 26 of the farm Naauwpoort 335 JS, eMalahleni. Report prepared for: Elmir Industrial Projects cc. Report number: BA 2013/03. Report dated: 13 March 2014. (Authors: R. van Rensburg and A. Erasmus)
- 2014. Basic Assessment Report: The development of a transport facility on a portion of Portion 33 of the farm Vaalbank 289 JS, Middelburg. Report prepared for: Pieter Visser Trust. Report number: BA 2013/02. Report dated: June 2014. (Authors: R. van Rensburg and A. Erasmus)

## ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2010: SCOPING REPORTS & ENVIRONMENTAL IMPACT ASSESSMENT REPORTS

- 2010. Scoping Report, Environmental Impact Report and Environmental Management Plan: The construction and operation of an Asphalt Plant and associated infrastructure on Erf 75, Ferrobank X1, eMalahleni. Report prepared for: Sechaba Asphalt (Pty) Ltd. Report number: EIA 2009/4. (Authors: R. van Rensburg and A. Erasmus)
- 2013. Scoping Report and Environmental Impact Assessment: The establishment of a rural village on the Remaining Extent of the farm Toevlugt 320 JS, Middelburg. Report prepared for: Botshabelo Community Development Trust. Report number: EIA 2011/01. (Authors: R. van Rensburg and A. Erasmus)

## ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 & 2014 (as amended): BASIC ASSESSMENT REPORTS

2015. Basic Assessment Report: The development of a residential area (to be known as Chantelle X47) on the Remainder of Portion 119 of the farm Hartebeesthoek 303 JR, Pretoria. Report prepared for: Jumbo Building (Pty) Ltd. Report number: BA 2014/01. Report dated: February 2015. (Authors: R. van Rensburg and A. Erasmus)

- 2015. Basic Assessment Report: The upgrading of the Rimer's Water Treatment (purification) Works, Barberton. Report prepared for: Umjindi Local Municipality. Report number: BA 2015/01. Report dated: June 2015. (Author: A. Erasmus)
- 2015. Basic Assessment Report: The development of a new school site for Middelburg Preparatory School on Portion 362 (a portion of Portion 27) of the farm Middelburg Town and Townlands 287 JS, Middelburg. Report prepared for: Middelburg Preparatory School. Report number: BA 2015/03. Report dated: August 2015. (Author: A. Erasmus)
- 2015. Basic Assessment Report: The construction and operation of a breeder sow unit and associated infrastructure on Portion 19 of the farm Grootlaagte 449 JS, Middelburg. Report prepared for: Alzu Enterprises (Pty) Ltd. Report number: BA 2015/02. Report dated: October 2015. (Authors: R. van Rensburg and A. Erasmus)
- 2015. Basic Assessment Report: The development of a lintel supplier business on the Remaining Extent of Portion 76 Kromdraai 292 JS, eMalahleni. Report prepared for: Lintel Suppliers cc. Report number: BA 2015/04. Report dated: November 2015. (Authors: R. van Rensburg and A. Erasmus)
- 2016. Basic Assessment Report: The utilization of a portion of the Remaining Extent of Portion 24 of the farm Wonderfontein 428 JS for commercial purposes. Report prepared for: Real Time Investments 515 cc. Report number: BA 2015/05. Report dated: April 2016. (Authors: R. van Rensburg and A. Erasmus)
- 2017. Basic Assessment Report: The Construction and Operation of a Piggery on a Portion of Portion 7 of the Farm Erfdeel 446 JS, Middelburg. Report prepared for: Ede Farming (Pty) Ltd. Report number: BA 2016/02. Report dated: January 2017. (Authors: R. van Rensburg and A. Erasmus)
- 2017. Basic Assessment Report: Proposed commercial development on a portion of Portion 55 of the farm Blesboklaagte 296 JS, eMalahleni. Report prepared for: Jumbo van der Merwe Trust. Report number: BA 2016/01. Report dated: October 2017. (Authors: R. van Rensburg and A. Erasmus)
- 2017. Basic Assessment Report: The construction and operation of a pig Gene Transfer Station (GTC) on the Remaining Extent of Portion 24 of the farm Kleinfontein 432 JS, Middelburg. Alzu Enterprises (Pty) Ltd. Report number: BA 2017/03. Report dated: October 2017. (Authors: R. van Rensburg and A. Erasmus).
- 2018. Basic Assessment Report: Proposed Filling Station and Associated Infrastructure on Portion 1 of Erf 10769, Middelburg X26, Middelburg. Report prepared for: Pearls Star Investments 85 cc. Report number: BA 2017/04. Report dated: February 2018. (Authors: R. van Rensburg and A. Erasmus)
- 2018. Basic Assessment Report: The construction of a school and associated water pipeline on the Remainder of Generaalsdraai 429 JS and the Remainder of Portion 16 of Generaalsdraai 423 JS, Wonderfontein. Report prepared for: Umsimbithi Mining (Pty) Ltd. Report number: BA 2017/01. Report dated: June 2018. (Authors: R. van Rensburg and A. Erasmus)
- 2018. Basic Assessment Report: The development of a residential area on a portion of Portion 93 of the farm Rondebosch 403 JS, Middelburg. Report prepared for: Middelburg Muslim Jamaat. Report number: BA 2018/01. Report dated: June 2019. (Authors: R. van Rensburg and A. Erasmus)
- 2020: Basic Assessment Report: Proposed upgrading of the existing piggery on the Remaining Extent of the farm Platkoppie 420 IR, Heidelberg, Gauteng. Report prepared for: Alzu Pig Genetics (Pty) Ltd. Report number: BA 2017/02. Report dated: July 2020 (Author: A Erasmus).
- 2020: Basic Assessment Report: The development of a neighbourhood shopping centre on Erf 1051 (zoned Public Open Space), Rockdale, Middelburg. Report prepared for: Chestar Supplies (Pty) Ltd. Report number: BA 2020/02. Report dated: September 2020. (Authors: R. van Rensburg and A. Erasmus).

### ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 & 2014 (as amended): SCOPING REPORT, EIA REPORT, EMPr

- 2015. Environmental Impact Report and EMP: The development of a residential area on Portion 52 of the farm Rondebosch 403 JS, Middelburg. Report prepared for: Ivy Jewel 35 (Pty) Ltd. Report number: EIA 2014/01. Report dated: November 2015. (Author: A. Erasmus)
- 2016. Environmental Impact Report and EMP: The development of the Klarinet Integrated Housing Project Phase 2 and associated infrastructure, eMalahleni. Report prepared for: Absa Development Company Holding (Pty) Ltd. Report number: EIA 2014/02. Report dated: January 2016. (Author: A. Erasmus)
- 2016. Environmental Impact Report and EMP: The installation of a bulk sewer line from Pine Ridge Pump Station to the Klipspruit Sewage Treatment Works, eMalahleni. Report prepared for: eMalahleni Local Municipality. Report number: EIA 2016/01. Report dated: November 2016. (Authors: R. van Rensburg and A. Erasmus)
- 2017. Environmental Impact Report and EMP: Construction of a new dam and associated infrastructure as part of the upgrading of the bulk water supply scheme to Amsterdam, Mpumalanga. Report prepared for: Gert Sibande District Municipality. Report number: EIA 2017/01. Report dated: December 2017. (Author: A. Erasmus)
- 2018. Environmental Impact Report and EMPr: The development of a residential area on the Remaining Extent of the farm Rockdale 442 JS, Middelburg. Report prepared for: Rockdale Industrial (Pty) Ltd. Report number: EIA 2017/02. Report dated: April 2018. (Author: A. Erasmus)

2019. Environmental Impact Report and EMPr: Development of a rural village on a portion of Portion 5 of the farm Vlakvarkfontein 213 IR and a portion of the Remaining Extent of Van Dyksput 214 IR, Delmas. Report prepared for: Victor Khanye Local Municipality. Report number: EIA2018/01. Report dated: August 2019.

#### **EXEMPTION REPORTS**

2008. Application for Exemption in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998, (as amended) and the Environmental Impact Assessment Regulations, 2006: The construction of a bridge across the Olifants River, Presidentsrus, Middelburg. Report prepared for: Steve Tshwete Local Municipality. Report number: BA 2008/5. (Authors: R. van Rensburg and A. Erasmus)

2016. Exemption Report: The utilization of a portion of Stand 505 (zoned as Public Open space), Molteno Street, Nasaret, for the construction of a church. Report prepared for: The Body of Jesus Christ Church. Report number: EX 2016/01. Report dated: May 2016. (Authors: R. van Rensburg and A. Erasmus)

2018. Exemption Report: The utilization of the Remainder of Erf 2427 (zoned as Park), Phola, for the construction of a retirement home. Report prepared for: Eskom - Generation Division (Kendal Power Station). Report number: EX2018/01. Report dated: March 2018. (Authors: R. van Rensburg and A. Erasmus)

#### **SECTION 24 G APPLICATIONS**

2008. Section 24G Application: Diesel depot – third tank: Remaining Extent of Portion 21 of the farm Kromdraai 12 HS, Standerton. Report prepared for: Quantum Energy cc. Report number: 18/3/7 GS-03 (Authors: R. van Rensburg and A. Erasmus)

2008. Section 24G Application: Temporary aboveground diesel tanks located at Inyanda Coal Mine, eMalahleni. Report prepared for: Exxaro Coal (Pty) Ltd. Report number: BA 2008/2). (Authors: R. van Rensburg and A. Erasmus)

2010. Section 24G Application: Existing aboveground diesel tanks located on the Remainder of the farm Van Stadensdam 344 IS, Charl Cilliers. Report prepared for: Vermaas Brandstof BK. Report number: BA 2010/4. (Authors: R. van Rensburg and A. Erasmus)

2011. Section 24G Application and Environmental Management Plan: The construction and operation of a briquetting plant at Mafube Colliery, Middelburg. Report prepared for: Mafube Coal Mining (Pty) Ltd. Report number: EIA 2011/02. (Author: A. Erasmus)

2012. Section 24G Application and Environmental Management Plan: Lodge and associated infrastructure development on Portion 131 of the farm Kromdraai 292 JS, eMalahleni. Report prepared for: J.L. Janse van Rensburg. Report number: S24G 2012/01. (Author: A. Erasmus and R. van Rensburg)

2012. Section 24G Application, Environmental Management Plan and Public Participation Report: The trenching of a pan within Mafube Colliery, Middelburg. Report prepared for: Mafube Coal Mining (Pty) Ltd. Report number: S24G2012/02. (Author: A. Erasmus and R. van Rensburg)

2013. Section 24G Application: The formalization of an existing residential area on a portion of the Remainder of Portion 134 and a portion of Portion 112 of the farm Nooitgedacht 300 JS, eMalahleni. Report prepared for: Emalahleni Local Municipality. (Authors: R. van Rensburg and A. Erasmus)

2014. Section 24G Application, Environmental Management Plan and Public Participation Report: The formalization of an existing residential area on a portion of the Remainder of Portion 134 and a portion of Portion 112 of the farm Nooitgedacht 300 JS, eMalahleni. Report prepared for: Emalahleni Local Municipality. Report number: S24G 2013/01. (Authors: R. van Rensburg and A. Erasmus)

2014. Section 24G Application, Environmental Management Plan and Public Participation Report: The utilization of Portion 54 of the farm Rondebosch 403 JS (Middelburg) for light industrial activities. Report prepared for: Off-road Racing Middelburg cc. Report number: S24G 2014/01. (Authors: R. van Rensburg and A. Erasmus)

#### **SCOPING REPORTS IN TERMS OF THE MPRDA**

2009. Scoping Report: Proposed new Xstrata Coal Mine on various portions of the farm Elandspruit 291 JS, Middelburg. Report prepared for: Xstrata Coal (Pty) Ltd. Report number: EMPR 2009/2. (Author: A. Erasmus)

2009. Scoping Report: Proposed new Xstrata Coal Mine on the farms Gemsbokfontein 411 JS, Patattafontein 412 JS, Zonnebloem 396 JS and Panplaats 395 JS, Middelburg. Report prepared for: Xstrata Coal (Pty) Ltd. Report number: EMPR 2009/1. (Author: A. Erasmus)

2009. Scoping Report: Proposed Hartbeesfontein Colliery on various portions of the farm Haartbeestfontein 239 IS, Ermelo. Report prepared for: Northern Coal (Pty) Ltd. Report dated: 30 November 2009. Report number: EMPR 2009/3. (Authors: A. Erasmus and J. Erasmus)

2014. Scoping Report: The extension of Belfast Silica Mine located on the Remaining Extent of Portion 1 of the farm Klipfontein 385 JS, Belfast. Report prepared for: Belfast Silica Mine (Pty) Ltd. Report number: EMP 2014/01. Report dated: July 2014. (Author: A. Erasmus)

#### **EIA REPORTS & EMPR'S IN TERMS OF THE MPRDA**

2010. Environmental Management Programme (EMP): Proposed Northern Coal Mine on various portions of the farm Haartbeesfontein 239 IS, Ermelo. Report prepared for: Northern Coal (Pty) Ltd. Report dated: April 2010. Report number: EMPR 2009/3. (Authors: A. Erasmus and J. Erasmus)

2011. Revised Environmental Management Plan (EMP) for Belfast Silica Mine (Pty) Ltd. located on the Remaining Extent of Portion 1 of the farm Klipfontein 385 JS, Belfast. Report prepared for: Belfast Silica Mine (Pty) Ltd. Report number: EMPR 2011/01. (Author: A. Erasmus)

2014. EIA and EMP: The extension of Belfast Silica Mine located on the Remaining Extent of Portion 1 of the farm Klipfontein 385 JS, Belfast. Report prepared for: Belfast Silica Mine (Pty) Ltd. Report number: EMP 2014/01. Report dated: July 2015. (Author: A. Erasmus)

#### PROSPECTING APPLICATIONS IN TERMS OF THE MPRDA

2011. Environmental Management Plan (EMP): Application for a prospecting right with regards to Portions 32, 116, 119 & 144 of the farm Kromdraai 292 JS, eMalahleni. Report prepared for: Botlalo Mining and Energy Resources (Pty) Ltd. Report number: 2011/PR1. (Author: A. Erasmus)

2014. Public Participation Report and Environmental Management Plan submitted in terms of Section 39 and Regulation 52 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (the Act). Prospecting right application on various Portions of the farm Blesboklaagte 296 JS, eMalahleni. Report prepared for: Anglo American Coal, a Division of Anglo Operations (Pty) Ltd. Report dated: 21 May 2014. Report number: EMPR 2014/01 (Author: A. Erasmus)

#### **ENVIRONMENTAL AUDIT REPORTS**

2011. Environmental Audit: Activities on Portion 26 of the farm Blesboklaagte 296 JS, eMalahleni. Report prepared for: Absa DevCo. Report dated: June 2011. Report number: AUDIT 2011/1 (Author: A. Erasmus)

2014. Environmental Audit: Activities on Portion 26 of the farm Blesboklaagte 296 JS, eMalahleni. Report prepared for: Absa DevCo. Report dated: September 2014. Report number: AUDIT 2014/01 (Author: A. Erasmus)

2011. Environmental legal compliance audit for Mafube Colliery. Report prepared for: Mafube Colliery. Report dated: February 2011. Report number: AUD 2010/1 (Author: A. Erasmus)

2019/2020: Environmental compliance reports 1 to 13: The construction of a piggery on a portion of Portion 7 of the farm Erfdeel 446 JS, Middelburg. Reports prepared for EDE Farming (Pty) Ltd. (Authors: A Erasmus and R. van Rensburg).

#### **AEL APPLICATION**

2011. Application form in respect of the atmospheric pollution prevention act, 1965: The construction and operation of an asphalt plant and associated infrastructure on Erf 75, Ferrobank X1, eMalahleni. Report prepared for: Sechaba Asphalt (Pty) Ltd. (Authors: A. Erasmus and R. van Rensburg)

#### WATER USE LICENCE APPLICATION

2014. Water use licence application 21 (c) and (i): Proposed river crossing, Blesbokspruit, Klarinet X8, eMalahleni. Report prepared for: Emalahleni Local Municipality. Report number: WUL2014/01. Report dated: October 2014. (Author: A. Erasmus)

2013. 2013. Facilitation of a Water Use Licence Application process for Portion 93 of the farm Rondebosch 403 JS, Middelburg. Report prepared for: Middelburg Muslim Jamaat. Report prepared by Ilonka Haylett (BTW & Associates (Pty) Ltd.). Report dated: April 2013. Report number: 20336-REP-001.

2014. Facilitation of a Water Use Licence Application process for the Lusushwana Bulk Water Supply Scheme. Report prepared for: Gert Sibande District Municipality. Report prepared by: Ilonka Haylett (BTW & Associates (Pty) Ltd.). Report dated: January 2014. Report number: 20350-REP-001.

2018: Water Use License Application: The development of a pig Gene Transfer Centre on the Remaining Extent of Portion 24 of Kleinfontein 432 JS, Middelburg. Report dated: October 2019. Prepared for: Alzu Pig Genetics (Pty) Ltd. (Authors: R. van Rensburg and A. Erasmus).

2020: Water Use License Application: Pproposed filling station and associated infrastructure on Portion 1 of Erf 10769, Middelburg x26, Middelburg. Prepared for: Pearl Star Investments 85 cc. (Author: A. Erasmus and R. van Rensburg).

#### WASTE LICENCE APPLICATION IN TERMS OF NEM: WASTE ACT, 2008

2013. Waste licence application: Waste licence application process for waste activities in terms of the National Environmental Management: Waste Act 2008 (No. 59 of 2008) – New Belfast Waste Site. Report dated: June 2013. Report prepared for: Emakhazeni Local Municipality. (Author: A. Erasmus)

#### **DUE DILIGENCE REPORT**

2014. Due Diligence - Somkele Anthracite Mine. Report prepared for: Badger Mining and Consulting. Report dated: February 2014.

#### **ENVIRONMENTAL CONTROL OFFICER**

2011-2014: Environmental Control Officer – Klarinet X6, X7 and X8 construction activities. A. Erasmus

#### **ENVIRONMENTAL FORUMS**

2007-2019: Arranging and facilitating the Inyanda Stakeholder Engagement Forum meeting (Inyanda Coal Mine) – 3 meetings per year.

# ADIENVIRONMENTAL CC (previously Clean Stream Environmental Services: Coalfields cc) LIST OF PROJECTS, 1999 – 2007

#### **SCOPING REPORTS**

Environmental Scoping Report for the Trade Centre Development, Pretoria. Report dated: October 1999. Report prepared for: New Nation Development (Pty) Ltd. (Author: A. Erasmus)

Scoping Report: Remainder of Portion 2 of the Farm Botesdal 529 JQ, Randburg. Report dated: May 2000. Report prepared for: Tegan Props no. 1cc. Report Number: EIA 2000/1 (Author: A. Erasmus)

Scoping Report: Proposed maturation ponds, Ekangala. Report dated: June 2000. Report prepared for: Ekangala Local Council. Report number: EIA 2000/2 (Author: A. Erasmus)

Scoping Report: Remaining portion of Portion 101 of the farm Witbank 307 JS, Witbank. Report dated: September 2000. Report prepared for: Sherita's Property Investment cc. Report Number: EIA 2000/3 (Author: A. Erasmus)

Scoping Report: Proposed township establishment for Portion 150 of the farm Klipfontein 322 JS, Witbank. Report dated: October 2000. Report prepared for: Highveld Steel and Vanadium Corporation Ltd. Report Number: EIA 2000/4 (Author: A. Erasmus)

Scoping Report: Remaining portion of the farm Rietkuil 249 IR, Delmas. Report dated: October 2000. Report prepared for: Hannes Potgieter Trust Report Number: EIA 2000/5 (Author: A. Erasmus)

Scoping Report: The construction and operation of the proposed day visitor's camp at Skukuza, Kruger National Park. Report dated: December 2000. Report prepared for: South African National Parks. Report Number: EIA 2000/6 (Author: A. Erasmus)

Scoping Report: The construction and operation of the Albasini gate entrance and access road to the Kruger National Park. Report dated: January 2001. Report prepared for: South African National Parks. Report Number: EIA /JAN01 (Author: A. Erasmus)

Scoping Report: Proposed establishment of filling station on Portion 7 of Erf 1159, De Heuwel Extension 5, Witbank. Report dated: March 2001. Report prepared for: Mr. C. Gouws. Report Number: EIA2001/1 (Author: A. Erasmus)

Scoping Report: Upgrading of the Lower Sabie Camp, Kruger National Park. Report dated: May 2001. Report prepared for: South African National Parks. Report Number: EIA2001/2 (Author: A. Erasmus)

Scoping Report: Development Of a New Ranger's House And Staff Facilities In The Nwanetsi Area Of The Kruger National Park. Report Dated: July 2001. Report Prepared For: South African National Parks (SANParks). Report Number: (Author: A. Erasmus)

Scoping Report: Subdivision of and residential development on portion 44 of the farm Magathashek 270 JQ, located within the MPNE, Rustenburg. Report Dated: June 2001. Report Prepared For: Northwest Pipelines cc. Report Number: EIA 2001/3 (Author: A. Erasmus)

Scoping Report: The Upgrading Of The Hans Merensky Country Club, Phalaborwa. Report Dated: October 2001. Report Prepared For: Hans Merensky Country Club (Pty) Ltd. Report Number: EIA 2001/4 (Author: A. Erasmus)

Scoping Report: The Construction and Operation Of A Zip Slide In Close Proximity Of Sun City. Report Dated: January 2002. Report Prepared For: Unreal. Report Number: EIA 2002/1 (Author: A. Erasmus)

Scoping Report: Development of a Citrus Waste Composting Facility On A Portion Of The Farm Coulter 391 JU, Malelane. Report Dated: March 2002. Report Prepared For: Onderberg Processing (Pty) Ltd. Report Number: EIA 2002/2 (Author: A. Erasmus)

Scoping Report: The construction and operation of the proposed alumino-thermic FeV plant within the main steelworks site of Highveld Steel and Vanadium Corporation Limited, Witbank. Report dated: June 2002. Report prepared for: South Africa Japan Vanadium (Pty) Ltd. Report Number: EIA 2002/3 (Author: A. Erasmus)

Scoping Report: The township establishment of Klarinet Extention 5 and 6 on a portion of Portion 218 of the farm Blesboklaagte 296 JS, Witbank. Report dated: July 2002. Report prepared for: Emalahleni Local Municipal Council. Report Number: EIA2002/4 (Author: A. Erasmus)

Scoping Report: Proposed township establishment on a portion of Portion 18 and the Remainder of Portion 1 of the farm Wildebeestfontein 327 JS, Phola. Report dated: July 2002. Report prepared for: Emalahleni Local Municipal Council. Report Number: EIA 2002/5 (Author: A. Erasmus)

Scoping Report: Proposed graveyard to be located on a portion of the remaining extent of the farm Rietkuil 558 JS, Kriel. Report dated: July 2002. Report prepared for: Emalahleni Local Municipal Council. Report Number: EIA 2002/6 (Author: A. Erasmus)

Scoping Report: Proposed fire station to be located on a portion of the remainder of Portion 6 of the farm Grasfontein 199 IS, Hendrina. Report dated: September 2002. Report prepared for: Middelburg Local Municipality. Report Number: EIA 2002/7 (Author: R. van Rensburg and A. Erasmus)

Scoping Report: The construction and operation of the Palabora Mining Company Limited waste disposal site, Phalaborwa. Report dated: September 2002. Report prepared for: Palabora Mining Company Limited. Report Number: EIA 2002/8 (Author: A. Erasmus)

Scoping Report: Proposed residential and light industrial area to be located on a portion of the remaining extent of the farm Rietkuil 558 JS, Kriel. Report dated: October 2002. Report prepared for: Emalahleni Local Municipal Council. Report Number: EIA 2002/9 (Author: A. Erasmus)

Clean Stream Environmental Services. 2002. Scoping Report: Proposed township establishment on portion 66 of the farm Welverdiend 148 HT, Piet Retief. Report prepared for: Mkhondo Municiplity. Report dated: December 2002. Report number: EIA 2002/11. (Author: A. Erasmus and A. van Zyl)

Clean Stream Environmental Services. 2003. Scoping Report: Rezoning of Portion 37 of the farm Kromdraai 292 JS, Witbank for use as a private cemetery. Report prepared for: Mr. C.C. van Niekerk. Report dated: April 2003. Report number: EIA 2002/12. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2003. Scoping Report: The upgrading of the existing sewage purification works, Phola. Report prepared for: Emalahleni Local Municipal Council. Report dated: May 2003. Report number: EIA 2003/1. (Author: A. Erasmus)

Clean Stream Environmental Services. 2003. Scoping Report: The erection of a 22 kV powerline and associated substation from Witbank to Klarinet Extension 3, Witbank. Report prepared for: Emalahleni Local Municipal Council. Report dated: September 2003. Report number: EIA 2003/2. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2003. Scoping Report: The realignment of portion of the roads P36-2, P101-1 and P131-1 and the construction of associated infrastructure in the vicinity of Leeuwpan Coal Mine, Delmas. Report prepared for: The Department of Public Works, Roads and Transport on behalf of Leeuwpan Coal Mine. Report dated: May 2003. Report number: EIA 2003/3. (Author: A. Erasmus)

Clean Stream Environmental Services. 2003. Scoping Report: The construction and operation of the staff housing facilities at the Phabeni Gate Entrance, Kruger National Park. Report prepared for: South African National Parks. Report dated: July 2003. Report number: EIA 2003/4. (Author: A. Erasmus)

Clean Stream Environmental Services. 2003. Scoping Report: Proposed township establishment (Klarinet Ext. 7) on Portion 104 of the farm Blesboklaagte 296 JS, Witbank. Report prepared for: Emalahleni Local Municipal Council. Report dated: August 2003. Report number: EIA 2003/5. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2003. Scoping Report: The establishment of a township on Portion 28 of the farm Doornkop 246 JS, Middelburg. Report prepared for: Middelburg Local Municipality. Report dated: December 2003. Report number: EIA 2003/7. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2003. Scoping Report: The construction and operation of a service station and associated infrastructure on a portion of Portion 22 of the farm Witklip 232 IR, Delmas. Report prepared for: Mr. G. Diedericks. Report dated: December 2003. Report number: EIA 2003/8. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2004. Scoping Report: The upgrading of the Leeuwfontein Siding, Kendal. Report prepared for: Leeuwfontein Colliery (Pty) Ltd. Report dated: May 2004. Report number: EIA 2003/9. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2005. Scoping Report: The rezoning of Portions 121, 128 and 189 of the farm Zeekoewater 311 JS, Witbank, from agriculture to residential, light industrial and commercial. Report prepared for: Emalahleni Local Municipality. Report dated: February 2005. Report number: EIA 2004/1. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2005. Scoping Report: The development of the proposed Aloe Falls Country Estate on various portions of the farm Avontuur 725 JT, Badplaas. Report prepared for: Aloe Falls Golf Estate cc. Report dated: March 2005. Report number: EIA 2004/2. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2005. Scoping Report: The development of a golf estate within the boundaries of the existing Kranspoort Holiday Town, Loskop Dam. Report prepared for: Kranspoort Vakansiebelange Bpk. Report dated: February 2005. Report number: EIA 2004/3. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2004. Scoping Report: The development of a shopping complex and associated infrastructure on the remainder of portion 27, 287 JS of the farm Middelburg. Report prepared for: Mpisi Trading 96 (Pty) Ltd. Report dated: October 2004. Report number: EIA 2004/5. (Authors: A. Erasmus and J. van Driel)

Clean Stream Environmental Services. 2005. Scoping Report: The construction and operation of a Sintel Char plant within the boundries of Grootegeluc Coal Mine, Lephalale. Report prepared for: Kumba Resources Limited. Report dated: August 2005. Report number: EIA 2005/1. (Author: A. Erasmus)

Clean Stream Environmental Services. 2006. Scoping Report: The development of a shopping centre and associated infrastructure on a Portion of the Remainder of Portion 77 of the farm Driefontein 137 IS, Secunda. Report prepared for: Bunker Hills 693 (Pty) Ltd. Report dated: March 2006. Report number: EIA 2005/2. (Authors: J. van Driel and A. Erasmus)

Clean Stream Environmental Services. 2005. Scoping Report: The rezoning of portion 271 (a portion of portion 270) Zeekoewater 311 JS, Witbank, from agriculture to special (commercial/business). Report prepared for: Elmir Projects. Report dated: August 2005. Report number: EIA 2005/3. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2005. Scoping Report: The rezoning of Portions 244, 257 and 274 of the farm Zeekoewater 311 JS, Witbank. Report prepared for: Bella Casa Development cc. Report dated: October 2005. Report number: EIA 2005/6. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2007 Scoping Report: Proposed township establishment (Klarinet x8) on a Portion of Portion 153, 168 and 189 and Portions 124, 148, 158, 187, 190 & 210 of the Farm Blesboklaagte 296 JS, Witbank Report prepared for: Emalahleni Local Municipality. Report dated: July 2007. Report number: EIA 2005/7. (Author: A. Erasmus)

Clean Stream Environmental Services. 2005. Scoping Report: The construction and operation of a new solid waste disposal site on a Portion of the Farm Tweefontein 357 JT, Belfast. Report prepared for: Emakhazeni Local Municipality. Report dated: June 2006. Report number: EIA 2005/8. (Author: A. Erasmus)

Clean Stream Environmental Services. 2006. Scoping Report: The construction and operation of a filling station on a portion of portion 271 (a portion of portion 270) Zeekoewater 311 JS, Witbank. Report prepared for: Elmir Projects. Report dated: April 2006. Report number: EIA 2005/4. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2006. Scoping Report: The construction and operation of an overland conveyor and/or haul road from the proposed Stuart Coal East Mine to the existing Stuart Coal Weltevreden Colliery, Delmas. Report prepared for: Stuart Coal (Pty) Ltd. Report dated: February 2006. Report number: EIA 2005/5. (Authors: A. Erasmus and I. Aucamp)

Clean Stream Environmental Services. 2006. Scoping Report: The rezoning of the remaining Portion of Portion 19 (a Portion of Portion 1) of the farm Kromdraai 292 JS, Witbank, from agriculture to residential and possibly Business/Commercial. Report prepared for: The Business Zone 679cc. Report dated: November 2006. Report number: EIA 2006/1. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2006. Scoping Report: The rezoning of the Remainder of Portion 285 of the farm Zeekoewater 311 JS, Witbank, from agriculture to business and/or residential. Report prepared for: Spanish Ice Properites 21 (Pty) Ltd. Report dated: October 2006. Report number: EIA 2006/2. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2006. Scoping Report: The rezoning of Portion 136 of the farm Doornpoort 312 JS, Witbank, from agriculture to residential for the development of a Golf Estate. Report prepared for: Morning Tide Investments. Report dated: June 2006. Report number: EIA 2006/3. (Author: A. Erasmus)

Clean Stream Environmental Services. 2006. Scoping Report: The development of a Residential area on Portion 22 of the farm Naauwpoort 335 JS, Witbank. Report prepared for: Before the Wind Investment 113 (Pty) Ltd. Report dated: November 2006. Report number: EIA 2006/4. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2006. Scoping Report: The development of a Residential area on Portion of the farm Rondebosch 403 JS, Middelburg. Report prepared for: Sydom Investments (Pty) Ltd. Report dated: March 2006. Report number: EIA 2006/5. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2006. Scoping Report: The development of a light industrial area on various portions of the farm Naauwpoort 335 JS, Witbank. Report prepared for: Mr. N.J. van der Merwe. Report dated: May 2007. Report number: EIA 2006/6. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2007. Scoping Report: The development of a Residential area on Portion 10 of the farm Springboklaagte 416 JS, Middelburg District. Report prepared for: Steve Tshwete Local Municipality. Report dated: April 2007. Report number: EIA 2007/1. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2007. Scoping Report: Proposed township establishment on the remaining extent of Portion 27 of Blesbokspruit 150 IS and the remaining extent of Portion 28 of Naudesfontein 261 IS, Bethal. Report prepared for: Silvertron 130 BK. Report dated: July 2007. Report number: EIA 2007/3. (Author: A. Erasmus)

Clean Stream Environmental Services. 2007. Scoping Report: The Construction and operation of a filling station and associated infrastructure on the remaining extent of Portion 4 of the Farm Winkelhaak 135 IS, Kinross. Report prepared for: 8 Mile Investments 126 (Pty) Ltd. Report dated: November 2007. Report number: EIA 2007/5. (Author: A. Erasmus)

#### **EIA REPORTS**

Clean Stream Environmental Services. 2005. EIA report: The development of the proposed Aloe Falls Country Estate on various Portions of the farm Avontuur 725 JT, Badplaas. Report prepared

for: Aloe Falls Golf Estate cc. Report dated: March 2006. Report number: EIA 2004/2. (Author: A. Erasmus)

Clean Stream Environmental Services. 2006. Environmental Management Plan (EMP): The construction and operation of a Sintel Char Plant within the boundaries of Grootegeluk Coal Mine, Lephalale. Report prepared for: Kumba Resources Limited. Report dated: March 2006. Report number: 2005/1. (Author: A. Erasmus)

Clean Stream Environmental Services. 2007. EIR: The rezoning of Portion 136 of the farm Doornpoort 312 JS, Witbank, from agriculture to residential for the development of a Golf Estate. Report prepared for: Morning Tide Investments. Report dated: January 2007. Report number: EIA 2006/3. (Author: A. Erasmus)

Clean Stream Environmental Services. 2007. EIR: The development of a residential area on Portion 10 of the farm Springboklaagte 416 JS, Middelburg District. Report prepared for: Steve Tshwete Local Municipality. Report dated: August 2007. Report number: EIA 2007/1. (Authors: R. van Rensburg and A. Erasmus)

Clean Stream Environmental Services. 2007. EIA: Scoping Report: The development of a residential area on the remaining extent of the Farm Kriel 73 IS, Ga-Nala. Report prepared for: Fine Asset Investment 40 (Pty) Ltd. Report dated: November 2007. Report number: EIA 2007/6 (Authors: R. van Rensburg and A. Erasmus)

#### **EXEMPTION REPORTS**

Clean Stream Environmental Services. 2000. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Leeuwpan Coal Mine. Report prepared for: Leeuwpan Coal Mine. Report dated: 2000. Report number: EXE 2000/1. (Author: A. Erasmus)

Clean Stream Environmental Services. 2000. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Woestalleen Colliery. Report prepared for: Woestallen Colliery. Report dated: February 2000. Report number: EXE 2000/2. (Author: A. Erasmus)

Clean Stream Environmental Services. 2000. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Remaining section of the bulk connection sewer line, Ekangala. Report prepared for: Ekangala Local municipality. Report dated: June 2000. Report number: EXE 2000/3. (Author: A. Erasmus)

Clean Stream Environmental Services. 2002. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Background information with regards to the proposed Residential Development for the portion 1 of the farm Springvallei 321 JS, Witbank. Report prepared for: Springbok Valley Investments (Pty). Report dated: May 2002. Report number: EXE 2002/1. (Author: A. Erasmus)

Clean Stream Environmental Services. 2002. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Upgrading of the Moloto Road, Moloto, Kwamhlanga. Report prepared for: Thembisile Municipality. Report dated: June 2002. Report number: EXE 2002/2. (Author: A. Erasmus)

Clean Stream Environmental Services. 2002. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Proposed Township Establishment on the remainder of portion 15 of the farm Joubertrus 310 JS, Witbank: Water Purification Works. Report prepared for: Emalahleni Local Municipality Council. Report dated: July 2002. Report number: EXE 2002/3. (Author: A. Erasmus)

Clean Stream Environmental Services. 2002. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Proposed Township Establishment on the remainder of portion 15 of the farm Joubertrus 310 JS, Witbank: Commercial Development. Report prepared for: Emalahleni Local Municipality Council. Report dated: July 2002. Report number: EXE 2002/4. (Author: A. Erasmus)

Clean Stream Environmental Services. 2002. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Provision of a bulk water supply link from Moloto Extension 3, Kwamhlanga. Report prepared for: Thembisile Municipality. Report dated: June 2002. Report number: EXE 2002/5. (Author: A. Erasmus)

Clean Stream Environmental Services. 2002. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Proposed diesel and paraffin depot on the remainder of erf 272 IR, 26 Princes street, Standerton. Report prepared for: Quantum Energy (Pty) Ltd. Report dated: June 2002. Report number: EXE 2002/6. (Author: A. Erasmus)

Clean Stream Environmental Services. 2002. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): The rezoning of portion 91 of the farm Zeekoewater 311JS, witbank from agriculture to industrial 3. Report prepared for: Megamesh (Pty) Ltd. Report dated: October 2002. Report number: EXE 2002/7. (Author: A. Erasmus)

Clean Stream Environmental Services. 2002. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Exemption report with regards to the temporary storage of Hazardous waste at Phalaborwa Mining Company (Ltd). Report prepared for: Palaborwa Mining Company Ltd. Report dated: November 2002. Report number: EXE 2002/8. (Author: A. Erasmus)

Clean Stream Environmental Services. 2003. Application for Exemption according to Section 28A of the Environment Conservation Act (Act 73 of 1989): The rezoning of stand 27 (portion 1) of Dixon agriculture holdings, Witbank from agriculture. Report prepared for: FCR Services. Report dated: May 2003. Report number: EXE 2003/1. (Author: A. Erasmus)

Clean Stream Environmental Services. 2003. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): The subdivision of portion 210 of the farm Naauwpoort 335 JS, Witbank. Report prepared for: Mr N.W. McKenzie. Report dated: October 2003. Report number: EXE 2003/2. (Author: A. Erasmus)

Clean Stream Environmental Services. 2003. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Proposed township establishment (Middelburg Ext 25) to be located on various portions of the farm Middelburg Town and Townlands 287 JS, Middelburg. Report prepared for: Quickstep 541. Report dated: October 2003. Report number: EXE 2003/3. (Author: A. Erasmus)

Clean Stream Environmental Services. 2003. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): The construction of a water supply pipeline from the existing Kameelpoortnek Reservior to Klipfontein. Report prepared for: Thembesile Municipality. Report dated: November 2003. Report number: EXE 2003/4. (Author: A. Erasmus)

Clean Stream Environmental Services. 2004. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): The construction of a road and bridge between Kerk Street and Pongola Avenue, Middelburg. Report prepared for: Steve Tshwete Municipality. Report dated: June 2004. Report number: EXE 2004/1. (Author: A. Erasmus)

Clean Stream Environmental Services. 2004. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): The construction of a 600mm diameter outfall sewer as part of the Klein Olifants outfall sewer, Middelburg. Report prepared for: Middelburg Local Municipality. Report dated: February 2004. Report number: EXE 2004/2. (Author: A. Erasmus)

Clean Stream Environmental Services. 2004. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Rezoning of portion 236 of farm Zeekoewater 311 JS from agriculture to residential. Report prepared for: Reka Trade 1259. Report dated: April 2004. Report number: EXE 2004/3. (Author: A. Erasmus)

Clean Stream Environmental Services. 2004. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Electrification of the private siding at Leeuwpan Coal Mine. Report prepared for: Leeuwpan Coal Mine. Report dated: May 2004. Report number: EXE 2004/4. (Author: A. Erasmus)

Clean Stream Environmental Services. 2004. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): The rezoning of a Kendal Forest Holding smallholding from agriculture to light industrial, Kendal. Report prepared for: Cape Contracts (Pty) Ltd. Report dated: October 2004. Report number: EXE 2004/5. (Authors: J. van Driel and A. Erasmus)

Clean Stream Environmental Services. 2004. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): The rezoning of portion 10 and 12 of the farm, Klipfontein 322 JS, Witbank, from agriculture to residential and light industrial. Report prepared for: West Dunes Properties 6 (Pty) Ltd. Report dated: June 2004. Report number: EXE 2004/6. (Author: A. Erasmus)

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Clean Stream Environmental Services. 2004. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): The establishment of a Township on the remainder of portion 4 of the farm Prinshof 2 IS, Phola. Report prepared for: Emalahleni Local Municipal Council. Report dated: October 2004. Report number: EXE 2004/9. (Authors: J. van Driel and A. Erasmus)

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Clean Stream Environmental Services. 2005. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): The formalisation of informal residential areas (known as MAGANAGOBUSWA), located on Portions 27, 28, 30, 32, 33, 36 and 48 of the farm Valschfontein 33 JS, Siyabuswa. Report prepared for: Dr. J.S. Moroka Municipality. Report dated: July 2005. Report number: EXE 2005/5. (Authors: J. van Driel and A. Erasmus)

Clean Stream Environmental Services. 2005. Application for Exemption According to Section 28A of the Environment Conservation Act (Act 73 of 1989): Rezoning of Portion 62 of the farm Zeekoewater 311 JS, Witbank, from agriculture to business/commercial. Report prepared for: Dartingo Trading 0007 (Pty) Ltd. Report dated: November 2005. Report number: EXE 2005/6. (Authors: R. van Rensburg and A. Erasmus)

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#### **ENVIRONMENTAL MANAGEMENT PROGRAMME REPORTS (EMPR'S)**

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Clean Stream Environmental Services. 2004. Addendum to the Delmas Silica Environmental Management Programme Report. Report prepared for: Delmas Silica. Report dated: April 2004. Report number: EMPR 2004/1. (Authors: A. Erasmus)

#### **SCOPING REPORTS - MINES**

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Clean Stream Environmental Services. 2004. Scoping Report: Proposed Stuart Coal Mine, Delmas. Report prepared for: Stuart Coal Mine (Pty) Ltd. Report dated: November 2004. Report number: EIA 2004/Nov. (Author: A. Erasmus)

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Clean Stream Environmental Services. 2004. Scoping Report: Proposed Conveyor from Boschman's to Witcons, Tweefontein Division. Report prepared for: Xstrata Coal (Pty) Ltd. Report dated: March 2005. Report number: EIA 2005/Mar. (Author: A. Erasmus)

#### **PEER REVIEWS**

Clean Stream Environmental Services. 2006. Review: Scoping process – The relocation of the FFS Tar processing plant from Secunda to Evander. Report prepared for: Walker Park Golf Club. Report dated: February 2006. Report number: REVIEW 01. (Author: A. Erasmus)

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#### **FEASABILITY STUDY**

Clean Stream Environmental Services. 2004. Feasibility Study: Squatter Camp, Kwa-Quqa, Witbank. Report prepared for: Emalahleni Local Municipality. Report dated: December 2004. Report number: FS/2004/1. (Author: A. Erasmus)

#### **ENVIRONMENTAL MANAGEMENT PLAN**

Clean Stream Environmental Services. 2006. Environmental Management Plan: Plot 81 Jackaroo Agriculture Holdings, Witbank. Report prepared for: J.M. Pretorius Holdings. Report dated: November 2006. Report number: EM PLAN 2006/1. (Author: A. Erasmus)

Clean Stream Environmental Services. 2006. Environmental Management Plan: The establishment of a township on the Remainder of Portion 142 (Portion of Portion 37) of the farm Klipfontein 322JS, Witbank. Report prepared for: Mr. T.C. Vermaak. Report dated: December 2006. Report number: EMP 2006/1. (Author: A. Erasmus)

#### **CLOSURE PLAN/REPORT**

Clean Stream Environmental Services. 2006. Closure Plan for Lakeside Siding, Kendal. Report prepared for: Leeuwfontein Colliery (Pty) Ltd. Report dated: February 2006. Report number: 2006/1. (Author: A. Erasmus)

#### **PUBLIC PARTICIPATION REPORTS**

Clean Stream Environmental Services. 2002. Public Participation Report: Proposed diesel and paraffin depot on the remainder of Erf 272/R of Princess Street, Standerton. Report prepared for: Quantum Energy (Pty) Ltd. Report dated: October 2002. Report number: Oct-02. (Author: A. Erasmus)

Clean Stream Environmental Services. 2004. Grootegeluk Coal Mine: Public Participation as required in terms of the EMPR and IWULA Process. Report prepared for: Grootegeluk Coal Mine. Report dated: October 2004. Report number: Oct-04. (Author: A. Erasmus)

Clean Stream Environmental Services. 2005. Grootegeluk Coal Mine: Public Participation as required in terms of the EMPR and IWULA Process. Follow up Public Participation. Report prepared for: Grootegeluk Coal Mine. Report dated: July 2005. Report number: Jul-05. (Author: A. Erasmus)

Clean Stream Environmental Services. 2005. New Denmark Colliery. Public Participation as required in terms of the EMPR and IWULA Process. Report prepared for: New Denmark Colliery. Report dated: October 2005. Report number: Oct-05. *(Author: A. Erasmus)* 

Clean Stream Environmental Services. 2005. Kromdraai Opencast, Landau Colliery. Public Participation as required in terms of the EMPR and IWULA Process. Report prepared for: Kromdraai

Opencast Landau Colliery. Report dated: November 2005. Report number: Nov-05. (Author: A. Erasmus)

#### **OTHER REPORTS COMPLETED**

Clean Stream Environmental Services. 2007. REPORT: Relocation of Animals and Plants from the proposed Kalbasfontein Coal Mine Area, Witbank. Report prepared for: Kumba Resources. Report dated: February 2007. Report number: Report Feb 2007. (Author: A. Erasmus)

Clean Stream Environmental Services. 2007. REPORT: Initial Risk Assessment for the Zonnebloem Project, Middelburg. Report prepared for: Xstrata Coal South Africa. Report dated: May 2007. Report number: Report May 2007. (Author: A. Erasmus)

Clean Stream Environmental Services. 2007. REPORT: Ecological Studies with regards to a portion of the farm Hamelfontein 384 IS, Grootdraai Dam, Standerton. Report prepared for: Elmir Projects. Report dated: June 2007. Report number: Report June 2007. (*Author: A. Erasmus*)

Clean Stream Environmental Services. 2007. REPORT: Klarinet Integrated Housing Development: Environmental Scan. Report prepared for: Bigen Africa (Pty) Ltd. Report dated: October 2007. Report number: Report October 2007. (Author: A. Erasmus)

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#### EXPERTISE

Soil Quality Assessment

Soil Policy and Guidelines

Agricultural Agro-Ecosystem Assessment

Sustainable Agriculture

Data Consolidation

Land Use Planning

Soil Pollution

Hydropedology

#### EDUCATION

MASTER'S DEGREE
Environmental Science
University of Witwatersrand
2010 – 2018

BACHELOR'S DEGREE
Agricultural Science
University of Pretoria
2001 – 2004

#### PROFESSIONAL PROFILE

I contribute specialist knowledge on agriculture and soil management to ensure long-term sustainability of projects in Africa. For the past thirteen years, it has been my calling and I have consulted on more than 200 projects. My clients include environmental and engineering companies, mining houses, and project developers. I enjoy the multi-disciplinary nature of the projects that I work on and I am fascinated by the evolving nature of my field of practice. The next section provide examples of the range of projects completed. A comprehensive project list is available on request.

#### PROJECT EXPERIENCE

Global Assessment on Soil Pollution Food and Agricultural Organisation (FAO) of the United Nations (UN)

Author of the regional assessment of Soil in Sub-Saharan Africa. The report is due for release in February 2021. The different sections included:

- Analysis of soil and soil-related policies and guidelines for each of the 48 regional countries
- · Description of the major sources of soil pollution in the region
- The extent of soil pollution in the region and as well as the nature and extent of soil monitoring
- Case study discussions of the impacts of soil pollution on human and environmental health in the region
- Recommendations and guidelines for policy development and capacitation to address soil pollution in Sub-Saharan Africa

#### Data Consolidation and Amendment

Range of projects: Mining Projects, Renewal Energy

These projects included developments where previous agricultural and soil studies are available that are not aligned with the current legal and international best practice requirements such as the IFC Principles. Other projects are expansion projects or changes in the project infrastructure layout. Tasks on such projects include the incorporation of all relevant data, site verification, updated baseline reporting and alignment of management and monitoring measures.

Project examples:

- Northam Platinum's Booysendal Mine, South Africa
- Musonoi Mine, Kolwezi District, Democratic Republic of Congo
- Polihali Reservoir and Associated Infrastructure, Lesotho
- Kaiha 2 Hydropower Project, Liberia
- Aquarius Platinum's Kroondal and Marikana Mines



#### PROFESSIONAL MEMBERSHIP

South African Council for Natural Scientific Professions (SACNASP)

Soil Science Society of South Africa (SSSSA)

Soil Science Society of America (SSSA)

Network for Industrially Contaminated Land in Africa (NICOLA)

#### LANGUAGES

English (Fluent)

Afrikaans (Native)

French (Basic)

#### PRESENTATIONS

There is spinach in my fish pond
TEDx Talk
Available on YouTube

Soil and the Extractive Industries Session organiser and presenter Global Soil Week, Berlin (2015)

How to dismantle an atomic bomb Conference presentation (2014) Environmental Law Association (SA)

#### PROJECT EXPERIENCE (Continued)

#### Agricultural Agro-Ecosystem Assessments

Range of projects: Renewable Energy, Industrial and Residential Developments, Mining, Linear Developments (railways and power lines)

The assessments were conducted as part of the Environmental and Social Impact Assessment processes. The assessment process includes the assessment of soil physical and chemical properties as well as other natural resources that contributes to the land capability of the area.

Project examples:

- Mocuba Solar PV Development, Mozambique
- · Italthai Railway between Tete and Quelimane, Mozambique
- · Lichtenburg PV Solar Developments, South Africa
- Manica Gold Mine Project, Mozambique
- · Khunab Solar PV Developments near Upington, South Africa
- Bomi Hills and Mano River Mines, Liberia
- · King City near Sekondi-Takoradi and Appolonia City near Accra, Ghana
- Limpopo-Lipadi Game Reserve, Botswana
- Namoya Gold Mine, Democratic Republic of Congo

#### Sustainable Agriculture

Range of projects: Policy Development for Financial Institutions, Mine Closure Planning, Agricultural Project and Business Development Planning

Each of the projects completed had a unique scope of works and the methodology was designed to answer the questions. While global indicators of sustainable agriculture are considered, the unique challenges to viable food production in Africa, especially climate change and a lack of infrastructure, in these analyses.

Project examples:

- Measurement of sustainability of agricultural practices of South African farmers – survey design and pilot testing for the LandBank of South Africa
- Analysis of the viability of avocado and mango large-scale farming developments in Angola for McKinsey & Company
- Closure options analysis for the Tshipi Borwa Mine to increase agricultural productivity in the area, consultation to SLR Consulting
- Analysis of risks and opportunities for farm feeds and supplement suppliers of the Southern African livestock and dairy farming industries
- Sustainable agricultural options development for mine closure planning of the Camutue Diamond Mine, Angola



#### PROFESSIONAL DEVELOPMENT

Contaminated Land
Management 101Training
Network for Industrially
Contaminated Land in Africa

Intensive Agriculture in Arid & Semi-Arid Environments CINADCO/MASHAV R&D Course, Israel 2015

World Soils and their Assessment Course ISRIC – World Soil Information Centre, Netherlands 2015

> Wetland Rehabilitation Course University of Pretoria 2010

Course in Advanced Modelling of Water Flow and Solute Transport in the Vadose Zone with Hydrus University of Kwazulu-Natal

Environmental Law for Environmental Managers North-West University Centre for Environmental Management 2009

#### PROJECT EXPERIENCE (Continued)

Soil Quality Assessments

Range of projects: Rehabilitated Land Audits, Mine Closure Applications, Mineral and Ore Processing Facilities, Human Resettlement Plans

The soil quality assessments included physical and chemical analysis of soil quality parameters to determine the success of land rehabilitation towards productive landscapes. The assessments are also used to understand the suitability for areas for Human Resettlement Plans

Project examples:

- · Closure Planning for Yoctolux Colliery
- · Soil and vegetation monitoring at Kingston Vale Waste Facility
- Exxaro Belfast Resettlement Action Plan Soil Assessment
- Soil Quality Monitoring of Wastewater Irrigated Areas around Matimba Power Station
- · Keaton Vanggatfontein Colliery Bi-Annual Soil Quality Monitoring

#### REFERENCES

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#### **CURRICULUM VITAE**

Name: Catharina Elizabeth Venter trading as Kyllinga Consulting

Position: Senior Ecologist and Wetland Scientist

Date of Birth: 29 December 1979

Nationality: South African

Languages: Afrikaans, English

#### **EDUCATIONAL QUALIFICATIONS**

M.Sc (Botany), University of Pretoria (2003)

- B.Sc Hons (Botany), University of Pretoria (2001)
- B.Sc (Environmental Sciences), University of Pretoria (2000). Majored in Geography and Botany
- Matriculated, Sasolburg High School (1997)

#### Additional

- Introduction to ArcGIS 1 (2006)
- Bringing your data into ArcGIS (2006)
- Introduction to ArcView 3.x (2003).

#### **FIELDS OF EXPERTISE**

#### • Ecological Assessment:

Ecological Assessments as part of the Environmental Impact Assessment Process

#### Wetland Assessment:

Wetland Assessments as part of the Environmental Impact Assessment Process and Water Use Applications, as well as rehabilitation plans for wetlands, including planning or the Working for Wetlands programme. Large scale wetland assessments (catchment scale).

#### GIS:

Compilation of maps for submission as part of Environmental Impact Assessment Process. Creating spatial databases and large scale wetland maps (catchment scale). Projection conversions and matching/overlaying different format GIS maps.

#### Environmental Impact Assessment

Undertaken numerous Environmental Scoping Reports, as required by the Environment Conservation Act, 1989 (Act 73 of 1989), the National Environmental Management Act, 1998 (Act 107 of 1998), as amended and the Development Facilitation Act, 1995 (Act 67 of 1995). Project experience includes the establishment of various housing typologies, golf courses, commercial and industrial projects, infrastructure development (roads), resorts and/or game lodges as well as filling stations.

#### • Public Participation:

Undertaken numerous public participation processes, ranging from basic to extensive, as required by relevant environmental legislation.

#### MEMBERSHIP IN PROFESSIONAL SOCIETIES

- Professional Natural Scientist (Pr.Sci.Nat) in the field of Botanical Science (Reg no. 400048/08)
- Member of the Botanical Society of South Africa

#### **EMPLOYMENT HISTORY EXPERIENCE**

#### Kyllinga Consulting (July 2015 - present)

Senior Ecologist responsible for wetland and ecological specialist assessments.

#### **Spatial Ecological Consulting (February 2010 – June 2015)**

Senior Ecologist responsible for wetland and ecological specialist assessments.

• Wetland Related Assessments

More than 40 wetland assessments conducted between 2010 and 2015.

Vegetation Assessments

Approximately 16 vegetation assessments between 2010 and 2015.

Management Plans

Completed two ecological management plans.

#### MSA Group Services (previously Exigent Environmental CC) (August 2004 – January 2010)

Environmental Scientist responsible for ecological and wetland assessments and the compilation of maps. Also conducted various scoping and EIA applications and EMPRs.

• Ecological Assessments

In excess of 50 ecological assessments conducted between 2004 and 2010, including managing the inclusion of the fauna specialist assessments.

Wetland Assessments

More than 60 wetland verification projects, wetland delineations and wetland assessments, completed between 2004 and 2010.

As well as:

Rehabilitation Projects; Fatal Flaw / Screening Assessments; National Department of Agriculture Authorisations; Mining Related Assessments; Private, Public Partnership Projects; Resource Management Plans (RMP); Environmental Management Plans; Environmental Management Programme; Environmental Exemption Processes; Basic Assessments; Environmental Impact Assessments

#### Part-time employment (2002-2004)

Tutor for botany practicals; Assisting Wildlife management students with Braun-Blanquette analysis; Researcher for a project on the vegetation communities and ecology of the Kruger National Park; Research assistant for the analysis of street trees in Tshwane urban forest; Various part time projects related to vegetation and wetlands

#### **COUNTRIES OF WORK EXPERIENCE**

- South Africa
- Lesotho
- Botswana
- Mozambique

#### **PAPERS AND PUBLICATIONS**

Co-author and data contributor to: SIEBEN, E. *et al.* The vegetation of inland wetlands with salt-tolerant vegetation in South Africa: description, classification and explanatory environmental factors, submitted to the South African Journal of Botany for review in Feb 2015.

Co-author and data contributor to: SIEBEN, E. *et al.* The herbaceous vegetation of subtropical freshwater wetlands in South Africa: description, classification and explanatory environmental factors, submitted to the South African Journal of Botany for review in Feb 2015.

Co-author and data contributor to: SIEBEN, E. *et al.* The vegetation of grass lawn wetlands of floodplains and pans in semi-arid regions of South Africa: description, classification and explanatory environmental factors, submitted to the South African Journal of Botany for review in Jan 2015.

Co-author of several vegetation descriptions in: MUCINA, L. & RUTHERFORD, M.C. (eds) 2006. The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria.

VENTER, C.E. & BREDENKAMP, G.J. In prep. Major plant communities on the Mfabeni swamp, St Lucia. Bothalia.

VENTER, C.E.; BREDENKAMP, G.J. & GRUNDLING, P-L. 2003. Plant community types, and their association with habitat factors as ecosystem driving forces, of Mfabeni swamp. Proceedings of the congress: *Environment of the St Lucia Wetland: Processes of Change*, Cape Vidal, September 4<sup>th</sup>- 7<sup>th</sup>, 2003.

VENTER, C.E.; BREDENKAMP, G.J.; GRUNDLING P-L. 2002. Vegetation change on rehabilitated peatland on Rietvlei Nature Reserve. *Kudu* 46(1):53-63.

#### **PRESENTATIONS**

Venter, C.E.; Bredenkamp, G.J. & Grundling, P-L. 2003. Plant community types, and their association with habitat factors as ecosystem driving forces, of Mfabeni Swamp. *Environment of the St Lucia Wetland: Processes of Change*, Cape Vidal, September 4<sup>th</sup>- 7<sup>th</sup>, 2003.

#### **Poster Presentations**

Venter, C.E.; Bredenkamp, G.J.; Grundling P-L. 2002. Baseline vegetation surveys of rehabilitated peatland on Rietvlei Nature Reserve. SAAB Converence. Grahamstown.

Venter, C.E.; Bredenkamp, G.J.; Grundling P-L. 2003. Vegetation change on rehabilitated peatland on Rietvlei Nature Reserve. SAAB Converence. Pretoria.





Name: LUKAS JURIE NIEMAND

Company: Pachnoda Consulting cc (Director)

Date of Birth: 1974-03-12

Nationality: South African

Languages: English and Afrikaans

#### **EDUCATIONAL QUALIFICATIONS**

1992 Hoërskool Hartbeespoort, Hartbeespoort - Senior Certificate.

1996 University of Pretoria - B.Sc. (Zoology and Entomology).

1997 University of Pretoria - B.Sc. (Hons) (Entomology).

2001 University of Pretoria - M.Sc. (Restoration Ecology/Zoology).

#### MEMBERSHIP IN PROFESSIONAL SOCIETY

- Professional Natural Scientist (Pr. Sci. Nat.) (Reg. no. 400095/06)
- BirdLife South Africa
- Hartbeespoort Natural Heritage Society





#### **EXPERIENCE**

#### A. Work conducted in South Africa

- **1. General Ecological Assessments** (Fauna, Flora and Red Data Scans, including both functional and compositional aspects):
- Belvedere Trust, Proposed retirement village on Amorosa Agricultural Holdings, Roodepoort, Gauteng (2004);
- City of Joburg Property Development Company, Proposed upgrade and development of the Orlando Dam Intersection, Soweto, Gauteng (2004);
- PDNA, Proposed NASREC development, Johannesburg, Gauteng (2004);
- 17 Shaft Conference and Education Centre, Proposed establishment of the Veteran's Heritage Education Centre, Crown Mines, Gauteng (2004);
- GAUTRANS, Proposed re-alignment of Road D781 and construction of a road bridge over the Rietvleispruit, Kempton Park, Gauteng (2004);
- Mr. N. Lang, Ecological Opinion on the proposed establishment of a township, Muldersdrift, Gauteng (2004);
- AGES, Proposed Equestrian Centre, Leeufontein 299 IR, Gauteng (2004);
- PDNA, Proposed new bridge and re-alignment of a portion of provincial road P101-2 (R51), Laversburg, Gauteng (2004);
- Blenneerville Investment (Pty) Ltd, Proposed construction of a residential and commercial development on of Paradiso Estate, Tweefontein 372 JR, Gauteng (2004);
- Les Roches (Pty) Ltd, Proposed zoning of holdings 1, 2 & 3 of Hyde Park Agricultural Holdings, Gauteng (2004);
- Transnet Limited, Terrestrial Faunal Ecological Opinion: Phase 1B expansion of the Sishen-Saldanha Iron ore export corridor, Saldanha Bay, Western Cape (2005);
- Celebration North Riding (Pty) Ltd, Proposed mixed land-use development, North Riding, Gauteng (2005);
- Wilderness Safaris, Proposed upgrade of the Manzengwenya Dive Camp, Greater St. Lucia Wetlands Park, KwaZulu-Natal (2005);
- Wilderness Safaris, Proposed upgrade of the Rocktail Bay Camp, Greater St. Lucia Wetlands Park, KwaZulu-Natal (2005);
- GAEA Projects, Corridor Assessment for the proposed Sibaya Precinct, KwaZulu-Natal (2005);
- Computer Domain Holdings (Pty) Ltd, Red Data Floral Scan on portion 3 of the farm Elandshoek, portions
   12 & 27 of the farm Groot Suikerboschkop, and portions 5 & 10 of the farm Palmietfontein, Dullstroom (2005);
- Zong's Property Investments, Proposed establishment of a residential development on a portion of Pomona Estates Agricultural Holdings, Pomona, Gauteng (2005);
- GJ van Zyl Trust, Proposed development of a resort on the Farm Witpoort 216 JS, Mpumalanga (2005);
- Mr. Howard Walker, Proposed subdivision of the Farm Lunsklip 105 JT, and the Farm Morgenzon 122 JT, for the establishment of a private resort, Dullstroom, Mpumalanga (2005);
- Lavender Manor cc, Proposed establishment of a retail, commercial and Lavender Manor Township on part of farm Rietfontein 189 IQ, Muldersdrift, Gauteng (2005);
- Geo Pollution Technologies, Proposed establishment of a residential development: Noordwyk Ext 65 & 80 on Erand Agricultural Holdings, Midrand, Gauteng (2005);
- Mr. A. Le Roux, Proposed Cradle View Country Estate, Muldersdrift, Gauteng (2006);
- Viking Bay Development Company (Pty) Ltd, Proposed Viking Bay freshwater marina and hotel development, Vaal Dam, Gauteng (2006);
- Land for Africa (Pty) Ltd, Ecological Opinion for the proposed establishment of a residential township on holding 122 Erand Agricultural Holding Extension 1, Halfway House, Midrand, Gauteng (2006);
- Brickot Developments cc, Ecological opinion for the proposed Bethal Retirement Village on the remainder of portion 3 of the farm Mooifontein 108 IS, Bethal, Mpumalanga (2006);



- Brawild (Pty) Ltd, Red Data Scan for the proposed Annlin Ex 117, Pretoria, Gauteng (2006);
- Mbombela Local Municipality, Ecological Opinion for the proposed extension of the Lowveld Botanical Gardens, Nelspruit, Mpumalanga (2006);
- Natural Scientific Services cc, Botanical survey for the SASOL Mafutha coal project near Lephalale, Limpopo Province, RSA (2008);
- SRK Consulting, Ecological assessment on Vlakfontein area, NW of Ogies, Mpumalanga. Report compiled in association with Ekolnfo (2009); and
- Aurecon, Desktop biodiversity assessment and wetland scan: upgrade of the River View waste water treatment works, eMalahleni, Mpumalanga province. Report compiled in association with Imperata Consulting (2009).

#### 2. Mining and Industrial related projects (ecological):

- Lonmin Platinum (Western Platinum Limited), Ecological Assessment for the proposed MK3 Shaft Complex on the farm Wonderkop 400 JQ, Rustenburg, North West Province (2004);
- Impala Platinum Limited, Ecological Assessment for prospecting SEMPs on the farms Buffelshoek 386 KT, Kalkfontein 367 KT, Spitskop 333 KT, Steelpoortpark 366 Kt and Tweefontein 360 KT and Hackney 116 KT (all Sekhukhuneland), Mpumalanga and Limpopo Province (2004);
- Trans-Caledon Tunnel Authority (TCTA), Ecological Assessment for borrow pit SEMPs on the TCTA pipeline, Vaal Marina to Secunda (2005);
- Boynton Platinum (Pty) Ltd, Ecological Assessment for the proposed establishment of platinum mines on the farms Tuschenkomst 135 JP, Witkleifontein 136 JP and Ruighoek 169 JP, North West Province (2005);
- Impala Platinum Holdings, Ecological Assessment for prospecting SEMPs on the Impala Platinum Bafokeng Mining Complex, North West Province (2005);
- Ceramic Industries Limited, Ecological Assessment of the Rietspruit Clay Quarries, Vanderbijlpark, Gauteng (2005):
- Ekurhuleni Metropolitan Municipality, Ecological Assessment Report for the proposed GLB Landfill Site on the farm Zesfontein 27 IR, Benoni, Gauteng (peer reviewed, 2006);
- Ceramic Industries Limited, Ecological Assessment of the Leeukuil Clay Quarries, Vanderbijlpark, Gauteng (2006);
- Council for Geoscience, Habitat sensitivity assessment scoping report for Bon Accord quarry on a portion of the farm de Onderstepoort 300-JR, Tshwane, Gauteng (2007);
- Fraser Alexander, Biodiversity action plan for Lonmin Limpopo & Platinum, North West & Limpopo Province, RSA (2008-2009);
- Envirolution Consulting (Pty) Ltd., Ecological screening report and site selection process for an Eskom general landfill and hazardous waste storage facility near Lephalale, Limpopo Province, RSA (2009);
- Envirolution Consulting (Pty) Ltd., Ecological assessment for the proposed construction of an Eskom general landfill and hazardous waste storage facility at the Matimba Power Station, Limpopo Province, RSA (2009);
- Shangoni/Vergenoeg Mining Company, Ecological assessment for the proposed construction of a slurry pipeline and waste rock dump at the Vergenoeg Mine, Gauteng (2011);
- ENVASS, An ecological evaluation (vertebrate & avifaunal component) for the proposed alternative energy plant on Portion 3, 4 & 5 of the Farm Groenwater 453, Northern cape (2012); and
- ENVASS, Ecological evaluation (vertebrate & avifaunal component) for the proposed alternative energy plant on !xun & khwe, Northern cape (2012).

#### 3. Avifaunal and Invertebrate Assessments:

- Lavender Manor cc, Red Data Bird Assessment for the proposed establishment of a retail, commercial and Lavender Manor Township on part of the farm Rietfontein 189 IQ, Muldersdrift, Gauteng (2004);
- Helga Schneider & Associates, Avifaunal & Invertebrate Red Data Assessment for the proposed rezoning & subdivision on Erf 6486 Orange Farm Ext 2, Johannesburg, Gauteng (2005);





- TOWNDEV, Avifaunal and Arachnid Assessment for the proposed subdivision of Grootfontein 349 JR, Rievlei Dam, Gauteng (2006);
- Prof. Van Rensburg, Red Data Invertebrate Scan for the proposed Rietvalleirand Extension 59, Gauteng (2006);
- Group Five Property Development, Invertebrate Assessment for the proposed Buccleuch Ex 1, Gauteng (2006);
- Zong's Property Investments, Avifaunal and *Metisella meninx* assessment for the establishment of a residential development on a portion of Pomona Estates Agricultural Holdings, Pomona, Gauteng (2006);
- Waterval Islamic Institute, Avifaunal and Invertebrate Assessment for the proposed Northern Golf Course Development, Midrand, Gauteng (2006);
- Ekurhuleni Metropolitan Municipality, Avifaunal & Invertebrate Red Data Assessment for the proposed low-cost housing development on Olifantsfontein 410 JR, Gauteng (2006);
- City of Tshwane Metropolitan Municipality, Invertebrate Red Data Scan for the proposed flood remediation and river upgrade at Soshanguve, Gauteng (2006);
- AGES, Invertebrate assessment for the proposed mining activities on the farm Thorncliffe 374 KT, Xstrata Eastern Mines, Mpumalanga (2007)
- AGES, Mammal and invertebrate assessment for the proposed Kalplats project, Stella, North West Province (2007)
- Exigent Engineering Consultants, Invertebrate assessment for the proposed Derdepoort X 11, Derdepoort, Gauteng (2007);
- Exigent Engineering Consultants, Invertebrate and Avifaunal scan for the proposed Cutty Sark hotel extension, Scottburgh, Kwazulu-Natal (2007);
- Strategic Environmental Focus, African Grass Owl assessment on the proposed Cradle View country estate on portion 60 of the farm Driefontein 179 IQ. Muldersdrift, Gauteng (2007);
- GEOLAB, Ecological assessment for the West Rand Gold Operations (WERGO) Witfontein tailings disposal facility, Mintails, Gauteng, RSA (2008);
- Coastal Environmental Services, Avifaunal Assessment for the proposed mining of heavy minerals at Port Durnford (Exxaro KZN-Sands), KwaZulu-Natal (2008);
- SRK & Natural Scientific Services cc, A feasibility study for the mining of coal north of the Limpopo Province. Avifaunal & invertebrate assessment, Rio Tinto Exploration, Limpopo Province, RSA (2009);
- Eskom/Baagi Environmental, An environmental management plan (avifaunal & faunal component) for the proposed Dinaledi Spitskop 400 kV transmission line, North West Province (2010);
- Eskom/Baagi Environmental, An avifaunal impact report for the proposed 400 kV Ariadne-Venus transmission line between Estcourt and Pietermaritzburg, KwaZulu-Natal (2010);
- Eskom/Baagi Environmental, An avifaunal impact assessment report for a 275 kV power line between the substations of Glockner and Kookfontein, Vanderbijlpark, Gauteng (2010);
- Groundwater Consulting Services (Pty) Ltd/EkoInfo, An invertebrate and avifaunal specialist report for the proposed expansion of Exxaro's Glisa coal mine, Belfast, Mpumalanga (2010);
- Eskom/Baagi Environmental, An environmental management plan (avifauna component) for the proposed 400 kV Medupi-Massa transmission lines, Limpopo Province (2011);
- Eskom/Baagi Environmental, An avifaunal and fauna impact assessment report for the proposed 400 kV Arnott-Gumeni transmission line, Mpumalanga Province (2012);
- Eskom/Baagi Environmental, An environmental management plan (avifaunal component) for the proposed 400 kV Ngwedi transmission line and substation, North West Province (2012);
- Exxaro/EkoInfo, An avifaunal and invertebrate assessment (as part of a Biodiversity Assessment and action plan) for the Gravelotte MagVanTi Mining Area, Limpopo Province (2012);
- Groundwater Consulting Services (Pty) Ltd/EkoInfo, An invertebrate and avifaunal specialist report for the proposed Paardeplaats coal mine area, Belfast, Mpumalanga (2012);
- Groundwater Consulting Services (Pty) Ltd/EkoInfo, An invertebrate and avifaunal specialist report for the proposed Leeuwpan coal mine area, Belfast, Mpumalanga (2013);
- Eskom/Baagi Environmental, An environmental management plan (avifaunal component) for the proposed Medupi Borutho 400 kV transmission line, Limpopo Province (2012);





• Eskom/Baagi Environmental, An environmental management plan (avifaunal component) for the proposed Gromis - Oranjemund 400 kV transmission line, Northern Cape (2013);

#### 4. Other Assessments:

- Facilitation, project management and conduction of environmental scoping exercises, Environmental Impact Assessments, Environmental Management Plans, Feasibility Reports, for a range of projects and issues such as:
  - Housing Projects (West Rand Housing Projects) for the Gauteng Department of Housing;
  - Planning and facilitation of environmental awareness workshops (Winterveltd Workshops for the Department of Environmental Affairs and Tourism);
  - Compilation and evaluation of EIA reports and Environmental Management Plans (EMPs) for both the private and public sector (e.g. Scoping Report for the relocation of oxidation ponds for the Moqhaka Local Municipality and the installation of an underground additive tank for Sasol Oil (Pty) Ltd).
  - o Urban Renewal Projects: Bekkersdal Urban Renewal Project and the Greater Evaton Urban Renewal Project for the Gauteng Department of Housing.
- Douglas Collieries (Inkwe Collieries), Biodiversity Assessment and database compilation of the Douglas Collieries (2005);
- Orion Group, Ecological Sensitivity Map for the proposed golf course and related facilities, Mont-Aux-Sources (2005);
- City of Joburg Property Development Company, Specialist *Lepidium mossii* assessment for the proposed upgrade and development of the Orlando Dam intersection, Soweto, Gauteng (2005);
- Johannesburg Roads Agency, Alien Eradication and Rehabilitation Programme for the proposed upgrade of 14<sup>th</sup> Avenue, Randburg, Gauteng (2006);
- City of Joburg Property Development Company, Ecological Management Plan for the Orlando Dam intersection, Soweto, Gauteng (2006);
- GJ van Zyl Trust, Alien Eradication Programme for the proposed development of a resort on the Farm Witpoort 216 JS, Mpumalanga (2006);
- GJ van Zyl Trust, Fire Management Plan for the proposed development of a resort on the Farm Witpoort 216 JS, Mpumalanga (2006); and
- Khutala Collieries (Inkwe Collieries), Biodiversity Assessment and database compilation (2006)

#### 5. Linear Assessments:

- Johannesburg Roads Agency, Ecological Assessment for the Proposed upgrade of 14<sup>th</sup> Avenue, Randburg, Gauteng (2004).
- Trans-Caledon Tunnel Authority (TCTA), Proposed Vaal River Eastern Subsytem Augmentation (VRESAP) pipeline from Vaal Marina to Secunda (2005);
- PBA International (in association with Bathusi EC), Ecological Scoping Report for the proposed Eskom Delta-Epsilon 765 kV Transmission lines (2007);
- Bohlweki Environmental (in association with Bathusi EC), Ecological Scoping Report for the proposed Eskom Malelane-Boulders 132 kV Distribution line (2007);
- Bohlweki Environmental (in association with Bathusi EC), Ecological Scoping Report for the proposed Eskom Marathon-Delta 132 kV Distribution line (2007);
- Strategic Environmental Focus, Avifaunal EIA Report for the proposed Eskom Hendrina-Prairie-Marathon 400 kV Transmission line, Mpumalanga (2007);
- Natural Scientific Services cc, Botanical survey for the proposed upgrade of the Transnet railway line between Hotazel, Northern Cape and the Port of Ngqura, Eastern Cape, RSA (2008);
- Envirolution Consulting (Pty) Ltd, Ecological Report for the proposed Eskom Apollo-Lepini 400kV transmission line (2009);
- Arcus Gibb, An ecological investigation for the Tumelo 132 kV distribution line and power line near Kagiso, Gauteng (2010);





- Ekoinfo/SANRAL, Faunal investigation for the upgrade of the N3 highway (2011); and
- Aurecon (Pty) Ltd, Baseline vegetation survey for the Mokolo Crocodile River Augmentation Project (MCWAP) pipeline from Mokolo Dam to Thabazimbi (2011).

#### B. Work conducted in other African countries:

- Rural Maintenance, Invertebrate study for four mini-hydroelectric generation plants, Northern Malawi, Africa (2010);
- Impacto, An avifaunal study (Phase 1) for the proposed Mpanda Nkwua Dam in the Zambezi River, Mozambique, Tete Province (2010);
- Conseil Régional des Pays de la Loire, An avifaunal investigation of the Rusizi and Ruvubu National Parks (Burundi), and the feasibility of establishing an avi-tourism network with specific emphasis on the protection of important flyways used by Palearctic birds - of - prey (2010);
- Impacto, An avifaunal study (Phase 2) for the proposed Mpanda Nkwua Dam in the Zambezi River, Mozambique, Tete Province (2011);
- Rural Maintenance, Invertebrate scan for the expansion of coal mining activities at Kayelekera, Northern Malawi, Africa (2011);
- Rural Maintenance, Invertebrate study for a mini-hydroelectric plant at the Chisanga Falls, Nyika National Park, Malawi (2011);
- Impacto/ERM/Enviro-Insight, Avifaunal investigation for the proposed Ncondezi Coal Mine, Tete Province, Mozambique (2011);
- Enviro-Insight, Avifaunal investigation for the Riversdale Coal Mine complex, Tete Province, Monzambique (2011);
- Anadarko Petroleum/ERM/Enviro-Insight, Avifaunal investigation for the proposed Anadarko Mozambique Area 1 Liquefied Natural Gas plant in northern Mozambique, Cabo Delgado Province, Mozambique (2012);
- Coffey Environments/Ekolnfo, Avifaunal investigation for the mining of iron ore by Baobab Resources, Tete Province, Mozambique (a scoping-level assessment); and
- SRK/Flora, Fauna and Man Ecological Services, An avifaunal and invertebrate assessment for the establishment of a potash mine at Konkoati, Republic of the Congo (2012);
- China Union/ERM/Enviro-Insight, Avifaunal investigation for the proposed mining of iron ore in Bong County, Liberia (2012);
- SRK/Flora, Fauna and Man Ecological Services, An invertebrate assessment for the mining of iron ore by DMC Congo Mining/Exxaro at Mayoko, Republic of the Congo (2012);
- Western Cluster/ERM/Enviro-Insight, Avifaunal investigation for the proposed mining of iron ore at Bomi Hills, ,Bomi County, Liberia (2013);
- SRK/Flora, Fauna and Man Ecological Services, An invertebrate assessment for the establishment of an
  ecological offset for the DMC Congo Mining/Exxaro Iron Ore Mine at Mayoko, Republic of the Congo
  (2013);
- Western Cluster/ERM/Enviro-Insight, Avifaunal investigation for the proposed mining of iron ore at Bea Mountain, Grand Cape Mount County, Liberia (2013);
- Western Cluster/ERM/Enviro-Insight, Avifaunal investigation for the proposed mining of iron ore at Mano River, Grand Cape Mount County, Liberia (2013); and
- WSP/Flora, Fauna and Man Ecological Services, An invertebrate assessment for the establishment of a phosphate mine, Hinda Phosphate Project, Republic of the Congo (current); and
- Aureus Mine/Enviro-Insight, An avifaunal investigation for the proposed mining of gold at the New Liberty Gold Mine, Liberia (current)

#### C. Additional Experience:

• Monitoring and evaluation of the rehabilitation programme for the mining company Richards Bay Minerals (RBM) with special reference to vegetation, bird, small mammal and millipede assemblages.





- Other responsibilities include assessment of the ecological standard operating procedures (SOP) according
  to RBM's environmental management programme in compliance with ISO 14001 environmental standards
  accreditation process.
- Participated in the annual relief programme on the S.A Agulhas voyage to Subantarctic Marion Island (Prins Edward group). Took part in the research to estimate the population dynamics and demography of the alien house mouse (*Mus musculus*) on the island (under supervision of the University of Pretoria).
- Participated in the preparation of a conservation management plan for a game and trout farm in conjunction with Mpumalanga Parks Board (in charge of the bird section) for the farm Nu-Scotland Bavaria.
- Lead a successful professional bird tour (party of 12) to the Eastern Zimbabwean highlands and adjacent Mashonaland Plato (10 days).
- Lead a successful professional bird tour (party of 9) to the Cape Peninsula, Karoo and West Coast (10 days).
- Lead a successful professional bird tour (party of 12) to the Swaziland and Northern Zululand (10 days).
- Lead a successful professional bird tour (party of 15) to the Namibia (10 days).
- Lead a successful professional bird tour (party of 14) to the Eastern Drakensberg and Lesotho (10 days).

#### **Employment History:**

March 2007 – Current: of Director of Pachnoda Consulting cc

2004- January 2007: Strategic Environmental Focus (Pty) - Terrestrial Ecologist

2003 – 2004: Enviro-Afrik (Pty) Ltd– Environmental Consultant

2001 - 2003: University of Pretoria - Research Assistant

#### **PUBLICATIONS:**

- McEWAN, K.L., ALEXANDER, G.J., NIEMAND, L.J. & BREDIN, I.P. 2007. The effect of land transformation on diversity and abundance of reptiles. Paper presented at the 50<sup>th</sup> Anniversary Conference of the Zoological Society of Southern Africa.
- NIEMAND, L. 1997. Distribution and consumption of a rust fungus *Ravenelia macowaniana* by microlepidopteran larvae across an urban gradient: spatial autocorrelation and impact assessment. Hons publication, University of Pretoria, Pretoria
- NIEMAND, L. 2001. The contribution of the bird community of the regenerating coastal dunes at Richards Bay to regional diversity. MSc Thesis, University of Pretoria, Pretoria.
- VAN AARDE, R.J., WASSENAAR, T.D., NIEMAND, L., KNOWLES, T., FERREIRA, S. 2004. Coastal dune forest rehabilitation: a case study on small mammal and bird assemblages in northern KwaZulu-Natal, South Africa. In: Martínez, M.L. & Psuty, N. (Eds.) Coastal sand dunes: Ecology and Restoration. Springer-Verlag, Heidelberg.



- VAN AARDE, R., DELPORT, J. & NIEMAND, L. 1999. Of frogs and men. Mechanical Technology, June: 32-33.
- VAN AARDE, R., DELPORT, J. & NIEMAND, L. 1999. Gone Frogging. Getaway, January: 80-83.

#### PRESENTATIONS:

- Co-presenter at the Wetland Training Course (30 July 3 August 2007) entitled: "Wetland-associated fauna". University of Pretoria, Pretoria.
- Co-presenter and lecturer of the pre-conference training course (entitled "Can rehabilitation contribute towards biodiversity?") at the 3rd Annual LaRSSA (Land Rehabilitation Society of Southern Africa) Conference (8-11 September 2015), Glenburn Lodge, Muldersdrift, Gauteng.

#### **CURRICULUM VITAE OF SPECIALIST: PROF ANTON CARL VAN VOLLENHOVEN**

#### **Tertiary education**

- BA 1986, University of Pretoria
- BA (HONS) Archaeology 1988 (cum laude), University of Pretoria
- MA Archaeology 1992, University of Pretoria
- Post-Graduate Diploma in Museology 1993 (cum laude), University of Pretoria
- Diploma Tertiary Education 1993, University of Pretoria
- DPhil Archaeology 2001, University of Pretoria.
- MA Cultural History 1998 (cum laude), University of Stellenbosch
- Management Diploma 2007 (cum laude), Tshwane University of Technology
- DPhil History 2010, University of Stellenbosch

#### **Employment history**

- 1988-1991: Fort Klapperkop Military Museum Researcher
- 1991-1999: National Cultural History Museum. Work as Archaeologist, as well as Curator/Manager of Pioneer Museum (1994-1997)
- 1999-2002: City Council of Pretoria. Work as Curator: Fort Klapperkop Heritage Site and Acting Deputy Manager Museums and Heritage.
- 2002-2007: City of Tshwane Metropolitan Municipality. Work as Deputy Manager Museums and Heritage.
- August 2007 present Managing Director for Archaetnos Archaeologists.
- 1988-2003: Part-time lecturer in Archaeology at the University of Pretoria and a part-time lecturer on Cultural Resources Management in the Department of History at the University of Pretoria.
- 2014: Part-time lecturer for the Honours degree in Museum Sciences in the Department of History and Heritage Studies at the University of Pretoria
- 2015: Appointed extraordinary professor in history at the Mahikeng Campus of the Northwest University

#### Other

- Published 75 articles in scientific and popular journals on archaeology and history.
- Author and co-author of over 580 unpublished reports on cultural resources surveys and archaeological work. A list of reports can be viewed on <a href="https://www.archaetnos.co.za">www.archaetnos.co.za</a>
- Published a book on the Military Fortifications of Pretoria.
- Contributed to a book on Mapungubwe.
- Delivered more than 50 papers and lectures at national and international conferences.
- Member of SAHRA Council for 2003 2006.
- Member of the South African Academy for Science and Art.
- Accredited professional member of Association for South African Professional Archaeologists.
- Accredited professional member of the South African Society for Cultural History (Chairperson 2006-2008; 2012-2014).
- Has been editor for the SA Journal of Cultural History 2002-2004.
- Member of the Provincial Heritage Resources Agency, Gauteng's Council.
- Member of Provincial Heritage Resources Agency, Gauteng's HIA adjudication committee (Chairperson 2012-2019).

ASAPA Accreditation number: 166 SASCH Accreditation number: CH001

#### Curriculum vitae

#### **Heidi Fourie**

Title: Dr

Surname: Fourie

Name: Heidi

Citizenship: South African

Email: heidicindy@yahoo.com

Identity number: 6502020080080

Disability: High-frequency neural sensory deafness.

Contact: 012 993 3110 (h) 012 0000040 (w)

Employment: Curator of Palaeontology Collections. Active in research on the skeletal morphology of the Therocephalia (mammal-like reptile) of the Karoo.

Highest qualification: Ph.D Palaeontology (B.Sc in Geology and Zoology).

Member of: Palaeontological Society of South Africa. International Congress of Vertebrate Morphologists.

Field work: Mapped fossil localities around the Groot Brak River between Steynsburg and Middelburg in the Eastern Cape Province and currently holds the permit. Also done field work in Gauteng, Limpopo, Mpumalanga, North West and Free State Provinces.

Knowledge: Fossil preparation, collection management, occupational, health and safety, curation principles and archival practises. Worked in the field of palaeontology since 1994 and during this period has curated the fossil collections. Attended several National and International Conferences.

Assessments: Involved in Palaeontological Impact Assessments since 2012. Amongst others, I did the field studies for the Dorper Wind Energy Project, Greenside Colliery, Ngululu Opencast mine, Lesotho Border Road and Benicon Park Phase 1 Palaeontological Impact Assessments. Assessments done on projects in Gauteng, Limpopo, North West, Free State, Eastern Cape and Mpumalanga Provinces.

#### **Publications:**

Fourie, H 1993. A detailed description of the cranial morphology of *Emydops* (Therapsida: Dicynodontia). *Palaeontologia Africana*, **30:** 1-5.

Thackeray, J.F., Bellamy, C.L., Bellars, D., Bronner, G., Bronner, L., Chimimba, C., **Fourie, H.**, Kemp, A., Krűger, M., Plug, I., Prinsloo, S., Toms, R., van Zyl, A.J., and Whiting, M.J. 1997. Probabilities of conspecifity: application of a morphometric technique to modern taxa and fossil specimens attributed to *Australopithecus* and *Homo. South African Journal of Science*, **93**: 195-196.

Fourie, H. 2007. The postcranial skeletal anatomy of the therocephalian *Regisaurus* (Therapsida: Regisauridae) and its utilisation for biostratigraphic correlation. *Palaeontologia Africana*, **42:** 1-16.

Fourie, H. 2008. Science at the Transvaal Museum – Palaeontology 1897-1994. *Annals of the Transvaal Museum*, **45:** 16-20.

Fourie, H. 2009. The postcranial skeleton of the basal therocephalian *Glanosuchus macrops* (Scylacosauridae) and comparison of morphological and phylogenetic trends amongst the Theriodontia. *Palaeontologia Africana*, **44**: 27-39.

Fourie, H. 2013. The postcranial description of *Ictidosuchoides* (Therapsida: Therocephalia: Baurioidea). *Annals of the Ditsong National Museum of Natural History*, **3:** 1-10.

Fourie, H. 2013. Radon detection in Karoo fossil material at the Ditsong: National Museum of Natural History, Pretoria. *Ditsong: National Museum of Cultural History, Research Journal*, **8:** 24-32.

#### Methodology:

The type of scope is determined by the geological formation and its palaeontological sensitivity ranking determined through the Fossil Heritage Layer Browser (SAHRA).

Palaeontological Exemption Letter: Sensitivity of Insignificant to Zero or Low.

Protocol: Low Sensitivity.

Desktop Study: Moderate and High Sensitivity.

Field Assessment: Very High Sensitivity.

The report aims to provide comment and recommendations on the potential impacts that the proposed development could have on the fossil heritage of the area and to state if any mitigation or conservation measures are necessary.

Most fossil containing geological formations will be ranked as Moderate, High to Very High.

The Environmental Assessment Practitioner must map the location of the proposed development on SAHRIS, once mapped, they will be able to switch on the palaeontological sensitivity layer to determine whether or not a Palaeontological Impact Assessment is necessary.