Company Profile

African Environmental Development
Aquatic Environmental Management Specialists

Company Registration Number: 1998/070435/23
Vat Registration Number: 4220185013

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Company Profile

Who We Are

African Environmental Development is a relatively small, but specialist company, concentrating on all aspects of water management and hydrology, relating to environmental management, environmental monitoring, environmental engineering and solving of environmental challenges for its clients.

Who Our Clients Are

Our clients vary from mines and industries that may have an impact on the environment or might have other water- and hydrology-related issue, to environmental management consultants that do not have the necessary capacity in water engineering and hydrological aspects, to local authorities and private individuals.

Company Background

With the ever-increasing awareness of the environment, in particular, the aquatic environment, and the interaction this aquatic environment has with both people and the business and industrial sector, it became apparent that many businesses or authorities can no longer provide these services to the extent and thoroughness that is required from them.

For the above reasons, African Environmental Development, based in the Gauteng Province of South Africa, was formed to assist such companies, mines, authorities and individuals that do not wish to employ aquatic environmental specialists on a full-time basis, by providing these services on their behalf. African Environmental Development has the capacity to address all aquatic and hydrological issues.

African Environmental Development was formed in 1998 and forms part of a much larger network of environmental management and
engineering specialists, covering aspects from the physical environment including hydrogeology, soils and water to the natural environment, such as fauna, flora and ecological systems in general as well as civil and mechanical aspects such as the modelling of flood lines. In short, African Environmental Development will provide solutions to whatever environmental challenges you may encounter. Our core business remains, however, water management, hydrology and pollution control.

In addition to management of the aquatic environment, African Environmental Development also specialises in the development of environmental management software, in particular, software to do water and salt balances. Our environmental management software is regarded as being unsurpassed, as we develop industry-specific environmental management modelling programmes. Apart from the above, the software we developed to carry out the modelling of flood lines is, as far as we know, not equalled anywhere in South Africa.

African Environmental Development originated out of the mining industry in South Africa, with gold, platinum coal and base-metals mining accounting for a large part of our background. African Environmental Development was, in fact, born out of the mining industry. As the ore bodies, which have been mined for well over a century, slowly become depleted, the gold mining industries in Gauteng, Northwest Province and the Free State are gradually winding their operations down, leaving many environmental challenges behind and placing a high demand on our services. The format of the mining industry is also undergoing a metamorphosis. While the traditional large mining corporations are becoming less involved in mining, the smaller-scale, more cost-effective, mines are beginning to replace these on land, previously mined and developed by the larger corporations. This places a very specific, and often, a highly complicated, environmental management responsibility on these new-generation mines. African Environmental Development has ample experience in these types of matters to assist these companies; especially as far as the issues around water pollution and acid mine drainage is concerned.

What We Can Deliver

African Environmental Development can provide the following services to its clients. Adequately qualified specialists will perform all the services listed here below, ensuring legal compliance in all respects of the products we deliver:
Water Care

- Provide a comprehensive aquatic science consultancy service. We have the capacity to address any water-related and aquatic environment issues and to develop solutions to mitigate problems that may have arisen.
- Provide all monitoring services relating to surface- and groundwater. These include the treatment, discharge and re-use of water and includes the analyses of water, both chemically and biologically (river bio-monitoring), the interpretation of results and the development of management or remediation action plans, where problems are identified. We can carry out monitoring relating to any of the following Dept of Water Affairs-approved aquatic biomonitoring protocols:
  - SASS (South African Scoring System)
  - IHAS (Invertebrate Habitat Assessment System)
  - IHIA (Intermediate Habitat Integrity Assessment)
  - MIRAI (Macro-invertebrate Response Assessment Index)
  - PES (Present Ecological State Class)
  - EIS (Ecological Importance and Sensitivity Category)
- Auditing of water care installations and the aquatic environment.

Environment Engineering

- Modelling of various return period design storms and determining the flood lines for specific rivers or streams. These flood lines could range from return periods as short as 2 years, through 5, 10, 25 and 50 up to 100-year return periods. The flood lines are made available both electronically in an AutoCAD or ArcView file format and through hard copies signed by our engineer.
- Sizing of culverts and bridges in accordance with specific return period design storms.
- Auditing of dams to identify and eliminate safety risks.
- Design of small potable and sewage water care installations.

Software Development

- We possess the capacity to develop any type of PC-based application, however, we specialise in the development of environmental management applications. An example of this is the development of Water and Salt Balance software for various industries.
- We also specialise in the automation of various applications and the management of databases.
Where To Find Us

African Environmental Development (AED) is instantaneously accessible from anywhere in the world via our website, http://www.aed.co.za/. This is probably the quickest way to access information on AED for anyone who wishes to learn more about our company. Alternatively, you can e-mail us at info@aed.co.za.

Our physical address is Portion 129 of the farm, Sterkfontein 173 IQ, Krugersdorp, Gauteng Province, South Africa. Our physical offices happen to be located in the Cradle of Humankind World Heritage Site; a map on how to get to us is available on our website.

Concise Curriculum Vitae: Garfield Krige Pr.Sci.Nat, Director Technical Services

Full Names: Willem Garfield Krige
Date of Birth: 09 March 1953

GENERAL OVERVIEW

Garfield has been associated with water and the treatment thereof for many years and has gained extensive experience in potable, industrial and sewage water treatment, especially associated with, but not limited to, the mining industry. He is equally familiar with the common aspects of groundwater and groundwater chemistry as well as geology as far as groundwater is concerned. His responsibilities have included management of sewage and drinking water plants for a large mining house, the general water management of water reticulation on various mines, developing of site-specific water and salt balance software for various mines and industries as well as environmental impact studies for mining and municipal authorities. In addition to his water management knowledge, he has extensive experience in environmental (public) health and related fields.

Garfield is currently the Director: Technical Services of the environmental management company, African Environmental Development, which was formed in 1998.

Garfield obtained his National Diploma in Public Health in 1977 and his National Diploma in Water Care in 1987, both from the Technikon Pretoria (now referred to as the Tshwane University of Technology), the latter with distinction. He also obtained certificates in Environmental Law and Environmental Auditing in 1995 from the Northwest University and Environmental Management Systems in 1996, from the same tertiary education institution.

Garfield is registered with the South African Council for Natural Scientific Professions (SACNASP) as a professional scientist in the field of Aquatic Sciences, Registration Number: 400068/10.

WORK EXPERIENCE

September 1998 – Present
Director: Technical Services
African Environmental Development

April 1996 – August 1999
Group Water Technologist, responsible for all JCI Group companies’ water related issues.
JCI Limited Shared Services

March 1994 – March 1996
Group Environmental Health Advisor responsible for the management of the potable and sewage water treatment facilities on all operating mines within the JCI Group. Also responsible for the management of water and salt balances for these mines.
JCI Limited Shared Services

Sept. 1983 - February 1994
Senior Environmental Health Officer
Randfontein Estates GM Co (W) Ltd.

August 1982 – August 1983
Senior Environmental Health Officer
Western Deep Levels Ltd.

April 1980 – July 1982
Environmental Health Officer
Anglo American Corporation Group Health Department, Welkom

Previous Employment
Held positions as Health Officer with Dept. (State) Health, Johannesburg and Municipalities of Leandra and Witbank.