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TRADING AS
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BACKGROUND AND DEVELOPMENT

The AGES Group of Companies was born in 1987 to a humble beginning as a Closed Corporation named “Noord Transvaalse Geologiese Konsultante”, focusing on groundwater development.

As the company and related services grew, they took on different guises to reflect growth in expertise and leadership, progressing from GeoCon, based in the Limpopo Province, to Southern Africa Geo-Consultants (GeoCon), with offices in different major urban centres in South Africa. GeoCon rendered services mainly in the geological, geotechnical, and geohydrological fields.

Due to the further development in capacity and in order to meet emerging environmental challenges, the company was reorganized and restructured in 2002. This gave rise to the establishment of AGES. AGES started in South Africa with a single office and has grown to five offices in SA, offices in Namibia, Zimbabwe and the Democratic Republic of the Congo. AGES is looking to expand to the rest of Africa and beyond.

AGES consists of a dynamic and dedicated team of professionals from different sectors in an attempt to address the diverse nature of natural resources, environmental and social issues.

This team includes geologists, geohydrologists, engineering geologists, geo-technicians, engineers, natural resource scientists, environmental- and social development specialists. They are committed to providing the industry and business sector with expertise in environmental and social development and management within the framework of our vision and mission.

Clients range from individuals to large corporations and include private landowners and developers, local and regional governments, agriculture, mining and industrial sectors. Services offered include environmental management, geohydrology, engineering geology, agricultural and social consultation as well as several engineering disciplines. Support services include GIS services, software development and infrastructure development.
VISION

Our vision is to serve the people of Africa through effective natural resource, environmental and social development and management.

MISSION

We shall deliver effective and efficient services towards the development and management of the environment, social and natural resources through an interactive-consultative relationship-based approach with our clients.

Service is based on our belief that the “value of a team is greater than the sum of the individual team members”, and our strength is therefore in our unity within cultural, technical and personal diversity.

The mission is attainable through the principles of integrity, transparency, commitment, communication and trust, relationship development, and excellence with all deliverables aligned to the highest accredited standards. This is confirmed and declared in our company slogan: PURPOSE WITH PASSION.
SERVICES

ENVIRONMENTAL MANAGEMENT

AGES renders services in various environmental fields to clients throughout Africa. In order to preserve natural resources to the benefit of the environment for present and future generations, Environmental Management projects and processes attempts to control the human impact on and the interaction with the environment. Our highly qualified staff can render services in the following fields:

- Environmental Impact Assessments (EIA's)
- Social Impact Assessments (SIA's)
- Strategic Environmental Assessments (SEA's)
- Land Use Planning
- Development and Maintenance of Integrated Environmental Management Programmes
- Management Systems (ISO 14001)
- Environmental and Health Risk Assessments
- Mine and Industrial Environmental Closure Cost Assessments
- Water Use License Applications
- Environmental Rehabilitation and Closure plans
- Ecological Assessments
- Environmental Monitoring Programmes
- Environmental Auditing
- Complete GIS services
GEOHYDROLOGICAL SERVICES

This discipline focuses on the study of the character, availability and quality of groundwater, and the geological controls on its occurrence and movements. AGES is involved in the identification, evaluation and development of new and existing groundwater sources, as well as in defining long term monitoring and management actions required to ensure the sustainable use and protection of resources.

Geohydrological services provided include:

- **Geohydrological Assessments**
  - Groundwater feasibility studies
  - Exploration for groundwater sources, incorporating the evaluation of aquifer potential
  - Siting of boreholes by means of structural geological and geophysical surveys for water supply or monitoring purposes
  - Aquifer testing to determine hydraulic parameters and long-term abstraction
  - Aquifer classification and vulnerability assessments
  - Groundwater quality determination and monitoring
  - Numerical Groundwater modeling

- **Hydrochemistry**
  - Sampling for groundwater pollution or hydrocarbons
  - Hydro Chemical Fingerprinting
  - Groundwater Quality Analysis
Water supply
- Development of conceptual groundwater models
- Determination of sustainable groundwater supply volumes
- Development of cost-benefit models for groundwater supply

Mining Industry
- Groundwater feasibility studies
- Life of mine groundwater cost assessments
- Determine groundwater inflow rates and mine dewatering design
- Quantification of the long-term impact of dewatering on aquifers
- Development of dewatering management scenarios

Groundwater Pollution and Remediation
- Site selection of waste sites and tailings dams
- Modelling of groundwater flow rate and direction and contaminant migration rate/s
- Recommendations on remediation strategies
- Determining groundwater protection zones
GEOLOGICAL EXPLORATION SERVICES

This service focus to support the process related to the identification and development of mineral resources and includes aspects from technical to social interventions at various levels.

- Define potential mineral resource units
- Application of prospecting rights
- EIA and Mining Right Applications
- Mineral deposit delineation and quantification in accordance with SAMREC requirements
- Assistance with the economic evaluation of mineral deposits
- Project management from resource delineation to mining right application
- General Geological Assessment
GEOTECHNICAL AND ENGINEERING GEOLOGICAL SERVICES

This specialist field relies on the use of scientific methods and engineering principles to obtain, interpret and apply knowledge of geological conditions and materials for solving and preventing possible engineering and environmental problems. Investigations typically conducted prior to and in support of the development of all residential and small- to large civil structures and developments. These investigations generally include (but are not limited to) the following:

• Mapping and zoning on a regional scale for strategic planning purposes of towns, wards and district municipalities (for example: low cost housing extensions, waste disposal sites, cemeteries etc)

• Investigations for zoning of areas for township proclamation purposes according to the standards of the National Home Builders Registration Council (NHBRC)

• Investigations for small- to medium sized civil structures (for example: standard & elevated reservoirs, shopping malls, casinos, schools, raw water storage dams etc)

• Detailed site investigations regarding excavation ability on a regional and site-specific scale, generally for water supply infrastructure, planning and costing along with installation of pipelines according to standards of SABS 1200 LB&DA
- Detailed investigations for the construction of new gravel or surfaced roads and the upgrading of existing roads

- Investigations for new borrow pits and detailed investigation & classification of soil- and/or rock material available from new and existing borrow pits

- Dolomite stability investigations, sinkhole investigations and instability risk assessments for new and existing developments

- Dolomite Risk Management Strategies and -Plans

- Detailed materials investigation- and construction recommendations for suitability as embankment material

- Classification of individual plots of land with regard to the site classification system of the National Home Builders Registration Council (NHBRC)

- Detailed joint discontinuity surveying and mapping of excavations for slope stability assessments
GEO-ENVIRONMENTAL STUDIES

Geo-Environmental studies are typically conducted prior to and in support of the development of facilities that may have a distinct effect on the natural environment, especially ground- and surface water sources. These studies generally include a combination of detailed geotechnical and geohydrological assessments of on-site conditions. Geotechnical support services are typically conducted in support of environmental studies that require specialised input on subsurface soil and rock conditions.

Other studies would include the following:

- Specialised regional planning investigations of the application of the Groundwater Protocol to manage the potential of groundwater contamination from on-site sanitation (DWA protocol Editions 1&2).
- Detailed specialised site-specific investigations of the application of the Groundwater Protocol to manage the potential of groundwater contamination from on-site sanitation by delineating “sensitivity zones” based on site conditions.
- Specialised investigations for the recommendation of suitable design and construction methods for the development of service stations and buried fuel tanks
- Specialised site-specific investigations with regard to the identification and evaluation of new and existing cemetery sites
- Specialised site-specific investigations in support of the EIA process
- Community awareness creation and participation in sanitation studies and investigations
- Specialised site-specific investigations with regard to the identification and evaluation of new and existing waste disposal sites, oxidation ponds and sewerage treatment works
SOCIAL CONSULTANCY

The AGES Social Unit ensures informed decision-making through effective stakeholder engagement and communication. Sustainability is promoted through capacity building and training programs. Geo-environmental and other projects have significant impacts on communities and the social unit seeks to address and facilitate these and other socio-economic affects. The following social services are rendered by AGES:

The following services are rendered by AGES Social Unit:

- **Feasibility Studies**
  - Research & Material Development
  - Conduct Social Studies
  - Assessments (Impact Assessments, Needs Assessment etc)
  - Baseline Surveys (Community Profiles)

- **Training & Capacity Building**
  - PSC Skills Trainings
  - Labour Recruitment & Skills Audit

- **Education & Awareness Programmes**
  - Health & Hygiene Community Awareness
  - Health & Hygiene Schools Education
  - Housing Education
  - Awareness Campaigns
  - Training material development

- **Monitoring & Evaluation**
  - Monthly Progress Meetings

- **Handover**
  - Facilitate handover of completed project with happy letters
  - Facilitate handover official ceremony

- **Beneficiary Administration**
  - Facilitate recruitment of community beneficiaries and assist with applications, administration, and handling queries.

- **Social Facilitation**
  - Stakeholder Engagement & Consultation
  - Community Involvement & Mobilisation
  - Establishment of Communication Structures (CLO Appointment & Interviews)
  - Critical Interventions (Conflict Resolution)

- **Post-Implementation Review**
Geographical Information System is utilised to display various forms of spatial data ranging from hydro-chemical to geological information. This facilitates easy assimilation and understanding of the interrelationships that exists between datasets pertaining to an area.

ESRI's ArcGIS for Desktop is used in the following ways:

Spatial display of borehole information by superimposing various layers for interpretation. All boreholes in an area can be displayed for example that is in use for domestic purposes with high TDS (Total Dissolved Solids) values and within 2km of a site.

Hydro-chemical analyses results are linked to the spatial arrangement of the sample points and plume and contaminant migration area overlain onto a map.

Clients can enhance fieldwork preparation by viewing available data beforehand and making informed decisions prior to embarking on a field investigation.

Reporting and display of borehole, groundwater chemical, geo-technical and other spatial information in the relevant project to facilitate easy discussion in the report text.
ENVIRONMENTAL MONITORING

Environmental monitoring ensures the management of natural resources contributing to sustainable development through processes and activities which characterise and monitor the quality of the environment. This typically includes the monitoring of the chemical and microbiological quality of surface and groundwater to comply with Water Use Licenses, monitoring in support of environmental impact assessments and other scenarios where human activities carry a risk of harmful effects on the natural environment. AGES specializes in different aspects of environmental monitoring and render the following services:

• AGES provides water quality monitoring as well as the interpretation of the generated data in a report format that includes the level of compliance with the relevant legislation. Relevant data is interpreted to identify trends and possible pollution sources. All data is saved in an electronic database for future reference.

• Biological monitoring utilizes aquatic communities in freshwater systems (like rivers and wetlands) to assess the health of such systems. Biological monitoring is also required by many water licenses, but can be used to assess specific impacts or the general health of aquatic ecosystems.

  The following indices are used for biomonitoring evaluations:
  o SASS 5 (South African Scoring System invertebrates)
  o FAII (Fish Assemblage Integrity Index) o Diatom Based Indices
  o FHI (Fish Health Index) o IHAS (Integrated Habitat Assessment)

• Air quality monitoring, including the monitoring of dust fallout for developments, dust generated by tailings dams and the like. Particulate matter and particulate matter less than 10 micrometres (PM10) are of possible concern in some operations. This matter can be emitted from stockpiling and handling raw materials, as well as from all dry mechanical processes such as the preparation of raw materials, milling and screening and flash drying. The objective of the monitoring is to assess whether the levels of particulate matter complied with the stipulated guideline values. Dust deposition rates for each monitoring station are compared against the guidelines proposed by the Department of Environmental Affairs.
AGES aligns itself with Engineering partners to be able to render integrated Engineering Services in association with engineers with the required expertise to address the diverse requirements of engineering projects related to AGES's Geo-Environmental profile in an African environment. Our team is committed to providing the industry and business sector with expertise in engineering and management within the framework of our vision and mission, through well established relationships with engineering firms. Due to the confidence we have in our skills and our professional approach we offer turnkey solutions where it is to the advantage of the client. Clients range from individuals to large mining companies, both national and international as well as numerous governmental departments and municipalities.

Engineering services that can be rendered through effective partnerships focuses on the following aspects:

- Engineering feasibility studies pertaining to water supply schemes;
- Water supply option analysis (including CAPEX and OPEX);
- Analysis of existing installations complete with marked-up CAD drawings;
- Water supply infrastructure development, including Detail Design, Documentation and Procurement, Contract Management and Construction Management;
- Project Management to PMBOK standards
- Water supply infrastructure maintenance management
- Designs of mine dewatering Slurry pumps and pipelines
- Compilation of detailed Bills of Quantities
- Executing contracts on a consultancy basis according to GCC 2010 FIDIC;
- Executing contracts on an EPCM basis where the consultants design, procure and manage on behalf of the client. A contractor is appointed and managed according to the contract.
## CONTACT DETAILS

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GROUP MANAGEMENT

BOARD MEMBERS: Executive Management and Advisory Board members

Jan Myburgh - Director
- Pr.Sci.Nat, MGSSA
- B.Sc (Hons) Geology (NWU)

Frikkie de Jager - Director
- Pr.Sci.Nat, MSAIEG, MGSSA
- B.Sc (Hons) Engineering Geology (UP)

Simon Lerefolo - Director
- B.Sc Mechanical Engineering and Economics (Wits, Unisa)

Robert Crosby - Director
- Pr.Sci.Nat
- B.Sc (Hons) Geohydrology (UFS)

Stephan Potgieter - Director
- Pr.Sci.Nat, MSAIEG, MGSSA
- B.Sc (Hons) Engineering and Environmental Geology (UP)
- M.Sc Environmental Sciences (NWU)

Stephan Pretorius - Advisory
- Pr.Sci.Nat, MGSSA
- M.Sc Geology (RAU)
- Ph.D Geography Environmental Management (NWU)

Thabo Ngoepe - Advisory
- Master of Management (Wits)

Zimbini Pemba - Advisory
- Dip. Frontline & Public Relations (Damelin Management College)
- Dip. Bookkeeping (Damelin Management College)
MANAGEMENT

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