GHT CONSULTING SCIENTISTS

GROUNDWATER & ENVIRONMENTAL SCIENTISTS

COMPANY PROFILE 2024

LEVEL 2 B-BBEE

INTELLIGENT DEVELOPMENT AND PROTECTION OF ENVIRONMENTAL RESOURCES

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Simplifying Earth Science

Science & Technology at work for you

GHT CONSULTING SCIENTISTS

INTELLIGENT DEVELOPMENT AND PROTECTION OF ENVIRONMENTAL RESOURCES

GHT specialises in the provision of a wide range of geological, geophysical, and hydrological services by developing multi-disciplinary strategies for the detection, responsible utilisation, management, and protection of water.

ABOUT US

Fresh water is one of the world's most valuable resources, and one of South Africa's scarcest. Managing this vital element in a responsible manner is not negotiable. This is GHT Consulting Scientists' prime directive: to develop multi-disciplinary strategies for the detection, responsible utilisation, management and protection of water.

Geo-Hydro Technologies (GHT) provides clients with access to a group of scientists with experience in fields such as Geology, Geohydrology, Mathematics and Environmental Management. Bringing together unique yet complementary skills has been the fire in the GHT engine since the company's inception in 1990. Managing directors Louis van Niekerk and Dirk Rudolph met as first-year Geology students and quickly realised the value of synergy. More than two decades and about 1 500 projects later, they've managed to perfect the art of putting together a team with diverse backgrounds to bring about inventive solutions.

Today, GHT boasts scientists with qualifications in various related scientific disciplines that enable the company to be innovative and adaptable to the demands of any specific situation. Time and experience have added a unique dynamic to GHT Consulting Scientists, with a specific focus on surface- and groundwater. The company applies models and techniques specifically developed for and adapted to detecting and managing groundwater as well as surface water supplies. Protecting this valuable natural resource from pollution and contamination by industrial activity is another key focus area.

GHT Consulting Scientists pride themselves on their ingenuity and problem-solving ability. Working in the field often requires scientists to be able to think outside the box in order to obtain optimum results. GHT Consulting Scientists are dedicated to providing clients with useful, dependable information and solutions with the ultimate aim of being warriors for water.

VISION

GHT Consulting Scientists' vision is to be a leader in the development of multi-disciplinary strategies for the detection, responsible utilisation, management and protection of water.

MISSION

GHT Consulting Scientists' mission is to apply scientific knowledge to provide solutions to clients' needs in an ethical and professional manner. The company utilises its unique ability to combine teams from diverse backgrounds to manage projects in an innovative manner.

VALUES

RESPONSIBILITY

Given the focus of our actions, GHT Consulting Scientists approach all actions and decisions with complete awareness of the responsibility of working with and managing a scarce resource.

PROFESSIONALISM

GHT Consulting Scientists is a scientific consultancy whose members are all registered members of local and international professional associations, and adhere to the requirements set out by these associations in order to maintain the highest possible standards of the various professions and the scientific community in general.

COMMITMENT

Clients' interests are taken to heart and projects are managed in such a way as to obtain maximum results within the expected parameters. GHT is dedicated to safe, intelligent development and protection of water resources.

GHT is a professional organisation that operates according to the Code of Ethics laid down by the South African Council for Natural Scientists. Membership is an assurance that a scientist subscribes to the above code of ethics on professional status. In the exercise of our Profession as Consulting Scientists we act in the legitimate interest of our Client.

INDEPENDENCE

GHT is committed to the advancements of the ideals of science. Clients can be assured of independent advice focused solely on solving specific needs. Confidentiality is completely assured.

SOCIAL RESPONSIBILITY AND COMMUNITY INVOLVEMENT

Access to clean water is a basic human right. Therefore, GHT's primary goal – responsible, intelligent management of water resources – is also the company's primary social responsibility. By doing our jobs well, we improve the living standards of the communities we operate in.

GHT is committed to an equitable and just South Africa, and has a firm grasp of the important issues facing our country. GHT has the experience and expertise to solve water-related problems cost-effectively, and to ensure community participation in the development process. In addition, GHT continuously invests in the tertiary education of students from previously disadvantaged communities. This investment adds momentum to the cycle of improving communities.

SUMMARY OF SERVICES

GHT has the resources to develop multi-disciplinary approach strategies for the detection, responsible utilisation, management and protection of one of South Africa's most valued natural resources - water.

The company specialises in the provision of a wide range of geological, geophysical, and hydrological services, including mineral exploration and deposit evaluation, pollution investigations, groundwater

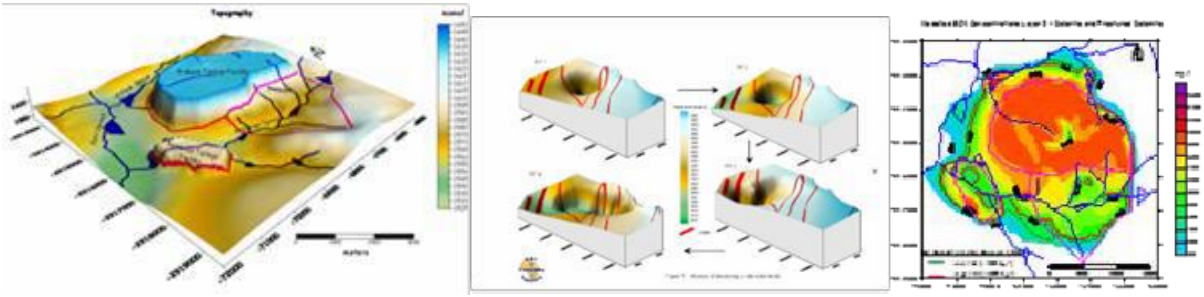
modelling, environmental studies at power generation facilities and mine sites, bulk and rural water supply development, and rehabilitation, environmental assessment, and management programme, reports, and industrial facilities and the registration of landfill sites are some of the services provided.

GHT provides a wide range of specialist consulting services to clients involved in the following fields:

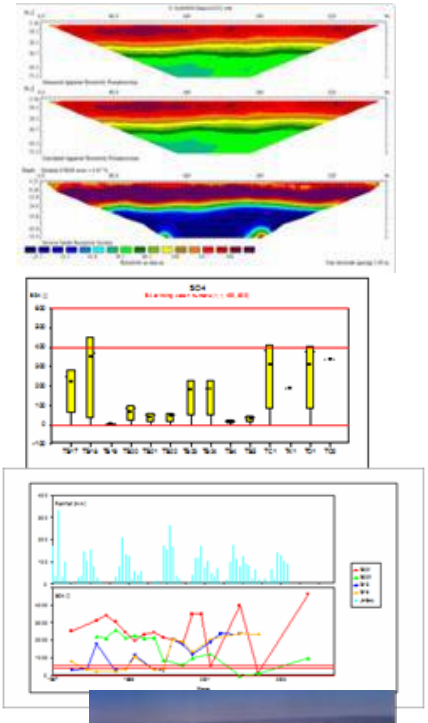
MODELLING

Groundwater Flow, Fate and Transport Modelling

- 1D, 2D, & 3D Analytical & numerical models are selected based upon the hydrogeological site characterization and model conceptualization



AQUIFER HYDROCHEMISTRY



Contamination Assessments

- Infiltration / leach quality & quantity from contamination sources
- Soil & groundwater contamination
- Saturated & unsaturated contaminant movement
- Chemical time dependant evaluations and analyses

Remediation System Design

- Monitored natural attenuation
- Active manipulation & remediation (pump & treat

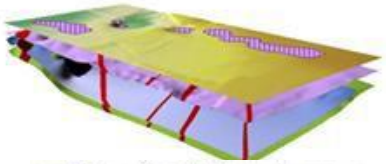
Risk Assessments

- Calculations of remedial targets based on risk profiles

AQUIFER HYDRAULICS

Analyses of Hydraulic Test Data

- Slug- packer & controlled constant discharge tests, etc. using various methods

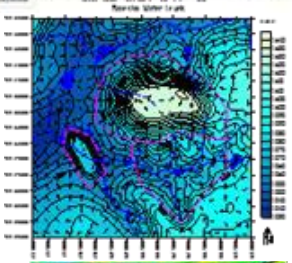


Dewatering Assessments

- Mines & large scale excavations

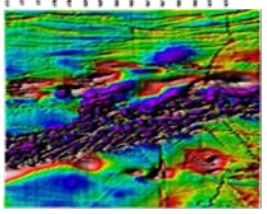
Aquifer Management

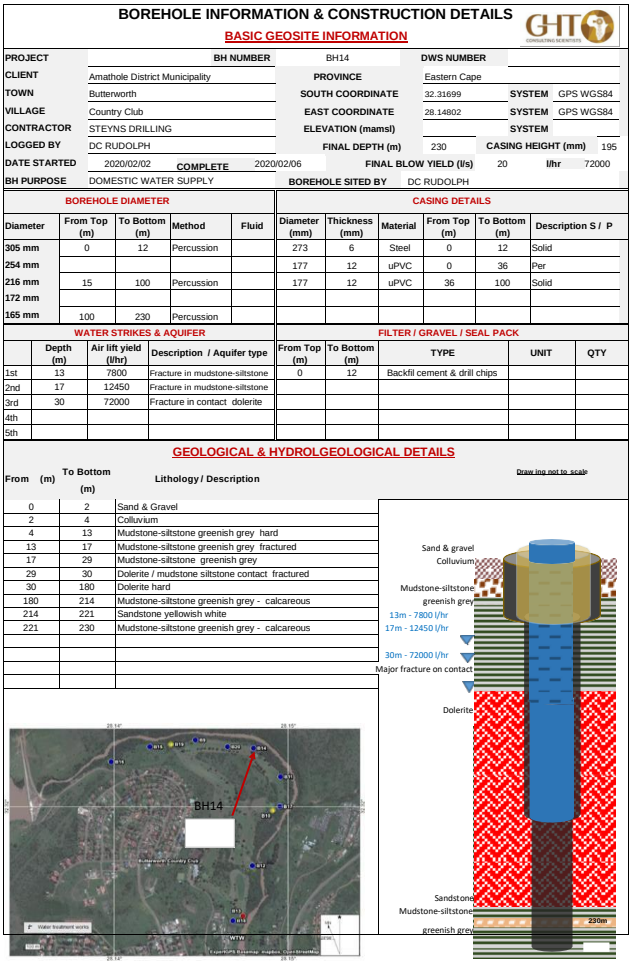
- Sustainable development of groundwater resources
- Recharge investigations
- Catchment management

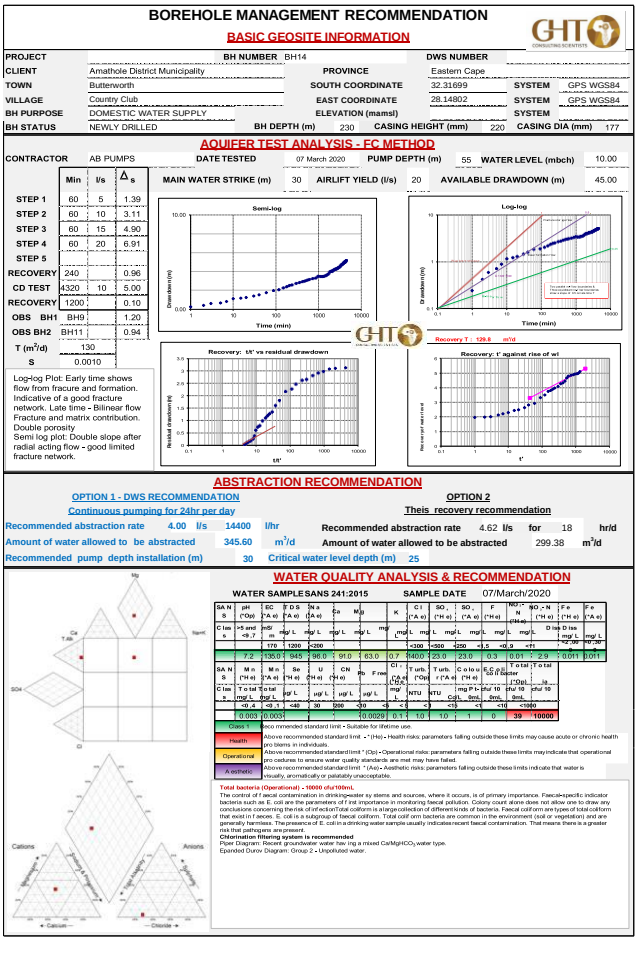


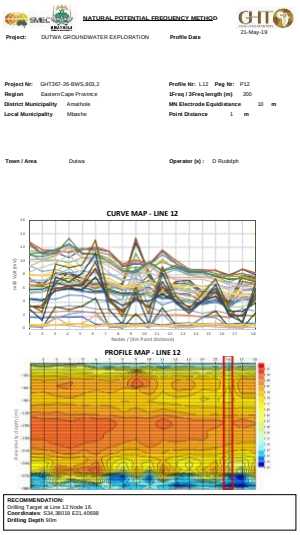
Water Supply

- Rural & urban project management
- Scientific drilling target selection
- Various borehole design and drilling techniques
- Borehole & aquifer tests
- Basic geosite information
- Abstraction recommendation









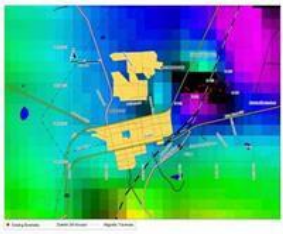
GEOPHYSICAL INVESTIGATION

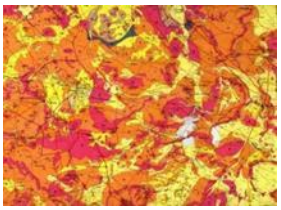
Geophysical Groundwater Exploration

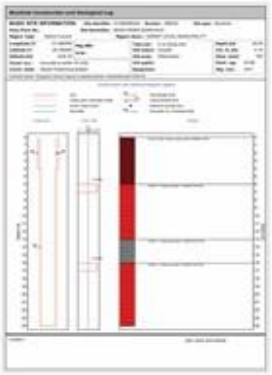
- Assessment of the geometry and aerial extent of aquifers using a variety of geophysical techniques;
- Borehole siting and selection.

Geophysical-Mineral Exploration

- Palaeochannel detection;
- Kimberlite exploration;







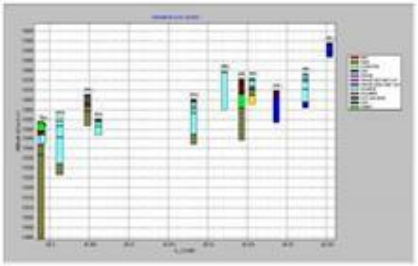
ADDITIONAL SERVICES

Geographical Information Systems

- Data Analysis & Interpretation;
- Presentation of data;
- Database management;
- Integrated locality maps.

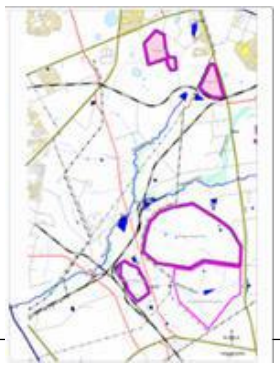
Regulatory requirements

- Groundwater inputs to Water Permits, IWWMP, WUL, EIAs & EMPRs;
- Integration with ISO 14000 systems;
- Environmental auditing;
- Waste disposal sites registration;
- Compiling Water Use Licence Applications.
- WWTW -Geohydrological Investigations



Training

- All aspects listed above;
- Tailored to specific needs.



PERSONNEL

Members of GHT have been involved with a diverse range of projects in South Africa, Namibia, Zimbabwe, and Australia, some of which are mentioned in the resumes of our members.

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Geo Hydro Technologies (Pty) Ltd. trading as GHT Consulting is a registered member with the Ground Water Division of the Geological Society of South Africa, member number 133/16. Mr DC Rudolph, a Director of the company Geo Hydro Technologies (Pty) Ltd, is a registered member of South African Council for Natural Science Professionals, member number 400074/94 in the Earth Science category. Mr Rudolph is also a member of the Institute of Waste Management of South Africa.

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