TOWNSHIP RECONNAISSANCE AND ESTABLISHMENT INVESTIGATIONS.

Township establishment investigations for a large number of townships in Gauteng, Free State, Mpumalanga, North West and Eastern Cape Provinces for both RDP and bonded housing as well as several golf estate developments.

Gcunube Valley Eco Golf Resort, located on the northern side of the Gcunbe River in the Eastern Cape, 400 Ha in extent - reconnaissance investigation for project feasibility.

Orchards Ext 60, located 18 km northwest of the Pretoria CBD, 44 Ha in extent - a Phase 1 investigation for bonded housing.

Orchards Ext 59, located 20 km northwest of the Pretoria CBD, 50 Ha in extent – a Phase 1 investigation for bonded housing.

Itsoseng township, south of Mabopane (north of Pretoria) – a Phase 1 investigation for bonded housing.

Waterval Boven new township, located on the northwestern side of the existing town, 72 Ha in extent - a Phase 1 investigation for RDP housing.

TOWNSHIP UPGRADE INVESTIGATIONS.

Alexandra Upgrade project. Geotechnical investigations for the provision of RDP housing in compliance with the requirements of the NHBRC.
TOWNSHIP FORMALIZATION INVESTIGATIONS

Terrain evaluation and geotechnical investigation (including preliminary geotechnical zoning similar to that done for legal township status. These projects led to the granting of legal tenure of property to the existing residents.

Siyabuswa 1A, C, D, and F, located about 35 km southwest of Marble Hall, Mpumalanga Province.

Elandsdoorn A and B, located 25 km southwest of Groblersdal, Mpumalanga Province.

Dundonald Extensions 2 and 3, located at Dundonald, Mpumalanga Province. Work done was as per Siyabuswa.

Siyathemba Ext 6, located 3 km northeast of the Balfour town centre (Mpumalanga Province), approximately 73Ha – reconnaissance investigation for formalisation of an existing township.

MAJOR PROJECTS.

Gautrain Rapid Rail Link Project, Gauteng. Logging and profiling of test pits, trenches, large diameter auger holes, etc. Drilling and logging of boreholes at Technopark in the Centurion area and the Fountains Valley at Pretoria.

For almost all the percussion borehole logging electronic drilling data was used as an additional very useful aid to the normal stopwatch based information provided by the drill crew.

DOLOMITE RELATED WORK.

Ekurhuleni. Assisting Ekurhuleni Metropolitan Municipality in setting up a Dolomite Risk Management System.
Projects

Vosloorus area. Evaluation of subsidence related damage to various houses and infrastructure for Boksburg City Council.

Katorus area on the Natalspruit Inlier. Risk assessment and recommendations for a dolomite risk management system.

Various townships in the Ekurhuleni region including extensions to Etwatwa, Daveyton, Paynesville, Zonkizizwe, Dawn Park and Vosloorus. Dolomite risk assessment and geotechnical investigations for township establishment.

Composting Plant at the Olifantsfontein Waste Water Treatment Works. Compilation of tender documentation in particular dynamic compaction and compaction grouting. Also executed the contract and field supervision.

Route R500 (Road P45-1) between Westonaria and Randjiesfontein. Compilation of tender documentation and evaluation for a compaction grouting contract for improvement of dolomitic ground along a 4km section of road reserve.

Gemsbokfontein dolomitic ground water compartment, West Rand. Evaluation of the impact of dewatering of the compartment.

Katorus Community Dolomite Awareness project.

MINING INFRASTRUCTURE INVESTIGATIONS

C-Cut Project, Premier Mine, Cullinan. Geotechnical investigations were carried out for the proposed shaft.

Kroondal Platinum Mine, Rustenburg. Geotechnical investigations were carried out for foundation design.
Projects

ROAD AND RAIL INFRASTRUCTURE INVESTIGATIONS

Mambedi  
River Bridge, Limpopo. Site reconnaissance, core drilling investigation, recommendations for foundation design.

Phalakubeni  
River bridge, Limpopo. Site reconnaissance, core drilling investigation, recommendations for foundation design.

Klein  
Letaba River Bridge, Limpopo. Site reconnaissance, core drilling investigation, recommendations for foundation design.

Bridges, drainage structures, cuts and fills for a portion of a tolled highway between Johannesburg and Durban in South Africa.

Road P201-1 from Moloto to Moteti. Centre line and materials investigations for the upgrading of major intersections and construction of a pedestrian walkway along.

Rail infrastructure at extensions to the Dorstfontein Colliery, Mpumalanga. Centre line, materials and bridge and culvert foundation investigations by means of test pits and core drilling.

PIPELINE INVESTIGATIONS

Athmania Water Transfer Scheme, Algeria. Engineering geological feasibility investigation of the 120 km long route between existing hydraulic infrastructure and potential sites for 20 m high dams, as well as pump stations in Algeria. Sub-consultant for Ninham Shand Consulting Engineers.

Mamelodi East Water Supply Pipeline, Pretoria East. A section of the overall route between Simon Vermooten and Hans. Evaluation of excavation conditions, use of in situ materials and trench floor conditions, including potential heave of active clays.

Northam Mitigation Ponds Study, Limpopo Province. A total of 18km of pipeline route as well as the study of the geology and environment conditions. Sub-consultant for Africon International Consulting Engineers.
DAMS AND DAM SAFETY AND LANDFILL SITES.

Mosetse Dam, Mosetese River, Francistown, Botswana. Engineering geological investigation of the founding conditions at the dam site as well as locating and proving of construction materials for dam design purposes.

First and Second Falls Dams, Eastern Cape Province. Engineering geological input for dam safety investigations carried out at the dam.

Zesfontein Solid Waste Disposal Site, Ekurhuleni Metropolitan Municipality. Engineering geological and geohydrological investigations of the 600ha site for detailed design purposes.

ENVIRONMENTAL GEOLOGY AND GEOHYDROLOGY INVESTIGATIONS.

Waste Water Treatment Works Johannesburg Metropolitan Area; Gauteng; Geohydrological investigations for Environmental impact assessments for extensions to the Northern Works, Bushkoppies and Driefontien waste water treatment works.

Waste Water Treatment Works Tshwane Metropolitan Area; Gauteng. Upgrading and extending of groundwater monitoring at the Fairview, Blacktown, Baviaanspoort, Daspoort, Rietgat, Rooiwal, Sandspruit, Sunderland, Themba and Zeekoegat waste water treatment works.

Madikwe Game Reserve. Engineering geological input investigations for environmental impact assessments for roads and pipelines to be constructed and maintained within the reserve.

Filling Stations Gauteng Area. Engineering geological and geohydrological input for environmental impact assessments for numerous filling stations in the greater Gauteng area.

New Landfill Lephalale, Limpopo Province. Geohydrological input for scoping and environmental impact assessments.
UNUSUAL PROJECTS.

Freedom Park Monument, Tshwane Metropolitan Council. This monument straddles a thrust fault at the crest of Salvokop and has excavations up to 12 m deep in parts. Test pitting, trenching, core drilling to locate the position of the fault and numerous joint measurements for excavation slope stability analysis were required. Recommendations for temporary and permanent support as well as foundation pressures were provided.

Syferfontein Colliery Additional Infrastructure, Mpumalanga Province.

Deformation of portion of Road D8, Letsitele to Mafarana, Limpopo Province.

Cutting at km 11,5, Road P43-3, outside Tzaneen, Northern Province.
Projects