

GEMSOL

SI₂GEXPLORATIONS LTD

Consulting engineer firm

specialise in geotechnic and soil study.



**Your solution to
Geological, Geotechnical projects,
Contaminated Land and Groundwater Risk Assesments,
Geophysical projects and archaeological research.**

Let's meet; we can offer you a solution.

CALL US: 01 227 780 249

Mail: gemsol-geotechnic@outlook.com

The word of director

Whether it's a small scale build or big work more complicated, we'll do whatever is required to get you the most detailed and cost-effective information on the ground that you need for your project.

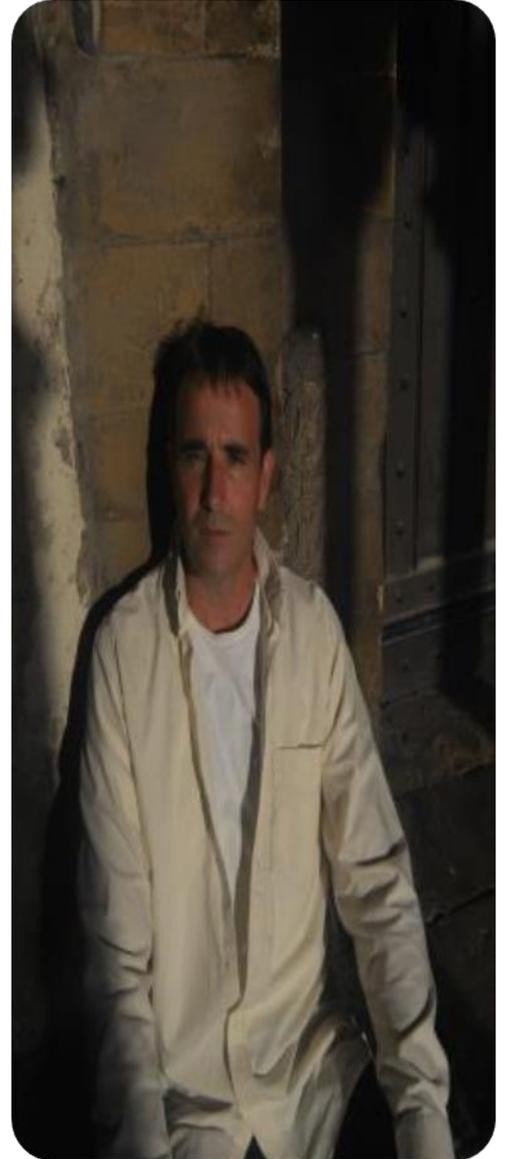
Whether it's a small scale build or something much more complicated, we'll do whatever is required to get you the most detailed and cost-effective information on the ground that you need for your project.

At GEMSOL, we adopt a phased approach to our ground investigations. This includes an initial desk study, . The next phase includes site investigation, risk assessment,, remediation and validation, as required including independent laboratory services, We can also help you with regulatory monitoring and compliance, geo-environmental audits to help minimise any financial liability.

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for further information





Geotechnical research

Geotechnical Investigations

Geotechnical investigations incorporate in-situ testing and on-site sampling together with independent laboratory testing to determine the engineering properties of the soils and assess the stability of the ground

GEMSOL are experienced with a large variety of intrusive investigative techniques to assess ground conditions suitable for a wide range of developments from housing, commercial and industrial developments to high rise buildings with basements and Natural risk . Site work and reporting are undertaken in accordance with BS:5930 and also comply with Eurocode 7.

The equipment used ranges from hand held tools to large rotary drilling rigs and excavators, or geophysical investigation depending upon the size of the new building and the access.

We utilise this information to evaluate the following:

Basement Design Parameters

Slope Stability Assessments

Foundation Design Parameters

Soil Infiltration Rates

Retaining Wall Design Parameters

Evaluation of Dissolution Features

Depth of Soil Desiccation

Natural risk

Geotechnical and contamination research are usually combined to utilise the technique when on site and to save the client costs.

GEMSOL invest in specialist site equipment and our trained Site Expert can undertake various Insitu tests including portativ dynamic plate tests to provide an equivalent CBR, as required by many Local Authorities and the Highways Agency.



GEMSOL Investigations and Geoconsultancy Services

Specialist investigations are designed to cater for a variety of site conditions and developments

GEMSOL is experienced in providing bespoke investigations for a wide range of requirements including the following:

- ❖ **Basement Impact Surveys**
- ❖ **Dissolution Features**
- ❖ **Old Mine Workings**
- ❖ **IPPC Baseline Surveys**
- ❖ **Subsidence Investigations**
- ❖ **Slope Stability**
- ❖ **Contamination Incidents**
- ❖ **Fuel Tank Removal Validation**
- ❖ **Earthworks**
- ❖ **Highways**
- ❖ **Energy Pipelines**
- ❖ **Wind Farms**
- ❖ **Railway Works**
- ❖ **Archaeological research**
- ❖ **Water research**
- ❖ **Research and Explore caving**
- ❖ **Research by ground penetrating radar (GPRS)**
- ❖ **exploration abyss**
- ❖ **Cliff audit**
- ❖ **Natural risk audit**

Specialist **GEMSOL** services include:

- ✓ **Expert Witness**
- ✓ **Due Diligence**
- ✓ **Forensic Soil Investigation**
- ✓ **Customised Helicopter Aerial Surveys**
- ✓ **Geophysical research one/offshore**

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GEOENVIRONMENTAL DESK STUDIES

« PHASE I »

Contaminated Land risk assessment requires a phased approach to allow for both qualitative and quantitative assessment of development land

The Phase I Desk Study is the vital initial qualitative stage of a geo-environmental investigation, typically required as part of the planning process for new developments.

GEMSOL is experienced in undertaking research of historical maps,

Information gathered includes:

- ❖ **Site History**
- ❖ **Current and Historical Site Usage**
- ❖ **Potential Geotechnical Hazards**
- ❖ **Sources of Ground Gases**
- ❖ **History of Mining**
- ❖ **Geology**
- ❖ **Hydrology and Hydrogeology**
- ❖ **Environmental Sensitivity**
- ❖ **Surrounding Potential Contaminative Land Uses**

The objective of the Conceptual Model is to identify pollutant linkages between potential sources of contamination and the future end users of the site and the environmental setting via pathways through the ground, water or air.



Phase II

Contaminated Land & Groundwater Risk

Most geo-environmental investigations are driven by the need for the responsible and economic development of brownfield land

GEMSOL are familiar with legislation requirements for contaminated land risk assessments regarding the protection to human health, controlled waters and the environment.

For sites where the Phase I Desk

GEMSOL has revealed the need for a Phase II intrusive investigation, contaminated land and groundwater investigations are designed on a site-specific basis.

The main objectives of the Phase II

investigation is to sample and test the soil, groundwater and or ground gases to prove or disprove the identified pollutant linkages in the Conceptual Model.

The fieldwork locations and frequency of the sampling are carefully planned. Samples of both soil and groundwater are selected for chemical testing for an appropriate range of contaminants specific to a particular site.

Where there is a significant risk of ground gases migrating into proposed buildings, gas monitoring can be carried out at appropriate intervals and gas risk assessments form part of the reporting.

The results are assessed by **GEMSOL** and a quantitative risk assessment determines whether remedial measures are required or not.

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About



**Founded by Christian GINOUVET ,
GEMSOL SI2GEXPLORATIONS Ltd**

Master in full ground research, study and Geotechnical work on all projects or surveyor campaigns.

Located in Kent, England.

We at **GEMSOL** attach great importance to the quality of our work and research.

GEMSOL's team can intervene on 5 continents with very short notice.

Through our expert skill in "any environment", we provide on site and oversee all operations in earth science. We aim to deliver the most relevant report studies for your investigations, whether they are:

Geotechnical

Geophysical

Geological (gisement research)

Archaeological

Forensic archaeology

Either Onshore and Offshore.

Soils pollution research

Using and deploying the most modern methods in the field, within the laboratory and within the office .

We are able to give you optimum quality work in the fields of Geotechnical Engineering, Geology (minerals, Gas, Oil) Geophysics of Natural Hazards, Archaeology and thus offer you a vast range of study missions and geotechnical, geophysical, geological, Archaeological management projects.



CONTACT

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Gemsol-si2gexplorations member of:

**EUROPETROLE
ENVIRONMENTAL ARCHAEOLOGY**