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# Midlands Geotechnical Society Newsletter

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Honorary Secretary:

Alan Turner

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Tel. 01902 670938

## Meeting Venue

Lectures start: 7pm

Location:

HAWORTH BUILDING,  
University of Birmingham B15 2TT

Refreshments are available prior to the meeting in the Shell lounge, Department of Mechanical and Civil Engineering, from 6:15 onwards

Registered Charity Number: 514610

## October 5<sup>th</sup> Meeting

### Briars Lane, Hatfield

## A holistic approach to chalk mine treatment

### Synopsis:

Treatment of abandoned chalk mines beneath developed areas gives rise to particular challenges in identifying irregular workings and validating their successful treatment. These difficulties are compounded where the very weak nature of the Chalk leads to the presence of both voids and unstable collapsed ground. These mixed ground conditions require the application of a specialised grouting methodology. As a result of these challenges only a limited number of such schemes are undertaken each year in the UK and a systematic approach to the treatment of chalk mines has yet to be fully developed.

The risk of surface ground movements from chalk mining in Hatfield has resulted in the development of new strategies for addressing the treatment of worked chalk. This treatment has been undertaken beneath occupied residential properties and live highway along Briars Lane in Hatfield. The on-site development of various treatment methodologies have enabled the efficacy of different treatment techniques to be assessed in the presence of extremely varied ground conditions. Comprehensive monitoring and risk assessment strategies have been successfully employed to minimise disruption and evacuation of local residents.

An innovative validation process based on 3D mine modelling and an integrated data management system have allowed real-time assessment of the impacts of treatment works and progressive re-occupation of properties.

The scheme has therefore allowed a structured approach to the specification, implementation and validation of chalk mine treatment methodologies and risk management to be developed. The presentation summarises the results of the works, details the methodologies employed and provides a benchmark for future chalk mine treatment schemes.

### Biography:

Chris Milne - BSc, MSc, FGS, CGeol, EurGeol  
RJM Ground Solutions Limited, Arnside, UK.

A Chartered Geologist and Geotechnical Advisor with over 20 years experience, including mine treatment and risk assessment throughout the UK. Recently he has undertaken risk assessments for chalk mines in Hatfield, including the development of strategic advice for development control tools. He was Hyder's Project Director for the design supervision and validation for the Briars Lane mine treatment scheme.

Andrew O'Donovan - MEng  
BAM Ritchies (Division of BAM Nuttall), Kent, UK .

Andrew is a Senior Geotechnical Engineer, project managing the stabilisation works at Briars Lane. Following his masters in Civil Engineer, Andrew's initial career path was as a consultant gaining experiences in site investigation, foundation and geotechnical design. The majority of his previous experience in chalk has been related to the remediation of tunnels within chalk along the southern coast. He currently manages Ritchies' tendering and contracts in the South East of England.

John Rigby-Jones - BEng, MSc  
RJM Ground Solutions Limited, Arnside , UK .

John is a Geotechnical Engineer with fifteen years experience in geotechnical design and site investigation for a wide variety of projects both in the UK and overseas. Having spent time investigating methodologies for locating dissolution features in chalk at the University of Surrey he went on to be involved in numerous chalk related projects in the South East of England including the design and supervision of grouting works to the New Medway Bridge foundations. He provided technical support to Ritchies for the Briars Lane mine treatment scheme.

This lecture has been  
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