

- Phase I Desk Studies
- Phase II Ground Investigations on a variety of 'greenfield' and 'brownfield' sites
- Landfill Gas Monitoring and Assessment
- Contaminated Land Risk Assessment
- Pre-acquisition Environmental Appraisals
- Foundation Design
- Remediation Design and Validation
- Groundwater Monitoring and Risk Assessment
- Slope Stability Assessment
- Land Reclamation
- Earthworks Design, Supervision and Validation

## Welcome

Welcome to the 1<sup>st</sup> edition of the GeoDyne newsletter. We have been offering professional geotechnical and environmental consultancy services since our establishment in September 2001.

As we enter into our fifth year in business we continue to build upon our impressive portfolio of high profile clients and exciting projects.

In our first newsletter we intend to highlight a number of our areas of expertise through current and recent projects, including site-specific geotechnical and gas mitigation solutions.

We would like to take this opportunity to thank our loyal clients and welcome potential new clients looking for a consultancy service second to none. If you would like any further information on our services, please visit our new website [www.geodyne.co.uk](http://www.geodyne.co.uk) or contact either of the Directors below on 0115 983 0006.



Jason Hollands  
DIRECTOR



Richard Spencer  
DIRECTOR

## Four Years In Business

In September 2005, GeoDyne celebrated four years in business. Staff numbers over this period have grown from an initial three members in 2001 to a total of nine. The increase in the number and complexity of projects and the addition of new clients has played a significant part in our expansion from our original business park office to our barn conversion at Thrumpton.

Due to continued expansion of the business we are pleased to announce the opening of a second GeoDyne office in Derbyshire. See page two for further information.



GeoDyne Office in Thrumpton

## Quality Assurance for GeoDyne



On the 18 October 2004 GeoDyne's quality administration was assessed and approved by National Quality Assurance Limited in accordance with BS EN ISO 9001:2000.

*GeoDyne Office in Radbourne*



# GeoDyne Expand Into Derbyshire



PAUL KERSHAW



CLARE CLEMENTS

Due to continued expansion of the business we are pleased to announce the opening of a second GeoDyne office in Derbyshire. We have located a barn conversion in the peaceful hamlet of Radbourne, to the southwest of Derby city centre.

The Radbourne office will be managed by Paul Kershaw our Principal Engineer with support from Clare Clements (Graduate Engineer). We anticipate continued expansion of the Derby office over the next 1-2 years, and the location of the office provides access into new markets around Staffordshire and the West Midlands.

Contact details for our new office are provided at the end of the newsletter.

## *NEW STAFF OF 2005*



**Chris Paling**  
BSc (Hons) FGS

Chris joined us in January 2005.

Chris graduated from Plymouth University in 1987 with a BSc (Hons) degree in Applied Geology with Geography and has gained a wealth of experience working for geotechnical and environmental consultants across the UK and also as a self-employed consultant, involved in such projects as the Jubilee Line Extension and major industrial and housing developments.



**David Hooton**  
BSc (Hons) MSc

Dave joined us in August 2005.

Dave graduated from Lancaster University in 2001 with a BSc (Hons) degree in Environmental Management and in 2002 with an MSc in Environmental Pollution and Protection and has gained valuable experience working for Local Authorities across the UK before joining our consultancy.

## *Working With Local Authorities*

Over the last few years we have built up good working relations with a number of Local Authorities.

We have provided consultancy services to Amber Valley Borough Council, Sheffield City Council, Ashfield District Council, Rushcliffe Borough Council, Lincoln City Council and Salford City Council. Additionally, we have provided lunchtime presentations to several Local Authorities.

We have also recently become an approved consultant to Nottingham City Council.

# Groundwater Risk Assessment - Basford

GeoDyne is currently involved with the redevelopment of a former petrol filling station for our Client, Westleigh Developments Ltd. The last twelve months have seen a marked increase in the number of petrol filling stations becoming vacant and sold for redevelopment for either a commercial or residential end-use. We have investigated many such sites across the country.

The Basford site is proposed for residential properties and is located on a Major Aquifer and therefore represents a highly sensitive end-use. Following submission of our Phase I & II report to the Local Authority, GeoDyne's recommendation to carry out a P20 groundwater risk assessment was endorsed by the Environment Agency. It was necessary to undertake detailed quantitative risk assessment (DQRA) works for groundwater in accordance with Environment Agency guidelines (commonly referred to as a P20 model) to establish the potential risk to the underlying Major Aquifer.



Two underground fuel tanks encountered during remediation of the site

# Geotechnical Solutions - Ironville

GeoDyne commenced investigation works at this site in August 2002 on the behalf of our Client, Griffiths Superior Homes Ltd. Redevelopment works for a residential end-use have nearly been completed on this award winning site. The site is located adjacent to the former iron works, which used to dominate the town of Ironville and railway links to the iron works previously crossed the site.

The presence of shallow coal workings, mine shafts and a large exposed railway cutting represented one of the more challenging development sites for both Griffiths Homes and GeoDyne. Investigation works included a programme of plot-specific drilling and grouting works in addition to trial trenching and probing for mine shafts. The foundations to the new dwellings comprise a mixture of reinforced strip/trench fill, piles and rafts.

The photos to the right show the site prior to development and the location of the exposed railway cutting and a recent photo of the new dwellings, some of which were built over the subsequently infilled railway cutting.

Site prior to development



Site near completion



# Gas Mitigation Solutions - Cray's Hill

The site comprises a former landfill, subsequently used as a recreational ground. Previous monitoring of the site by others revealed elevated concentrations of methane. We were requested by our Client, Amber Valley Borough Council (AVBC) to investigate the provenance of the methane, establish the generic gas migration pathways and establish the site-specific source-pathway-receptor plausible pollutant linkages to enable the site to be returned to a recreational ground with amenities for the local residents.

Following an extensive programme of intrusive works and monitoring, it was confirmed that the principal source of methane was the existing landfill rather than the underlying shallow coal seams. The landfill represented the key potential gas migration pathway and the existing dwellings abutting the site were assessed to be the critical receptor with respect to future mitigation measures.

AVBC set up a public liaison group at the start of the project, which met at regular intervals. GeoDyne has undertaken presentations to residents and local councilors at these meetings and kept all stakeholders informed of the decision processes regarding the site.

Following our monitoring we were requested by AVBC to look into potential mitigation solutions for the site. The decision was made to proceed with a bespoke Virtual Curtain solution following production of our landfill gas DQRA report, which was requested and approved by the Environment Agency. The Virtual Curtain represents a passive system that relies on pressure differentials across the system. It is designed to intercept and dilute potentially migrating gases and provides an effective dispersal of gas to the atmosphere. The Virtual Curtain was designed by the Environmental Protection Group (EPG) and installed by SEL Environmental.

Installation of the Virtual Curtain began in March 2005 and was completed in June 2005. The site has been recently leveled and re-seeded ready for its return to a public amenity.



Installation of the virtual curtain nodes



Bespoke Bunker Vents



Bespoke Vent Stack

## Working In Nottingham

Nottingham City Council (NCC) Environmental Health Department have a remediation and validation policy for new development sites, which may have potential cost implications for Clients. NCC requires that materials within 1.0m of the surface in residential garden areas within Nottingham must be below agreed Site Acceptance Criteria (SAC). Garden areas will therefore require validating (post remediation) at three horizons (i.e. near surface, 0.5m and 1.0m) for a suite of contaminants agreed with the Local Authority to ensure that the top 1.0m of material is below the agreed SAC. This does not however mean that the top 1.00m must comprise clean capping but rather that any retained Made Ground within the top 1.00m must be free of contamination.

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If you require any further information on our services or our staff please visit our website or contact either of our offices.