

## > October Discoveries



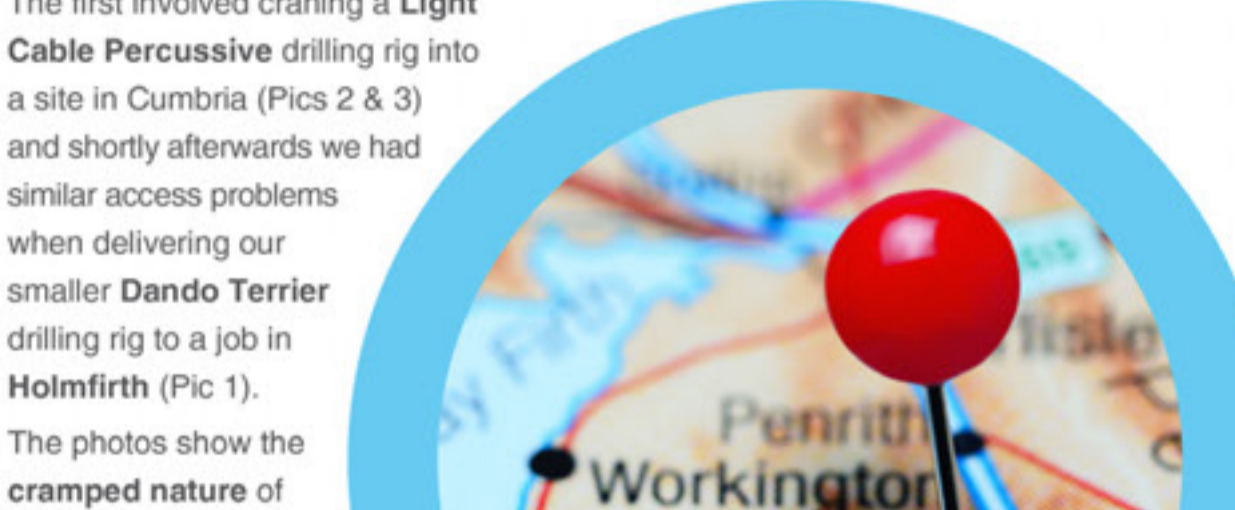
### Welcome to RGS insite issue 29

Our regular newsletter celebrating more than a decade of drilling, keeping you up to date with RGS and industry news.

Rogers Geotechnical Services Ltd are site investigation specialists offering ground investigation and geotechnical services to developers, builders, structural and consulting engineers, architects, insurance companies, local authorities, piling and foundation engineers, private individuals and other geotechnical consultants.

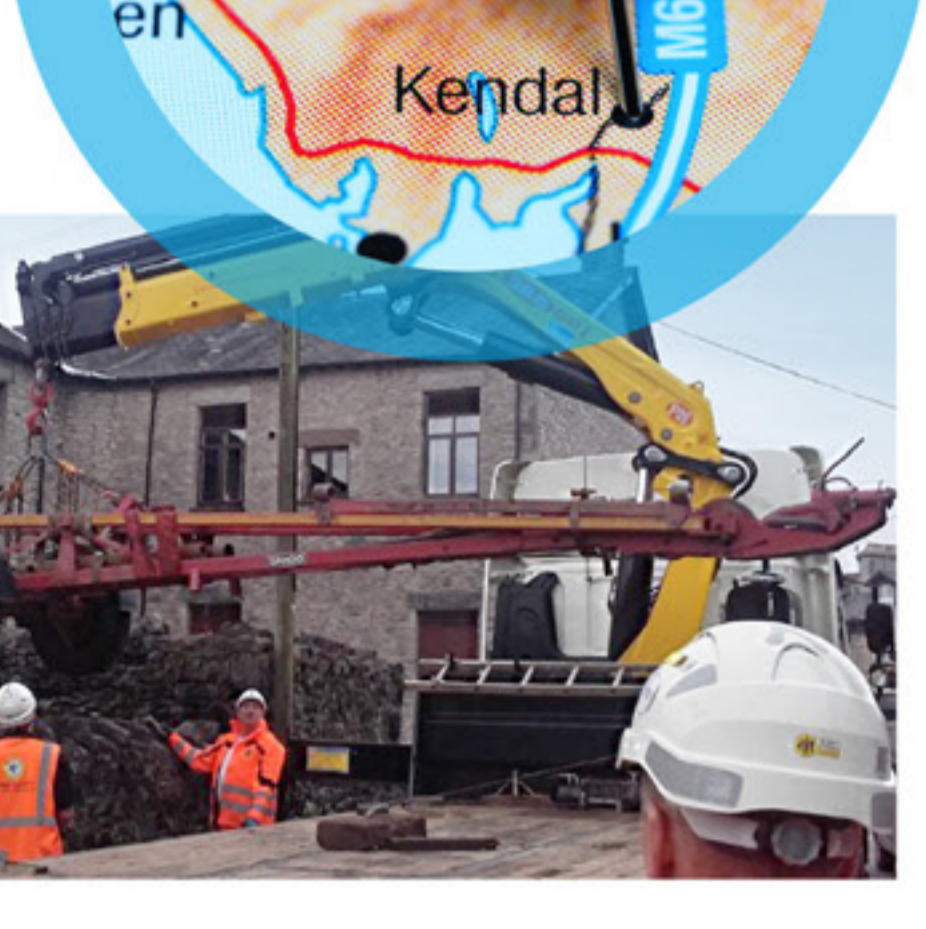
### Tricky access!

Here at RGS we are no strangers to dealing with **problematic** sites. Access problems are not unusual and as well as undertaking pre-start site checks we had no choice but to use cranes to 'drop' our drilling rigs into two different sites in one week recently.



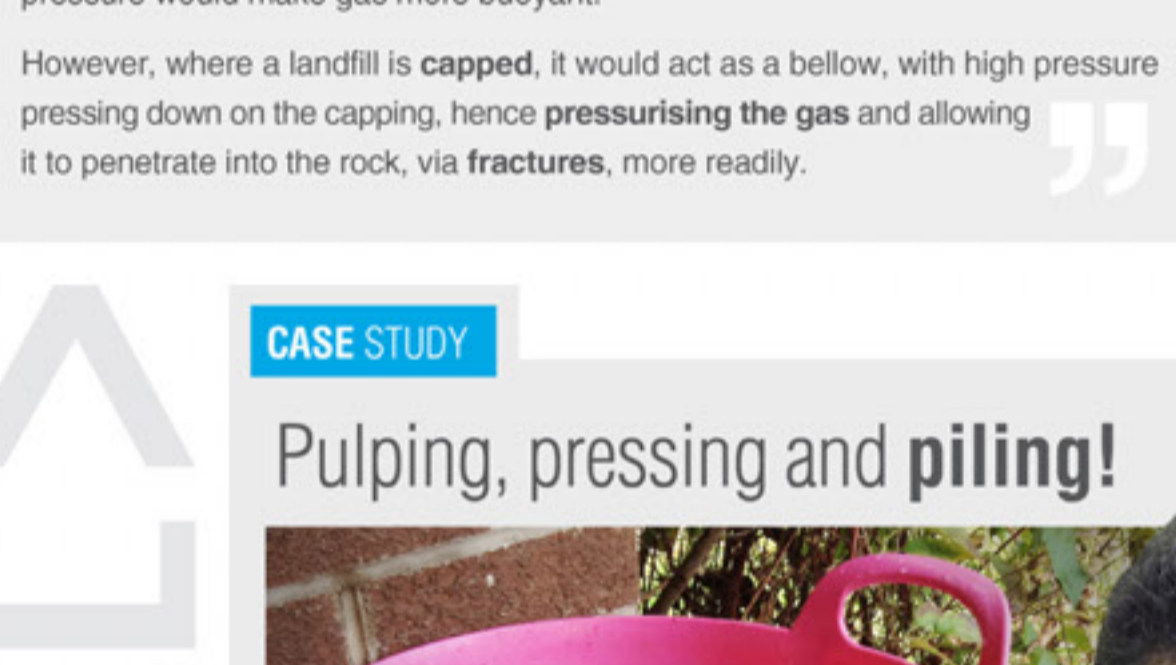
The first involved craning a Light Cable Percussive drilling rig into a site in Cumbria (Pics 2 & 3) and shortly afterwards we had similar access problems when delivering our smaller Dando Terrier drilling rig to a job in Holmfirth (Pic 1).

The photos show the cramped nature of the sites - and close proximity to homes - but both operations passed off smoothly.



#### TECH INFO

### Standpipe installation



Installing standpipes is something that RGS does almost daily and **gas management** is always at the top of our checklists.

RGS Technical Director Steve Rogers said

This is a good illustration in that it seems to demonstrate an issue I have with gassing sites. There is a belief that low pressure represents the **worst case condition**, which I think is true if the sub-strait is permeable - low pressure would make gas more buoyant.

However, where a landfill is **capped**, it would act as a bellow, with high pressure pressing down on the capping, hence **pressurising the gas** and allowing it to penetrate into the rock, via **fractures**, more readily.

#### CASE STUDY

### Pulping, pressing and piling!



As part of our regular case study features, we are focusing on a slightly unusual example this month, focused on Technical Director **Steve Rogers** and his garden's apple glut! It might sound quirky, but it makes interesting reading:

**The Location:** Steve's back garden!

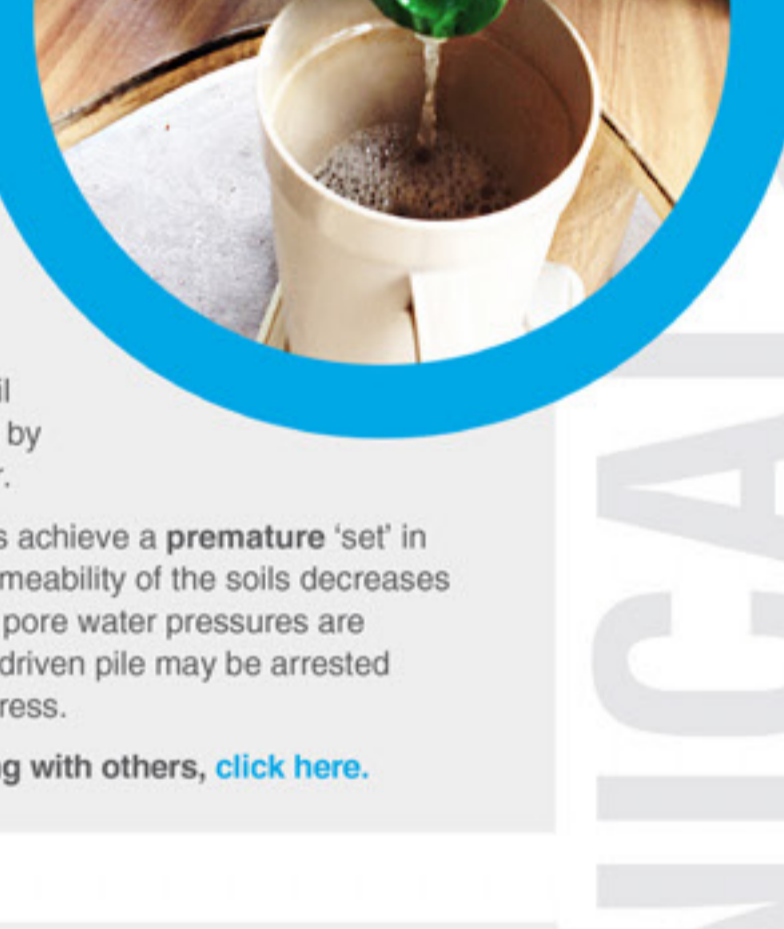
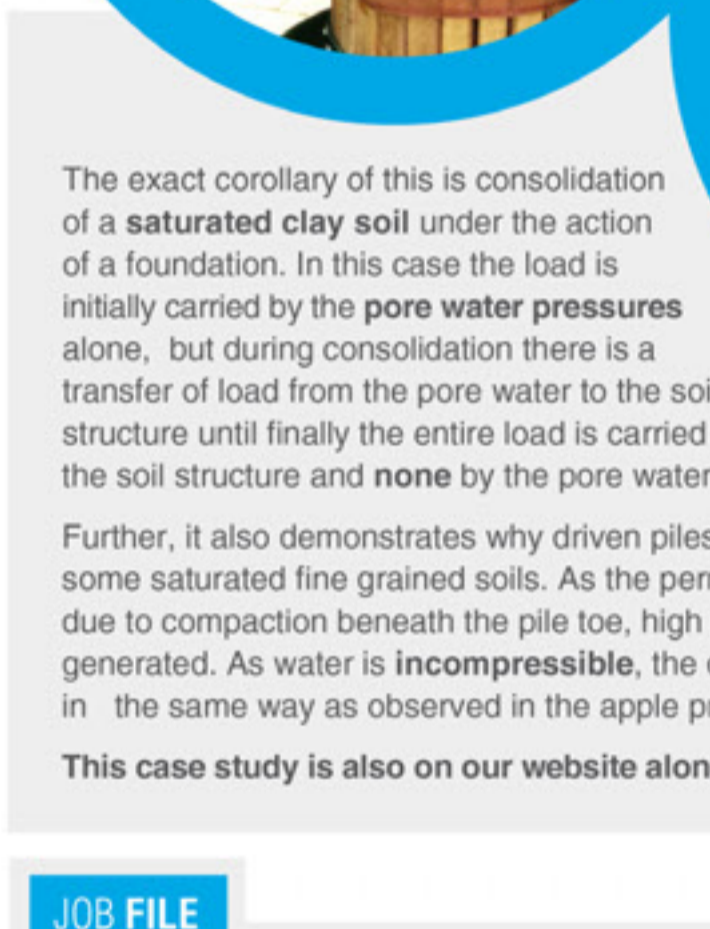
**The Challenge:** An interesting observation relating to the effect of pore water pressures - or in this case **pore apple juice** pressure - on consolidation.

**Work involved:** One of the pleasures of autumn is pulping and pressing apples to make apple juice. During this process I noted that the **mechanisms** involved closely mimicked the **consolidation characteristics** of soil and the effects of pore water pressures in that process.

Having pulped the apples into the press, the first thing that happens is that the pulp becomes **fully saturated** and gravitational juice is released.

On pressing, the **apple juice** initially flows out **rapidly**, but the flow then reduces as consolidation of the pulp occurs. This can be directly related to the change in the permeability of the pulp during consolidation.

It then becomes more difficult to press further, as the permeability is reduced resulting in **high pore water (apple juice) pressures**. However, if left until the very slow flow actually stops, the pore apple juice pressure **dissipates**, allowing the press to tighten more.



The exact corollary of this is consolidation of a **saturated clay soil** under the action of a foundation. In this case the load is initially carried by the **pore water pressures** alone, but during consolidation there is a transfer of load from the pore water to the soil structure until finally the entire load is carried by the soil structure and **none** by the pore water.

Further, it also demonstrates why driven piles achieve a **premature 'set'** in some saturated fine grained soils. As the permeability of the soils decreases due to compaction beneath the pile toe, high pore water pressures are generated. As water is **incompressible**, the driven pile may be arrested in the same way as **incompressible** the apple press.

This case study is also on our website along with others, [click here](#).

#### JOB FILE

### Mining discovery



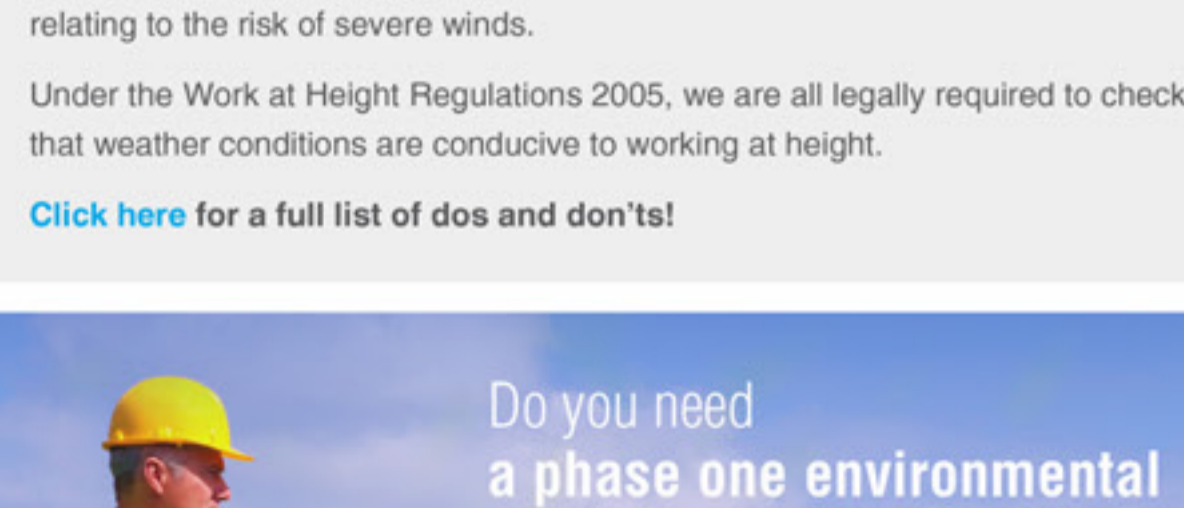
Last month, we focused on issues relating to the region's shallow coal mining legacy and once again we came across **unexpected** evidence, this time in Leeds.

We made a surprise discovery of what we believed to be **coal mining timbers** at a depth of **10 metres**, while working on a site next to the Leeds Canal.

The investigation occurred as we were drilling deep **rotary bore holes**.

#### HEALTH & SAFETY

### Working safely at height

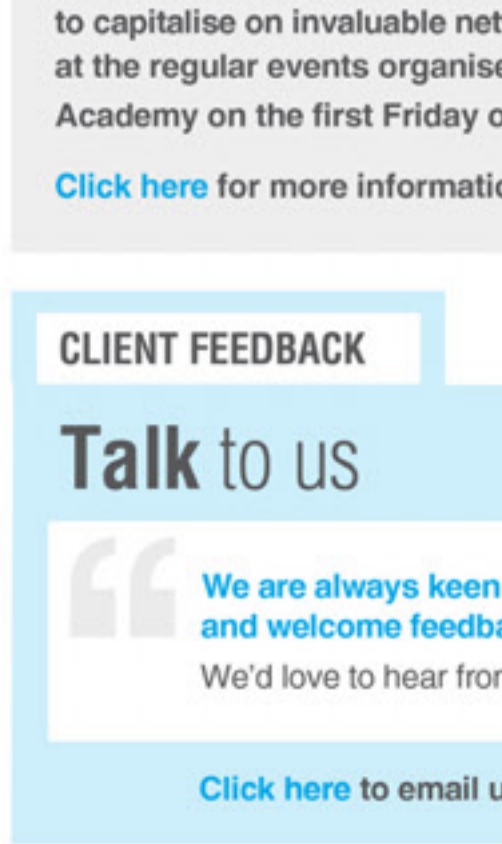


As winter approaches, the threat of storms and high winds becomes a major issue for us once again.

Health and Safety Experts, Citation, have published some very useful information for the construction, engineering and manufacturing industries relating to the risk of severe winds.

Under the Work at Height Regulations 2005, we are all legally required to check that weather conditions are conducive to working at height.

[Click here](#) for a full list of dos and don'ts!



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#### NEW BUSINESS DEVELOPMENT

### Bring it on!



Last but not least, our MD **Emma Lewis** continues to capitalise on invaluable networking opportunities at the regular events organised by Elite Business Academy on the first Friday of every month.

[Click here](#) for more information about this very useful initiative.

#### CLIENT FEEDBACK

### Talk to us

**We are always keen to hear what clients think of our service and welcome feedback from within the industry.** We'd love to hear from you.

[Click here](#) to email us your comments

For more information about your investigation requirements please do not hesitate to contact us

Telephone on 01484 604 354

[or click here to email us](#)