



REGULAR NEWS AND VIEWS FROM **ROGERS GEOTECHNICAL SERVICES**

> **INVESTING. ACHIEVING.**



Citation
PROFESSIONAL SOLUTIONS



DOUBLE TOP!

NEW KIT ON THE BLOCK

MASTERING GROUNDWATER

NEW LAB ROLE

GRANNY ROGERS' MUSINGS

CITATION SITE SURVEY

Welcome to RGS insite issue 61

Our regular newsletter celebrates more than 15 years of drilling and keeps 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.



DOUBLE TOP!

MEET OUR TWO NEW ENGINEERS

It's always a pleasure to bring new talent and experience into our teams, and this month we're delighted to introduce you to our new recruits, Geoenvironmental Engineer, **Scott Alexander** and Graduate Engineer, **Hattie Henshall**.

After graduating in 2015 from **Leicester University** where he studied interdisciplinary geology, **Scott** spent the summer working on **volcanic gas monitoring** with INVOLCAN in Tenerife. As a result of this valuable and exciting experience, he also prepared research posters and abstracts for the **European Geosciences Union General Assembly** in Vienna in 2016. Since then, he's enjoyed over five years' experience in a site investigation company in north-eastern England, where his favourite projects included **sinkhole remediations** in Ripon, **large-scale housing developments** and work on a jack-up barge on the River Tees.



Having moved from Teesside to West Yorkshire to join RGS, Scott's looking forward to developing his knowledge and career with his new colleagues and hopes to work towards **chartership** and **masters' degrees** later on. A keen sportsman, he's also eager to join local football and hockey teams once the Covid restrictions allow.

.....
Scott is suffering from a personal crisis. He's so worried about his lockdown hair that we don't have a picture to show you. Until this situation is resolved we are only permitted to show you his planned style.
.....

Passionate about **palaeontology**, **sedimentology** and **renewable energy**, **Hattie** graduated from the **University of Manchester** in 2020 with a 2:1 degree in Geology. During her A-level studies, she'd greatly enjoyed a week's work experience with RGS and she always hoped to return to the company one day as an engineer.

Her wish has now come true, and she joins several other outstanding work experience students (including **Charlotte Mason** and **Katie Wallett**) who were also employed by RGS after graduating. Hattie's now busy learning all she can about the role of a **geotechnical engineer** by tackling a wide range of tasks such as logging, phase one desk studies and laboratory work.

A keen **environmentalist**, Hattie is also an online volunteer for **Community Mapping Uganda**, mapping the country's rural areas so that a mobile orthopaedic clinic can provide prosthetic limbs to conflict survivors.



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CAREERS@RGS

Looking for an exciting new lab role?



With ever-busier schedules, we're continuing to grow our top quality team. Right now, we're looking to expand our testing and analysis capacity by employing another **Field and Laboratory Technician**.

Might you be just right for this job?

Or do you know someone else who could be the perfect fit?

You can find lots more information on the role [here](#) - and please feel free to share the information with your friends, family and contacts.

It's a great opportunity to be part of a successful, thriving company that takes pride in doing a thorough and excellent job for every client.

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WANT TO KNOW MORE?

CALL US TODAY ON **01484 604354**



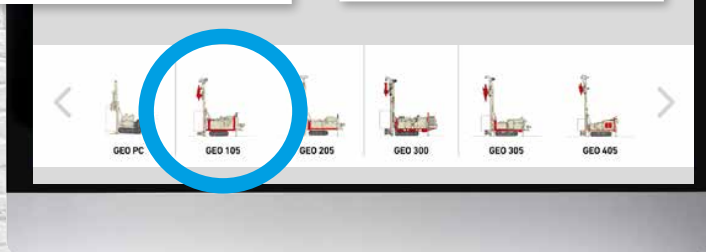
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ENVIRONMENTAL
TECHNICAL



RGS INVESTMENT

New kit on the block



We continually build our rig fleet and equipment portfolio to service a greater number and variety of sites and tasks and this month, we're taking delivery of two significant new additions - a brand new **Comacchio Geo 105 rig** and a **piston sampler**.



OUR GEO 205 IN ACTION

The Geo 105 may be smaller than our 205, but this little guy packs a powerful punch, offering us greater versatility and capability as well as boosting our capacity for multiple national projects at the same time.

In fact, it's the Geo 105's **compact size** that's key to many of these benefits. It's the perfect solution for sites with access issues, making light work of **tighter spaces, steep slopes** and **lower headroom** jobs than its big 205 brother.

On the other hand, the 105 is larger than the Dando Terrier and has a **wider capability range** in terms of **drill speed, strength and depth**. Invaluable for **rapid dynamic probing, windowless sampling** and **standard penetration testing (SPT)**, it also carries a specialised **mist pump** for rock coring which allows the use of additives and a greater choice of drilling methods.



THE DANDO TERRIER IN A CONFINED CITY CENTRE LOCATION

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OUR NEW TRAILER IS READY TO GO!

The Geo 105 arrived with us in early March, along with a shiny new, liveried trailer which is already carrying the rig to projects around the UK. One of the rig's first assignments is a job in Todmorden, where the site's particularly challenging access issues will be no trouble at all for our **agile 105!**

Increasingly in demand for larger projects, the **hydraulic piston sampler** is another important addition to our field resources.

The piston sampler attaches to a **standard percussive rig** and is used to sample **less cohesive soils** (eg sand and sandy sediments) below the groundwater table. We want to make sure samples we retrieve from these sensitive soils are truly representative, and the piston sampler's **unique action** is key to achieving this.



RGS INVESTMENT = SPEEDIER PROJECTS

Most site investigations companies subcontract these specialist augers, and they are often **hard to source**. Investing in **our own piston sampler** means that we **avoid sourcing delays for our clients** as well as maintaining this **valuable piece of kit** in tip-top condition.



WHATEVER THE SIZE, SCOPE OR LOCATION OF YOUR UK PROJECT, RGS IS ALWAYS HAPPY TO DISCUSS HIGH QUALITY, COST-EFFECTIVE SOLUTIONS.

CALL US TODAY ON **01484 604354**



Groundwater: mastering the challenge



Most types of flooding (from rivers, reservoirs, surface water and coastlines) depend primarily on **weather conditions** and occur over short periods of time. When rainfall or meltwater subsides, flood levels quickly drop.

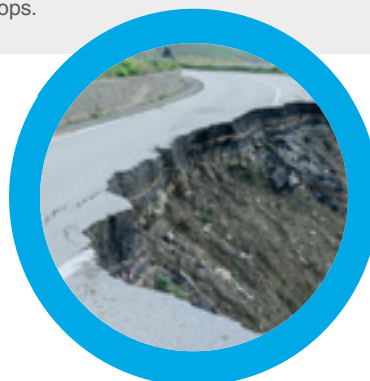
Groundwater - the water that fills pore spaces between soil particles or cracks and fissures within rocks presents a different kind of flooding threat. Always present and flowing very slowly underground, groundwater reaches a natural level, known as the 'water table'.

The **water table level** varies both seasonally (e.g. following prolonged and heavy rainfall) and in response to human 'dewatering' activity such as extraction of water for industry, agriculture and for the supply of drinking water. In addition, the variation in water table level occurs very slowly.

For example, there may be a gap of many weeks between a period of severe rain and the appearance of groundwater flooding. However, its impact can be massive, with water rising up through basements and floors, and appearing even in the most unexpected places, such as hillsides and higher ground. Furthermore, just as the flooding happens slowly, so it may last for many weeks until the water table once again drops.



**GROUNDWATER
FILLING CRACKS
IN FRACTURED ROCK**





THE CHALLENGE OF GROUNDWATER

In construction terms, groundwater is a universally important issue. As well as flood damage inside buildings, rising water table levels cause collapse settlements, swelling and shrinking in clays, soil erosion and scour (thus damaging foundations), slope failures and landslides.

But flooding is by no means the only groundwater risk. Lowering of the water table can cause the soil to consolidate, **inducing settlement**, and where soils are softer and more compressible, the settlements can be significant. Differential settlement as low as 10mm can adversely affect brickwork.

In addition, **deliberate dewatering** for construction and other projects can also cause **significant damage** to properties as far away as 250m from the extraction site.

Good dewatering practice... including **high quality site investigations**... can effectively minimise man-made dewatering hazards, but groundwater flooding is a complex problem.

While measures like flood defences and river maintenance can significantly protect areas against most flooding, traditional flood defences have little impact on the long-lasting floods caused by groundwater. The best defence by far is expert, **proactive site investigation** and **informed foundation design** to mitigate risk.

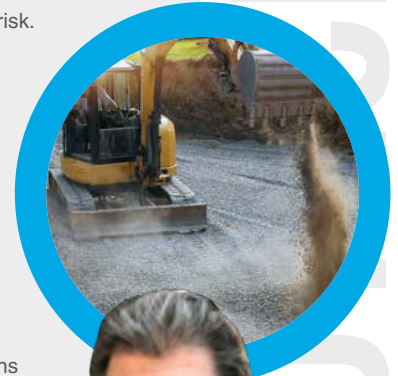
HELPING YOU SAFEGUARD AGAINST GROUNDWATER RISKS

RGS engineers are **highly trained experts** in groundwater issues. Indeed, **managing groundwater** lies at the heart of every site investigation our teams fulfil. We're specialists in the **assessment, analysis and behaviour of soils, groundwater and the interaction between them** – in other words, **the fundamental keys to successful builds**.

Our work provides the **vital data** needed to design foundations that mitigate the risks and allow the construction of **safe and stable buildings**, from the smallest home to the largest industrial plant.

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**NEED ADVICE ON A GROUNDWATER ISSUE,
OR TRUSTED SITE INVESTIGATORS FOR YOUR
CONSTRUCTION PROJECT?**

CALL OUR TEAM TODAY ON **01484 604354**
WE'RE PROUD TO COMMIT TO A THOROUGH,
PROFESSIONAL AND COST-EFFECTIVE
JOB FROM START TO FINISH.



Granny Rogers' Musings Episode 6



One spring evening, while visiting Granny Rogers at her nursing home, she decided we should **enjoy a breath of fresh air**. Sat securely in her wheelchair with her lime and fluorescent yellow blanket tucked neatly around her knees, we set off down the road.

“ After a few minutes, we came across a building site where a large crane was still at work. She asked me to stop for a while, so that she could watch what was going on. Then, she sighed, and muttered, **“Aaah... One of very few occasions when bearing capacity failure can occur!”**

I was about to ask her to explain, but she beat me to it. **“Well, my lad!”**, she declared, **“bearing capacity failure only happens when the ultimate shear strength of the soil is exceeded. In reality, this occurs only if the ground is loaded rapidly. You see, Steve, when, say, a house is being built, the foundation is loaded slowly. This means that consolidation begins well before the structure is completed”**.

Reaching into her coat pocket, she withdrew her hand to reveal two rubber bands, a used tissue and a Polo mint. She popped the Polo into her mouth, and continued, **“The consolidation effectively stiffens the ground, and this reduces the risk of bearing capacity failure. But here...”**, she wagged her finger at the offending crane, **“Here, the outrigger is loaded instantaneously. That means there’s no time for consolidation to improve the shear strength of the soil. That’s when bearing capacity failure can happen - just like that!”**

As we arrived back at the nursing home, Granny Rogers looked up at me, quizzically. **“Well, Steve,”**, she said. **“Bearing in mind what I’ve said, how would you investigate for the outrigger of a crane?”**”

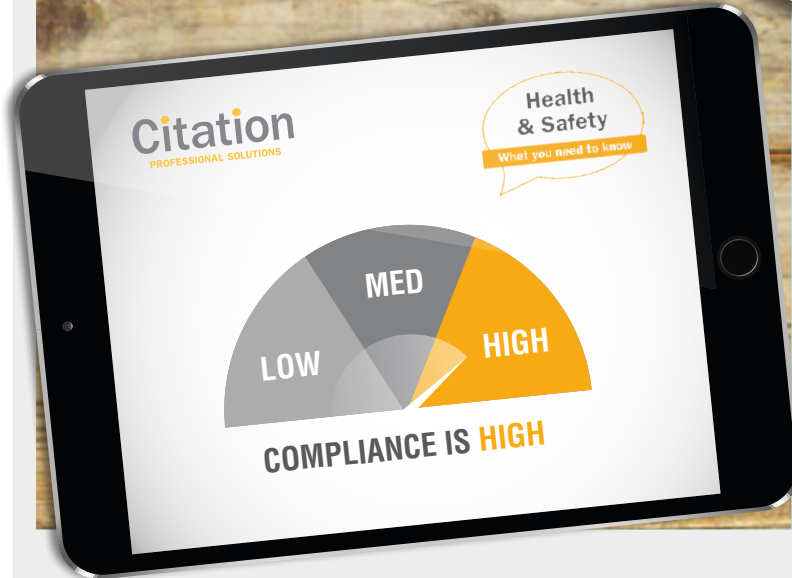
My reply - and her assessment - will appear in the next episode!





INDUSTRY STANDARDS

Citation Site Survey Results



“ Thanks to you and your team for your time last week during the remote health and safety inspection. It was a great opportunity to review what has been undertaken since the previous inspection, and good to see the **high safety standards** being maintained.

No additional actions were raised during the inspection. This is down to the **hard work put in by top management down to the operatives working onsite.** ”

Adam Nolson, GradIOSH,
Safety & Health Practitioner, Citation Ltd



The entire RGS team is committed to maintaining the highest standards.

We're understandably proud to keep receiving **wonderful feedback** from our highly valued industry assessors but complacency doesn't belong in our mindset, so **we're always seeking to go that bit further.**



Do you need a phase one environmental desk study report?

RGS STANDARD RGS PREMIUM

Contact us for more details and to discuss your options for this service

For more information about your investigation requirements please don't hesitate to contact us.

Telephone on 01484 604 354

[Click here to email us](#)

CLIENT FEEDBACK

Talk to us

“ RGS were professional and courteous throughout the whole process. Highly recommended! ”

We're always keen to hear what clients think of our service and welcome feedback from our clients, colleagues and associates.

We're looking forward to hearing from YOU!

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

