



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

> **PROTECTING. DEVELOPING.**



**SAFETY FIRST AT THE WALKWAY**

**DON'T GET YOURSELF IN A HOLE**

**DEVELOPING LAND GRANNY ROGERS**

**Welcome to RGS insite issue 67**

Our regular newsletter celebrates 18 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.



# SAFETY FIRST AT A TREETOP WALKWAY

For 13 years, a fabulous, 12m high walkway in Northamptonshire's **Salcey Forest** allowed visitors to amble above the canopy and enjoy the breathtaking views. However, in 2018, major failings were found in the timber walkway's structure.

It was quickly deemed unsafe and the Forest's guardians, **Forestry England**, closed the walkway until the repairs could be done. Since then, the impact of the Covid-19 crisis on funding streams has kept the much-admired Tree Top Walkway out of bounds.

The problems lie in the lower sections of the walkway. Little sunlight reaches these parts, and timber therefore rots more quickly. In addition, parts of the walkway foundations needed redesigning.

As soon as funding was available to resolve the walkway's issues, RGS was briefed to inspect the site and sample the soils, enabling our client to understand the ground conditions and plan their repair work.

A dense forest floor makes for challenging conditions in which to sample soils, but our agile Tracker 110 was perfect for the job. RGS **Senior Engineer, Rob Palmer**, supervised the works which included windowless sample boreholes, dynamic probe tests and soils logging, and we'll shortly be carrying out geotechnical testing in our laboratory.



**Rob Palmer**  
SENIOR ENGINEER

© WALKWAY IMAGE COURTESY FORESTRY ENGLAND

The outcome of our investigations will be a comprehensive report providing our client with clear recommendations for resolving the walkway's ground and foundation issues. Once they're completed Salcey Forest's remarkable Tree Top Walkway can once again be opened for everyone to visit and enjoy.

.....  
**WE HAVE THE SKILLS AND EQUIPMENT TO SOLVE ALL KINDS OF  
GROUND PROBLEMS, NO MATTER WHERE THEY ARE LOCATED.**  
NEED OUR ADVICE? CALL RGS TODAY ON **01484 604354**

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CONSTRUCTION HAZARDS

Don't get yourself **in a hole**...



**Charlotte Campion**  
GEOENVIRONMENTAL ENGINEER

Last month's Insite article about gypsum and the devastating impact of hidden sinkholes stirred up significant interest amongst our readers. That's why we thought you'd be keen to know about an **especially effective tool** that enables you to avoid building wherever the risk of sinkholes or other subterranean voids might lurk.

**Charlotte Campion**, one of our excellent **Geoenvironmental Engineers**, offers an insight into this application of the tool known as LIGHT DETECTION AND RANGING, or LiDAR.

#### WHAT IS LIDAR?

LiDAR is a remote sensing method which uses pulsed laser light to generate highly accurate, three-dimensional images of the Earth's surface. LiDAR systems can be either terrestrial (installed on a tripod or vehicle) or airborne (fixed to a helicopter or drone). It is the airborne systems combined with a digital elevation model that can identify subterranean features like sinkholes and mine workings.



## USING LIDAR TO DETECT UNDERGROUND VOIDS

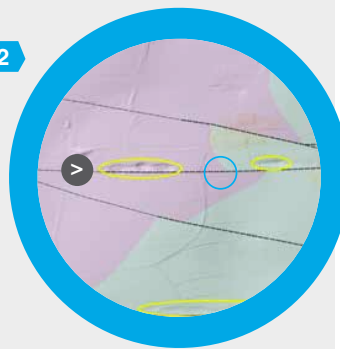
As geotechnical engineers, we use geographic information systems (GIS) to integrate different types of information (eg aerial photography and geological map data) so that we can identify and explore significant physical features on and below the Earth's surface. Adding airborne LiDAR into the mix gives us a powerful remote tool for locating hidden structures such as obsolete mining features and sinkholes. What's more, LiDAR allows very rapid and cost-effective assessment of potential risks.



**IMAGE 1** for example shows an area that long ago, was heavily worked for ironstone (mostly vein workings associated with mineralised faults). While very few records exist for these workings, GIS data begins to reveal a much clearer picture: overlaying the geological map data onto the aerial photography reveals features **>** that suggest past mining activity along the mineral vein **○** lines.

However, using LiDAR in **IMAGE 2** brings far greater 3D clarification.

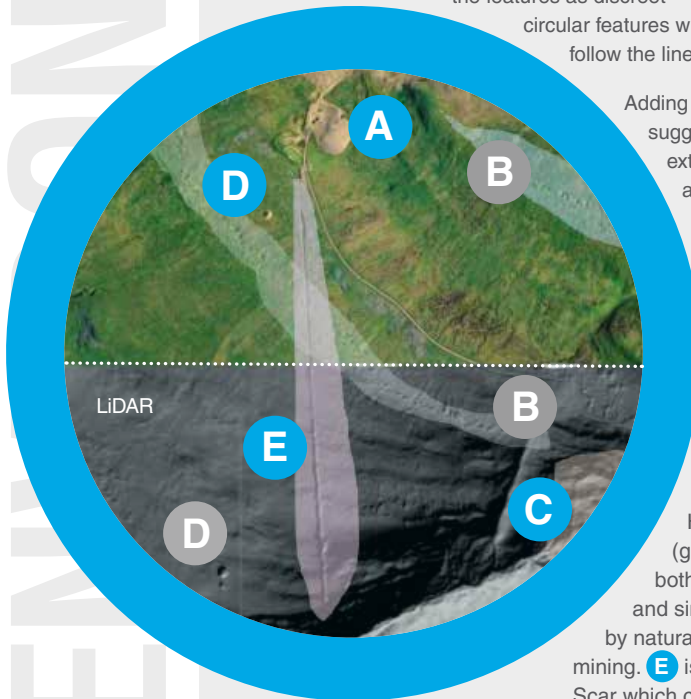
Overlaying the geological map on the LiDAR data means the potential mining features become much more distinct **>** as sub-surface depressions, with greater linearity than could previously be seen.



It's therefore likely that an assessment made using aerial photography alone will misinterpret the features as discreet

circular features which follow the line of mineral veins.

Adding LiDAR data into the mix suggests the presence of more extensively worked ground - a major hazard that must certainly be mitigated if construction is to follow.



**IMAGE 3** was taken above Silverband Mine in the north Pennines, **A** where sinkholes **B** occur above almost every unit of limestone where it meets adjacent sandstone.

Here, the LiDAR imaging (grey zone) clearly reveals both ancient mining scars **C** and sinkholes, **D** some caused by natural processes and some by mining. **E** is an ancient Mineral "Hush" Scar which cross cuts sinkholes.

**NEED ADVICE OR INFORMATION FROM OUR LIDAR EXPERTS?**

JUST GIVE US A CALL ON **01484 604354** WE'RE HERE TO HELP!



CLIENT RESOURCES

## Developing land? You need to read this...



However hard you look, the site you're developing **holds many secrets** both above and below its surface. There can be issues such as utilities, unstable or soluble soils and rocks, water sources, contamination, voids - and so the list goes on.

A **PHASE 1 DESK STUDY** identifies and assesses these and many other risks and determines a risk rating. It's an essential step in every construction project, as a **PHASE 1 DESK STUDY** is a mandatory requirement in the Planning Conditions set out by every Local Authority's Planning Department. It's also a valuable due diligence procedure before you agree on site or property purchases.

However, not all phase 1 desk studies are of equal value to you, the developer or buyer.



Many providers (both online and offline) offer very cheap phase 1 desk studies. This might seem like a bargain (“After all, it’s only a bit of paper”), but beware... Anything other than a full professional phase 1 desk study will almost certainly fail to provide the data and detail you need in order to avoid costly incidents, delays and even disasters, sooner or later. Besides, should the information in your desk study fall short of the Local Authority’s planning requirements, you will have no alternative than to buy a suitable professional phase 1 desk study in its place.

We urge you to ‘do it right first time’ and ask a **professional geotechnical engineering company such as RGS** to provide your **PHASE 1 DESK STUDY**: that way, you can be sure of a comprehensive and expertly researched report. As our clients know, at RGS we’re always proud to go the extra distance to delight our clients, so you can be confident that an **RGS Phase 1 Desk Study gives you the best possible information and value.**



To find out more about our professional phase 1 desk studies for both buying and developing property, click here to take a look at

[RGS Helpsheet Phase 1 Desk Studies](#)

**PROTECT YOUR PROJECT, YOUR PEOPLE AND YOUR PROFITS  
WITH A FULLY COMPREHENSIVE DESK STUDY FROM RGS.**

TALK IT THROUGH WITH THE EXPERTS ON [01484 604354](tel:01484604354)

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THE ROGERS ARCHIVE

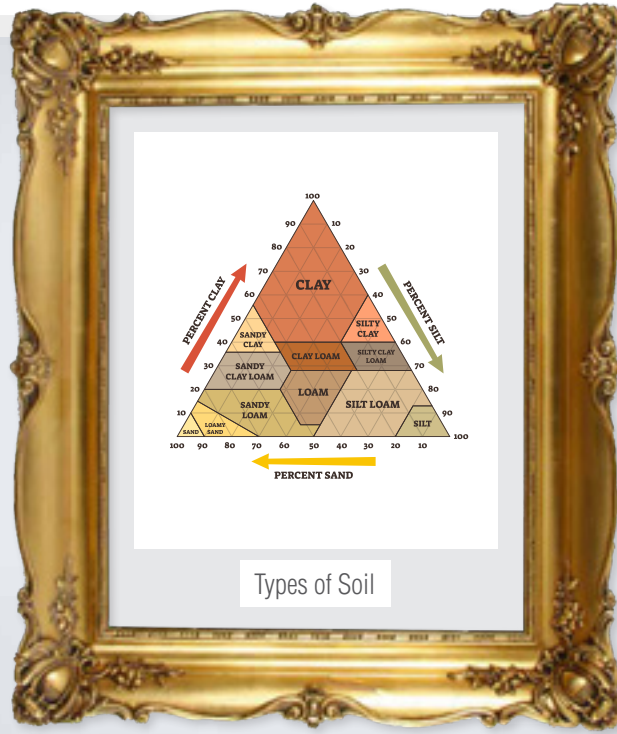
## Granny Rogers' Musings: Episode 11 British Standards



I well remember one day when, as a lad of six years old, I'd been left in the care of Granny Rogers. This was nothing unusual and I loved spending time with this **wise** old lady.

However, that particular day, something had clearly irked her and she seemed to be in a rather bad mood.

“ I asked what was troubling her (my vocabulary was unusual for one so young), and she gave the book she was reading a sharp tap. “**Steve**,” she snapped, “**It seems to me that the ‘powers that be’ are trying to stifle innovation. The author of this book is attempting to standardise soil, which we all know is infinitely variable!**” I felt this might be a good moment to make myself scarce, so I popped into the kitchen, made a pot of tea and loaded a plate with Jammie Dodgers. ”



Types of Soil



“ Returning to the front room with my peace offering, Granny Rogers seemed pleased and gave me one of her radiant and toothless smiles. She placed the book carefully on the coffee table and, still smiling, poured our tea. Glancing at the book, I saw that it was entitled **CP2 Ground Investigation** and dated 1957.

Noting my interest, Granny Rogers sat back and, looking at me intently over the top of her glasses, she said, **“A geotechnical engineer should always understand the theory from first principals. You see Steve, British Standards and codes of practice will, over time, develop and change, but the theory remains constant.”**

Now at the end of my career, I understand exactly what my insightful old Granny meant. While we need to understand the new codes and embrace the standardisation of approach, these elements must never replace deep understanding.

If Granny Rogers were alive today she'd have said, **“Less Google and more thought is the order of the day - always!”** ”

Steve Rogers





## Do you need a coal mining risk assessment? [CMRA]



Contact us for help, advice  
and hassle-free service

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

Telephone on [01484 604 354](tel:01484604354)

[Click here to email us](#)

### CLIENT FEEDBACK

## Talk to us

“ The RGS team has been brilliant: their service is seamless  
and efficient. We'll definitely use them again! ”

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.

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