



Utilising specialised machinery, numerous holes are drilled in a defined pattern which are then loaded with high explosives and detonated using sophisticated electronics for precise timing to maximise rock breakage and control direction.

# Having a Blast at Mountsorrel Quarry

Blasting plays an essential role in how we extract granite at **Mountsorrel Quarry** – but modern methods are very different to those used in the past. Today, it is one of the most carefully planned, monitored and regulated parts of our operation. By **Aaron Laycock**...

**T**his month, we look at how blasting works, how we manage its impact, and how you can share your experience as part of a new local survey.

## WHAT IS BLASTING AND HOW DOES IT WORK?

As granite is an extremely hard rock, we must expose it before we can extract it. This involves removing layers of soil, clay and weaker rock that sit above the granite (known as overburden) using excavators. Once the granite is exposed, we drill a series of holes into the surface. These holes are then charged with carefully measured amounts of explosives and detonated in a controlled sequence.

Modern blasting allows us to fire multiple charges just milliseconds apart. This technique improves the efficiency of the blast and minimises ground vibration in the surrounding area. Each blast creates a pile of broken granite that can then be collected, transported, and processed.

## BLASTING THEN AND NOW

Blasting has evolved significantly over time. Early quarrying relied on explosives such as black powder and dynamite, typically ignited using simple fuses with limited control over timing and performance. Today we use Ammonium

Nitrate Fuel Oil (ANFO), a safe and stable explosive widely used across the industry.

Mountsorrel Quarry has also hosted ceremonial blasts over the years, including one involving actor Robbie Coltrane, best known for playing Hagrid in the Harry Potter films.

## MONITORING AND MANAGING VIBRATION

Every blast must comply with strict environmental and safety standards, including those set by the Health and Safety Executive and Leicestershire County Council. We must also blast within defined parameters as set out in our planning permission. These limits are measured according to ground vibration (Peak Particle Velocity) and air pressure waves (Air Overpressure (AOP)). Ground vibration relates to movement through the ground, while air overpressure is the pressure wave that can sometimes be heard or felt in the air following a blast. To ensure compliance, we monitor these levels at four fixed points around the site and also deploy a mobile monitoring unit to the closest residential property for every single blast.

There are a number of factors that may influence how a blast is experienced locally, including the location of the blast within the quarry and weather conditions such as wind direction and humidity. These can

make blasts feel more noticeable, even when levels remain the same. We have never exceeded the planning authority's vibration limits and our typical readings fall well below the threshold. All of our blasting activity is governed by a Blast Vibration Monitoring and Management Plan, which is reviewed by the County Council every five years.

## HAVE YOUR SAY ON BLASTING

While monitoring equipment provides us with detailed data, it is equally important for us to understand how blasts are experienced by people living nearby. That is why we are inviting residents to take part in a short blasting survey. The survey is part of a wider research project, BlastWAVE, led by Ground Engineering Applied Research Services (GEARS), with the University of Liverpool acting as an independent reviewer. By taking part, you can share general observations or raise specific concerns. This feedback will be compared alongside monitoring data to help us identify opportunities to further reduce disturbance. You can access the survey by scanning the QR code or visiting our website.



## KEEPING YOU INFORMED

We aim to blast at 12:30 each day, but this isn't always possible. If timings change, we let residents know in advance via our dedicated email list. If you'd like to sign up, email us at **mountsorrelquarryfeedback@tarmac.com** You can find out more about what goes on at Mountsorrel Quarry by visiting **Mountsorrel.tarmac.com**

If you would like to contact the team, please email **mountsorrelquarryfeedback@tarmac.com**