

The material quarried by Nucrush at Oxenford is a very large, single mass of hard rock called Metagreywacke.

Blasting is required to break this solid mass into more manageable pieces. A percentage of these pieces are suitable for crushing into various sized rocks or aggregates. Some of the larger boulder sized rocks are not processed and are used for large structures such as sea walls and rock retaining walls.

Before blast



Blasting - A job for the professionals

The blasting process is a highly skilled and specialised task. Nucrush entrusts this job to Maxam, a highly experienced, world-wide leader in the field of blasting and explosives.

Blasting takes place at Oxenford around once a month and in a typical blast, around 45,000 tonnes of rock is broken in a sequence that lasts just one second.

In designing each blast, Maxam carries out a laser scan of the quarry face to create a 3D survey.

This determines the best drilling pattern for the holes that will ultimately be filled with explosives. As many as 100 holes can be drilled over a period of seven days before the blast. The holes are filled with an

explosive called Rioflex, a watergel bulk explosive that looks a bit like porridge.

Electronic detonators are also inserted into the drill holes and are used to trigger a series of rapid explosions timed to minimise the noise, dust and vibration. No explosives are stored at the Oxenford quarry. The explosives used in the blasting process are made active moments before the blast takes place.

Environmental Issues

Air over-pressure, noise and ground vibrations are carefully monitored during all blasts at the quarry. The key to an efficient and environmentally

acceptable blast is good planning.

Nucrush works closely with Maxam to extensively plan and coordinate all the elements of a blast.

Sound Advice

Technically speaking, part of the noise you hear after a blast is called 'air over-pressure'. It is, like all sounds, actually a wave of air moving towards you.

By using monitoring equipment, Maxam is able to convert the noise / air over-pressure into a familiar decibel reading.

After blast



The quarry has an operating license from the Environmental Protection Authority (EPA), an independent government agency. The EPA sets out the noise and vibration standards that have to be met during blasting.

Nucrush complies with all standards set by their regulating authorities.

We monitor our blasts at one site within the quarry as well as at four external sites, which is over and above the requirements set by the EPA.

Confusion Cleared

Many people are confused by air over-pressure and ground vibration.

There is sometimes a misconception that the ground is moving after a blast and that this might damage the structural foundations of houses.

The movement you sometimes feel is caused by a wave of air sent off by the blast (air over-pressure) and not the ground vibrating.



Before blast

The EPA sets standards to ensure that quarrying is carried out in a safe manner and within safe distances from housing. A common misconception in areas close to quarries is that the cracks that appear in the homes are as a result of the blasting.

A common reason for these cracks is the natural settling and movement of the house foundations which have been disturbed by the building of the house.

It can take many years for the ground to become fully settled, especially in housing developments where there was extensive earthmoving to create the house blocks.

During this time, cracks can appear. Another common cause is sustained periods of drought or rain which can cause the earth beneath a house to shrink or swell substantially.



After blast

These are all common issues house owners have to deal with and are seen in new housing developments across the Gold Coast.



This information was produced by Nucrush Pty Ltd, part of the Neumann Family Group of Companies.

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