

## Waihi North Project

# BLAST VIBRATION

### OVERVIEW

As part of the mining process, explosives are used to break the rock so that it can be easily excavated and transported. These blasts cause vibrations that travel through the ground away from the blast, like waves from a stone thrown into a pond. This is referred to as blast vibration. Blasting required as part of the Waihi North Project would be subject to a number of conditions that appropriately combine the requirements of protecting the amenity of the residents of Waihi and preventing damage to buildings or disturbance of the natural environment in other areas, whilst also allowing for a scale of drilling and blasting appropriate for mining.

### KEY EFFECTS

If consent is granted for the Waihi North Project, blasting would take place in the proposed Wharekirauponga Underground Mine, during construction of the Interconnecting Ore Transport and Dual Decline Orebody Access Tunnels, and within the Gladstone Open Pit. The maximum blast vibration levels permitted at Waihi's existing mining operations are specified in consent conditions and similar conditions are expected for the residential areas of the Waihi North Project. The conditions are set to respect resident amenity and are well below the levels known to cause either superficial or structural damage to buildings or disturbance of the natural environment. Vibration conditions for areas of the natural environment will also be required to protect values in those areas.

### MEASURING VIBRATIONS

OceanaGold Waihi uses extensive vibration monitoring and management systems which are aligned with international best practice.

Fixed monitoring stations are currently located at strategic, approved sites within residential areas. Portable vibration monitors can also be used to collect additional data.

The amount of vibration is measured in velocity (mm of movement per second), and is related to the explosives used in each blast hole and the distance from the blast. The closer to the blast, generally the greater the vibration.





## MANAGEMENT MEASURES

A Vibration Management Plan would be developed. This plan would set out procedures for designing, managing, monitoring, and reporting all blasts. It would also set out procedures for ensuring compliance with any stated consent conditions, and for responding to concerns or complaints from the public.

OceanaGold Waihi would comply with the consent conditions by applying practices such as:

- Blast designs and explosive charge weights to meet consent requirements.
- Optimising charge weights to achieve required fragmentation.
- Timing of explosive holes to minimise vibration.

We would apply an effects management hierarchy to ensure that any adverse effects associated with the Waihi North Project are managed appropriately.

Before commencing any works in the Forest Park, we will carry out detailed site ecological surveys, focused on mapping the presence or absence of key flora and fauna species known to occur within our local area.

Our objective is to achieve no net loss of ecological values as a minimum outcome, and to achieve an enhancement of ecological values where appropriate and practicable.

Blasting effect mitigation measures may include:

- The protective consent limit of 95% compliance with a blast vibration level of 5 mm/per second within the Gladstone Open Pit.
- In the Gladstone Open Pit, a restricted blast window between 7 am and 9 pm from Monday to Friday, Saturday 7 am to 12 midday, with no blasting on Sundays or public holidays.
- The protective consent limit of 95% compliance with a blast vibration level of 5 mm/per second when constructing the Interconnected Transport Tunnel.

- The protective consent limit of 95% compliance with a blast vibration level of 15 mm/per second within the Forest Park.
- A blast warning system via a device that provides an audible alarm, provided by OceanaGold Waihi to residents, schools, or businesses within residential areas near operations, if desired.
- Daily notifications to residents, schools, or businesses within operational project areas if blast activity is planned for that day, provided via email, SMS text, or phone call, if desired.
- Blast results published on websites.
- The Amenity Effect Programme (AEP), which aims to offset a perceived loss of amenity due to mining activities, will be available to qualifying residents.

## CONCLUSION

The proposed controls on blasting as part of the Waihi North Project represent a set of criteria that would appropriately combine the requirements of protecting the amenity of the residents of Waihi and preventing damage to buildings or impacting the natural environment, whilst also allowing for a scale of drilling and blasting appropriate for mining.

## HOW TO FIND MORE INFORMATION

OceanaGold Waihi is committed to a long-term partnership with the community, and it is important to us that you have reliable information about what we are proposing and what it means to you.

This information sheet has been designed to provide a brief overview of blast vibration effects relating to the Waihi North Project. Much more detail is available on other topics by visiting our website or contacting us directly.

INFORMATION ACCURATE AS AT JUNE 2022

IF YOU HAVE AN IDEA, CONCERN OR QUESTION, WE WANT TO HEAR FROM YOU.

You can contact us via our website; [waihinoth.info](http://waihinoth.info) or visit our Project Information Office; **86 Seddon Street, Waihi.**

Our Free Community Engagement Line **0800 924 444** is available 7 days.