



Vibration Summary Report

First Quarter 2024



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Summary

- Results from the Envirohub vibration monitoring system for the first quarter of 2024 are reported for the Favona, Trio, Correnso, SUPA and Project Martha Underground Mines.
- Development and production blasting continued in the Martha Underground component of Project Martha. There were no blasts in Correnso. Mining in Favona and Trio has ceased.
- Compliance for Project Martha/SUPA blasting was achieved during the quarter. The maximum vibration recorded during the quarter was 5.92 mm/s at the Pensioner Flats monitor.
- During the quarter, there were two high-level blast events (>5mm/s). The first, 5.10mm/s, was recorded at Pensioner Flats on the 22/01/2024 and the second event, which measured 5.93 mm/s, was recorded at the same location on the 05/02/2024.
- Nine vibration-related complaints were received during the reporting period, compared to one received from the previous quarter.
- The total number of blasts (761) was less than the previous quarter (888). The number of blast events was higher than the previous quarter (186, cf. 159 in the previous quarter).

1. Introduction

This report documents vibration measurements and assessments to meet the requirements of:

- a) HDC Land Use Consent 85.050.326E (Condition 24) for the Favona Underground Mine.
- b) HDC Land Use Consent RC - 15774 (Condition 9) for the Trio Underground Mine Project.
- c) HDC Land Use Consent RC – 202.2012 (Condition 22 (f)) for the Correnso Underground Mine.
- d) HDC Land Use Consent RC – 202.2016 (Condition 14 (f)) for the Slevin Underground Mine (SUPA).
- e) HDC Land Use Consent LUC – 202.2018.557 (Condition 53) for Project Martha. (Note: RC – 202.2017 (Condition 18 (f)) for the Martha Drill Drive Project (MDDP) has been subsumed by Project Martha.)

As agreed between OceanaGold and HDC these reports summarise vibration results and general performance of the monitoring system over calendar quarters rather than the dates set out in the consents.

2. Equipment

“Envirohub™”, the vibration monitoring system, has been used for reporting purposes, providing real-time monitoring, recording and review of results on a website. Access to the website is controlled, with permissions for review provided to HDC staff and OceanaGold users. The system is currently set with trigger levels at 0.75 mm/s for all operations.

The Project Martha vibration monitoring network comprises 13 monitors (some shared with the Correnso network). Any blasts fired during the period (highlighted in red) and the monitor locations are shown in Figure 1. SUPA utilises some monitors from the Correnso network and some from the Project Martha network, with the data incorporated into a database shared with Project Martha.

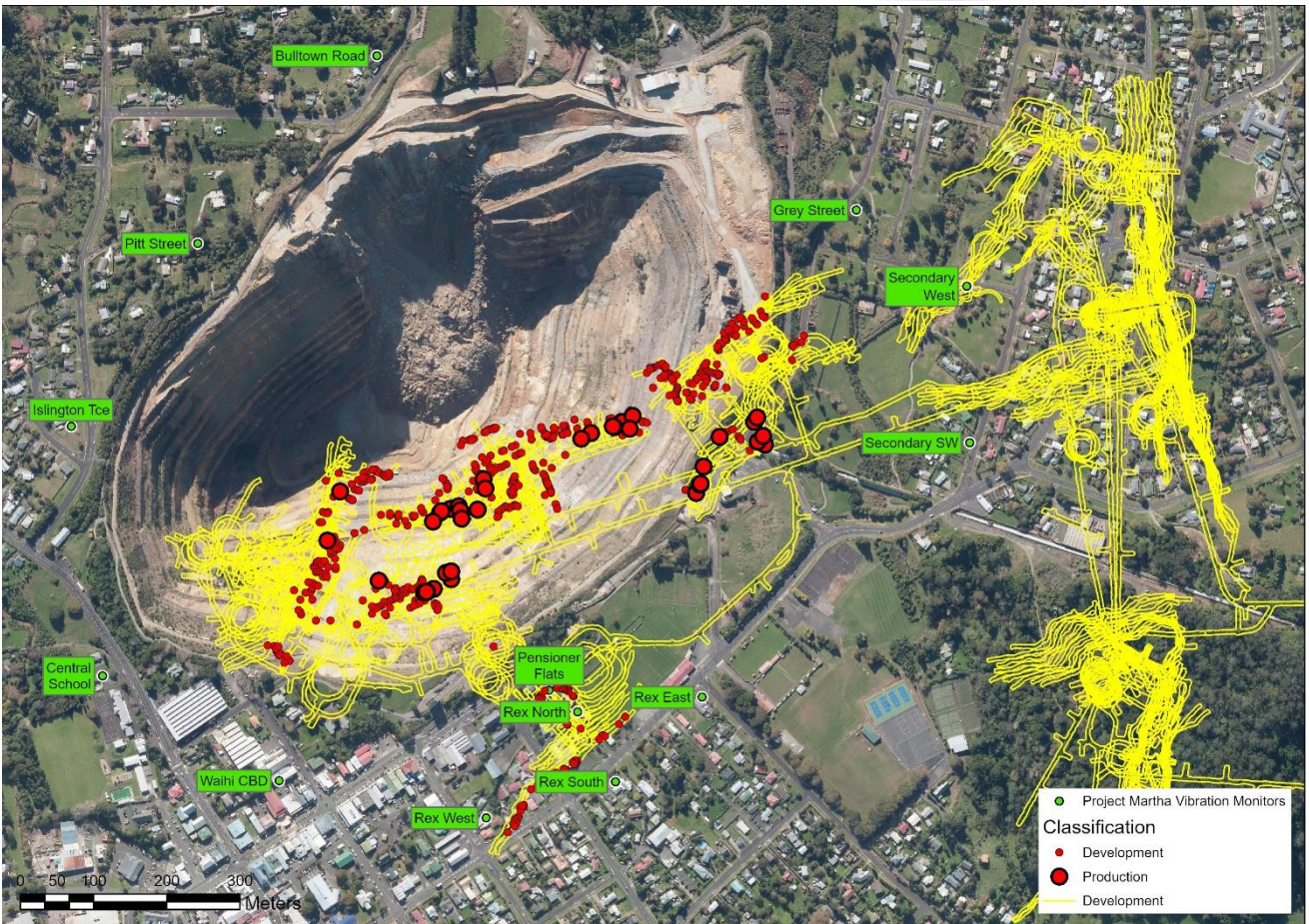


Figure 1. Vibration Monitor & Blast Locations – Project Martha / SUPA

Note: Larger icons indicate production blasts

The Trio Underground Operations have four compliance monitoring locations situated at Boyd Rd, Clarke St, the Coreshed (Barry Rd) and the Scout Hall (Baker St). In addition to these, one other monitoring location is located near the Trio vent shaft (Trio VS). The Moore Street monitor and infrastructure has been removed due to housing development on the site. As there is currently no mining being undertaken in the Trio Project area, vibration monitors are not installed at these locations, but the infrastructure remains so monitors can be reinstalled should work in the Trio area recommence. Monitoring locations are shown in Figure 2.

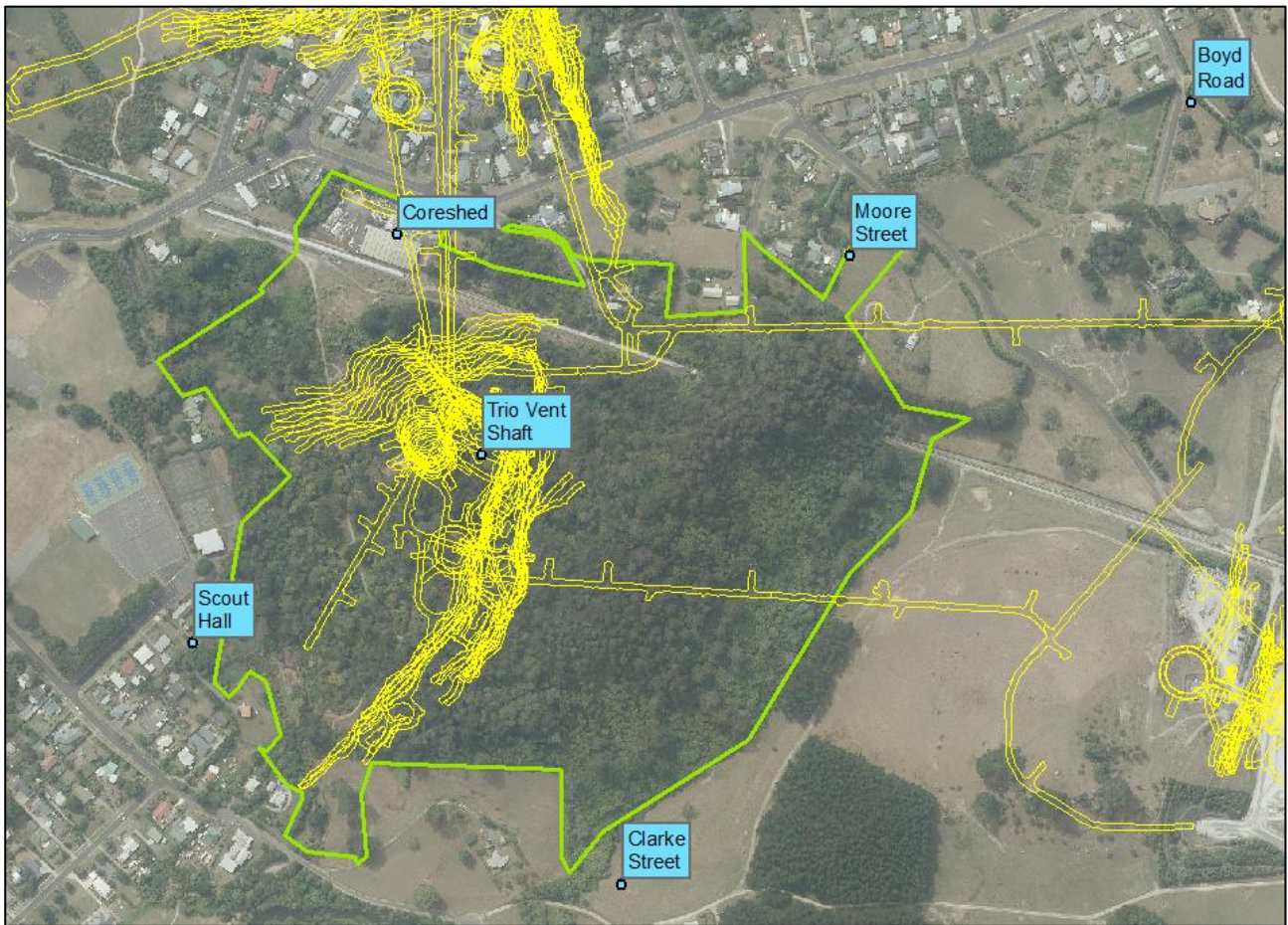


Figure 2. Vibration Monitor Locations – Underground Operations (Trio)

The Correnso Underground monitoring network comprises 7 permanent vibration monitors (previously 10). Approval from HDC was obtained to discontinue monitoring at 3 locations within the Correnso network in 2022. Current monitor locations are shown in Figure 3.

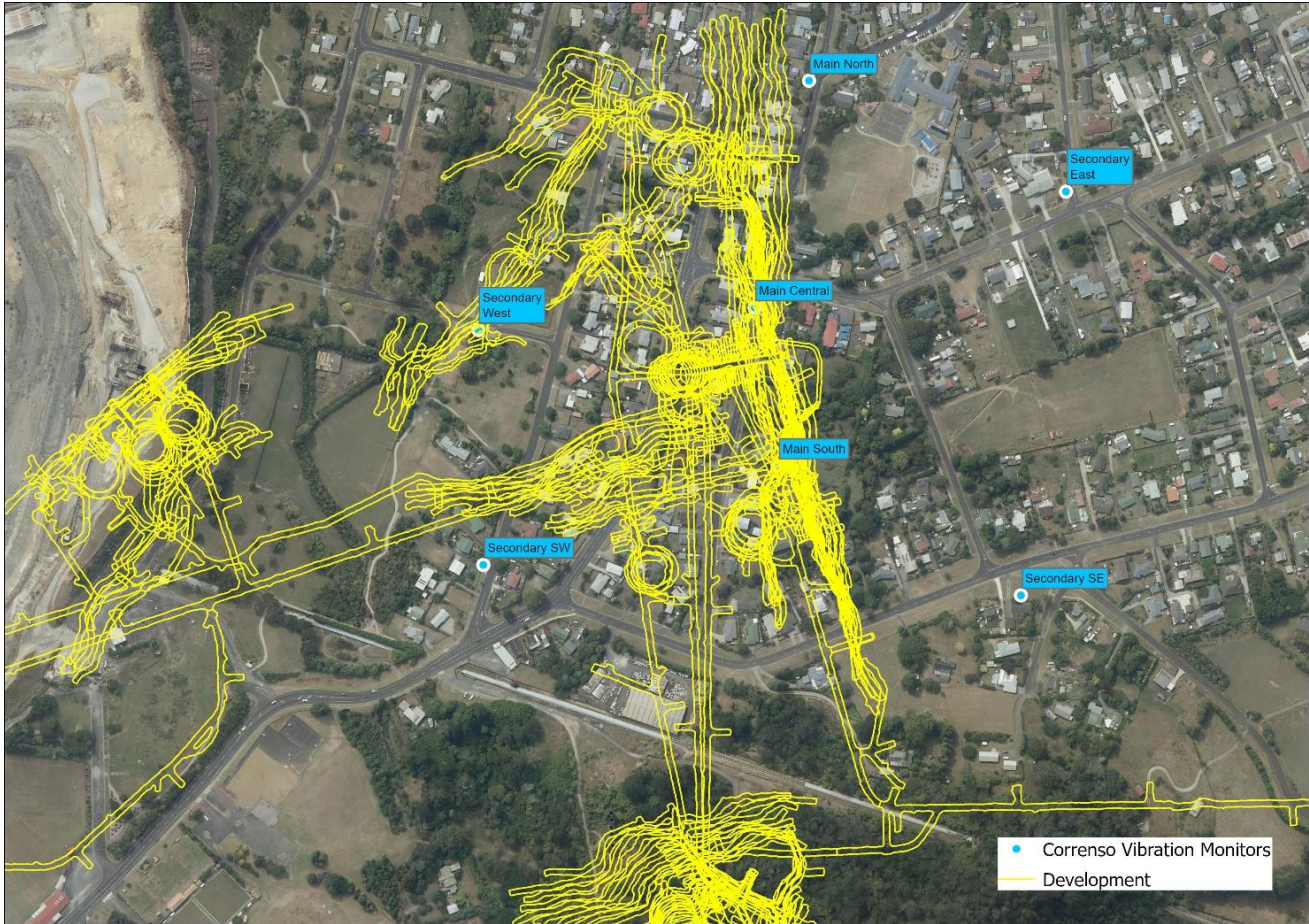


Figure 3. Vibration Monitor Locations – Correnso

3. Calibration

Calibration of monitoring equipment, including the roving monitors, is completed on a six-monthly rotation to allow enough coverage of vibration monitoring while calibrations take place. A six-monthly calibration run was completed in Q4 2023. Calibration certificates can be viewed on Envirohub; refer to the monitoring results during those periods. The calibrations were undertaken by the Saros Group Pty Ltd in Queensland and conducted in accordance with AS/NZS ISO9000-2000 and AS ISO/IEC17025-2005 quality standards.

4. Compliance Assessment

Table 1 sets out the consented compliance limits for blast magnitude (peak particle velocity - vector sum) for Correnso and Martha Underground, and the corresponding vibration results, reported as of the last day of the quarter (31 March 2024). Compliance with all limits was met throughout the quarter. There have been no blasts in Correnso during the previous six months, therefore no average or 95% calculations can be made.

Table 1. Compliance Assessment Table for Correnso and Martha Underground/SUPA Q1 2024

	Consented Compliance Limit	Q1 Results - Correnso	Q1 Results - Martha Underground
Development 95%*	5 mm/s	No blasts	2.39 mm/s
Development Average*	2 mm/s	No blasts	0.85 mm/s
Production 95%*	5 mm/s	No blasts	3.19 mm/s
Production Average*	3 mm/s	No blasts	1.01 mm/s
Maintenance/Safety	1 mm/s	No blasts	No blasts

* Six month rolling limit; data is presented as at the end of the quarter

4.1 Martha Underground/SUPA

186 blast events occurred in Martha Underground during the reporting period (cf. 159 in the previous quarter), with 81 events triggering compliance monitors.

Of the 761 individual blasts during the period:

- 717 were development blasts
- 44 were production blasts

The peak vibration levels for Martha Underground Operations (both production and development) during the quarter are shown in Figure 4 below.

Development:

- The highest six-month average¹ for development blasting at a compliance monitor was assessed as 0.85 mm/s at the Pensioner Flats monitor, below the consent limit average of 2mm/s.
- The development six month rolling 95 percentile¹ for all locations was assessed as 2.39 mm/s, below the 5mm/s limit.
- Two Martha Underground blast events recorded vibration levels above 5 mm/s during the period. 5.10mm/s was recorded at Pensioner Flats on the 22/01/2024 and 5.93 was recorded at the same location on the 05/02/2024. Both results were investigated, attributed to Development blasts in the event, and reported to Council on 26/01/2024 and 12/02/2024 respectively.

Production:

- The six-month average¹ for production blasting at a compliance monitor was assessed as 1.01 mm/s at Pensioner Flats, below the consent limit average of 3 mm/s.
- The production six-month rolling 95 percentile¹ for all locations was assessed as 3.19 mm/s, below the 5mm/s limit.
- No Martha Underground production blast events recorded vibration levels above 5 mm/s during the quarter.

Three blasts were fired outside of the preferred time windows specified in the Vibration Management Plan during the quarter. No maintenance/safety blasts were required in Martha Underground during the period and there were no blasts on Sundays or public holidays.

¹ Data is presented as at the end of the quarter

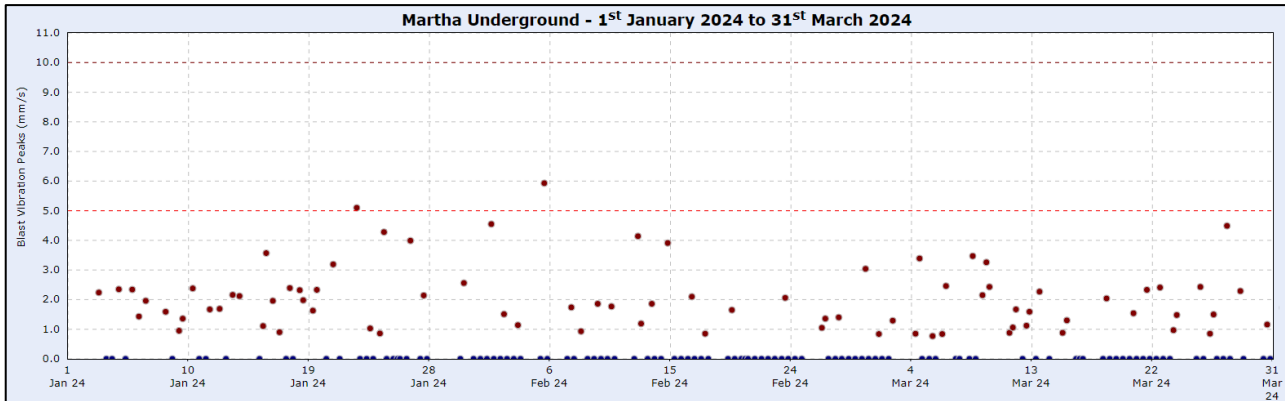


Figure 4. Maximum Peak Vibration Levels (Production and Development) – Martha Underground/SUPA Operations

4.2 Underground (Favona & Trio) Operations

Mining plans for Trio were exhausted in the first quarter of 2020, and no blasting occurred during the reporting period. Likewise, no blasting was undertaken within Favona.

4.3 Correnso

No blasts were undertaken within the Correnso Project area during Quarter 1 of 2024.

5. Blasting

The 186 blast events during the period was a increase compared to the previous quarter (Table 2).

Table 2. Quarterly blast events

Operation	2 nd Quarter 2023	3 rd Quarter 2023	4 th Quarter 2023	1 st Quarter 2024
Martha Underground/SUPA	132	145	159	186
Underground (Trio)	0	0	0	0
Correnso	0	0	0	0
Total	132	145	159	186

**Some blasts have in the past occurred simultaneously with blasting in other operational areas and do not contribute to the total number of blast events. Trio and Correnso events would only contribute to the total when they are independent of Martha Underground.*

Multiple blasts are often fired during the one blast event. There were 761 sub-blasts initiated within the 186 blast events during the reporting period (Figure 5).

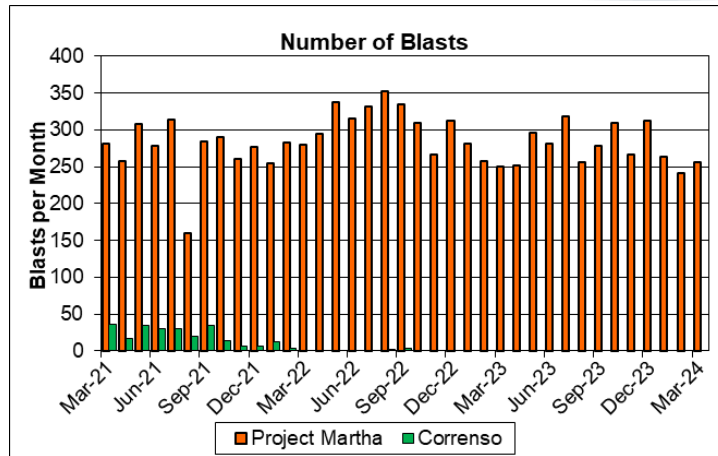


Figure 5. Number of Blasts (Project Martha and Correnso)

6. Complaints

There was a significant increase in vibration-related complaints compared with the previous quarter; nine complaints were received during Q1 2024, up from only one recorded in Q4, 2023. (Figures 6 & 7). The complainants reported an increased level of intensity and frequency in blasting; however, this is not supported by the data. In the past heightened media attention has resulted in increased community engagement. We speculate that Fast-track, the Martha Mineral Rezoning, and AEP payments may be a factor in the complaints.

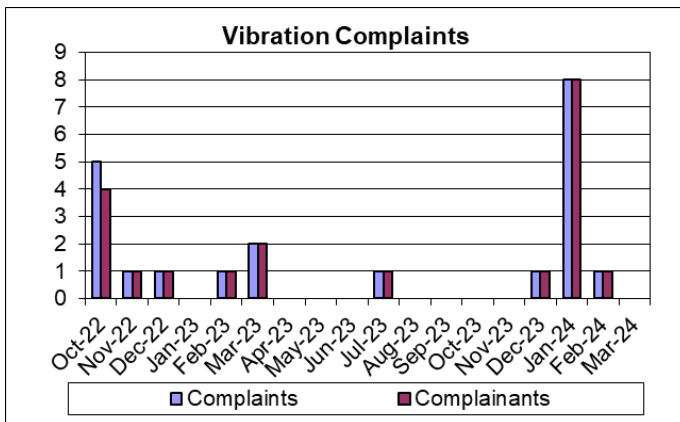


Figure 6. Number of Complaints & Complainants

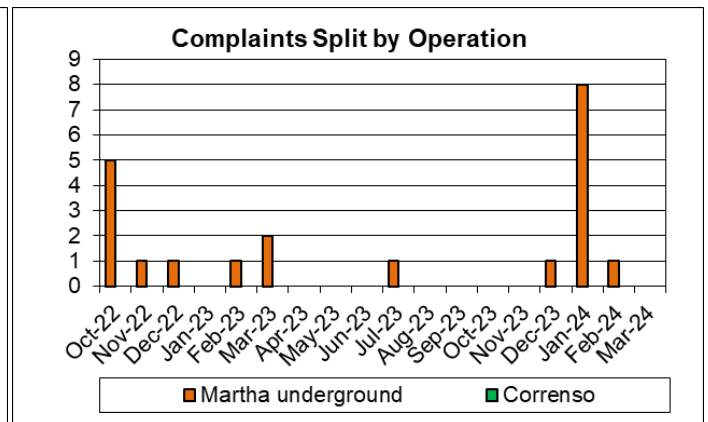


Figure 7. Complaints by Operation

7. Vibration and Complaint Management

7.1 Roving Monitoring

No roving monitoring was required or undertaken during the quarter.

7.2 Mitigation Actions

On review following the two high level blast events during the quarter, the following mitigating actions are now in place:

- Blast hole charge lengths are to be reviewed to ensure that blast holes in ground that could lead to confinement are appropriately controlled.
- Blast hole charge lengths will be reviewed to ensure that blast holes in ground that could lead to sympathetic detonation are appropriately controlled.