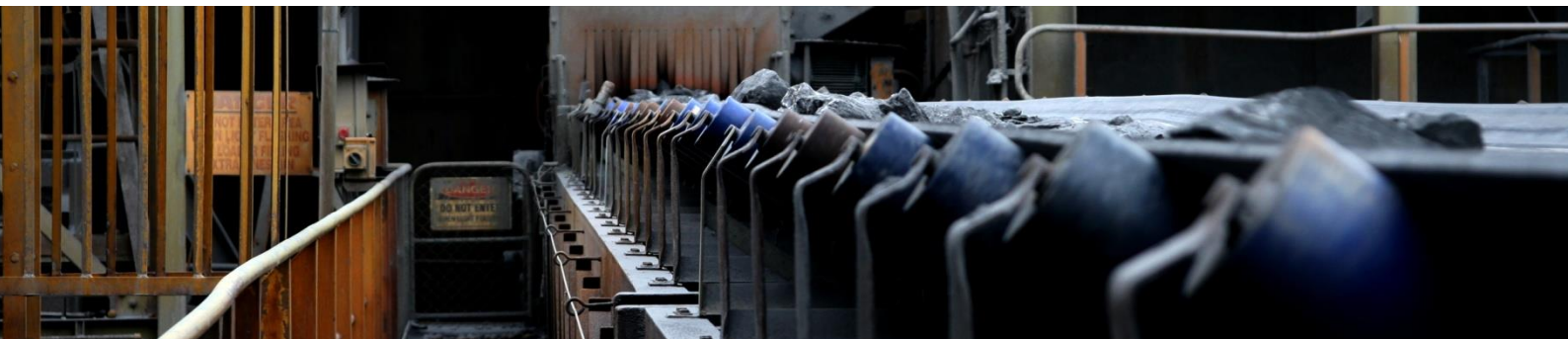




NOISE, AIRBLAST AND VIBRATION MONITORING PLAN

MACRAES MINE

June 2016



Revision History

Revision N°	Prepared By	Description	Date
A	Jenny Autridge	Initial Draft	20 Oct 2011
B	Elyse Greer	Reviewed	25 Jul 2013
C	Scott Mossman	Reviewed and updated to include Coronation	7 July 2014
D	Lauren Arnold	Reviewed	1 June 2016

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1 Purpose

1.1 Background

This Noise, Airblast and Vibration Monitoring Plan (NAVMOP) has been prepared pursuant to Oceana Gold (New Zealand) Limited's (OceanaGold) land use consents LRC 201.2011.35 (Macraes Phase III Expansion Project), and Joint LRC 201.2013.360 and LUC-2013-225 (Coronation Project).

The purpose of this Noise, Airblast and Vibration Monitoring Plan is:

To facilitate the avoidance, remediation and mitigation of any adverse effects of noise, airblast or vibration generated from mining activities and to promote proactive solutions to the control of noise, airblast and vibration from the site.

The NAVMOP includes information on the following

- The sources of noise, airblast or vibration at the Macraes Gold Project
- Noise, airblast and vibration mitigation and prevention measures
- Monitoring methods
- Mechanisms for remediation of adverse effects (should this be required)
- Methods for managing complaints regarding noise, airblast and vibration and keeping records related to compliance
- Key personnel responsible for implementing the NAVMOP.

The NAVMOP is intended to be a working document and as such information included is expected to be regularly reviewed and revised as mining activities progress. Any revisions will be forwarded to the Waitaki District Council.

1.2 Objectives

The objectives of this monitoring plan are:

- To describe current and proposed noise, airblast and vibration management methods and procedures;
- To enable OceanaGold to operate in full compliance with resource consent requirements; and
- To describe the noise, airblast and vibration monitoring regime and reporting of results.

2 Background

2.1 Description of Activity

The key features of the Macraes Phase III and Coronation consents that are relevant to the Noise, Airblast and Monitoring Plan are:

- The extraction of minerals and overburden by mechanical means including blasting within the open pits;
- The transport, treatment and processing of extracted minerals;
- The stacking, deposit and storage of substances considered to contain any mineral from mine workings;
- The construction, maintenance and use of a haul roads around the mine site
- The de-commissioning, rehabilitation, de-construction or dismantling of the mine and of any structures and works resulting from mining activities.
- The construction, operation and maintenance of silt ponds and silt control facilities necessary for controlling runoff from mining operations.

Associated technical reports supporting this monitoring plan include:

1. Assessment of Noise Effects, April 2011 (Hegley Acoustic Consultants);
2. Macraes Phase III Vibration and Airblast Assessment, March 2011 (Orica Mining Services);
3. Coronation Project- Assessment of Noise Effects, May 2013 (Hegley Acoustic Consultants); and
4. Mining Vibration Assessment- Coronation Project, April 2013 (Nick Elith, Blasting Consultant).

2.2 Description of Site and Local Environment

2.2.1 Site Description

The OceanaGold mine is located in a rural area that is dominated by the existing mining activity and low intensity pastoral farming. Macraes Village, a small village that includes approximately 20 houses and a historic hotel is located to the west of the mining area.

The mining area extends to the north and south of Macraes-Dunback Road and includes the Golden Bar Pit 7.5kms to the south. Coronation Pit and associated waste rock stack (WRS) extend the mining area to the north of Horse Flat Road. The mining area (excluding Golden Bar and coronation) is shown on Figure 1. The Coronation project is shown on Figure 2.

The minesite occupies an area of land of approximately 1500 hectares.



Figure 1: Map showing the Macraes Gold Project excluding Coronation

2.2.2 Local Environment

The land in the vicinity of the mine is rural and the dominant land use is farming. The topography of the mining area is dominated by the large WRSs and mine pits. The land that includes the existing mining operation is owned by OceanaGold.

Figure 3 shows the areas of land in the vicinity of the mine which are owned by OceanaGold, including areas of land leased and the boundaries of land owned by neighbours. The map also shows the locations of the mine activities and demonstrates the distances from the mining activities to the boundaries with neighbouring properties.

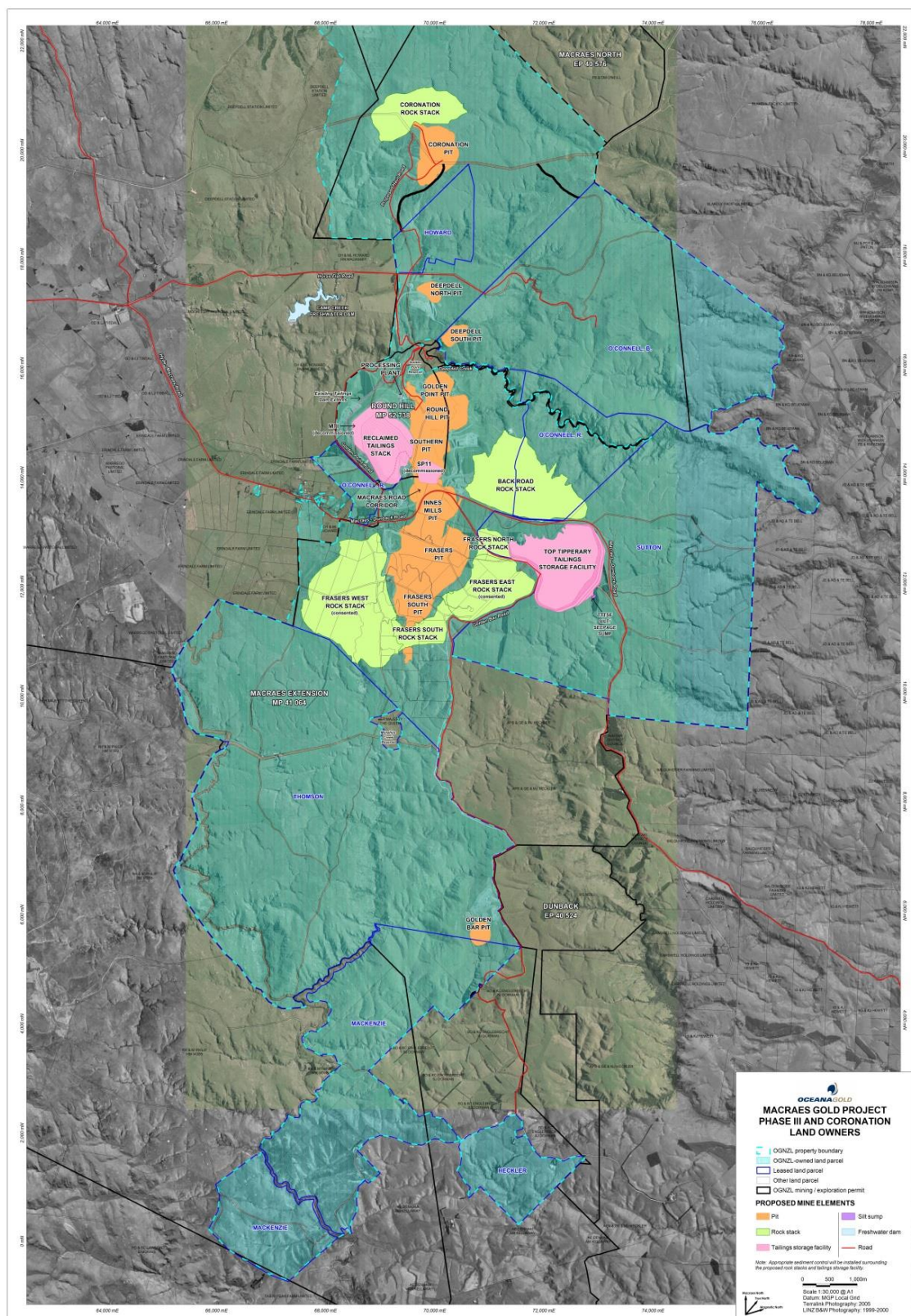


Figure 3: Map Showing Land Owned and Leased by OceanaGold and Locations of Neighbouring Landowners.

3 Noise, Airblast and Vibration Sources

The following activities have the potential to generate noise, airblast and vibration:

- Blasting of rock
- Mining Equipment (i.e. excavators, dump trucks, rock drills)
- Excavation, including stripping of overburden and topsoil
- Vehicle movements
- Loading and unloading of materials
- Crushing of materials
- Processing of ore

Equipment design and purchasing requirements must consider the minimisation of noise and vibration levels.

4 Monitoring

4.1 Monitoring Plan Consent Requirements

OceanaGold currently holds LRC 201.2011.35 covering the Macraes Phase III Expansion Project, and Joint LRC 201.2013.360 and LUC-2013-225 covering the Coronation Project. Under condition 10 of consent LRC 201.2011.35 and condition 9 of joint consent LRC 201.2013.360 and LUC-2013-225, the following is required:

Prior to exercise of this consent, the consent holder shall update the Noise, Airblast and Vibration Monitoring Plan. The Plan shall include but not be limited to:

- (a) *Details of the monitoring locations, the frequency of monitoring and the method of measurement and assessment in accordance with Conditions 8.4, 8.5, 9.1 and 9.2 (201.2011.35) and Conditions 7.4, 7.5, 8.1 and 8.2 (201.2013.360/LUC-2013-225) ;*
- (b) *Procedures for recording blast method, strength of the blast and time of the blast; and*
- (c) *Procedures for addressing non-compliant results and notification of the Council.*

4.2 Blasting and Vibration Monitoring

4.2.1 Compliance Limits

Under the Macraes Phase III and Coronation land use consents blasting shall be restricted to Monday – Friday 9am to 5.30pm and Saturday and Sunday 10am to 4.30pm (201.2011.35, condition 8.3 and 201.2013.360/LUC-2013-225, condition 7.2). The following blast and vibration limits apply when measured at the notional boundary of any dwelling not owned by OceanaGold:

- Vibration shall not exceed a peak particle velocity measured in the frequency range 3-12 Hz of 5 mm/sec provided this level may be exceeded on up to 5% of the total number of blasts over a period of 12 months. The level shall not exceed 10 mm/sec at any time (201.2011.35, condition 8.5 and 201.2013.360/LUC-2013-225, condition 7.4).
- Airblast overpressure shall not exceed a peak non-frequency-weighted (Linear or flat) level of 115 decibels (dB), provided this level may be exceeded on up to 5% of the total number of blasts over a period of 12 months. The level shall not exceed 120 dB (Linear peak) at any time (201.2011.35 condition 8.6 and 201.2013.360/LUC-2013-225, condition 7.5).

4.2.2 Monitoring Locations and Frequency

For Macraes Phase III activities, vibration and airblast pressure compliance monitoring measurements shall be undertaken at any point within the notional boundary of any dwelling not owned by the consent holder, school or church outside the Macraes Mining Project Mineral Zone as defined by the Waitaki District Plan, deemed operative on 23 August 2010.

For the Coronation Project, vibration and airblast pressure compliance monitoring measurements shall be undertaken at the notional boundary of any dwelling not owned by OceanaGold.

The notional boundary is defined as a line 20m from the exterior wall of any rural dwelling or the legal boundary where this is closer to the dwelling.

A minimum of two randomly selected blasts will be monitored each month at one of the following locations (shown on Figure 4):

- Howard Property on Macraes-Dunback Road;
- M and K O'Connell Property, Macraes Village;
- Macraes-Moonlight School House, Macraes Village
- Howard Property on Horse Flat Road (Bellfield);
- O'Neill Property on Four Mile Road;
- Tisdall Property (Stoneblend) on the corner of Macraes-Hyde Road and Moonlight Road;
- N and M Roy Property on Macraes-Hyde Road; and
- Deepdell Station Homestead on Horse Flat Road.

In addition blast monitoring may occur on OceanaGold property from time to time as part of OceanaGold's internal review system.

Should a complaint be received then additional monitoring would occur as part of the investigation process.

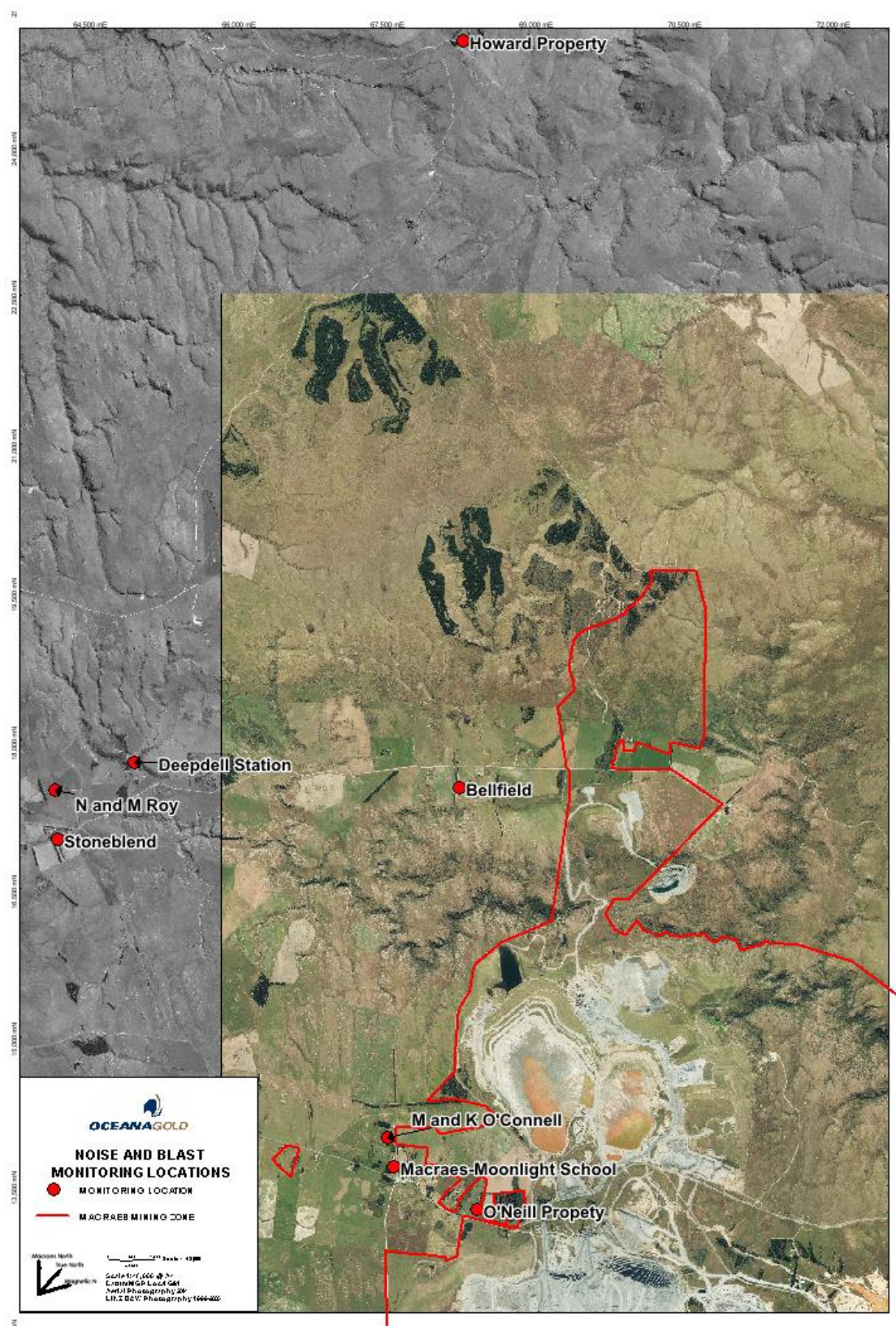


Figure 4: Map Showing the Monitoring Locations and the Macraes Mining Zone Boundary

4.2.3 Monitoring Equipment

Blast and sound overpressure monitoring will be undertaken with a Texcel GTM blast monitor.

Following each monitoring occasion results will be reviewed and assessed against the compliance limits in Section 4.2.1.

Monitoring results will be summarised and reported in the Project Overview and Annual Work and Rehabilitation Programme that is supplied to the WDC and DCC by 31 March each year (201.2011.35, condition 10.3 and 201.2013.360/LUC-2013-225, condition 9.3).

4.2.4 Blasting Records

Details of blasting method, strength of the blast and time of the blast shall be entered into a record kept for that purpose and shall be available to the Council on request (201.2011.35, condition 8.4 and 201.2013.360/LUC-2013-225, condition 7.3).

The OceanaGold shotfirer shall be responsible for keeping the blasting record up to date.

4.3 Noise Monitoring

4.3.1 Compliance Limits

Under the Macraes Phase III and Coronation land use consents the following noise limits apply to all construction and operational activities associated with mining operations when measured at the notional boundary of any dwelling not owned by OceanaGold or at any point within the Macraes Village:

- (a) On any day between 7 am to 9 pm (daytime): 50 dBA L_{eq} ; and
- (b) On any day between 9.00 pm to 7.00am the following day (night-time): 40 dBA L_{eq} ; and/or 70 dBA L_{max} (201.2011.35, condition 9.1 and 201.2013.360/LUC-2013-225, condition 8.1).

4.3.2 Monitoring Locations and Frequency

For Macraes Phase III activities, noise measurements shall be taken at any point within the Macraes Village; or at the notional boundary of any dwelling not owned by the consent holder in the Rural Scenic Zone (201.2011.35, condition 9.2).

For the Coronation Project, noise measurements shall be undertaken at the notional boundary of any dwelling not owned by OceanaGold (201.2013.360/LUC-2013-225, condition 8.2)

The notional boundary is defined as a line 20m from the exterior wall of any rural dwelling or the legal boundary where this is closer to the dwelling.

A minimum of four readings will be taken each month at one or more of the locations listed below (shown on Figure 4). Monitoring is to include both day-time (Monday to Friday 7am – 9pm) and night-time (Monday to Friday 9pm to 7am) measurements.

- Howard Property on Macraes-Dunback Road;

- M and K O'Connell Property, Macraes Village;
- Macraes-Moonlight School House, Macraes Village
- Howard Property on Horse Flat Road (Bellfield);
- O'Neill Property on Four Mile Road;
- Tisdall Property (Stoneblend) on the corner of Macraes-Hyde Road and Moonlight Road;
- N and M Roy Property on Macraes-Hyde Road;
- Deepdell Station Homestead on Horse Flat Road; and
- Any dwelling, school, church or hotel within the Macraes Village

In addition noise monitoring may occur on OceanaGold property from time to time as part of OceanaGold's internal review system.

Should a complaint be received then additional monitoring would occur as part of the investigation process.

4.3.3 Monitoring Equipment

Noise monitoring for compliance will be undertaken with a Casella CEL-621A Sound Level Meter in accordance with the requirements of Consents 201.2011.35 and 201.2013.360/LUC-2013-225.

All noise measurements referred to shall be measured in accordance with the provisions of NZS 6801:2008 Acoustics: Measurement of Environmental Sound, and shall be assessed in accordance with the provisions of NZS 6803:2008 Acoustics: Environmental Noise.

Following each monitoring occasion results will be reviewed and assessed against the compliance limits in Section 4.3.1.

Monitoring results will be summarised and reported in the Project Overview and Annual Work and Rehabilitation Programme that is supplied to the WDC and DCC by 31 March each year (201.2011.35, condition 10.3 and 201.2013.360/LUC-2013-225, condition 9.3).

4.3.4 Additional Monitoring

Additional monitoring shall be undertaken in relation to trucking activities at the Coronation project. This monitoring will be carried out by a suitably qualified and experienced acoustic expert for the purpose of verifying that trucking activities comply with the noise limits stated in the consent at the Bellfield property owned by the Howard family.

The monitoring is to occur within one month of ore haulage to the processing plant occurring and once 12 months later and at any other time as requested by the Waitaki District Council.

Results of this monitoring are to be provided to the Waitaki District Council and Dunedin City Council within one week of undertaking the measurements.

5 Complaints

Complaints may be referred by one or more of the regulatory authorities, a member of the public or direct via an OceanaGold employee or contractor. It is the responsibility of the Senior Environmental Advisor to respond to and follow up all complaints regarding noise, airblast or vibration. The Senior Environmental Advisor is responsible for ensuring suitably qualified personnel are available to respond to complaints at all times.

Actions to be taken as soon as possible by the Senior Environmental Advisor

- Fill out an Environmental Incident Report form.
- Note the time, date, identity and contact details of complainant. Note if complaint has been referred from a Consent Authority.
- Ask the complainant to describe the noise, airblast or vibration; how long it has been noticeable for, is it worse at any time of day, does it come from an identifiable source.
- As soon as possible after receipt of a complaint undertake a site inspection. Note all noise, airblast or vibration-producing activities taking place, which staff member or contractor is responsible for the site and the noise, airblast and vibration mitigation methods that are being used. Instigate any remedial action necessary. If the complaint was related to an event in the recent past, note any noise, airblast or vibration-producing activities that were underway at that time, if possible.
- As soon as practical (preferably within two hours) visit the area from where the complaint originated to ascertain if noise, airblast or vibration is still a problem.
- If it becomes apparent that there may be a source of noise, airblast or vibration other than activities at Macraes Gold Project causing the nuisance it is important to verify this. Document the source.
- As soon as possible after the initial investigations have been completed contact the complainant to explain what has been found and remedial actions taken.
- If necessary update any relevant procedures to prevent any recurrence of problems.
- Complete complaint form and file on complaint register.

Follow up actions

- Advise the Waitaki District Council (WDC) (all areas excluding the Dunedin City Council (DCC) side of the Coronation Project) as soon as practical that a complaint has been received and what the findings of the investigation were and any remedial actions taken. In the case of a complaint relating to the DCC side of the Coronation Project the Dunedin City Council will also be advised.

6 Adverse Effects

In the event it becomes apparent that noise, vibration or airblast pressure is having a significant impact on surrounding non OceanaGold owned property a full review of the situation will be undertaken using suitably qualified and experienced industry experts.

Options to reduce the impact could include, but not be limited to:

- Modification of blasting methods;
- Construction of noise bunds or barriers;
- Staging of mining operations to avoid certain areas at night or in unfavourable weather conditions;
- Modification to equipment or use of alternative equipment;
- Noise suppression systems;
- Double glazing of windows; and
- Insulation of walls.

7 Responsibilities

OceanaGold as the holder of the consents for the Macraes Gold Mine site has the ultimate responsibility to ensure that all statutory requirements and conditions of consent are complied with and mining activities are carried out in accordance with the NAVMOP.

Specifically, the following roles share operational responsibility for ensuring mining activities are carried out in accordance with the NAVMOP:

- The General Manager Macraes Operation
- The Open Pit Mine Manager
- The Senior Environmental Advisor

These roles have overall responsibility at the site for ensuring that unacceptable noise, airblast and vibration is avoided and mitigated as far as practicable.

The Senior Environmental Advisor has the following associated responsibilities:

- Responsibility to ensure that the noise, airblast and vibration monitoring programme is carried out as required.
- Responsibility to ensure that complaints are received and investigated as outlined in section 5 of the NAVMOP.
- Responsibility to ensure the NAVMOP is current and reviewed at least annually.

All contractors and staff working on site are to ensure that their activities comply with the requirements of the NAVMOP.

8 Consultation

8.1 Neighbours

OceanaGold will consult with the Macraes Community Incorporated (MCI) regularly, as part of the bi-monthly meeting process, to inform them of any issues regarding noise, airblast or vibration at the Macraes Gold Mine site that may be of interest to the community and to obtain feedback from the community.

OceanaGold will advise the Macraes Community through MCI of the contact phone numbers to be used to advise OceanaGold of a noise, airblast or vibration complaint.

The contact phone numbers and email addresses to be used for registering a complaint are included in **Appendix B**.

8.2 District and City Councils

OceanaGold will maintain a regular and formal reporting regime with the Waitaki District Council and in the case of the Coronation Project, the Dunedin City Council to inform them of any issues regarding noise, airblast or vibration control at the site that may be of interest to them and to obtain feedback on compliance and performance. OceanaGold will provide WDC and DCC with contact numbers to be used to advise OceanaGold of a noise, airblast or vibration complaint. The contact phone numbers and email addresses to be used for registering a complaint are included in **Appendix B**.

9 Reporting

9.1 OceanaGold to Regulatory Authorities

OceanaGold will inform the Waitaki District Council (WDC) and in the case of the Coronation Project, the Dunedin City Council (DCC) of the following:

- Any complaints received regarding noise, airblast or vibration as soon as practical after receipt of the complaint.
- Of any non-compliances with monitoring as outlined in Section 5.
- Provide WDC and DCC with a copy of the NAVMOP if any significant revisions of the NAVMOP are made during the year.

9.2 Waitaki District Council/Dunedin City Council to OceanaGold

OceanaGold requests that WDC and for the Coronation Project, DCC advise of any complaints they receive regarding noise, airblast or vibration from the Macraes Gold Mine site immediately after a complaint has been lodged.

10 NAVMOP Review Procedure

The NAVMOP shall be reviewed regularly and at least annually.

Appendix A

Resource Consent Conditions for Noise, Airblast and Vibration

Macraes Phase III - LRC 201.2011.35

Noise and Blasting Resource Consent Conditions

8 BLASTING AND VIBRATION

- 8.1 The consent holder shall ensure that blasting practices minimise air and ground borne vibration. Fly-rock shall be minimised and all blasting procedures shall be carried out so as to ensure the safety of employees and the public. No blasting shall occur when the weather is unsuitable.
- 8.2 The location and time of blasting shall be posted daily at all the main mine entrances and advised to employees by daily email.
- 8.3 Blasting shall be restricted to within the following hours:
- Monday-Friday 9am to 5.30pm
- Saturday and Sunday 10am to 4.30pm
- 8.4 Details of blasting method, strength of the blast and time of blast shall be entered into a record kept for that purpose and shall be available to the Council on request. This information shall also be included in the monitoring report, required under Condition 10.
- 8.5 Vibration due to blasting or any other activity associated with the mining operation, when measured at any point within the notional boundary of any dwelling not owned by the consent holder, school or church outside the Macraes Mining Project Mineral Zone as defined by the Waitaki District Plan, deemed operative on 23 August 2010 shall not exceed a peak particle velocity measured in the frequency range 3-12 Hz of 5 mm/sec provided this level may be exceeded on up to 5% of the total number of blasts over a period of 12 months. The level shall not exceed 10 mm/sec at any time.
- 8.6 Airblast overpressure from blasting associated with the mining operation, when measured at any point within the notional boundary of any dwelling not owned by the consent holder, school or church outside the Macraes Mining Project Mineral Zone as defined by the Waitaki District Plan, deemed operative on 23 August 2010 shall not exceed a peak non-frequency-weighted (Linear or flat) level of 115 decibels (dB), provided this level may be exceeded on up to 5% of the total number of blasts over a period of 12 months. The level shall not exceed 120 dB (Linear peak) at any time. For the purpose of this consent, C-frequency-weighting may be considered equivalent to the Linear or Flat-frequency-weighting.
- Note: The notional boundary is defined as a line 20 metres from the exterior wall of any rural dwelling or the legal boundary where this is closer to the dwelling.
- 8.7 The consent holder shall not conduct blasting within the vicinity of the Macraes-Dunback Road or Golden Bar Road in a manner that constitutes a danger to life or property. If the Council considers it necessary to temporarily close the Macraes-Dunback Road or Golden Bar Road to allow blasting to take place, it may permit the consent holder to temporarily close the road, provided that the consent holder:
- (a) Keeps the time of closure as short as possible; and
 - (b) Does not allow the time of closure to exceed a maximum of 15 minutes in any continuous period of 60 minutes, except where an emergency situation arises in respect of the safety of the public or project personnel.

In the event of such temporary closure the consent holder shall:

- (a) Ensure appropriate barriers are erected and ensure such number of persons as may be necessary are stationed at Macraes-Dunback Road or Golden Bar Road to prevent access by the public to that part of the road that shall be closed; and
- (b) Hold current public liability insurance to indemnify any member of the public affected.
- (c) Postpone any blasting in order to reopen the Macraes-Dunback Road or Golden Bar Road to allow the passage of vehicles for emergency purposes.

9 NOISE

Noise limits

9.1 The consent holder shall ensure that all construction and operation activities associated with the mining operations are designed and conducted so that the following noise limits are not exceeded at the locations specified in Condition 910.2:

- (a) On any day between 7 am to 9 pm (daytime): 50 dBA Leq; and
- (b) On any day between 9.00 pm to 7.00am the following day (night-time): 40dBA Leq; and/or 70 dBA Lmax.

Measurement Locations

9.2 Noise measurements shall be taken at any point within Macraes Village; or at, the notional boundary of any dwelling not owned by the consent holder in the Rural Scenic Zone.

Note: The notional boundary is defined as a line 20 metres from the exterior wall of any rural dwelling or the legal boundary where this is closer to the dwelling.

Measurement and Assessment

9.3 All noise measurements referred to in Conditions 910.1 and 910.2 above shall be measured in accordance with the provisions of NZS 6801:2008 Acoustics: Measurement of Environmental Sound, and shall be assessed in accordance with the provisions of NZS 6802:2008 Acoustics: Environmental Noise.

10 MONITORING OF NOISE, AIRBLAST AND VIBRATION

10.1 Prior to exercise of this consent, the consent holder shall update the Noise, Airblast and Vibration Monitoring Plan. The plan shall include but not be limited to:

- (a) Details of the monitoring locations, the frequency of monitoring and the method of measurement and assessment in accordance with Conditions 8.4, 8.5 9.1 and 9.2;
- (b) Procedures for recording blasting method, strength of the blast and time of blast; and
- (c) Procedures for addressing non-compliant results and notification of the Council.

- 10.2 The consent holder shall exercise this consent in accordance with the Noise, Airblast and Vibration Monitoring Plan. The consent holder shall review the plan annually and if necessary update it. Confirmation of the review shall be included in the Project Overview and Annual Work and Rehabilitation Plan. The Council shall be provided with any updates of the plan within one month of any update occurring.
- 10.3 The consent holder shall produce a report each year summarising the results of the Noise, Airblast and Vibration Monitoring. The report shall be included in the Project Overview and Annual Work and Rehabilitation Programme.
- 10.4 All measurements from the monitoring programmes shall be recorded and shall be made available to the Council on request.

Coronation Project - LRC 201.2013.360 (WDC) and LUC-2013-225 (DCC)

Noise and Blasting Resource Consent Conditions

7 BLASTING AND VIBRATION

- 7.1 The consent holder shall ensure that blasting practices minimise air and ground borne vibration. Fly-rock shall be minimised and all blasting procedures shall be carried out so as to ensure the safety of employees and the public. No blasting shall occur when the weather is unsuitable.
- 7.2 Blasting shall be restricted to within the following hours:
- Monday-Friday 9am to 5.30pm
- Saturday and Sunday 10am to 4.30pm
- 7.3 Details of blasting method, strength of the blast and time of blast shall be entered into a record kept for that purpose and shall be available to the Councils on request. This information shall also be included in the monitoring report, required under Condition 9.
- 7.4 Vibration due to blasting or any other activity associated with the mining operation, when measured at any point within the notional boundary of any dwelling not owned by the consent holder, shall not exceed a peak particle velocity measured in the frequency range 3-12 Hz of 5 mm/sec provided this level may be exceeded on up to 5% of the total number of blasts over a period of 12 months. The level shall not exceed 10 mm/sec at any time.
- 7.5 Airblast overpressure from blasting associated with the mining operation, when measured at any point within the notional boundary of any dwelling not owned by the consent holder shall not exceed a peak non-frequency-weighted (Linear or flat) level of 115 decibels (dB), provided this level may be exceeded on up to 5% of the total number of blasts over a period of 12 months. The level shall not exceed 120 dB (Linear peak) at any time. For the purpose of this consent, C-frequency-weighting may be considered equivalent to the Linear or Flat-frequency-weighting.

Note: The notional boundary is defined as a line 20 metres from the exterior wall of any rural dwelling or the legal boundary where this is closer to the dwelling.

8 NOISE

Noise limits

- 8.1 The consent holder shall ensure that all construction and operation activities associated with the mining operations are designed and conducted so that the following noise limits are not exceeded at the locations specified in Condition 8.2:
- (a) On any day between 7 am to 9 pm (daytime): 50 dBA LAeq; and
- (b) On any day between 9.00 pm to 7.00am the following day (night-time): 40dBA LAeq; and/or 70 dBA LAmx.

Measurement Locations

- 8.2 Noise measurements shall be taken at the notional boundary of any dwelling not owned by the consent holder.

Note: The notional boundary is defined as a line 20 metres from the exterior wall of any rural dwelling or the legal boundary where this is closer to the dwelling.

Measurement and Assessment

- 8.3 All noise measurements referred to in Conditions 8.1 and 8.2 above shall be measured in accordance with the provisions of NZS 6801:2008 Acoustics: Measurement of Environmental Sound, and shall be assessed in accordance with the provisions of NZS 6802:2008 Acoustics: Environmental Noise.
- 8.4 Prior to the commencement of mining, the consent holder shall install double glazing on the dwelling at 406 Horse Flat Road owned by C A and E M Howard. The glazing shall include one layer of 6mm laminated glass for noise reduction purposes. A mechanical ventilation system shall also be installed in the dwelling that will supply supplementary fresh air ducted from outside to bedrooms and living spaces.

9 MONITORING OF NOISE, AIRBLAST AND VIBRATION

- 9.1 Prior to exercise of this consent, the consent holder shall update the Noise, Airblast and Vibration Monitoring Plan. The plan shall include but not be limited to:
- (a) Details of the monitoring locations, the frequency of monitoring and the method of measurement and assessment in accordance with Conditions 7.4, 7.5 8.1 and 8.2;
 - (b) Procedures for recording blasting method, strength of the blast and time of blast; and
 - (c) Procedures for addressing non-compliant results and notification of the Councils.
- 9.2 The consent holder shall exercise this consent in accordance with the Noise, Airblast and Vibration Monitoring Plan. The consent holder shall review the plan annually and if necessary update it. Confirmation of the review shall be included in the Project Overview and Annual Work and Rehabilitation Plan. The Councils shall be provided with any updates of the plan within one month of any update occurring.
- 9.3 The consent holder shall produce a report each year summarising the results of the Noise, Airblast and Vibration Monitoring. The report shall be included in the Project Overview and Annual Work and Rehabilitation Programme.
- 9.4 All measurements from the monitoring programmes shall be recorded and shall be made available to the Councils on request.
- 9.5 In addition to conditions 9.1 to 9.4, noise monitoring shall be conducted by a suitably qualified and experienced acoustic expert to verify that the trucking activities associated with the mining operations comply with the noise limits set out Condition 8 at the notional boundary of the dwelling shown on "Coronation Project October 2013 WDC/DCC LUC Consents Map 1" annexed are complied with. The monitoring is to be carried out within one month of the haul trucks carrying ore to the processing plant and once 12 months later, and at any other time requested by the Waitaki District Council. The results are to be provided to the Councils within one week of undertaking the measurements.

Appendix B

Site Personnel Contact Details

**Site Personnel Contact Phone Numbers
(Complaints and Emergencies)**

General Manager Macraes Operation

Dale Oram

Mobile: 021 413 752

Email: dale.oram@oceanagold.com

Open Pit Mine Operations Superintendent

Dave Bartlett

Mobile: 021 723 592

Email: david.bartlett@oceanagold.com

Process Manager

Justin Johns

Mobile: 027 523 5495

Email: justin.johns@oceanagold.com

Senior Environmental Advisor

Debbie Clarke

Mobile: 021 396 210

Email: debbie.clarke@oceanagold.com