



NOISE MANAGEMENT PLAN

Martha, Favona, Trio and Correnso Mines, and Martha Drill Drive Project

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	2013			Previous Newmont Noise Management Plan	9/12/2013
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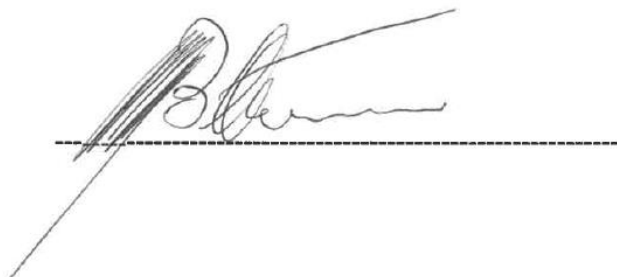


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1. INTRODUCTION

1.1. Plan Objective

The objectives of this Noise Management Plan (“Plan”) are to detail the methods to be used by OceanaGold New Zealand Ltd (OGNZL) to:

- comply with the relevant conditions of Mining Licence (ML) 32-2388 as incorporated into the Operative District Plan and the Hauraki District Council (HDC) Land Use Consent (LUC) 97/98 - 105 for the Martha Mine.
- comply with the relevant conditions of the HDC LUC 85.050.326.E for the Favona Mine.
- comply with the relevant conditions of HDC LUC RC-15774 for the Trio Underground Mine.
- comply with the relevant conditions of HDC LUC RC-202.2112 for the Correnso Underground Mine.
- comply with the relevant conditions of HDC LUC RC-664.001.2017 for the Martha Drill Drive Project.
- comply with relevant noise standards in the HDC Operative District Plan.
- liaise with the community and respond to complaints and concerns as they arise.
- avoid or mitigate unreasonable noise as required by s16 of the Resource Management Act.

2. MARTHA MINE

2.1. Background

April 2010 saw the beginning of the Martha East Layback. The footprint of the cutback remained entirely within either the existing mining licence or the Extended Martha Mining Area (EMMA) boundaries and noise management was in accordance with those authorities.

In April 2015, a slip on the North Wall caused the abeyance of mining. Mining ceased for the remainder of 2015 as investigations were undertaken to evaluate the options, safety, and viability of re-entry. Mining began again in Jan 2016 with a narrow switchback entry from the western wall of the pit (outside the slip failure zone). This was projected to enable access to lower parts of the pit for further investigation, but was curtailed when more significant instability occurred in April 2016. Operations began again in Jan 2017 with a remedial cutback specifically targeted at reducing the load on the unstable area and improving stability before pit re-entry is envisaged.

For an earlier pit cutback (the Southern Stability Cutback), the mining company and HDC negotiated a Memorandum of Understanding (MoU) to provide a framework by which the parties agree appropriate mitigation responses to nuisance effects associated with the stability cutback activities. Although the South Stability Cutback has been completed OGNZL recognises the value of the agreement, and a revised MoU has been agreed to for future in-pit mining operations (Appendix 10).

2.2. Martha Consent Conditions

The conditions of the ML are included in this Plan as Appendix 1. These conditions are now incorporated by reference into the Hauraki District Council Operative District Plan. The HDC LUC 97/98-105 Conditions relating to noise are included as Appendix 2.

In summary, these conditions require OGNZL to comply with the following:

- the appointment of a Company Liaison Officer (CLO) (ML 7B(a - c) and HDC 3.4(a - c)).
- the provision of all reasonable costs associated with the appointment and support of a Council Liaison Officer to be employed during construction activities (ML 7B(d - g) and HDC 3.4(d - g)).
- conditions relating to hours of work (ML 8 and 19 and HDC 3.7).
- noise monitoring at intervals not exceeding six months during operations for the duration of the project (ML 30(a - b) and HDC 3.9(a - b)).
- the provision of summary reports at three monthly intervals (ML 30(c) and HDC 3.9(c)).
- existing procedures to be followed for complaints management (refer ML 7C, HDC 3.5 and internal Newmont procedures).
- prepare a Noise Management Plan to be approved by HDC.

2.3. Hours of Work

The following table summarises the relevant operational hours of work conditions. These hours of work apply to open pit mining, conveying and waste disposal; processing, water treatment and maintenance are authorised 24-hour operations subject to meeting night-time noise limits. Appendices 1, 2 and 3 should be referred to for further detail.

	Martha Mine
Monday-Friday	0700-1900 ¹
Saturday	0730-1200
Notes:	<i>¹ - The hours of work are only permitted between 1900 and 2100 hours Monday-Friday if the operations are of an urgent nature, necessary for the effective carrying out of mining operations and comply with the noise level criteria</i>

2.4. Activities

The following operating equipment and activities may generate noise and, if utilised, will be included in the monitoring procedures detailed below:

- Heavy vehicles e.g. haul trucks, excavators, loader, bulldozers;
- The rock crushers, transfer station and conveyor;
- Drill rigs;
- Light vehicle traffic;
- Maintenance work, possibly at night.

2.5. Martha Compliance Monitoring

There are three Martha Mine noise monitoring sites. Monitoring locations and the noise compliance boundaries are shown in Figure 1. These sites may be revised following consultation with HDC if monitoring results and complaints indicate other sites of greater sensitivity.

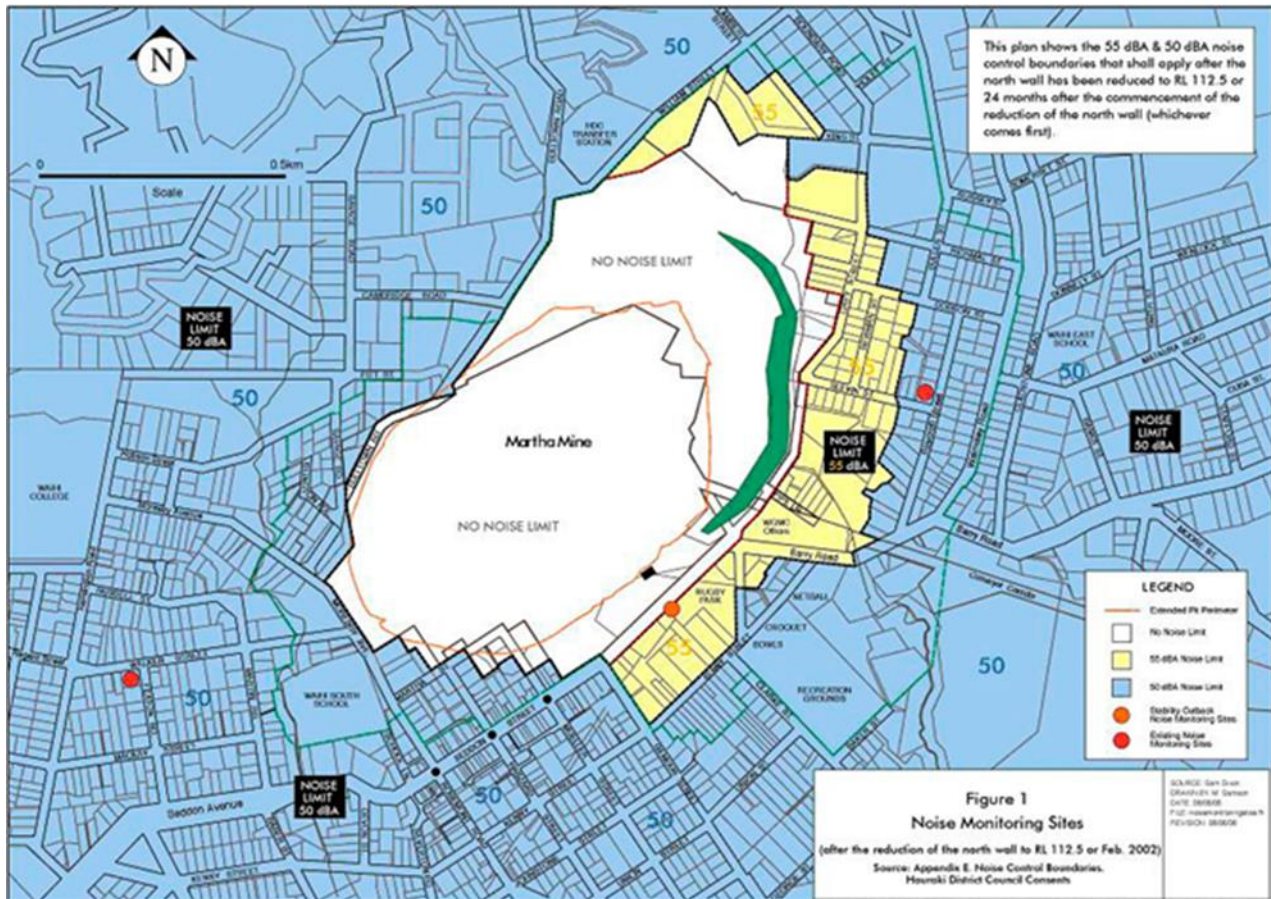


Figure 1 – OceanaGold noise monitoring sites

The consent conditions require that the company will as a minimum monitor at weekly intervals during construction activities and at intervals not exceeding six (6) months during operational activities

In the event that noise limits are exceeded or legitimate complaints are received, then the monitoring frequency may be increased while steps are taken to remedy the situation.

The representative noise levels during operations must be measured and assessed in accordance with the methods specified in ML Conditions 9 and 21 and HDC LUC 97/98-105 conditions 3.8(a) to (e).

A penalty will apply for operational noise with special audible characteristics. This includes noises with special impulsiveness or tonality. When this noise occurs, the L_{10} limit will be reduced arithmetically by 5dBA compared to the measured level. No penalty for special audible characteristics is applied for construction noise.

3. UNDERGROUND OPERATIONS

3.1. Background

Located on Baxter Road, the existing process plant currently generates noise levels consistently below the specified noise limits (e.g. 40 dBA L_{10} at night). The Underground mines' portal is near the plant and noise from underground activity has not caused the overall noise level to increase appreciably. The vent shaft on Union Hill emits the other significant source from underground activity, but the low level of noise and the distance from residences has enabled compliance with night noise limits. Most of the underground activity is designed and operated to meet a noise level of 30 to 35 dBA L_{10} .

Determining compliance with the night-time noise limit of 40 dBA L_{10} can be problematic due to the influence of environmental effects and other noise sources around Waihi. To determine whether an increase in noise level can be attributed to Favona, Trio or Correnso activity is also extremely difficult. For this reason, two additional methods of noise monitoring in this Plan ensure overall compliance with the noise conditions.

The first method involves specifying maximum sound power levels for items of plant involved with the project (Section 3.6.1). Test reports for equipment are sought before the equipment is brought onto the site, verifying they comply with these levels.

The second method involves internal monitoring of the operation at distances closer to the noise source than the closest residents to ensure that the noise levels are sufficiently high to be measurable above the existing ambient noise levels. Although this monitoring does not incur a compliance limit, it provides extrapolation data as to the effect on nearby residents.

3.2. Favona, Trio, and Correnso Consent Conditions

The HDC LUC conditions relating to noise for Favona, Trio, and Correnso are included as Appendices 3, 4 and 5. In summary these conditions require the following:

- the combined noise level from the projects and the existing processing plant to be no more than 55dBA L_{10} Monday to Friday daytime (0700-2100) and Saturday mornings (0700 - 1200), and at all other times to be no more than 40dBA L_{10} and 70dBA L_{max} at the monitoring locations as detailed in condition 5.
- that prior to the commencement of operations on or in association with the polishing pond stockpile at night (2100 hrs to 0700 hrs) the consent holder shall demonstrate that the noise conditions can be met and detail the process proposed to demonstrate compliance in the Noise Management Plan.
- establishment of maximum sound power levels for individual items of mine equipment at Favona and Trio and record these in the Noise Management Plan.
- noise monitoring at weekly intervals during construction of buildings, haul and access roads, noise bunds and the vent shaft riser and during stockpile site preparation works and for the first six months of production operations and thereafter at intervals not exceeding three months.
- the provision of summary reports at three monthly intervals.

3.3. MDDP Consent Conditions

The HDC LUC conditions relating to noise for MDDP are included as Appendix 6. In summary these conditions require the following:

- prior to the installation of the ventilation fan, an acoustic report will be prepared to document the predicted noise generation, noise levels at critical sites, and any requirement for mitigation (and its effectiveness).
- Noise to be measured cumulatively with that of other operations and compliance with existing licences and consents.
- Noise from the construction, operation and decommissioning of the inlet ventilation portal and fan (as measured at locations specified in condition 10) not to exceed the following:

		55 dBA Control Boundary	50 dBA Control Boundary
Monday – Friday	0700-2100	55 dBL _{Aeq}	50 dBL _{Aeq}
Saturday	0700-1200	55 dBL _{Aeq}	50 dBL _{Aeq}
All other times		40 dBL _{Aeq}	40 dBL _{Aeq}

Note: Refer Figure 1 for locations of Control Boundaries

- noise monitoring at weekly intervals during construction of the ventilation fan, followed by compliance monitoring of the fan in operation and, if compliant, thereafter at intervals not exceeding three months.
- the provision of summary reports at three monthly intervals.

3.4. Hours of Work

Underground mining is authorised for 24 hours/day, 7 days/week. Surface operations in association with the Polishing Pond Stockpile will occur during daytime hours (0700 – 2100) only. The Favona mine is now completed (including back-filling), Trio is largely completed and backfilled (although options remain for deeper mining) with the current activity in relation to Correnso and its adjacent Slevin Underground Mine development. MDDP involves the construction and use of two exploration drill drives and associated recesses, escape ways and ventilation raises from the existing Correnso and Slevin Underground Mines.

3.5. Activities

The following activities are expected to generate noise and will be included in the monitoring procedures detailed below.

3.5.1. Polishing Pond Stockpile

The stockpile will contain Favona, Trio and Correnso waste material and if open pit production resumes, Martha ore and waste. Sound generated from activities could include; truck noise associated with transporting the waste/ore material, an excavator and a D8 bulldozer (the latter two sources associated with the loading, spreading and compacting of the waste material).

The handling of material in relation to the polishing pond stockpile (including transportation to and from, its spreading and compaction) is required to be during daytime hours only, as defined in the consent conditions, unless compliance with night-time noise limits could be demonstrated. In early 2015, waste from Correnso development was required to be stockpiled at the polishing pond stockpile and monitoring was undertaken to verify that this activity was compliant at night. With Correnso now in full production, limited night-time activity is undertaken at the polishing pond stockpile but the option is being retained should excess waste be required to be stockpiled/rehandled.

3.5.2. Vent Shaft Operation

The main source of noise from the Trio vent shaft is its fan, fitted near the base of the shaft on Union Hill. Monitoring to date has indicated compliance with noise conditions. Although the Correnso conditions provide for an additional vent shaft to be located close to the Martha pit, the current operation has the Correnso mine ventilated via the existing Trio ventilation system. If the ventilation shaft provided for by the Correnso consent conditions is required, this Plan will be reviewed and altered accordingly.

There is potential for overpressure from blasting within the mine to be emitted via the vent shaft, but none has been evident to date. Both fan noise and overpressure are controlled by silencers mounted in the shaft.

3.5.3. MDDP Ventilation Portal

The MDDP conditions allow for an intake ventilation fan constructed within the pit to augment the Trio extraction vent. Should this be required, a sequence of consent requirements must be followed to ensure its construction and operation are within consented noise limits.

- 1) During the construction of the portal, noise levels shall be monitored at weekly intervals
- 2) Prior to the installation of the ventilation fan, an acoustic report will be commissioned; this report will include a) specified sound data for the fan, b) the predicted noise levels at critical locations, c)

assessment and recommendations regarding any required silencers, and d) the performance of the silencers. The fan shall not be operated until the report has been certified by HDC.

- 3) Within two months after the fan has become operational, the noise from the fans will be monitored on two separate nights.
- 4) If noise levels from requirements 1) and 3) above exceed permitted limits, monitoring shall continue at weekly intervals until urgent measures to achieve compliance are implemented. If noise complies with permitted noise limits, monitoring shall continue at intervals not exceeding three months.

For the purposes of compliance monitoring the monitor locations are indicated in Figure 2. Selection of site will be dependent on the prevailing wind at the time.

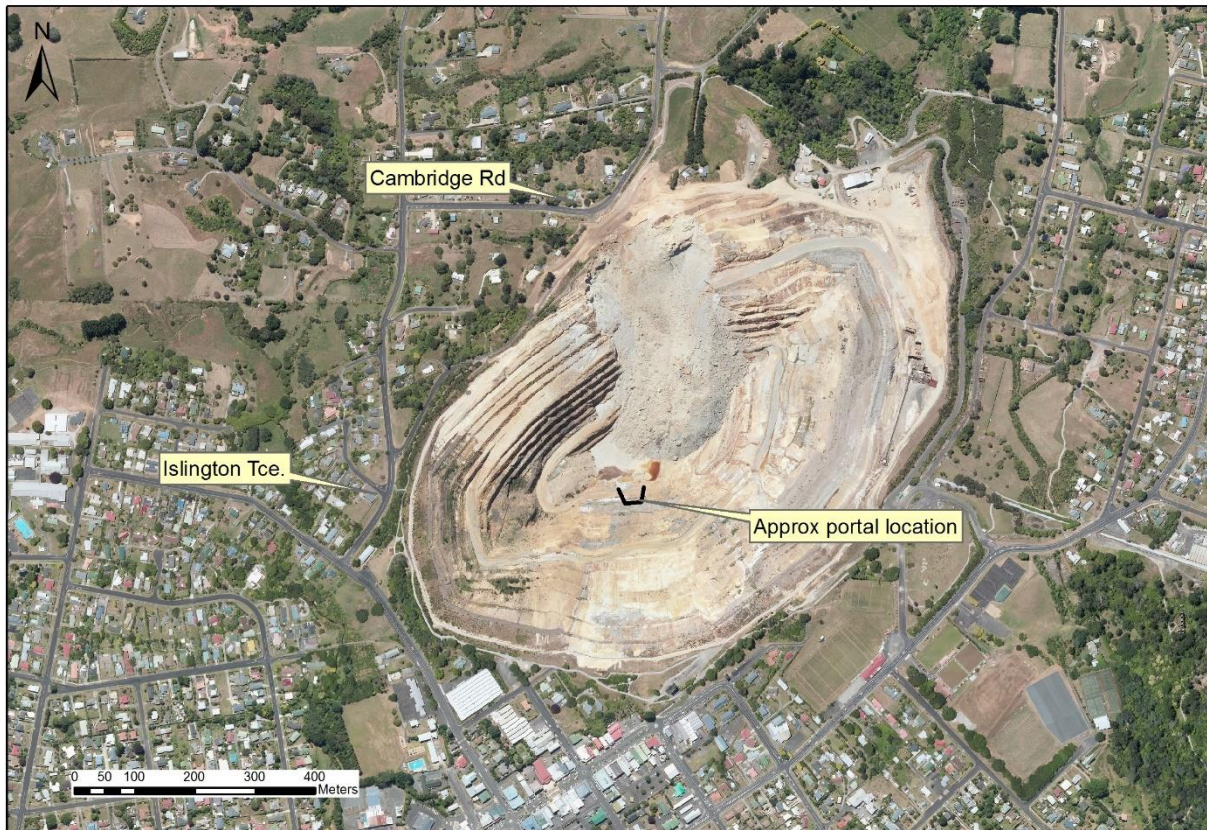


Figure 2: MDDP Monitoring Sites

3.5.4. Correnso Cement Aggregate Fill (CAF) Plant

Although consents for the construction and use of a CAF plant have been obtained, the current Correnso mining plans do not require its construction. If Correnso mining plans progress to a stage where CAF is required, monitoring will be initiated in accordance with Correnso LUC condition 9.

3.6. Favona, Trio & Correnso Compliance Monitoring

Compliance monitoring is undertaken in accordance with HDC LUC No. 85.050.326.E, condition 5, HDC LUC RC-15774 (Conditions 5 & 6) and HDC LUC 202.2012 (Conditions 10 & 11). The monitoring will be undertaken in a manner that provides the greatest opportunity of determining representative noise levels from Favona, Trio and Correnso by minimising complications due to the influence of extraneous noise sources and meteorological factors.

OGNZL will assess and record representative noise levels generated by Trio and Correnso operations at intervals not exceeding three months. Without in any way diminishing OGNZL's obligation to meet the consent condition limits at all points along the compliance boundary at private properties, the monitoring

locations for Favona and Trio shall be at the sites shown on Figure 2, known as Purcell's (Barry Road) and Scout Hall (Baker St). Selection of the monitoring site on any given occasion will depend on meteorological conditions at the time.



Figure 3: Trio/Correnso Monitoring Sites

3.6.1. Sound Power Level data

Prior to bringing equipment and machinery to site that works primarily in surface locations, OGNZL will source the results of sound power level tests carried out by either the manufacturer or a recognised acoustic engineer. Any determination of the sound power level of the machinery is to be in accordance with the requirements of ISO 4872 – 1978: “Acoustics – Measurement of Airborne Noise Emitted by Construction Equipment Intended for Outdoor Use – Method for Determining Compliance with Noise Limits”. In order that the project comply with the noise limits imposed by the resource consent conditions, equipment brought onto the site needs to comply with the maximum sound power levels specified in Table 1.

Table 1 Equipment Maximum Sound Power Levels

Equipment	Effective A-Weighted Sound Power Level
Equipment to be Used at Polishing Pond	
D8 Bulldozer	120dBA
20t Excavator	118dBA
Trucks at rated speed and during dumping	113dBA
Equipment to be Used on Vent/Escape Shaft	
Vent fan	95 dBA

All equipment and machinery are subject to a rigorous maintenance schedule for efficient operation, which includes being maintained to specified sound power levels.

4. NOISE LIMITS

The operational noise limits differ according to the area of operation and the predominant NZ Standards for noise/sound that applied at the time of each consent. The NZ Standards provide guidance for noise monitoring techniques and the District Plan's performance standards. Refer to the appendices for the specific wording for each consent. In summary, the limits are listed below (with consent differences noted):

		55 dB Control Boundary	50 dB Control Boundary
Mon – Fri	0700-2100	55 dB	50 dB
Sat	0700-1200	55 dB	50 dB
All other times		40 dB	40 dB
All nights	2100-0700	70 dBL _{max} (Favona/Trio) 70 dBL _{AFmax} (ML)	70 dBL _{max} (Favona/Trio)

Notes:

1. Units for ML and MDDP are dBL_{Aeq} as per the operational District Plan; LUC 97/98-105, Favona, Trio and Correnso are dBA_{L10} from previous consents (they may be progressively varied to dBL_{Aeq}).
2. The 50 dB Control Boundary does not apply to the ML, Favona or Trio.
3. Refer Figure 1 for control boundaries

5. MONITORING PROCEDURES

All monitoring and compliance assessments shall be undertaken generally using the procedures set out in a comprehensive OGNZL Standard Operating Procedure (WAI-200-PRO-016 Sound Monitoring (dated Oct 2016)). This procedure details how the different methods of monitoring are undertaken, setting up instrumentation, and documenting, managing and reporting of noise results.

The monitoring procedure also relates to the Martha Mine Noise Mitigation Plan (see Appendix 7) when mitigation actions are required because of recorded noise levels. When weather conditions are unsuitable for compliance (quantitative) monitoring, the Mitigation Plan provides guidance regarding qualitative assessments and how they may dictate mitigation measures.

All sound level meters and the field calibrator are sent for scheduled off-site calibration with the supplier, Brüel & Kjær.

Meteorological data will continue to be monitored at the OGNZL Meteorological Station on Barry Road. This station is managed and calibrated by an external hydrological/meteorological consultancy.

6. NOISE MITIGATION

Where noise is elevated, complaints are received, or monitoring demonstrates that relevant noise limits are being exceeded, immediate mitigation action will be taken. Specific mitigation actions for Martha are outlined in the OGNZL document entitled 'Martha Mine Noise Mitigation Plan' (Appendix 7).

Mitigation for Martha, Trio, Correnso and MDDP may include the following:

- modification or replacement of items of machinery or equipment;
- changes to location of machinery, equipment and truck routes;
- modification to operating procedures;

- ceasing conspicuous activities.

7. REPORTING

Records of all noise monitoring will be maintained and provided to HDC on request.

To meet the combined requirements of ML condition 30, HDC LUC No. 97/98 – 105 condition 3.9c, HDC LUC 85.050.326.E condition 9, HDC LUC RC-15774 condition 6d, HDC LUC 202.2012 condition 11 and RC-664.001.2017 condition 10d, OGNZL will (unless otherwise directed to do so by HDC following consultation with OGNZL) provide a summary report to the HDC after each March, June, September and December quarter.

8. COMMUNITY LIAISON

In accordance with ML Condition 7B, HDC LUC No 97/98-105 condition 3.4, HDC LUC 85.050.326.E conditions 40 and 41, HDC LUC RC-15774 condition 25, HDC LUC 202.2012 conditions 78 and 79, and RC-664.001.2017 Condition 33, OGNZL will maintain a Company Liaison Officer (CLO) position to liaise between OGNZL, the community and HDC. The CLO shall have sufficient delegated authority to be able to deal immediately with complaints received and shall be required to investigate those complaints as soon as possible after receipt

The name of the CLO together with the contact phone numbers for that person will be periodically notified in local newspapers. The current CLO and contact details are:

CLO - Donna Fisher DDI: 07 863-9827 Mobile: 027 279-9739

Free call: 0800 WAIHIGOLD (0800 924 444)

OGNZL has developed a range of communication and engagement strategies that can be utilised for different stakeholder groups as appropriate, including:

- A monthly “Update” column in the Waihi Leader, providing information on current mining activities and items of interest.
- A monthly Q&A interview on the local GoldFM radio.
- Press releases in local newspapers in response to media requests or project milestones.
- An actively managed web-site, <http://www.waihigold.co.nz/>, providing information on mining activities and including the “Update”.
- Public notice boards erected at Martha viewing areas to provide project information.
- Letter drops within the community when information about specific issues needs to be circulated.
- House visits to residents seeking further information.
- The use of various forums and groups to gain feedback and provide information (e.g. Waihi Community Forum and Iwi Advisory Group)

The closest residential property to the layback project is the HDC’s pensioner flats. The CLO will liaise with Robin Kirby (Executive Officer (Community Services)) of HDC on any issues arising for the pensioner flat residents. Any issues identified as potentially requiring additional mitigation action will be referred to EMMA (see s11) for resolution.

In addition, for Correnso, regular public meetings will be held to present information and receive feedback on past and proposed mining activities, and monitoring results.

9. COMPLAINT RESPONSE

The OGNZL Standard Operating Procedure for Complaints (WAI-800-PRO-007 Managing Public Complaints) will be used for any complaints received from the community.

10. TRAINING

All management, staff and contractors undertake an induction when newly appointed, and refreshers are taken every three years. In addition to the site health and safety training, the induction aims at raising general awareness of individual responsibilities for managing and reporting environmental and community effects. Reporting procedures and accountabilities to departmental managers and environmental staff are outlined, and all inductees are provided with a site contact list.

Responsibility for staff environmental awareness and training rests with the Health, Safety, Environment and Community Manager or delegated representative. Environmental personnel undertake noise monitoring with specialist training, support and guidance provided by Nevil Hegley of Hegley Acoustic Consultants Ltd.

11. NOISE MANAGEMENT PLAN REVIEW

This Plan should be regarded as a working document, and modifications to the document may be required as operations proceed. Any modification will be submitted to HDC for review and not implemented until approved.

APPENDICES

APPENDIX 1

NOISE CONDITIONS VARIED MINING LICENCE 32-2388 (Dated as at 02 June 2017)

1. The work to be undertaken pursuant to this licence shall be limited to the following:

(d) Monitoring

The regular monitoring of pit slopes, tailings retaining structures, ground movement, noise, blasting, vibration, air quality and rehabilitation programmes together with the necessary rectification work as required.

Construction operations

3. In respect of the extended project, construction conditions shall apply to the following activities:

Initial Construction Activities

- Removal of vegetation from around the extended pit, removal of topsoil, the initial cut-back, batter and first bench at any point around the pit;
- Demolition and relocation of pit surface facilities from inside the Mining Licence;
- Creation of noise bunds at Grey Street and to the west of the extended pit;
- Upgrade of conveyor system;
- Site clearance and topsoil stockpiling;
- Upgrade of pipeline from pit to Water Treatment Plant;
- Upgrade of Process Plant;
- Construction of pipeline from the Water Treatment Plant to the Ohinemuri River;
- Construction of the foundations of Storage 1A

Other Construction Activities

- Reworking of noise bunds at Grey Street and to the west of the pit at the end of their life;
- Removal of all plant and equipment during the closure/rehabilitation phase and recontouring of the land;
- Construction of lake outlet tunnel, enclosed structure and open channel

7B Company Liaison Officer

- (a) The licensee shall appoint a person ("the Company Liaison Officer"), subject to the approval of the Minister to liaise between the licensee, the community, and the Minister as set below. The Company Liaison Officer shall have sufficient delegated power to be able to deal immediately with complaints received and shall be required to investigate those complaints as soon as possible after receipt.
- (b) The name of the Company Liaison Officer together with the contact phone numbers for that person shall be publicly notified in local newspapers by the licensee prior to the commencement of the extended project (at least one month prior, but not more than two months prior to the commencement of construction activities) and at least once a year thereafter.
- (c) The Company Liaison Officer shall be appointed prior to the commencement of the extended project and this position shall be filled at all times during the construction activities as defined in Condition 3.

Council Liaison Officer

- (d) The licensee shall provide all the reasonable costs associated with the appointment and support of a Council Liaison Officer, to be employed by and be responsible to the Minister during the construction activities as defined in Condition 3.

(Note: The following is for information purposes only and does not form part of the condition.

The Council Liaison Officer may either be a new appointment or may be an existing employee.

Whether or not the appointee is an existing employee, the Council Liaison Officer's role shall be independent and objective and designed to promote effective gathering of information of effects upon the community from the mining activity; and, in the light of such information, to promote effective liaison with the Company Liaison Officer so that the effects identified may be remedied or mitigated.)

The functions and responsibilities of the Council Liaison Officer shall be as follows:

- (i) Liaise between the Company Liaison Officer, members of the community, the Waihi Liaison Forum (or its equivalent), and the Minister;
 - (ii) Report to the Minister on an "as events happen" basis, and weekly on complaints received, actions undertaken by the licensee and the complainant in respect to complaints, and on any other relevant actions and activities occurring during the week;
 - (iii) Ensure that the Company Liaison Officer is providing information to residents in the area around the mine and tailings facilities of the activities that are programmed to be undertaken in the coming week (especially land clearance, construction and blasting), activities that were carried out in the previous week and any other material that will inform the residents of what is programmed to happen in the coming weeks;
 - (iv) Facilitate the appointment of a mediator, venue, time etc agreeable to both parties, to undertake the mediation of disputes or concerns between the licensee and members of the community. Except in those situations where both parties are in agreement, the Council Liaison Officer's function is not to act as a mediator. The role of mediation is a specialist one that needs to be undertaken by persons experienced and trained in this area.
- (e) The Company Liaison Officer shall, during construction activities, report weekly to the Council Liaison Officer on all complaints received in the prior week and the action taken to investigate those complaints. In addition, the Company Liaison Officer shall investigate and report on any other matters as directed by the Council Liaison Officer concerning or arising out of construction activities. (See periods of construction activities as defined in condition 3.)
- (f) The Company Liaison Officer shall give residents who are likely to be affected and the Council Liaison Officer reasonable (minimum one week's) prior notice of construction activities, indicating likely timing and duration.
- (g) Following completion of initial construction activities, and prior to the commencement of other construction activities (ie during operations stage), the Company Liaison Officer shall report six monthly to the Minister on the following:
- (i) All complaints received during the previous six month period, action taken by the licensee and the resolutions, if any;
 - (ii) Other matters of concern raised by the community;
 - (iii) Any mediation entered into by the licensee and others with respect to operational matters and the outcome (unless the parties have agreed to keep such confidential).

7C Complaints procedure and mediation

Note: the following is for information purposes only and does not form part of the condition.

- Complainants will be expected to contact the Company Liaison Officer in the first instance (refer condition 7B(a)).
- During construction activities, if a complainant is dissatisfied with the response by the Company Liaison Officer, they shall contact the Council Liaison Officer with the details of the complaint and the Company Liaison Officer's response. Outside the construction activities, complainants shall contact any officer of the Minister.

The licensee shall comply with the following complaints procedure and mediation process:

- (a) The Company Liaison Officer shall meet with the complainant and the Council Liaison Officer to discuss the complaint and ways in which the issue can be resolved
- (b) If the parties cannot agree on a resolution, the matter shall be put to mediation.
(Note: The following is for information purposes only and does not form part of the condition:
 - (i) Refer condition 7B(d)(iv) above.
 - (ii) Unless the parties agree the outcome of mediation shall not be binding.)

7D Noise Bunds

- (a) The licensee shall, prior to commencing construction and reworking activities associated with the noise bunds associated with the extended project prepare and submit detailed proposals to the Minister.
- (b) Proposals shall indicate:
 - Activities to be carried out, including their sequence and duration. A discussion on construction and removal methods considered shall be provided.
 - Plant and equipment proposed to be used.
 - Any activities likely to be undertaken on land beyond the ownership or control of the licensee, the duration of such activities, and proposed measures to mitigate adverse effects that might be experienced by the general public and/or adjacent residents as a consequence of these activities.
 - Proposals with respect to the removal or demolition of existing houses lying within or adjacent to the proposed noise bund (construction proposals only).
 - Proposed measures to mitigate potential adverse effects (in particular noise, dust, traffic generation and visual impact) occurring as a consequence of construction and removal activities, in particular measures aimed at safeguarding adjacent residential amenity.
- (c) This condition shall be read in conjunction with Condition 25, including the proposals under this condition to incorporate the screen planting provisions.
- (d) The Company Liaison Officer shall also ensure that the programme of construction and reworking the noise bunds is provided to all residents in the immediate area surrounding the bund who in his/her opinion are likely to experience the effects of these activities and to the Council Liaison Officer. This programme shall be provided at least 5 days in advance of the work being undertaken.
- (e) The construction of part of the noise bund over Junction Road cannot be undertaken until such time as the stopping of Junction Road has been completed.
- (f) A 2 metre high close boarded wooden fence shall be constructed along the Grey Street frontage to visually screen the site and to provide noise attenuation, prior to any clearance of vegetation or other activities associated with the extended project are undertaken. Once the noise bund is completed, the 2 metre high closed boarded wooden fence can be removed to be used on the top of the noise bund.
- (g) Non acid forming material shall be used in the construction of the noise bund to ensure that no leaching occurs during or after construction of the noise bund.

Hours of work

- 8.** Construction work shall be limited to within the following hours:

Monday – Friday	0700-2000 daily
Saturdays	0730-1800

- (a) Provided that construction work hours at the process plant site shall be permitted outside of the above hours as long as the noise levels do not exceed those specified in Condition 9(a).

- (b) The above hours of work do not apply with respect to the use of water trucks for the purpose of controlling dust, so long as this activity complies with the noise level criteria of condition 9.

Construction noise during construction period

9. (a) With the exception of Waihi Central School where the construction noise limit shall be 55dB L_{Aeq} at any point within the boundary of the school, all construction activities provided for the Mining Licence taking place within the Mining Licence area shall not exceed the following limits:

Monday-Friday	Saturdays	L_{Aeq}	L_{AFmax}
0630-0730		60	70
0730-1800	0730-1800	75	90
1800-2000		70	85

At all other times, including Sundays and Public Holidays, the noise level shall not exceed 40 dB L_{Aeq} .

All noise shall be measured within or close to the boundary of any residentially zoned site or the notional boundary of any occupied rural dwelling site not owned by the licence holder or related company or not subject to an agreement with the licence holder or related Company.

In the event that a property is sold and ceases to be subject to an agreement between the licence holder (or related Company) and the purchaser, or in the event that there is no longer an agreement between the licence holder (or related Company) and the landowner, the location for the measurement of noise shall revert to being on or close to the boundary of that residentially zoned site of the notional boundary of the occupied rural site.

- (b) Construction noise shall be managed, measured and assessed in accordance with the requirements of NZS 6803:1999 Acoustics – Construction Noise.
- (e) Tree-felling shall be conducted to minimise as far as practicable noise intrusion on all neighbouring properties.
- (f) Unwanted surface material at the mine site shall be used wherever practical when barriers are required close to the pit edge or near the rotary crusher to reduce noise.
- (g) Soil stored in the waste disposal area shall be used where practical when noise attenuation is required.
- (h) All equipment and machinery shall be regularly maintained to ensure noise levels as low as reasonably attainable.

Hours of work

19. (a) Open Pit Mining and Conveying (other than maintenance work)
Permissible operating hours within the open pit, adjacent service facilities and conveyor corridor shall be restricted to:

Monday-Friday	0700-2100
Saturday	0700-1200

- (b) Operations within the process plant
The plant may operate twenty-four (24) hours per day, seven (7) days per week.
- (c) Operations within the waste and tailings area (other than maintenance work)
Permissible operating hours within the waste and tailings area shall be restricted to:

(i) Waste disposal:	
Monday-Friday	0700-2100
Saturday	0700-1200

(ii) Tailings disposal:

Twenty-four (24) hours per day, seven (7) days per week.

- (d) The above hours of work to apply provided that operations in (a) and (c)(i) above are only permitted between 1900 and 2100 hours Monday-Friday if the operations are of an urgent nature and necessary for the effective carrying out of mining operations and that they comply with the noise level criteria as specified in Condition 21(a).
- (e) Details of all operations conducted under (d) above shall be entered into a record book kept for that purpose.
- (f) The above hours of work in conditions (a) to (d) do not apply with respect to the use of water trucks for the purpose of controlling dust so long as this activity complies with the noise level criteria of condition 21.

Noise

- 21** a) All activities provided for by the Mining Licence taking place on any site within the Mining Licence taking place within the Mining Licence area shall not exceed the following limits when measured at or within the boundary of any residentially zoned site or the notional boundary of any occupied rural dwelling in the Rural Zone and measured over the periods specified below:

Monday-Friday	0700-2100	55 dB LAeq
Saturday	0700-1200	55 dB LAeq
All other times		40 dB LAeq
	2100-0700 (the following day)	70 dB LAFmax

All noise shall be measured within or close to the boundary of any residentially zoned site or the notional boundary of any occupied rural dwelling site not owned by the licence holder or related company or not subject to an agreement with the licence holder or related Company.

In the event that a property is sold and ceases to be subject to an agreement between the licence holder (or related Company) and the purchaser, or in the event that there is no longer an agreement between the licence holder (or related Company) and the landowner, the location for the measurement of noise shall revert to being on or close to the boundary of that residentially zoned site of the notional boundary of the occupied rural site.

- (d) Noise shall be measured and assessed in accordance with the provisions of New Zealand Standards NZS 6801:2008 Acoustics - Measurement of Environmental Sound and assessed in accordance with the provisions of NZS 6802:2008 Acoustics - Environmental Noise.
- (e) **Noise Management Plan**
The licence holder shall prepare a Noise Management Plan. This Management Plan shall be submitted to and approved by Hauraki District Council. The objective of this plan is to detail the methods to be used to comply with conditions 21 and 30.

Noise

30.

- (a) The licensee shall at weekly intervals during construction activities (as defined in Condition 3) and at intervals not exceeding six (6) months during operational activities, assess and record representative noise levels generated by mining operations.
- (b) Representative noise levels during construction and operation activities shall be measured and assessed in accordance with the methods specified in Conditions 9 and 21.
- (c) The licensee shall, unless otherwise directed to do so by the Minister following consultation with the licensee, provide a quarterly summary report to the Minister on the representative noise levels.

APPENDIX 2

NOISE CONDITIONS

MARTHA - HDC LAND USE CONSENT NO. 97/98-105

3.4 LIAISON OFFICERS

Company Liaison Officer

- a) The consent holder shall appoint a person ("the Company Liaison Officer"), subject to the approval of the Hauraki District Council and the Waikato Regional Council to liaise between the consent holder, the community, the Hauraki District Council and the Waikato Regional Council as set out in this consent. The Company Liaison Officer shall have sufficient delegated power to be able to deal immediately with complaints received and shall be required to investigate those complaints as soon as possible after receipt.
- b) The name of the Company Liaison Officer together with the contact phone numbers for that person shall be publicly notified in local newspapers by the consent holder prior to the exercising of this consent (at least one month prior, but not more than two months prior to the commencement of construction activities) and at least once a year thereafter.
- c) The Company Liaison Officer shall be appointed prior to the exercising of this consent and this position shall be filled at all times during the construction activities as defined in Condition 3.3.

Council Liaison Officer

- d) The consent holder shall provide all the reasonable costs associated with the appointment and support of a Council Liaison Officer, to be employed by and be responsible jointly to the Hauraki District Council and Waikato Regional Council during the construction activities as defined in Condition 3.3.

(Note: The following is for information purposes only and does not form part of the condition.

The Council Liaison Officer may either be a new appointment or may be an existing employee. Whether or not the appointee is an existing employee, the Council Liaison Officer's role shall be independent and objective and designed to promote effective gathering of information of effects upon the community from the mining activity; and, in the light of such information, to promote effective liaison with the Company Liaison Officer so that the effects identified may be remedied or mitigated.

The functions and responsibilities of the Council Liaison Officer shall be as follows:

- i) *liaise between the Company Liaison Officer, members of the community, the Waihi Liaison Forum (or its equivalent), Hauraki District Council and Waikato Regional Council;*
- ii) *report to the Hauraki District Council and Waikato Regional Council on an "as events happen" basis, and weekly on complaints received, actions undertaken by the consent holder and the complainant in respect to complaints, and on any other relevant actions and activities occurring during the week;*
- iii) *ensure that the Company Liaison Officer is providing information to residents in the area around the mine and tailings facilities of the activities that are programmed to be undertaken in the coming week (especially land clearance, construction and blasting), activities that were carried out in the previous week and any other material that will inform the residents of what is programmed to happen in the coming weeks;*
- iv) *facilitate the appointment of a mediator, venue, time etc agreeable to both parties, to undertake the mediation of disputes or concerns between the consent holder and members of the community. Except in those situations where both parties are in agreement, the Council Liaison Officer's function is not to act as a mediator. The role of mediation is a specialist one that needs to be undertaken by persons experienced and trained in this area).*

- e) The Company Liaison Officer shall, during construction activities, report weekly to the Council Liaison Officer on all complaints received in the prior week and the action taken to investigate those complaints. In addition, the Company Liaison Officer shall investigate and report on any other matters as directed by the Council Liaison Officer concerning or arising out of construction activities. (See periods of construction activities as defined in condition 3.3)
- f) The Company Liaison Officer shall give residents who are likely to be affected and the Council Liaison Officer reasonable (minimum one week's) prior notice of construction activities, indicating likely timing and duration.
- g) Following completion of initial construction activities, and prior to the commencement of other construction activities (ie during operations stage), the Company Liaison Officer shall report six monthly to the Hauraki District Council and the Waikato Regional Council on the following:
 - (i) All complaints received during the previous six month period, action taken by the consent holder and the resolutions, if any;
 - (ii) Other matters of concern raised by the community;
 - (iii) Any mediation entered into by the consent holder and others with respect to operational matters and the outcome (unless the parties have agreed to keep such confidential).

3.5 COMPLAINTS PROCEDURE AND MEDIATION

(Note: The following is for information purposes only and does not form part of the condition:

- i) *Complainants will be expected to contact the Company Liaison Officer in the first instance (refer to Condition 3.4 a)).*
- ii) *During the construction activities, if the complainant is dissatisfied with the response by the Company Liaison Officer, they shall contact the Council Liaison Officer with details of the complaint and the Company Liaison Officer's response. Outside the construction activities, complainants shall contact the Manager Planning and Environmental Services or any other Officer of Council.).*

The consent holder shall comply with the following complaints procedure and mediation process:

- a) The Company Liaison Officer shall meet with the complainant and the Council Liaison Officer, to discuss the complaint and ways in which the issue can be resolved.
- b) If the parties cannot agree on a resolution, the matter shall be put to mediation.

(Note: The following is for information purposes only and does not form part of the condition:

- i. *Refer to Condition 3.4 d), Note iv)*
- ii. *Unless the parties agree, the outcome of the mediation shall not be binding.)*

3.7 HOURS OF WORK

- (a) *Construction Activities (refer to definition in Condition 3.3)*

Monday - Friday	0700 - 2000
Saturday	0730 - 1800

(b) *Mining Operations and Conveying (other than maintenance work)*

Permissible operating hours within the open pit, adjacent service facilities and conveyor corridor shall be restricted to:

Monday - Friday 0700 - 2100

Saturday 0700 - 1200

(c) *Operations within Area D (other than maintenance work)*

Permissible operating hours within Area D for waste disposal and stockpiling of topsoil shall be restricted to:

Monday - Friday 0700 - 2100

Saturday 0700 - 1200

(d) The above hours of work to apply provided that operations in (b) and (c) above are only permitted between 1900 and 2100 hours Monday - Friday if the operations are of an urgent nature and necessary for the effective carrying out of mining operations and they comply with the noise level criteria as specified in Condition 3.8(b). Details of all such operations are to be recorded and available to the Council upon request.

(e) The above hours of work do not apply with respect to the use of water trucks for the purpose of controlling dust, as long as this activity complies with the noise level criteria of Condition 3.8.

3.8 NOISE

(a) Construction (refer to the definition in Condition 3.3)

The noise levels as measured at any point within the boundary of any Residential, Rural Residential, Reserve (Passive), Industrial (Light) zoned site or at any occupied rural dwelling within the Rural Zone not owned by the Company as shown on the plan titled "Extended Project - Plan Showing Company Owned Residences (Indicative), 05/05/98" attached in Appendix D:

Monday - Friday	Saturdays	L10	Lmax
0630 – 0730		60	70
0730 – 1800	0730 – 1800	75	90
1800 – 2000		70	85

At all other times, including Sundays and Public Holidays, the noise level (L₁₀) shall not exceed 40 dBA.

However, with respect to the Waihi South School a noise level (L₁₀) of 55 dBA at the boundary shall be complied with during school hours, otherwise the above dBA limits shall not be exceeded.

Subject to the express provisions of this condition, the noise levels shall be measured and assessed in accordance with the requirements of NZS 6803P:1984 The Measurement and Assessment of Noise from Construction, Maintenance and Demolition Work. Adjustments provided in Clause 6.1 of NZS 6803P : 1984 shall not apply, and references in the Tables of NZS 6803P : 1984 to "NZS 6802" shall be read as references to this condition.

(b) Operations

i) Activities Outside Areas C, D, E, F, G, H, I & K

Until the Reduction of the North Wall

The mean corrected noise level (L_{10}) at any point outside the 55 dBA and 50 dBA control boundaries shown in Plan 1 (copy attached in Appendix E) arising from mining and related activities shall not exceed the limits specified below:

		55 dBA Control Boundary	50 dBA Control Boundary
Mon – Fri	0700-2100	55 dBA	50 dBA
Sat	0700-1200	55 dBA	50 dBA
All other times		40 dBA	40 dBA

Plan 1 (copy attached in Appendix E) shows the 55 dBA and 50 dBA control boundaries that shall apply until the reduction of the north wall has reached RL 112.5, or until 24 months after the commencing of reduction of the north wall, whichever is the sooner.

After the Reduction of the North Wall

The mean corrected noise level (L_{10}) at any point outside the 55 dBA and 50 dBA control boundaries shown in Plan 2 (copy attached in Appendix E) arising from mining and related activities shall not exceed the limits specified below:

		55 dBA Control Boundary	50 dBA Control Boundary
Mon – Fri	0700-2100	55 dBA	50 dBA
Sat	0700-1200	55 dBA	50 dBA
All other times		40 dBA	40 dBA

ii) Areas C & D

The mean corrected noise level (L_{10}) measured on the boundary of any Residential, Rural Residential, Reserve (Passive), Industrial (Light) zoned site or the notional boundary of any occupied rural dwelling site within the Rural Zone:

- 1) within the boundary of the Extended Martha Mine Area as shown on Planning Maps K1 - K5 of the Operative Hauraki District Plan and that site is not owned by the Waihi Gold Company; or
- 2) outside the boundary of the Extended Martha Mine Area as shown on Planning Maps K1 - K5 of the Operative Hauraki District Plan and measured over the periods specified below, shall not exceed the following limits:

Monday - Friday	0700-2100	55 dBA
Saturday	0700-1200	55 dBA
All other times		40 dBA

iii) Areas E, F, G, H, I, J & K

The provisions of Rule 9.4.1 of the Operative Hauraki District Plan shall apply.

In considering the action to be taken as a result of any breach of the noise limits, Council shall have regard to the following factors:

- 1) The total time duration for which the noise exceeded the limit
- 2) The time of the day at which the breach occurred
- 3) Whether the breach occurred as a result of factors beyond the control of the consent holder or contractor
- 4) The amount by which the noise limit was exceeded
- 5) The likelihood that the breach will recur

- 6) The actions taken to prevent recurrence of the breach
- 7) Action taken to mitigate the noise and whether the best practicable option for the circumstances was adopted

For the purposes of 4) above, a breach of the noise limit by 5dBA or less shall be considered marginal. The Council will seek an explanation of the reasons for a marginal breach, and will seek that action be taken to avoid a recurrence if practical. The Council will not take enforcement action in respect of a marginal breach to achieve compliance where this would impose unreasonable restrictions on mine operations, such breach being one that will not impose anything more than minor adverse effects upon the residential areas in the vicinity of the mine. The Council may pursue enforcement action if the breach persists unduly in the circumstances or if the best practicable option is not being adopted.

- (c) For the purposes of determining the mean corrected noise level (L_{10}), the measurement intervals shall be representative of any single working day and shall consist of at least three measurement intervals of at least 15 minutes duration each, in any non-consecutive 60-minute periods spread over the working day.

For the purposes of this condition, the term “measurement interval” refers to the duration for which measurement data is recorded and retained, and excludes time when the data was not stored or was erased (such as when the meter is set to pause).

- (d) The mean corrected noise level shall be calculated on an energy basis from the measurements and no single corrected measured level shall exceed the permitted mean level by more than 5 dBA.
- (e) Subject to the express provisions of this condition the noise levels shall be measured and assessed in accordance with the requirements of the New Zealand Standards NZS 6801: 1991 Measurement of Sound and NZS 6802: 1991¹ Assessment of Environmental Sound.

3.9 MONITORING AND REPORTING ON NOISE LEVELS

- (a) The consent holder shall at weekly intervals during construction activities (as defined in Condition 3.3) and at intervals not exceeding six (6) months during operational activities, assess and record representative noise levels generated by mining operations.
- (b) Representative noise levels during construction and operation activities shall be measured and assessed in accordance with the methods specified in Condition 3.8.
- (c) The consent holder shall, unless otherwise directed to do so by the Council following consultation with the consent holder, provide a summary report to the Council at the end of each February, May, August and November² on the representative noise levels.

¹ WG now comply with the updated version - NZS 6801:1999

² HDC have agreed that WG provide the quarterly summary reports at the end of each March, June, September & December.

APPENDIX 3

NOISE CONDITIONS

HDC LAND USE CONSENT 85.050.326.E (FAVONA)

FOR THE FAVONA UNDERGROUND MINE

Noise

5. All noise associated with the construction and use of the Favona Underground Mine Project (including associated activities of stockpiling and construction works) shall be measured at any point within or at the boundary of any residentially zoned site or the notional boundary of any occupied rural dwelling site not owned by the consent holder or related Company, or not subject to an agreement with the consent holder or related Company as shown on Figure 2-3 of the Assessment of Environmental Effects (attached to this consent as **Attachment A**). In the event that a property is sold, and is not subject to an agreement between the consent holder (or related Company) and the purchaser, or in the event that there is no longer an agreement between the consent holder (or related Company) and the occupier, the measurement of noise shall revert to being measured at any point within or at the boundary of the residentially zoned site or the notional boundary of the occupied rural site.

The noise associated with the construction and use of the Favona Underground Mine Project shall be measured cumulatively with other noise emanating from the Exploration Decline (should this be operated simultaneously), all operations within the process plant, operations within the waste and tailings areas, and the conveyor and associated activities over the periods specified below, and shall not exceed the following limits:

Monday – Friday	0700-2100	55dBA L ₁₀
Saturday	0700-1200	55dBA L ₁₀
All other times		40dBA L ₁₀
All nights	2100-0700 (the following day)	70dBA L _{max}

The measurement periods to determine the daytime L₁₀ shall be representative of any single working day (i.e. 0700 – 2100 Monday to Friday, and 0700 – 1200 Saturday) and shall consist of at least three measurement periods of at least 15 minutes duration each, in any non-consecutive 60-minute periods spread over the working day.

The daytime mean corrected noise level shall be calculated on an energy basis from the measurements and no single corrected measured level shall exceed the permitted mean level by more than 5dBA.

(Note: The term ‘related Company’ includes Waihi Mines Limited, Welcome Gold Mines Limited, Auag Resources Limited, Martha Mining Limited, Waihi Gold Mining Company Limited, and Waihi Gold Company Nominees Limited.)

6. Subject to the express provisions of Condition 5, the noise levels shall be measured and assessed in accordance with the requirements of the New Zealand Standards NZS 6801:1999 Measurement of Environmental Sound and NZS 6802:1991 Assessment of Environmental Sound.
7. Before any operations take place on or in association with the polishing pond stockpile between the hours of 2100 hrs and 0700 hrs the following day the consent holder shall demonstrate in practice, to the satisfaction of the Manager – Planning and Environmental Services, that it is able to comply with Condition 5. The process proposed to demonstrate compliance shall be included in the Noise Management Plan (Condition 10) and will require Council to obtain a report from the liaison officer appointed under Condition 40 as to complaints received and the steps taken in response.
8. The consent holder shall establish maximum sound power levels for individual items of Favona Mine equipment and record these in the noise management plan. All equipment and machinery shall be regularly maintained to ensure compliance with the noise levels in Condition 5.
9. Monitoring and Reporting

Unless it can be demonstrated that adverse weather conditions prevented noise monitoring on each day of the seven day period, the consent holder shall monitor noise levels at weekly intervals during any construction of buildings, haul and access roads, any noise bunds and the vent shaft riser and during stockpile site preparation works. In addition and unless it can be demonstrated that adverse weather conditions prevented noise monitoring on each day of the seven day period the consent

holder shall monitor noise levels at weekly intervals for the first six months of production operations and, if the monitoring demonstrates compliance with the noise limits, thereafter at intervals not exceeding 3 months. In the event that noise limits are exceeded then monitoring shall continue at weekly intervals while steps are undertaken to remedy the situation. Such measures shall be implemented immediately.

Records of all noise monitoring shall be maintained and provided to Council on request.

Representative noise levels shall be measured and assessed in accordance with the methods specified in Condition 6, and as set out in the Noise Management Plan (Condition 10).

The consent holder shall, unless otherwise directed to do so by Council following consultation with the consent holder, provide a summary report to the Council at the end of each 3 month period from commencement of work to completion of the project (i.e. once all rehabilitation has been completed) on the following:

- i) Results of the noise monitoring;
- ii) Any complaints received during the previous 3 month period, action taken by the consent holder and the resolution (if any); and
- iii) Any other matters of concern raised with the consent holder.

10. Noise Management Plan

The consent holder shall, 1 month prior to exercising this consent, prepare a noise management plan to the satisfaction of the Manager Environment and Planning. The objective of this plan is to detail the methods to be used to comply with Conditions 5, 6, 7, 8 & 9.

APPENDIX 4

NOISE CONDITIONS HDC LAND USE CONSENT RC-15774 (TRIO) FOR THE TRIO UNDERGROUND MINE

Noise

5. All noise associated with the Trio Underground Mine Project shall be measured on or close to the boundary of any residentially zoned site or the notional boundary of any occupied rural dwelling site not owned by the consent holder or related company or not subject to an agreement with the consent holder or related company. In the event that a property is sold and ceases to be subject to an agreement between the consent holder (or related company) and the purchaser, or in the event that there is no longer an agreement between the consent holder (or related company) and the landowner, the measurement of noise shall revert to being on or close to the boundary of the residentially zoned site or the notional boundary of the occupied rural site.

All noise associated with the Trio Underground Mine Project shall be over the periods specified below, and shall not exceed the Noise Level limits specified below:

Time Period	Noise Limits	
	L ₁₀	L _{max}
Monday – Friday 0700-2100	55	NA
Saturday 0700-1200	55	NA
On all nights 2100-0700 (the following day)	NA	70
All other times	40	NA

The noise shall be measured cumulatively with other noise emanating from the Martha Mine and Favona Underground Mine (should there be simultaneous sources of noise generation), all operations within the process plant, operations within the waste and tailings area, and the conveyor and associated activities

The day time measurement periods to determine the L₁₀ noise level shall be representative of any single working day and shall consist of at least three measurement periods of at least 15 minutes duration each, in any non-consecutive 60-minute periods spread over the working day.

The mean corrected noise level shall be calculated on an energy basis from the measurements and no single corrected measured level shall exceed the permitted mean level by more than 5dBA.

Subject to the express provisions in the table in this condition, the noise levels shall be measured and assessed in accordance with the requirements of the New Zealand Standards NZS6801:1999 Measurement of Environmental Sound and NZS6802:1991 Assessment of Environmental Sound.

6. Noise Monitoring and Reporting

- a) Noise monitoring to confirm compliance with the noise levels in Condition 5 shall be undertaken as follows:
- Unless it can be demonstrated that adverse weather conditions prevented noise monitoring on each day of the seven day period, the consent holder shall monitor noise levels for the site at weekly intervals for 6 weeks from the commencement of Trio Underground mining operations, and if the monitoring demonstrates compliance with the noise limits, thereafter at intervals not exceeding three months.

In the event that noise limits are exceeded then monitoring shall continue at weekly intervals while steps are undertaken to comply with Condition 5. Such measures to comply with Condition 5 shall be implemented immediately.

Note: Such ongoing monitoring may be undertaken in conjunction with the Favona Land Use Consent (85.050326E) and the Martha Mining Licence (ML 322388).

- b) Records of all noise monitoring shall be maintained and provided to Council on request.
- c) Representative noise levels shall be measured and assessed in accordance with the methods specified in Condition 5, and as set out in the Noise Management Plan (Condition 7).
- d) The consent holder shall, unless otherwise directed to do so by Council following consultation with the consent holder, provide a summary report to the Council at the end of each 3 month period from commencement of work Trio Underground mining operations to completion on the following:

- (i) Results of the noise monitoring that is of direct relevance to the Trio Underground Mine Project;
- (ii) All complaints received during the previous 3 month period, action taken by the consent holder and the resolution (if any); and
- (iii) Any other matters of concern raised with the consent holder.

7. Noise Management Plan

The consent holder shall, 1 month prior to the exercise of this consent, prepare a noise management plan for the Trio Underground Mine Project for the written approval of the Manager Environment and Planning, Hauraki District Council. The objective of this plan is to detail the methods to be used to comply with Conditions 5 and 6 of this consent.

APPENDIX 5

NOISE CONDITIONS HDC LAND USE CONSENT RC- 202.2012 (CORRENZO) FOR THE CORRENZO UNDERGROUND MINE

Noise

- 7 All noise associated with the use of existing facilities and infrastructure by the Correnso Underground Mine provided for under ML32 2388 and the Extended Project and Favona and Trio land use consents referenced in Condition 2 above and identified in Schedule A of this consent shall not exceed the applicable Noise Level limits contained in the existing licences and consents identified in Schedule A of this consent.
- 8 The mean corrected noise level (L10) arising from the construction, operation and decommissioning of the Correnso Underground Mine vent shaft shall not exceed the limits shown in Figure 2 – Noise Monitoring Sites attached to this consent and specified below:

		55 dBA Control Boundary	50 dBA Control Boundary
Monday – Friday	0700-2100	55 dBA	50 dBA
Saturday	0700-1200	55 dBA	50 dBA
All other times		40 dBA	40 dBA

- 9 The mean corrected noise level (L10) arising from the construction, operation and decommissioning of the Correnso Underground Mine cemented aggregate fill plant at any point measured on the boundary of any Residential, Rural Residential, Reserve (Passive), Industrial (Light) zoned site or the notional boundary of any occupied rural dwelling site within the Rural Zone shall not exceed the limits specified below:

Monday - Friday	0700-2100	55 dBA
Saturday	0700-1200	55 dBA
All other times		40 dBA

- 10 Except as provided for in Condition 8, all noise associated with the Correnso Underground Mine shall be measured within or close to the boundary of any residentially zoned site or the notional boundary of any occupied rural dwelling site not owned by the consent holder or related company, or not subject to an agreement with the consent holder or related company. In the event that a property is sold and ceases to be subject to an agreement between the consent holder (or related company) and the purchaser, or in the event that there is no longer an agreement between the consent holder (or related company) and the landowner, the measurement of noise shall revert to being on or close to the boundary of that residentially zoned site or the notional boundary of the occupied rural site.

The noise shall be measured cumulatively with other noise emanating from the Martha Mine and the Favona and Trio Underground Mines (should there be simultaneous operations), all operations within the process plant area, operations within the waste and tailings area, and the conveyor and associated activities.

The daytime measurement periods to determine the L10 shall be representative of any single working day and shall consist of at least three measurement periods of at least 15 minutes duration each, in any non-consecutive 60-minute periods spread over the working day.

The mean corrected noise level shall be calculated on an energy basis from the measurements and no single corrected measured level shall exceed the permitted mean level by more than 5dBA.

Subject to the express provisions in this condition, the noise levels shall be measured and assessed in accordance with the requirements of the New Zealand Standards NZS6801:1999, Measurement of Environmental Sound and NZS6802:1991, Assessment of Environmental Sound.

- 11 Noise Monitoring and Reporting

- a) The consent holder shall undertake the monitoring required by these conditions at its cost. Noise monitoring to confirm compliance with the noise levels in Conditions 7, 8 and 9 shall be undertaken as follows:
 - i) Unless it can be demonstrated that adverse weather conditions prevented noise monitoring on each day of the seven day period, the consent holder shall monitor noise levels for the site at weekly intervals for 6 weeks from:
 - Commencement of construction of the ventilation shaft in the Surface Facilities Area; and
 - Commencement of the Correnso Underground Mine.
 - ii) Monitoring of noise from the operation of the ventilation fan shall be undertaken on two separate nights. This monitoring shall be undertaken within 2 months of the ventilation fan being installed and operating.

If the monitoring required in i) and ii) above demonstrates compliance with the noise limits, noise monitoring shall be undertaken thereafter at intervals not exceeding three months for the duration of the activity identified above.

In the event that noise limits are exceeded then monitoring shall continue at weekly intervals while steps are undertaken to comply with Conditions 7, 8 and 9. Such measures to comply with Conditions 7, 8 and 9 shall be implemented immediately.

- iii) Such ongoing monitoring shall be undertaken in conjunction with the Martha Mining Licence (ML 32 2388), the Extended Project Land Use Consent (97/98-105), the Favona Land Use Consent (85.050.326E) and the Trio Land Use Consent (RC-15774).
- b) Records of all noise monitoring shall be maintained and provided to Council on request.
- c) Representative noise levels shall be measured and assessed in accordance with the methods specified in Condition 10, and as set out in the Noise Management Plan (Condition 12).
- d) The consent holder shall, unless otherwise directed to do so by Council following consultation with the consent holder, provide a summary report to the Council at the end of each 3 month period from commencement of work to completion on the following:
 - i) Results of the noise monitoring that is of direct relevance to the Correnso Underground Mine; and
 - ii) All complaints received during the previous 3 month period, action taken by the consent holder and the resolution (if any); and
 - iii) Any other matters of concern raised with the consent holder.

12 Noise Management Plan

The consent holder shall prepare a Noise Management Plan for the written approval of the Council. The objective of the Plan is to detail the methods to be used to comply with Conditions 7, 8, 9, 10 and 11 of this consent. This Plan shall be submitted to the Council at least 1 month prior to the exercise of this consent and the consent shall not be exercised until the Noise Management Plan has been approved by the Council. The Noise Management Plan may be reviewed and amended from time to time, subject to the approval of Council but not in a manner inconsistent with these conditions.

Advice note:

The Noise Management Plan may be prepared in conjunction with Noise Management Plans prepared in accordance with the consent requirements applying to other mines in the Waihi Area.

APPENDIX 6

NOISE CONDITIONS

HDC LAND USE CONSENT RC- 664.001.2017 (MDDP) FOR THE MARTHA DEVELOPMENT DRIVE PROJECT (MDDP)

- 7 Prior to the installation of the ventilation fan, the consent holder shall provide an acoustic report, prepared by a suitably qualified and experienced acoustical consultant to the Hauraki District Council for its certification. The acoustic report shall include the manufacturer's noise data for the ventilation fan the predicted noise levels at critical neighbouring sites, a recommendation on whether silencers are required to ensure compliance with the noise limits in condition 9 (on a cumulative basis), and the acoustic performance of any silencers, if required. Should the Council (in liaison with an independent, suitably qualified noise expert) refuse to certify the report, it will explain its reasons and the consent holder shall submit a revised report to Council. The fan shall not be operated until the report is certified.
- 8 Noise associated with the use of existing facilities and infrastructure by the MDDP provided for the licences and consents identified in Schedule A of this consent shall not exceed the applicable noise level limits contained in the existing licences and consents identified in Schedule A of this consent.
- 9 The mean corrected noise level (L_{Aeq}) arising from the construction, operation and decommissioning of the inlet ventilation portal and fan located in the south west wall of the Martha Pit shall not exceed the limits shown in Figure 2 – Noise Control Boundaries and specified below:

		55 dBA Control Boundary	50 dBA Control Boundary
Monday – Friday	0700-2100	55 dBL _{Aeq}	50 dBL _{Aeq}
Saturday	0700-1200	55 dBL _{Aeq}	50 dBL _{Aeq}
All other times		40 dBL _{Aeq}	40 dBL _{Aeq}

- 10 All noise associated with the MDDP shall be measured within or close to the boundary of any residentially zoned site or the notional boundary of any occupied rural dwelling site not owned by the consent holder or related company, or not subject to an agreement with the consent holder or related company. In the event that a property is sold and ceases to be subject to an agreement between the consent holder (or related company) and the purchaser, or in the event that there is no longer an agreement between the consent holder (or related company) and the landowner, the measurement of noise shall revert to being on or close to the boundary of that residentially zoned site or the notional boundary of the occupied rural site.

The noise shall be measured cumulatively with other noise emanating from the Martha Mine and the underground mines of Favona, Trio, CEPPA and SUPA (should there be simultaneous operations), all operations within the process plant area, operations within the waste and tailings area, and the conveyor and associated activities.

Subject to the express provisions in this condition, the noise levels shall be measured in accordance with the provisions of New Zealand Standards NZS6801:2008 Acoustics - Measurement of Environmental Sound and assessed in accordance with the provisions of NZS6802:2008 Acoustics - Environmental Noise.

11 Noise Monitoring and Reporting

- a) The consent holder shall undertake the monitoring required by these conditions at its cost. Noise monitoring to confirm compliance with the noise levels in conditions, 9, 9 and 10 shall be undertaken as follows:
 - i. Unless it can be demonstrated that adverse weather conditions prevented noise monitoring on each day of the seven day period, the consent holder shall monitor noise levels for the site at weekly intervals throughout the period of construction of the ventilation portal.
 - ii. Monitoring of noise from the operation of the ventilation fan shall be undertaken on two separate nights. This monitoring shall be undertaken within two months of the ventilation fan being installed and operating.
 - iii. If the monitoring required in i and ii above demonstrates compliance with the noise limits, noise monitoring shall be undertaken thereafter at intervals not exceeding three months for the duration of the activity identified above.

In the event that noise limits are exceeded then monitoring shall continue at weekly intervals while steps are undertaken to comply with conditions 8, 9 and 10. Such measures to comply with conditions 8, 9 and 10 shall be implemented immediately.

- iv. Such ongoing monitoring shall be undertaken in conjunction with that required under the licences and consents identified in Schedule A of this consent.
- b) Records of all noise monitoring shall be maintained and provided to Council on request.
- c) Representative noise levels shall be measured and assessed in accordance with the methods specified in condition 10, and as set out in the Noise Management Plan (condition 12).
- d) The consent holder shall, unless otherwise directed to do so by Council following consultation with the consent holder, provide a summary report to the Council at the end of each three month period from commencement of work to completion on the following:
 - i) Results of the noise monitoring that are of direct relevance to the MDDP; and
 - ii) All complaints received during the previous three month period, action taken by the consent holder and the resolution (if any); and
 - iii) Any other matters of concern raised with the consent holder.

12 Noise Management Plan

The consent holder shall prepare a Noise Management Plan for the written approval of the Council. The objective of the Plan is to detail the methods to be used to comply with conditions 8 to 11 of this consent. This Plan shall be submitted to the Council at least two weeks prior to the exercise of this consent and the consent shall not be exercised until the Noise Management Plan has been approved by the Council. The Noise Management Plan may be reviewed and amended from time to time, subject to the approval of Council but not in a manner inconsistent with these conditions.

Advice note:

The Noise Management Plan may be prepared in conjunction with Noise Management Plans prepared in accordance with the consent requirements applying to other mines in the Waihi Area.

APPENDIX 7

MARTHA MINE NOISE MITIGATION PLAN

Martha Mine

Noise Mitigation Plan

Document Control

Version	Date	Description	Author	Approved
1.0	May 04	Description of process	P Fransen	K Rogan, D Ingle
2.1	April 04	Pre-empt complaint procedure	P Fransen	K Rogan, D Ingle
3.0	June 04	Reporting requirements	P Fransen	K Brodie, D Ingle
4.0	June 06	Review and modify flow chart	G Hurley	G Grindlay
4.1	Dec 09	Include noise limits	M Burroughs	G Grindlay
5.0	Dec 11	Review and modify flow chart	R Squire	G Grindlay

Martha Mine Noise Mitigation Plan

Purpose

The purpose of this plan is to ensure that elevated noise levels under certain operating and weather conditions are reduced by timely and effective action. The plan has been developed based on the company's desire to comply with the consents relating to noise as well as minimise effects on the community.

The plan is based on defined status levels that may lead to the implementation of various noise mitigation measures at the Martha Pit.

Internal reporting/notification

- The following mean corrected noise limits (Logarithmic Mean L_{10}) are to be complied with:

Noise Limits – Martha

		55 dBA Control Boundary	50 dBA Control Boundary
Mon - Fri	07:00 – 21:00	55 dBA	50 dBA
Sat	07:00 – 12:00	55 dBA	50 dBA
All other	21:00 – 07:00	40 dBA	40 dBA

Note: no single corrected measured level shall exceed the permitted mean level by more than 5dBA.

Status Levels

Three status levels are recognised:

1) Green Status

a) Normal operational mode where:

- measurements have been made they are within the consent limits
- no justifiable noise complaints have been received

2) Yellow Status

- The wind speed at the met station³ exceeds 3 m/s and a site assessment has determined mine noise to be potentially objectionable.
- The mine noise is perceived as excessive, but the wind speed at the receiver exceeds 5 m/s and a noise measurement cannot be made.
- A mine-dominant noise measurement is above the consent level.

3) Red Status

- A follow up compliance noise measurement is above the consent level after noise mitigation measures have been implemented in response to a yellow status or marginal exceedance condition.
- Where noise mitigation measures implemented in response to a yellow status condition have not reduced the perceived noise to an acceptable level, but the wind speed at the receiver exceeds 5m/s and no noise measurement is possible.

At the time the noise measurement is made or where the measurement is unable to be made under 2b & 3b, a note will be made of the dominant noise sources to permit targeting of these activities by the mining operations.

³ Wind speed reading taken at the Barry Road meteorological station.

Meteorological conditions may be taken into account when deciding whether to go to a yellow, red or back to green status, e.g. rain, cold or other conditions that would normally mean most residents would be indoors.

Noise Mitigation Measures.

Where particular mine-related noise sources dominate, these will be targeted by Mining Operations to ensure that the greatest reduction in noise is achieved with the least disruption to mining operations.

- 1) Yellow Status - indicative measures that could be undertaken are:
 - a) Slowing of equipment on the SFA area.
 - b) The stopping of equipment deemed to be a significant noise contributor e.g. the rock breaker
 - c) Stopping of rehandle with trucks from the SFA stockpiles.
 - d) Change of material into the crusher – e.g. from ignimbrite to PAF.
 - e) Change of crusher – i.e. Jaw to Stamler.
 - f) Stoppage of one excavator and or part of truck fleet.
 - g) Stopping of all crushing but allowing stockpiling of mined material.

The dominant noise sources and meteorological effects must be considered when deciding upon the appropriate actions to take. For example, when the measured background noise (L_{95}) is greater than the consent limit and beyond the control of the operation and wind is a contributing factor, the decision may be to proceed with part or all mining activities.

- 2) Red Status - the following action is mandatory.
 - a) Closure of all SFA and mining noise producing activities that are not contained wholly within the pit itself.

Drilling, rock breaking and tramming or haulage of oversize or other material within the confines of the pit may be permitted.

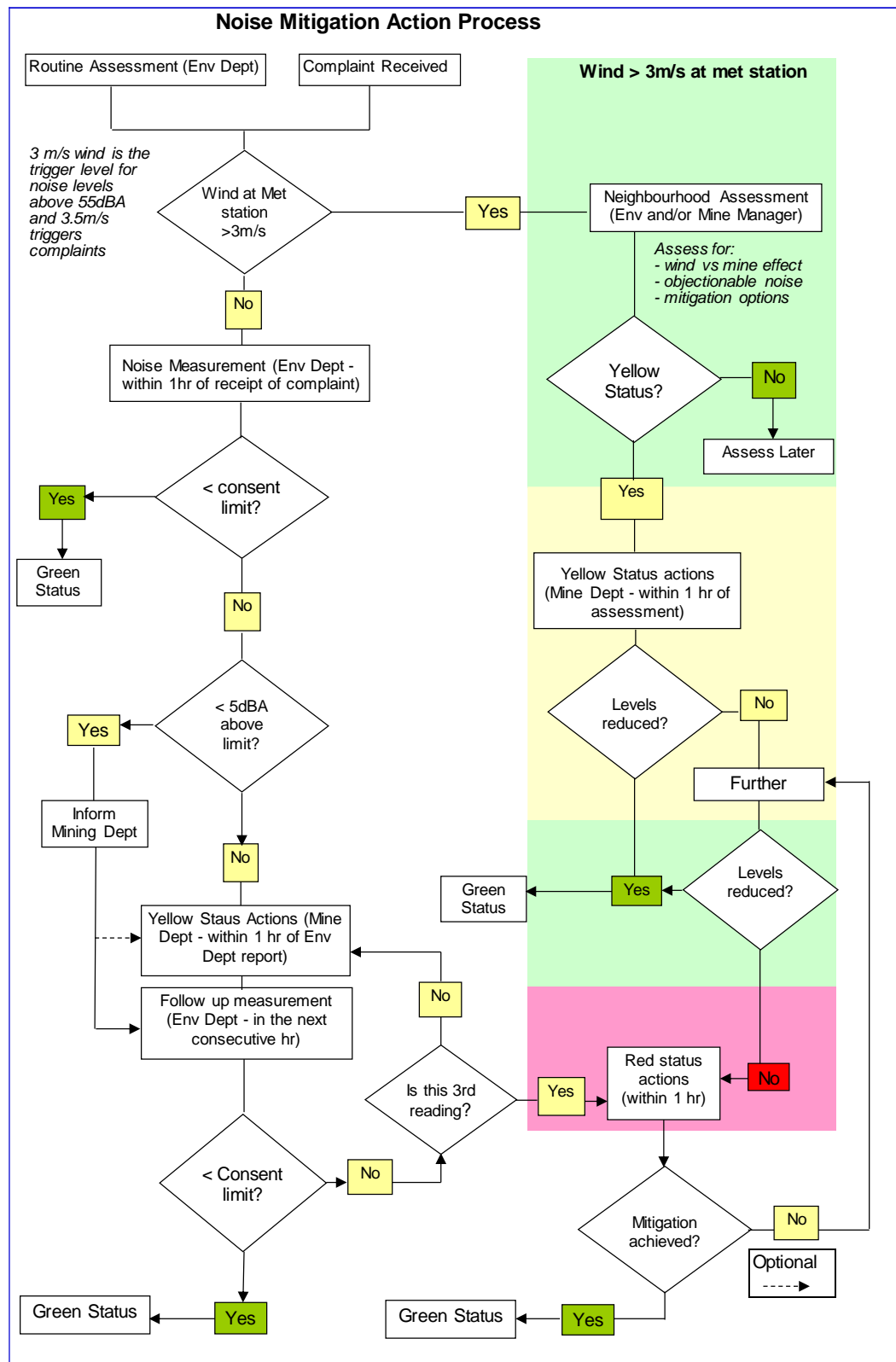
Reverting to Green Status

Yellow or Red Status may be set back to Green under the following conditions:

- a. A follow-up noise measurement confirms a marginal level or a noise level below the consent limits, or a background reading exceeds the consent limit, i.e. dominates the ambient noise.
- b. Change in meteorological conditions e.g. change in wind direction or speed, heavy rainfall etc.

Reporting requirement

A quarterly summary report is to be submitted to the Council at the end of each March, June, September and December on representative noise levels. This reporting schedule (agreed with HDC) is in compliance with the requirements of condition 3.9(c) of the HDC Land Use Consent No. 97/98-105.



APPENDIX 8

STANDARD OPERATING PROCEDURE: NOISE MONITORING



Standard Operating Procedure

Sound Monitoring

WAI-200-PRO-016

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This document must not be released outside of the company without permission of the Departmental Manager.

Area:	HSEC - Environment
Site:	Waihi

	Position/Title	Name	Date
Authored By:	Environmental Officer	Mark Burroughs	23/08/2016
Reviewed By:	Senior Environmental Officer	Russell Squire	5/10/2016
Approved By:	HSEC Manager	Kerry Watson	6/10/2016

Reference Documents	Document Name	Document Reference
	Martha Mine Noise Mitigation Plan	WAI-200-PLN-007

Document Issuance and Revision History

Procedure Name: Sound Monitoring
Document Reference: WAI-200-PRO-016

Revision No.	Revision Date	Section	Page	Description of Issuance or Revision	Effective Date
2.0	23/08/2016	All	All	OceanaGold format and update	6/10/2016

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1 PURPOSE

To monitor compliance with noise limits set out in the Hauraki District Council Resource Consent No. 97/98 – 105 conditions 3.8 and 3.9 for the Martha Mine Extended Project and Stability Cutback, including Standards NZS 6801:1991 Measurement of Environmental Sound and NZS 6802:1991 Assessment of Environmental Sound.

To monitor compliance with noise limits set out in the Hauraki District Council Land Use Consent No. 85.050.326E conditions 5 to 10 for the Favona Project, including Standards NZS 6801:1991 Measurement of Environmental Sound and NZS 6802:1999 Assessment of Environmental Sound.

2 SCOPE

- Describe steps to measure and report night and day-time sound levels in the Waihi township and rural areas close to mining & processing operations
- Describe steps for filing and management of noise results
- Set out reporting requirements
- This SOP relates to the [WAI-200-PLN-007 Martha Mine Noise Mitigation Plan](#) which provides the mitigation action process.

3 PROCEDURES

3.1 Responsibility

- Environmental Technicians ensure monitoring is carried out according to plan/schedule, maintains monitoring equipment and carries out data entry and specific reporting requirements as requested.
- Senior Environmental Staff ensure monitoring, data entry, and reporting is carried out to the required standards. Prepare quarterly noise reports to HDC.

3.2 Job Hazards

- Injury from traffic, animals and/or insects.
- Meteorological – sun, cold.
- Night-time monitoring – personal safety, trip hazard.
- Confrontational members of the community.

3.3 Safety

- Assess hazards at all times, especially looking out for traffic and stock. Avoid or abandon monitoring if there is a threat to personal safety. Ensure vehicle is parked well off the road and monitoring equipment is set up to ensure safety and avoid damage.
- A mobile phone should be carried and switched on at all times (but set to vibrate to avoid needing to pause monitor).
- Wear hi-viz clothing at all times.
- If discretionary attended night-time monitoring is required, check in and out with Security. Inform of sites being visited and likely time of completion of monitoring (Grey St Gatehouse 863 9387).
- Leave park lights on during poor light conditions.

3.4 Frequency of Monitoring

- Compliance monitoring up to three days per week in Waihi Township if the weather permits.
- Complaint monitoring on an as-required basis.
- Discretionary monitoring (e.g. exploration activities, machinery checks, investigative work) on an as-required basis.

- At minimum quarterly night-time for mill operations and day-time for Underground site activities (Purcell's or Scout Hall monitoring site).

3.5 Monitoring times

- For the purpose of determining the mean corrected noise level (L_{10}) three readings are required over the working day.
- Ensure at least 60 mins between finish of one reading and start of the next reading to better represent a working day. Determine when shift breaks occur, and avoid monitoring during the breaks or in the 10 min wind-down before and wind-up after breaks.
- Complaints received shall be investigated and if required followed-up by successive readings to ensure mine related sound levels are managed using the 'Noise Mitigation Action Flow Chart' process (refer Noise Mitigation Plan).
- Single or multiple checks may be required for other sites when requested.

3.6 Meteorological conditions

- Measurements are taken wherever possible in neutral met conditions in accordance with *NZS 6801: 1991 Measurement of Environmental Sound*.
- However, when complaints are to be investigated sound measurements may need to be taken when conditions are non-neutral (and < 5 m/s wind speed at met station).
- To determine neutral met condition *at the receiver* the following CONCAWE⁴ tables (NZS 6801:1999 Acoustics – Measurement of Environmental Sound) are used:

Table 1 – Incoming solar radiation assessment

Incoming solar radiation	Altitude of sun	Cloud cover (Octas)
Weak	$> 25^{\circ}$	8
	$< 25^{\circ}$	0-8
Medium	$> 45^{\circ}$	5 – 7
	$25^{\circ} - 45^{\circ}$	< 4
Strong	$> 45^{\circ}$	< 4

8/8 Octas means totally overcast. Note: Another Table is used to predict sun altitude.

Table 2 – Sun altitude prediction

Time of Day			Sun altitude
Mid-Summer	Equinox	Mid-Winter	
10:00 – 16:00	11:00 – 13:00	Nil	$> 45^{\circ}$
08:00 – 10:00	09:00 – 11:00	Nil	$25^{\circ} - 45^{\circ}$
16:00 – 18:00	13:00 – 15:00		
06:00 – 08:00	06:00 – 09:00	08:00 – 16:00	0 - 24°
18:00 - 20:00	15:00 – 18:00		

⁴ (CONCAWE is a reference to the **CON**servation of **C**lean **A**ir and **W**ater- Europe Report 4/81 1963 which was written by the oil industries to assess the propagation of noise to neighbouring communities; NZS 6801:1999 Measurement of Environmental Sound). While this standard is not specified in the consent, it is the only useful guideline to assessing met stability.)

Table 3 – Definition of Pasquill Stability Categories

Wind speed rounded to the nearest 0.5 m/s)	Pasquill Stability Categories (A-G)							
	Day time incoming solar radiation (from Table 1)				1 hour before sunset or after sunrise	Night-time cloud cover		
	Strong	Medium	Weak	Overcast		0 - 3	4 - 7	8
<= 1.5	A	A – B	B	C	D	F or G	F	D
2.0 – 2.5	A – B	B	C	C	D	F	E	D
3.0 – 4.5	B	B – C	C	C	D	E	D	D
5.0 – 6.0	C	C – D	D	D	D	D	D	D
> 6.0	D	D	D	D	D	D	D	D

Wind speed is surface wind speed at the location of interest.

NOTE: This table is correct compared to errors identified in the NZS 6801:1999 (Advised by Marshall Dey Acoustics).

Table 4 – Determination of meteorological category

Wind direction	Wind speed (m/s)	Pasquill Stability Categories		
		A,B	C,D,E	F,G
Upwind – receiver to source	> 3.0	1	2	3
	0.6 – 3.0	2	3	4
	0 – 0.5	3	4	5
Downwind – source to receiver	0 – 0.5	3	4	5
	0.6 – 3.0	4	5	6
	> 3.0	5	6	-

A met category of 4 assumes neutral meteorological influence on sound propagation and, as stated in the NZ standard, should be used to determine predicted noise compliance.

In practice, OceanaGold has agreed that meteorological conditions should not prevent noise mitigation measures from being applied in the event of unreasonable nuisance noise and/or legitimate complaints. If measurements cannot be undertaken due to high winds, monitoring will be carried out on a “listen only” basis by the Environmental Technician and action taken as appropriate (refer current site Noise Management Plan).

3.7 Monitoring Site Locations

Monitoring shall occur on the boundary of privately owned dwellings in the residential zone. However, in the rural zone monitoring must be carried out at the notional boundary, i.e. 20 m from the most exposed side of an occupied dwelling.

For Waihi Township, the monitoring sites generally include the closest privately owned residence. Other monitoring sites may be added in response to monitoring and complaints.

Standard monitoring sites are shown in Figure 1, however additional monitoring sites occur. Sites are listed below but are not limited to:

- Slevin St
- Cnr Featon Rd/ Walker St
- Purcell's/Barry Rd (Mill monitoring site)

- Purcell's/Barry Rd or Scout Hall (Underground monitoring site)
- 144/7 Seddon St (discretionary)
- Islington Tce (discretionary)
- Roycroft St (discretionary)

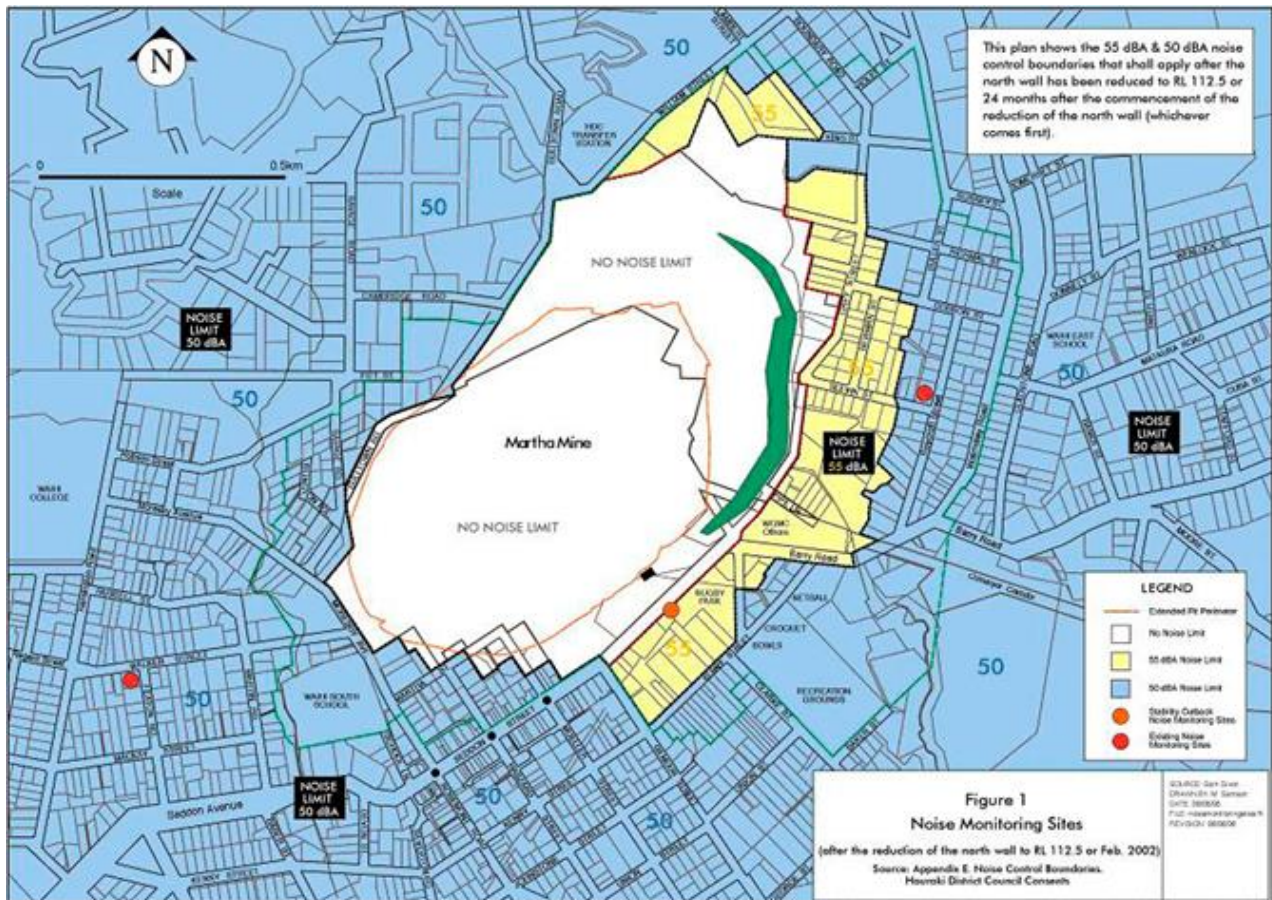
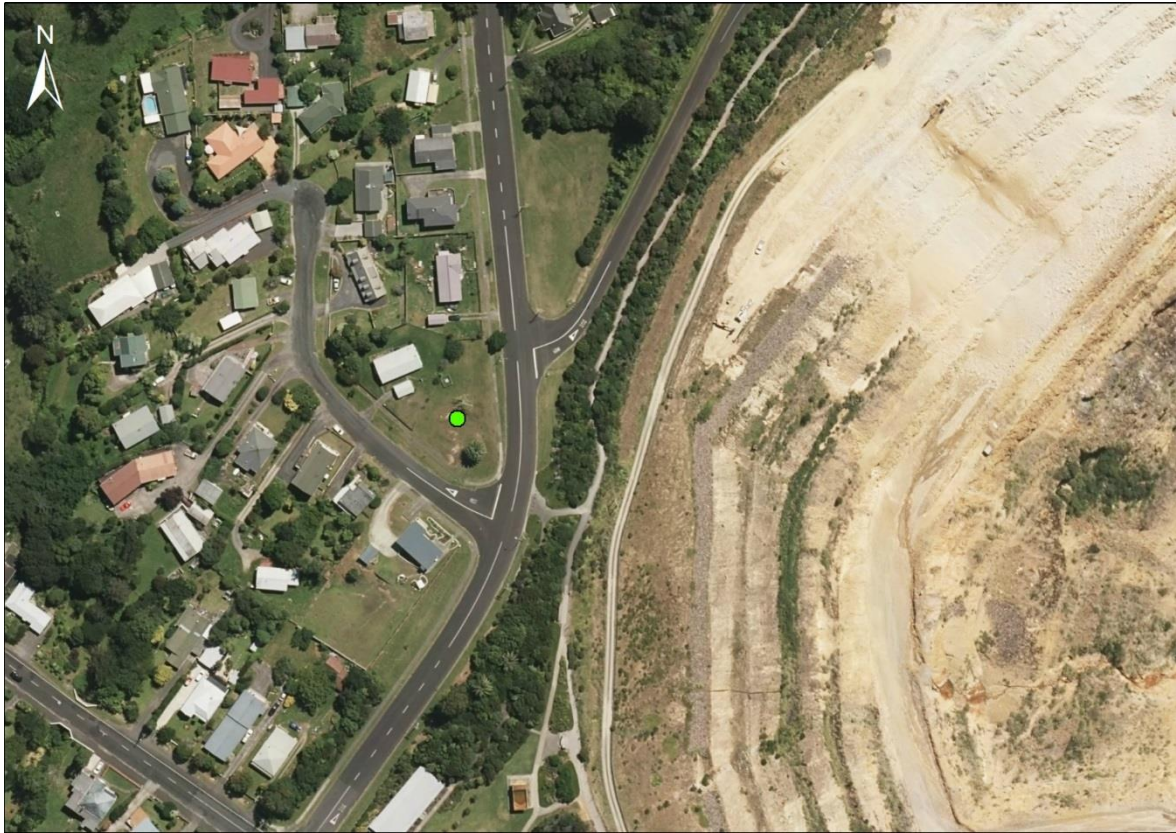


Figure 2 – OceanaGold noise monitoring sites

(Source: Plan 2 of Appendix E of the Hauraki District Council Land Use Consent)

3.8 Monitoring Site Maps

Islington Terrace



Roycroft & Slevin St



Cnr Walker St / Featon Rd



Seddon Street



Purcell's/Barry Road



When changes to site locations are required, the new site selected is tested and compared with other nearby data. Single sound readings are taken at other sites from time to time to check against any concerns or complaints raised externally or internally.

3.9 Monitoring Equipment

- A Brüel & Kjær Sound Level Meter – 2250 is routinely used to take sound level readings. This equipment comes with a built-in calibrator and application software for various tasks. An external calibrator (the Bruel Kjaer Acoustical Type 4231) is also routinely used to verify the sound level meter. The external calibrator is itself calibrated on an annual basis. Calibration information is kept in the Environmental Dept. 'Sound Calibration Certificates' folder.
- The hardware conforms with IEC and ANSI Type 1 standards and has a manufacturers certificate of conformance. The 2250 is calibrated every two years by Cleveland Ltd, Auckland. Calibration information is kept in the Environmental Dept. 'Sound Calibration Certificates' folder.
- Back-up equipment is the Brüel & Kjær Type 2260 Sound Level Meter. The 2260 is also calibrated every two years.
- Other equipment required is:
 - Noise Monitoring Field Sheet (accessed on SharePoint).
 - Clipboard and pen.
 - Tripod.
 - 1 x Wind Anemometer.
 - Flashlight.
 - Batteries (for 2260 SLM).
 - *Recommended: External power lead (monitor can run on 12V from the vehicle cigarette lighter).*

3.10 Measurement Technique

3.10.1 Daytime Monitoring

- Prior to field work, the met station wind speed and direction is checked on the office computer.
- At site, the met conditions are assessed and recorded on the field sheet.
- The aim is to ensure no non-mining sound sources prevail (e.g. lawn-mowers, heavy traffic, cicadas etc).
- Monitoring during high frequency insect activity is permitted as the sound level in the insect frequency range can be filtered during data processing.
- If non-mining noise pre-dominates this is recorded as a note on the Noise Monitoring Field Sheet.
- The tripod must be positioned at least 3.5 metres away from buildings, fences and vehicles and the meter mounted on the tripod (between 1.2 – 1.5 metres above ground level) and pointed in the direction of the operation.
- The instrument is set up to take readings over an elapsed time of at least 15 minutes. The total time at the site may be longer depending on the number of times that other non-mine sounds need to be paused out. This is done while monitoring. Any sound relating to other unexpected non-mine noises can be 'back erased' (e.g. cars, animal noise, coughs etc) during monitoring so primarily the mine sound is captured. When the monitoring time has elapsed the data is saved. Steps in the use of the meter are appended.
- Four wind speed readings at site are taken at 5 minutes intervals; at the start, 5 min, 10 min, and the end (15 min).
- All relevant information is also recorded as detailed on the field sheet:
 - Relevant readings (except for high frequency insect records) can be immediately read from the meter and entered on the field sheet. Amendments to the field sheet may be required after further processing in the office.
 - Sources of mine and other noise must be identified on the field sheet.
 - Special audible characteristics (SAC) are also identified. These sounds occur when there is a sudden or frequent impulsive noise (banging, crashing). These will show graphically as sharp peaks if mine related (paused out if not mine related). Note whether mine or non-mine related.
 - Note sounds paused out.

3.10.2 Night-time Complaint Monitoring


- Usually any manual night-time monitoring will be because of a complaint. Consequently safety protocols need to be adhered to.

3.10.3 Automated Monitoring


- Preliminary weather condition assessments and initial set up of tripod should be the same procedure as daytime monitoring. Select a day when forecasted weather conditions are conducive to representative readings.


Four 20 minute recordings are pre-programmed into the 2250 for unattended night monitoring. Start times = 22:00, 23:30, 01:00, 03:00.

Turn on 2250 Meter go to .

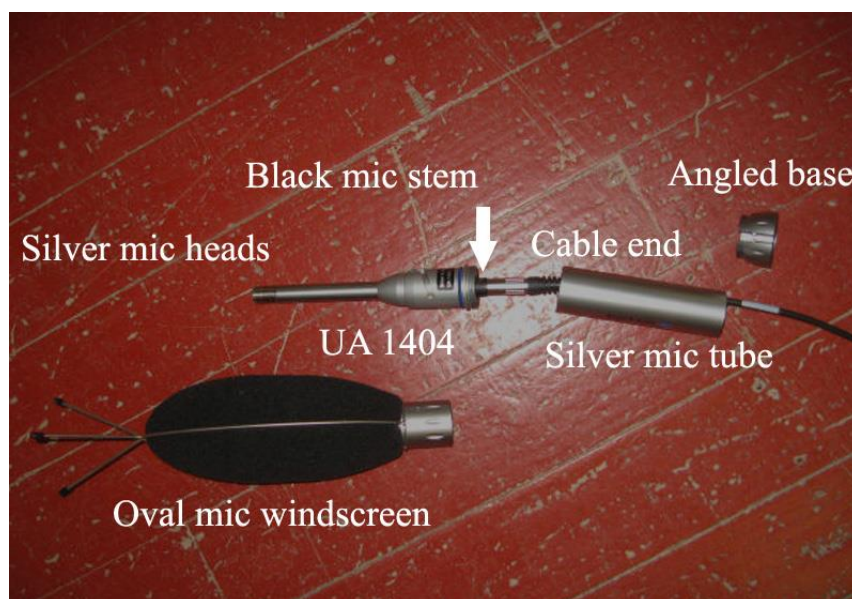
- ▶ Template
- ▶ Enhanced Logger
- ▶ 
- ▶ Timer Setup
- ▶ Timer(1)
- ▶ Start Time

- ▶ Add correct date and start time
- ▶ Preset Time 20 mins
- ▶ Check Stops At time is correct
- ▶ Timer (2) repeat step as for Timer (1)
- ▶ Timer (3) repeat step
- ▶ At top left hand corner of screen tap X

IMPORTANT: Turn OFF the 2250 (do not put on Standby or leave unit active) by holding down the off/on  button. A box will appear confirming a timer has been set-up, and will ask you to continue with power off. Click on “OK”. The instrument will power off. If the box confirming the timer does not appear when powering off, review the settings until it does..

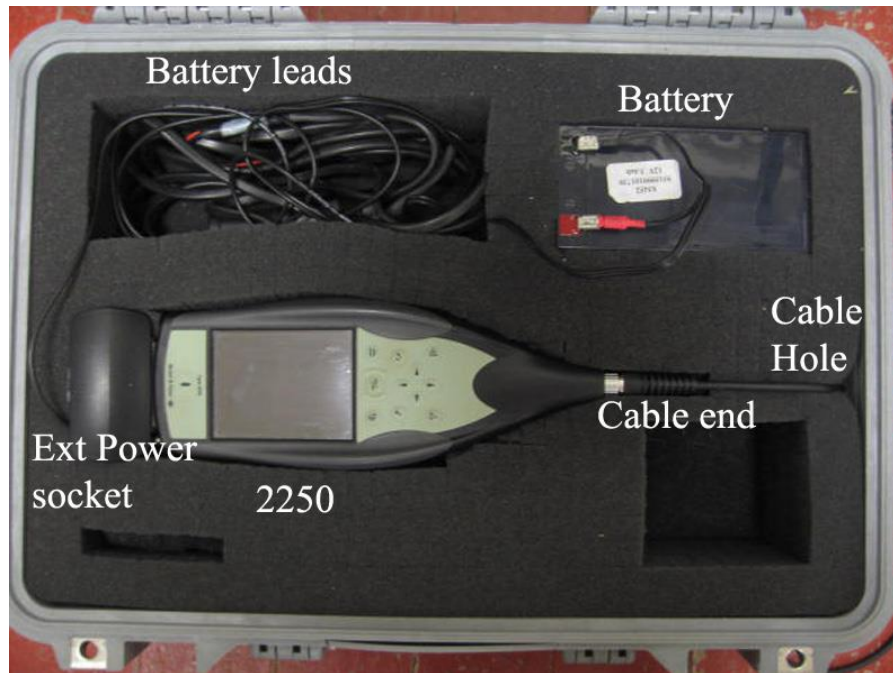
- The SD card needs to have adequate memory for four recordings. Best practice is to save existing files in e.g. G:\Environmental\Noise & Vibration \Sound Data\YYYY and then delete them from the card. Upon re-inserting the SD card into the 2250, make sure files are being saved to the SD card rather than the internal memory. This is accessed in , then Explorer option. Under the title “Explorer”, the words “SD-Card\” should appear. Select the folder icon that has a tick on it. A pop up will ask you if you want this job folder. Click OK.
- Ensure you have all the equipment: 2250 in its usual black pelican case, grey pelican case, oval mic windscreen, tripod.

Microphone Set Up:



- Ensure remote battery and the 2250 are fully charged.
- The 2250 connection system involves marker dots which need to be aligned when attaching connectors. Additionally locking collars are usually used when detaching connectors. A collar must be slid to release the locking part. All equipment needs to be handled carefully.
- Gripping and squeezing by the base plastic, remove the circular mic windscreen from the 2250. Gently detach the black mic stem from the 2250. Unscrew the silver mic heads from the stem. Attach to the silver external mic stem UA 1404. Screw the remaining black mic stem into the bottom of UA 1404.
- Undo the angled base of the silver mic tube. Thread the matching end of the extension cable through the shaft and put the base back on, allowing the cable to extrude from the bottom.

- Insert the cable end into the black mic stem protruding from the base of UA 1404. Thread UA 1404 onto the silver mic tube. Position and screw on the oval mic windscreen.
- Poke the unattached cable end through the hole in the grey pelican case (RH side). Insert the cable into the head of the 2250. Ensure the green and red marker dots are aligned. Lay the 2250 in the foam outline in the case and ensure the cable is taut.
- Attach leads to the fully charged battery. Insert the other end into the 2250 “Ext. Power” socket.
- Sit the oval microphone vertical on the tripod and screw in the attachment underneath.
- Place the 2250 in the pelican case. Use ear plugs to form a seal around the cable and case side hole.



- Remove chain, key and padlocks from the case. Snap shut the case. Lock one side of the case by threading the padlock through the silver holes.



- Use the chain and padlock to secure the tripod and pelican case to a sturdy structure e.g. a strong fencepost. Thread the chain through the case handle and upper tripod.
- Sound recording equipment is left out overnight and gathered in the next day.
- Recorded data needs to be processed on hardcopy and inserted into the database as done with daytime monitoring (G:\Environmental\Noise & Vibration\Sound data\YYYY). Using regional satellite images, CONCAWE cloud cover can be estimated using www.metsvw.co.nz

3.11 Investigating Noise Source

- If source of mine sound is difficult to determine at the monitoring site, a visit to the mine area may be necessary. Do this while adhering to OceanaGold safety standards. Take notes.

3.12 Internal Reporting/Notification

- The Noise Mitigation Action Flow Chart process(WAI-200-PLN-007) is followed to report issues to mining or other departments.
- The following mean corrected noise limits (Logarithmic Mean L_{10}) are to be complied with in Waihi township:

		55 dBA Control Boundary	50 dBA Control Boundary
Mon - Fri	07:00 – 21:00	55 dBA	50 dBA
Sat	07:00 – 12:00	55 dBA	50 dBA
All other	21:00 – 07:00	40 dBA	40 dBA

*L_{10} is the sound level that is exceeded 10% of the time
Mean corrected noise limits require at least three measurement intervals*

- Any single measurement shall not exceed the limits by more than 5dB for any single time interval.
- If the mean corrected noise limits are exceeded then the exceedance is considered marginal up to an exceedance of 5dB. In the event of a marginal exceedance, the HDC will seek an explanation of the reasons for the breach and will seek that action be taken to avoid a recurrence if practical. Agreement has been reached that OceanaGold will investigate mitigating the noise if any exceedance occurs notwithstanding its marginal nature.
- Exceedances of the noise limits must be recorded on the field sheet and reported to the relevant department manager. Records must be kept to demonstrate that the relevant Department Head has been informed and to demonstrate that the source of the noise has been identified and what action was undertaken.
- Notify the site Superintendent immediately when noise levels are exceeded or elevated, and inform of what is the likely cause of the sound, especially if it has Special Audible Characteristics (SAC).
- When a SAC noise occurs the L_{10} limit *may* be reduced arithmetically by 5 dB for comparison with the measured level. This is not a condition in the consent, though has been applied (by HDC) via the NZS 6802 s 4.4.
- Confirm with department manager the mitigating action to be taken. Then set up recordings to confirm whether the action is adequate or if more is needed to be done to meet the required level.
- Also confer with the Senior Environmental Officer or other senior manager of monitoring actions taken. Liaise with the Community Liaison Officer if there is potential for the noise to generate complaints.
- The following limits apply for outside of the boundary of conveyor and development areas (C & D):

Activity	Day	Time	L_{10}
Daytime	Mon - Fri	07:00 – 21:00	55 dBA
	Sat	07:00 – 12:00	55 dBA

After hours	Mon - Fri	21:00 – 07:00	40dBA
	Sat - Mon	12:00 – 07:00	40dBA

- For other activities (such as drilling) the Operative Hauraki District Plan conditions apply.

Day	Time	L ₁₀
Mon - Sat	07:00 – 22:00	50 dBA
"	22:00 – 07:00	40 dBA
Sun & Hols	07:00 – 22:00	45 dBA
"	22:00 – 07:00	40 dBA

3.13 Data Processing & Filing

- All monitoring data is downloaded from the meter by using the B&K software on the met station computer. Data is saved in the relevant archive on G:\Environmental\Noise & Vibration \Sound Data\YYYY
- Further checking and processing may be carried out as appropriate to clean extraneous noise (should not be necessary as done in the field) and to remove high frequency sounds caused by some insects and birds.
- These sounds occur at 4 and 8 kHz. The sound data can be exported using the proprietary software to excel spreadsheet for additional processing. The file named *CicadaFilterCalculator.xls* is located on G:\Environmental\Noise & Vibration\Noise Management\Procedures.
- Sound files are initially kept on the computer hard-drive. A hardcopy is also attached to field notes.
- Final sound results are entered into the Noise Database (by year) file located on G:\Environmental\Noise & Vibration\Sound Data. Further guidelines on data input protocol is provided in a workbook.
- The mean corrected noise level (Ave L₁₀) for three readings (all sites including night-time) is calculated in the database using logarithmic averaging formula.
- Any monitoring and mitigating actions are entered on the database when applicable.
- To verify neutral met conditions more precisely, formulae exist in the database to calculate the meteorological category as detailed in the original CONCAWE Report. Solar radiation, wind speed and direction recorded at the OceanaGold met station, source-receiver angle, cloud cover, sunrise and sunset time was used to determine the met stability category for a single measurement. As the original CONCAWE prediction tool was developed using wind data at 11m above ground the Waihi met station data is well suited due to its similar height (15 m).

3.14 External Reporting Requirements


- Complaint checks are reported separately.
- A summary noise monitoring report is sent to HDC at the end of each January, April, July and October as per the consent. Reports are prepared by the Senior Environmental staff and checked by the Senior Environmental Officer, HSEC Manager and General Manager before distribution.
- Reporting requirements of the NZS Standard are adhered to. Any changes in monitoring system should be reported.











3.15 The Sound Level Meter



The Sound Level Meter - Brüel & Kjær Handheld Analyzer Type 2250

Setting up and using the 2250 Sound Level Meter

1. Arrive at site: Assess met conditions and note on record sheet.
2. Assess noise to be monitored: dBA noise limit for site.
3. Set up tripod (3.5 metres away from reflective surfaces) and attach noise monitor (1.2-1.5 mtrs above ground).
4. Turn noisemonitor on: hold down  button (14). This may take a minute or two to load. Touch screen stick to operate icons is on side of monitor.
5. Should read "Frequency Analyzer Adv". along top of screen. Recommend leave on Broadband screen while monitoring (see bottom tab).

6. When fully charged the meter should be able to complete several recordings without external power. If the battery is low : Either plug in cigarette lighter lead to 'Ext. Power' (inlet that is on own in base of monitor) **or** run the lead to an external 12 volt battery.
7. To calibrate: Use pointer stick to select  icon (13). Then select calibration. Turn on calibrator, check ringing can be heard & place on microphone. When dBA reads about 93 start calibration. Follow instructions & wait for calibration to complete. Stop, exit. The unit only needs to be calibrated on a weekly basis.
8. To begin recording press  (9). Record time started.
9. To pause/back-erase 5 seconds  (6) or start/pause  (9). Both will pause the recording.
10. To resume recording press start/pause  (9).
11. While recording pay attention to noise and noise field sheet requirements, pausing or back erasing out loud extraneous (non-mine) noise.
12. The elapsed time will be displayed next to the pause play icon at the top left.
13. LAF 10 etc is displayed in small print on the screen in broadband mode. The current second by second dBA is shown within the black bar. LAF 10 and LAF 95 are the two readings we routinely record.
14. Once a 15 minute recording has been completed, press start/pause  (9).
15. Save:  (11). Note file number on field sheet eg. OceanaGold-833.....
16. To obtain instant data:  (13), select explorer, scroll down & select current file, select view. Wait for correct file to show. Record data for sound measurement statistics (LAF 10, LAF 95, finish time...).
17. Turn off: to standby, hold down for short duration. To turn off completely, hold down as per instructions.
18. To commence a new measurement, start/pause  (9)
19. To reset recording  (8). This will delete the current unsaved sound file and begin recording again immediately.

Keys, Display and Sockets

Keys**1 On/Off**

Turns the analyzer on and off

2 Battery

Displays the Battery Voltage screen to check the status of the batteries

3 Calibrate

Displays the Calibration menu for calibrating the analyzer

4 System

Displays the System menu for configuring the analyzer and installing application software

5 Recall

Displays the Recall menu for recalling data from the analyzer's internal disk or a memory card in the Memory Card slot (28)

6 Transfer

Transfers the selected data to the connected device (printer or computer)

7 Store

Displays the Store menu for storing data on the analyzer's internal disk or a memory card in the Memory Card slot (28)

8 Range

Displays the Range menu for changing the analyzer's measuring range

9 Set-up

Displays the Set-up menu for changing the analyzer's set-up parameters

10 Pause/Continue

Pauses the current measurement or, if the analyzer is in Pause mode, continues it without re-setting

11 Arrow Keys

Moves the field selector around the screen and selects parameters and fields for editing. Also scrolls menus or long lists of items

12 Measurement Results

Displays the installed application's Display menu for displaying measurement data

13 Reset/Start

Deletes the current measurement data, sets the analyzer's internal buffer to zero and, restarts the measurement

14 Help

Displays a help screen for the area of the application you are using. Help is also available for the hard keys

15 Back-light

Turns the screen's back-light on and off. The

back-light will automatically go off after a set period which is defined in the analyzer's set-up.

16 Display/Hide Menu

Displays the soft key menu in either short or long form

17 Soft Keys

Activate application menus and options

Display**18 Display**

Shows application, set-up screens and measurement results

19 Soft Menus

Show the effect of pressing the soft keys

Sockets**20 Digital Audio Input**

TOSLINK optical input for signals from a DAT recorder or CD player

21 Auxiliary Output 1

00-series 3-pole LEMO socket for output of software-determined signals. Can be used, for example, as a signal generator or for recording signals on a level recorder

22 Auxiliary Output 2

Second Auxiliary Output socket

23 External Power

Input socket for external 10 to 14 V power supply

24 Serial Interface

9-pole male serial interface socket for transferring data to printers and computers and for remote-controlling the analyzer from a computer

25 AC Input/Output 1

00-series 3-pole LEMO socket for input or output of AC signal. In output mode, can be used for recording signals on a DAT recorder or analyzer, or with headphones. In input mode, can be used when analysing electrical signals, for example, recordings from a DAT recorder

26 AC Input/Output 2

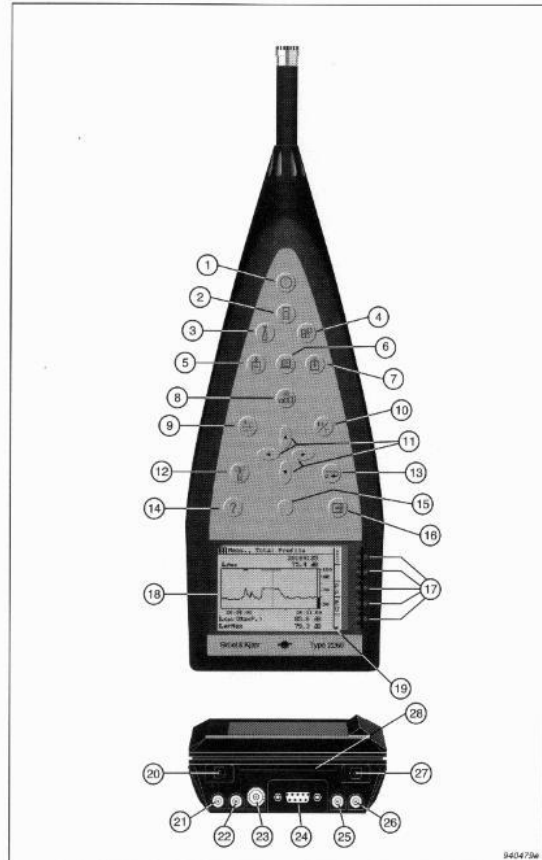
Second AC Input/Output socket

27 Digital Audio Output

TOSLINK optical output for signals to a DAT recorder

28 Memory Card

PCMCIA card slot for installing and uninstalling programs and copying data to and from a memory card



BB0955-13

Modular Precision Sound Analyzer Type 2260
User Manual

Fold Out

The Brüel & Kjær Type 2260 SLM – Back up sound level meter

Numbers referred to in figure above. Make sure screen instructions are followed whenever a module is being used.

1. Press On/Off button (1). Wait for it to load and measurement screen to display.
2. If running off batteries check charge by pressing button (2). Should be spares in the case (1.5 v C Alkaline Batteries (6 required)).
3. Press Calibrate button (3).
 - On side of screen press 'External Calibrate' using soft key (17)
 - Follow instructions on screen.
 - Mount calibrator (little box with gear) and press OK soft key.
 - When calibration completed press OK soft key (17) again.
4. Press Meas. Results button (12) to display measurement screen.
5. Press Pause/Cont. button (10) to start reading. Graphic appears on screen showing levels.
6. To erase an unwanted noise press Pause/Cont. button.
 - Press 'Back Erase' using soft key
 - Use cursor to buttons (11) to erase graphic to the point of inflection of unwanted sound level.
7. Press Pause/Cont. button to continue.
8. Repeat whenever necessary for unwanted sound.

9. Press Pause/Cont. to stop reading after 15 minutes of elapsed time. Elapsed time is displayed at the bottom of the screen.
10. Press Store button (7) to save. Screen will show a record number.
 - Press OK soft key on side of screen.

NOTE: File directories can be created if wished. See manual. Not essential in field as can be done in office.

11. Press On/Off button to shutdown meter.
12. To do another reading (only if meter still on) press Reset/Start button (13):

NOTE: If pressed during readings the screen will inform you. Press cancel unless data is to be deleted.

13. To get the L10 and L95 and other sound levels - read off the screen at the end of reading. Enter on field sheet.

For more information go to the Brüel & Kjær Technical Information Manual. Use manual for downloading or wait for technician to do the job.

4 DEFINITIONS

Term	Definition
Background sound level	The level measured in the absence of the sound to be assessed. This may include distant traffic noise, insect activity, bird song, temporary or brief intrusive noises paused out during measurement.
Sound to be assessed	Mining and related activities (as per consent).
Special audible characteristics (SAC)	Sounds with high or low tones, impulse noise such as crashing and banging characterised by sudden peaks on the screen graph. Intrusive noise.
Temperature inversion	Usually lower temperatures in autumn and winter (foggy layers) enhance sound propagation.

APPENDIX 9

STANDARD OPERATING PROCEDURE: MANAGING PUBLIC COMPLAINTS



Standard Operating Procedure Managing Public Complaints

WAI-800-PRO-007

NWO-SCR-SO-70-9747

This is no longer a controlled document once printed.

This document must not be released outside of the company without permission of the Departmental Manager.

Area:	Social Development & Community
Site:	Waihi

	Position/Title	Name	Date
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Reference Documents	Document Name	Document Reference

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1 PURPOSE

- To ensure public complaints are managed in a sensitive, timely and consistent manner and to identify corrective actions where appropriate
- To ensure compliance with Martha Mine Extended Project Resource Consents and Conditions, Hauraki District Council 3.4(a)(g), Waikato Regional Council 13.0 Schedule 1, 7.0, and Mining Licence (ML 32 2388).
- To ensure compliance with Correnso Underground Mine Conditions of Consent 80-83.
- To ensure compliance with Slevin Underground Project Area (SUPA) Conditions of Consent 41-45.

2 SCOPE

- This procedure relates to all staff at the OceanaGold New Zealand Ltd (OGNZL) Waihi site including the Company Liaison Officer (CLO), the Community Engagement Officer (CEO) and other members of the Community team and Gatehouse Security staff who provide on-call cover for the CLO and are in the position to receive complaints from members of the public.
- A complaint is defined as: An expression of discontent, damage, discomfort, annoyance etc. of an individual or group of people directly or indirectly caused by OGNZL Waihi activities.
- It is important to capture other feedback from the community that is not classified as a complaint. Some people wish to inform OGNZL Waihi of its perceived activities and/or effects and this should be encouraged. Feedback can provide forewarning of aspects that may become issues and / or complaints. This information is to be recorded and monitored in the same manner as complaints.

3 RESPONSIBILITIES

Role	Responsibilities
General Manager	<ul style="list-style-type: none"> • Ensure the Management of Public Complaints is undertaken to ensure compliance with Hauraki District Council & Waikato Regional Council consents and Mining Licence conditions relating to complaints management • Provide sufficient resources to ensure conformance with the requirements of this SOP • Ensure delegation of authority to the CLO to ensure conformance with this SOP including the authority to request the immediate implementation of the noise and/or vibration mitigation process, to stop an activity or item of plant if, in the opinion of the CLO having followed the procedure set out below, such action is required in response to the complaint • Participate in daily review of complaints received • Participate in management reviews to review complaint trends
HSEC Manager	<ul style="list-style-type: none"> • Ensure the Management of Public Complaints is undertaken as required by relevant Hauraki District Council & Waikato Regional Council consent conditions and Mining Licence conditions. • Provide support for the CLO, the CEA and other Community staff in the management of complaints • Participate in daily review of complaints received • Participate in management reviews to review complaint trends

Role	Responsibilities
Site Services Manager	<ul style="list-style-type: none"> Provide support to the complaints management procedure as required particularly with regard to investigation of complaints relating to perceived property damage
Senior Community Advisor	<ul style="list-style-type: none"> Provide support for the CLO, the CEA and other HSEC staff in the management of complaints Interviewed on the local radio (Gold FM) once a month on current issues including information on how people may contact the company
Company Liaison Officer (CLO)	<ul style="list-style-type: none"> Ensure the Management of Public Complaints is undertaken to ensure compliance with Hauraki District Council & Waikato Regional Council consents and Mining Licence conditions relating to complaints management Ensure CLO contact details are published regularly in local media Ensure the Community Engagement line is staffed at all times Ensure complaints received are logged in the daily report and the complaints database Ensure six-monthly reports are submitted to Hauraki District Council and Waikato Regional Council
Community Engagement Officer	<ul style="list-style-type: none"> Provide support to the CLO to ensure compliance with Hauraki District Council and Waikato Regional Council consents and Mining Licence conditions relating to complaints management including assisting with providing cover for the Community Engagement line, receiving and logging complaints in the daily report, ensuring the complaints data base is kept up to date
Community Team	<ul style="list-style-type: none"> Provide support to the complaints management procedure by carrying out rostered on call duties as required
Grey Street Gatehouse Security Staff	<ul style="list-style-type: none"> Provide support to the complaints management procedure by staffing the 0800 WAIHIGOLD Community Engagement Line outside normal office hours and at other times as may be determined.
Senior Environmental Officer	<ul style="list-style-type: none"> Support the complaints management procedure by providing monitoring results as requested
Environmental Technician	<ul style="list-style-type: none"> Carry out noise monitoring as requested in response to a noise complaint
Employee	<ul style="list-style-type: none"> Ensure general awareness of the complaint management procedure

4 PROCEDURES

4.1 Publication of Complaint Management Procedures

- OGNZL Waihi has developed a complaint management procedure that is communicated to the community in a number of ways as follows:
 1. The website www.waihigold.co.nz includes instructions on lodging a complaint with the Company Liaison Officer or delegate.
 2. The Waihi Leader Update that is published once a month includes contact details for the Community Engagement Line.
 3. All communication provided to residents through mail-drops or door-knocking includes contact details for the Community Engagement Line.

The Senior Community Advisor is interviewed on the local radio (Gold FM) once a month on current issues including information on how people may contact the company.

4.2 Complaints Overview

- 0800 WAIHIGOLD is a 24/7 staffed telephone line to enable members of the public to notify the company when mining activity is perceived to cause disturbance.
- This immediacy of reporting enables OGNZL Waihi to modify its activity to minimise disturbance. For an event that has occurred, such as a blast, the reporting assists with the planning for future activity. Often an exceedance determines when this takes place however investigation can happen when other trends are identified.
- Complainants should be encouraged to report promptly following a disturbance to allow immediate follow-up to occur or, where this is not possible, provide information for the planning of future mine-related activity. (Multiple historical complaints are addressed in 4.3).
- Anonymous complaints will not be deemed complaints. Complainants who wish to remain anonymous will be advised that their personal details can remain confidential (i.e. known only to the HSEC department). If they still wish to remain anonymous the matter will be logged as a concern and not responded to.

4.3 Receiving & Responding to Complaints

- The CLO is the first point of contact for any member of the public (stakeholder) making a complaint.
- CLO contact details are made available as follows: Waihi Leader Update (every month), on the www.waihigold.co.nz website and in consultation material.
- Complaints are received via the company community engagement phone. Any calls received at reception through the main switchboard will be transferred to the community engagement phone.
- The CLO or delegate will attend the 0800 WAIHIGOLD Community Engagement Line during normal office hours.
- Complaints received via the 0800 WAIHIGOLD Community Engagement Line outside normal office hours will divert to a recorded message which will advise the caller to leave a message for non-urgent issues which can be attended to next business day. For any issue requiring an immediate response the call will be answered by Gatehouse Security staff. (See 4.4)
- Complaints received through HDC and WRC are also logged.
- If contractors or staff receive a complaint from a stakeholder, the complainant should be advised to contact the CLO or delegate on the free phone number 0800 WAIHIGOLD / 0800 9244444. This requirement is communicated to all OGNZL Waihi employees and contractors during the General Site Induction.
- If security staff at the Grey Street or Baxter Road gatehouse receives a complaint during normal office hours the complainant should be advised to contact the CLO or delegate on 0800 WAIHIGOLD.
- Complainants must be treated politely and with sensitivity.

- If a complainant becomes abusive about an issue the CLO or delegate should politely bring the conversation to an end and advise the caller that they will phone them back in a specified time (e.g half an hour or the next day) to allow them time to regain their composure. If abusive behavior continues the complainant will be advised in writing that in future they will need to lodge any complaints with HDC as we will no longer respond to their calls. The caller's name will be added to a 'caution' list for internal purposes – which will also be communicated to Hauraki District Council's Manager of Planning & Environmental Services.
- Multiple historical complaints will be logged if they have occurred during the current calendar month. It is difficult to add new complaints after the end of month reporting deadline and does not assist OGNZL Waihi to minimise its perceived disturbance within the community. Complaints that relate to events prior to the current calendar month will be logged as a concern and not responded to.
- All complaints are recorded on the Complaints form (WAI-800-FOR-001-0).
- The form prompts the CLO or delegate to record necessary information (such as the cause of the complaint and any mitigating actions that were taken to address the issues identified) as per the consent condition and Mining Licence conditions. It is important to get as much information as possible to enable an effective investigation to occur.
- In the event a complaint is received that is found not to be related to OGNZL Waihi activities, the details will be captured and reported at the daily meeting. Despite the complaint not being attributable to OGNZL Waihi activities it will be documented as a complaint with an explanation outlining investigation findings.
- Thank the complainant and ask them if they would like to be advised of any monitoring results.
- If the complainant does want to be informed of monitoring results indicate that they will be notified as soon as the complaint has been investigated and notified of what action will be/has been taken (if any). Issues that could seriously affect the running of the operation are reported to the General Manager or his designate.

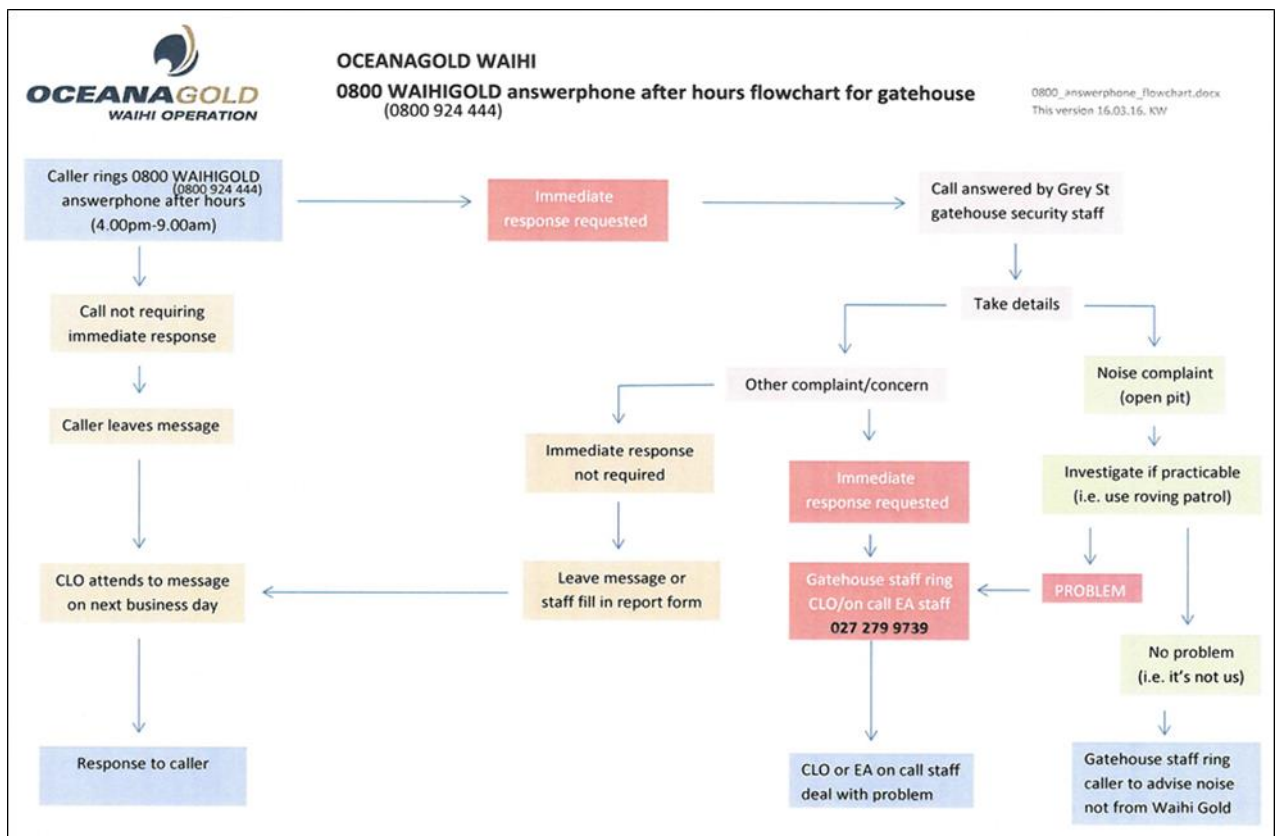
4.4 0800 WAIHIGOLD Calls Received Outside Normal Hours

- Outside normal office hours callers to 0800 WAIHIGOLD will receive a recorded message:
- *Welcome to the Waihi Gold Community Engagement Line. This phone is attended x.xx am to y.yy pm each weekday. If you are calling outside these hours please leave a message. A staff member will get back to you on the next working day. If you are calling about an issue which requires an immediate response such as a noise complaint please press 1.*
- Caller leaves a message and issue is dealt with by the CLO or delegate next business day as per 4.6.
- 'Press 1' connects the caller to Gatehouse Security.
- If the call is genuine and requires an immediate response (e.g noise issue in open pit) Security staff ring CLO or Community team staff member on call.
- If call does not require an immediate response security staff log call and hand details to CLO or delegate to be dealt with next business day.

4.5 0800 WAIHIGOLD Calls Received by Gatehouse Security

- Noise complaints received by Gatehouse Security Guards should be investigated as soon as practicable by the roving guard.
- If it is found that the source of the noise is from OGNZL Waihi's operations the complaint must be referred immediately to the CLO or EA staff member on call.
- Noise complaints that are not related to OGNZL Waihi operations should be logged and details forwarded to the CLO or delegate who will attend to the complaint the next business day.
- Complaints regarding any other issues should be logged and details forwarded to the CLO or delegate who will attend to the complaint the next business day.
- All complaints are recorded on the Complaints form (WAI-800-FOR-001-0).

- The form prompts the recording of necessary information as per the resource consent and Mining Licence conditions. It is important to get as much information as possible to enable an effective investigation to occur.
- Complainants must be treated politely and with sensitivity.
- If a complainant becomes abusive about an issue, suggest they ring back later.
- At the conclusion of the call thank the complainant and ask them if they would like to be advised of any monitoring results.
- Prank or malicious calls should be ignored. Hang up immediately.
- The CLO or designate will meet with new Gatehouse Security staff to advise of the most effective ways of dealing with complaints and address any issues staff may have.
- Specific details of complaints received must not be discussed with anyone outside of the OGNZL Waihi Community Department.
- The steps outlines in the flowchart below must be followed for complaints received by gatehouse staff.



4.6 Investigation & Action

- The complaint will be investigated and an action or response decided upon.

4.7 Noise

- Noise complaints are followed up immediately if reasonable to do so (within an hour of the complaint being received or at the same time the next day).
- The HSEC Manager and/or Environmental Technician is informed and a decision is made to measure the noise if practicable (e.g. noise monitoring may not be practicable if the wind speed is greater than 5.0m/sec).

4.8 Vibration

- Vibration complaints are checked by accessing Blast Hub
- Exceedances are required to be investigated in more detail and a response from the mining department recorded as to what mitigation action is planned. Maximum permitted levels are:
 - Martha: 5 mm/s;
 - Correnso: The peak particle velocity (vector sum) shall be no more than:
 - i) For development blasts
 - 4. 5mm/s for 95% of the monitored events
 - 5. 2mm/s on average
 - ii) For production blasts
 - 6. 5mm/s for 95% of the monitored events
 - 7. 3mm/s on average
 - SUPA: The peak particle velocity (vector sum) shall be no more than:
 - iii) For development blasts
 - 8. 5mm/s for 95% of the monitored events
 - 9. 2mm/s on average
 - iv) For production blasts
 - 10. 5mm/s for 95% of the monitored events
 - 11. 3mm/s on average
- A written explanation of vibration exceedances is provided to HDC by the Mining Manager.

4.9 Non-amenity Complaints

- Complaints other than those relating to noise or vibration are investigated by the relevant department depending on the issue.
- Part of the investigation could include a visit to the complainant to discuss the problem, especially if the effect they are feeling is temporary; or if requested, a meeting could be arranged between the complainant and the General Manager, or relevant departmental Manager.
- OGNZL Waihi staff should never visit a complainant alone, both for personal safety and for verification of discussions. In the event a staff member feels uncomfortable due to intimidating behaviour they should remove themselves from that environment immediately. The incident will be reported to their manager and a decision will be made on whether the complainant is added to the 'caution' list. The complainant will be advised in writing that their behaviour was felt to be inappropriate. If the complainant must be visited in future EA staff will be accompanied by appropriate persons (e.g manager, security).
- Complaints received about OGNZL Waihi staff behaviour will be referred to the Human Resources Manager for investigation. If a complaint is received about contractor behaviour the appropriate manager will be included in any investigation.
- The CLO or the Community Engagement Officer should be present at any meeting that relates to community complaints.
- It is important to record on the form the decision for internal corrective or preventive action and the response made to the complainant.
- Follow-up may be required to determine if an action was effective. This will depend on the issue and agreed time-frame to carry out the action.
- All actions relating to complaints are managed through the complaints database system.

4.10 Complaint Resolution

- First Order: It is anticipated that complainants will contact the CLO in the first instance. If, for any reason, they are dissatisfied with the response by the CLO. The CLO and/or General Manager (or delegate) may meet with the complainant to discuss the complaint and ways in which the issue can be resolved. If the parties cannot agree on a resolution, OGNZL Waihi can suggest taking the complaint to the regulators or IRP where relevant (refer OGNZL Waihi Property Programme SOP).
- Second Order: If the complainant chooses to escalate the complaint they may then contact the Manager Planning and Environmental Services or any other Officer of either the Hauraki District Council or the Waikato Regional Council to provide independent mediation.
- Third Order: If the complainant believes the matter is still unresolved they should be directed to the district court, where a decision will be binding on both parties.
- Complaints relating to amenity effects such as noise or vibration will be logged and monitored. If the noise or vibration level is found to be in compliance with consent and Mining Licence conditions the complainant will be advised and the complaint will be considered to be resolved.
- If a noise complaint is monitored and the noise level found to be out of compliance with consent conditions the complainant will be advised of the noise level and the procedure outlined in the Noise Mitigation Plan will be followed to bring the operation back into compliance. Noise monitoring will continue and once compliance has been achieved the complainant will be advised and the complaint will be considered to be resolved.
- In the event that a blast causes a vibration exceedance the relevant OGNZL Waihi Manager is required to provide a written explanation to Hauraki District Council outlining the cause of the exceedance and how this could be avoided in future. The complainant will be advised of this and the complaint will be considered to be resolved.
- The management of complaints relating to non-amenity issues such as perceived property damage or inappropriate staff or contractor behavior will follow a similar process. Mitigating or investigation actions will be discussed with the complainant. Once these actions have been addressed the outcomes will be communicated to the complainant. If they do not wish to escalate the complaint it will be considered to be resolved.
- OGNZL staff who have authority to resolve complaints are primarily the Company Liaison Officer and the Community Engagement Officer.
- All additional Community team personnel will have delegated authority when they are in possession of the Community Engagement phone while on-call or providing cover for staff absences.
- Any member of the site management team has authority to resolve complaints in consultation with the Community team.
- The site will be advised that complaints have been closed out through the daily meeting with the site management team.

4.11 Complaints Database and InViron

- Once the complaints form is completed the information is entered into the Complaints Database for reporting and analysis purposes at a later date. The complaints form is available from the database managed by the CLO and is included in this SOP as an appendix.
- Complaint records are also entered into the InViron database.
- It is important that records are complete, accurate, and brief where possible (details are still available on the hardcopy). The complaints form should be filled out to capture as much relevant information as possible.
- The majority of complaints received by OGNZL Waihi relate to amenity issues that are dealt with immediately such as noise and vibration and corrective actions are not generated.
- Where a complaint cannot be resolved immediately, such as issues relating to property, corrective actions will be entered into InViron for tracking as well as the Complaints Database for reporting purposes.

4.12 Reporting

- Complaints are communicated by the HSEC Manager (or delegate) at the daily production meeting, as well as the site weekly and monthly reports.
- Complaint trends are presented and reviewed by the site management team at management reviews.
- The CLO is required to provide six-monthly reports with regard to the Martha and Correnso operations to Hauraki District Council and Waikato Regional Council that include the following information:
 - all complaints received during the previous six-month period;
 - action taken by the consent and Mining Licence holder and the resolutions if any;
 - other matters of concern raised by the community;
 - any mediation entered into by the consent and Mining Licence holder and others with respect to operational matters and the outcome (unless parties have agreed to keep such matters confidential).

5 DEFINITIONS

Term	Description
CLO	Company Liaison Officer
CEA	Community Engagement Officer

6 REFERENCES & APPENDICES

Item	Title	Location
Plan	Martha Mine Noise Mitigation Plan	Sharepoint
Form	Complaints & Concerns Form	Sharepoint
	Hauraki District Council Land Use Consents Extended Project	Sharepoint
	Waikato Regional Council Consents Extended Project	Sharepoint
	Trio Underground Mine Consents	Sharepoint
	Favona Underground Mine Consents	Sharepoint
	Correnso Underground Mine Consents	Sharepoint
	SUPA Underground Mine Consents	Sharepoint
	Mining Licence (ML 32 2388)	Sharepoint

7 DOCUMENT CONTROL

Author	Reviewer	Change	Date
G Hurley	A Durie	Updated to reflect current situation, including resolution of complaints, dealing with abusive complainants, ensuring personal safety.	6 Sept 13
K Wilson	A Durie	Change to procedure regarding answering of Community Engagement Line	July 2014
D. Crawford	K.Watson	Update procedure to include SUPA.	November 2016

APPENDIX 10

OGNZL - HDC

MEMORANDUM OF UNDERSTANDING

MEMORANDUM OF UNDERSTANDING

between

OCEANA GOLD (NEW ZEALAND) LTD

and

HAURAKI DISTRICT COUNCIL

Dated: 25 November 2016

BACKGROUND

1. This Memorandum of Understanding is entered into between Hauraki District Council ("the Council") and Oceana Gold (New Zealand) Ltd ("OGNZL").
2. The Council is a territorial authority constituted under the Local Government Act 2002.
3. OGNZL is the holder of the necessary mining licence and resource consents for various mining projects in and around Waihi. OGNZL and its predecessor companies have been undertaking mining operations in the area for the past 29 years.

STATEMENT OF INTENT

4. The intention of this Memorandum of Understanding is to express the commitment on the part of both the Council and OGNZL to continue to act in a socially responsible manner. The parties commit to respond in a timely manner, and engage in meaningful dialogue, when issues relating to potential nuisance effects on members of the Waihi community arise with respect to OGNZL mining operations.

COMMITMENTS OF THE PARTIES

5. The parties commit to the establishment of a project-focussed working party, constituted by representatives from both the Council and OGNZL, and at a minimum, will include the HSEC Manager for OGNZL or their delegate. Consideration may be given to the involvement of a community representative. Technical advisors may also be called to take part in discussions where appropriate.
6. The parties commit to meaningfully discuss in a timely manner, any issues and legitimate unresolved complaints arising from activities being undertaken in relation to the mining operations in and around the urban area of Waihi. Initially complaints will be responded to through the processes set out in the mitigation and management plans and the complaints procedure, regardless of whether consent limits are exceeded.
7. The parties commit to promptly implement any agreed actions to address issues or legitimate complaints, whether that be by way of amendments to the management and mitigation plans, or by other means.
8. The parties agree to meet to discuss how unresolved complaints, other than those considered to be vexatious, are to be addressed, and to discuss technical issues relating to effects and actual or proposed mitigation responses.
9. The Council commits to identifying an employee to act as the Council Liaison Officer (in accordance with conditions 3.4 of Land Use consent No. 97/98 – 105 and 7B of ML 32 2388). The Council Liaison Officer is the person to whom all complaints and issues raised by the Waihi community are to be directed in the first instance. The Council Liaison Officer will liaise with the Company Liaison Officer and, as necessary, with the working party.

The above intention and commitments are agreed to by the Council and OGNZL as shown by the signatures below:



Bernie O'Leary
General Manager for
OGNZL – Waihi Operations



Langley Cavers
Chief Executive Officer for
Hauraki District Council