

In response quote reference: Project Martha consent applications/2399887
In response enquire to: Mark Buttimore



22 June 2018

The General Manager – Waihi Operations
Oceana Gold (NZ) Ltd
P.O. Box 190
Waihi 3641

Dear Bernie

Project Martha notified resource consent applications – Requests for further information

With regard to landuse consent LUSE-202.2018.00000857.001 lodged by OceanaGold NZ Ltd for the proposed Project Martha and subdivision consent SUBD-201.2018.00000857.001 – Bulltown and Cambridge Roads, Waihi, the following further information is requested pursuant to s92 of the Resource Management Act 1991 (RMA) to enable an appropriate understanding of the proposal and assessment of its effects. Please provide this information within 15 working days (before 13 July). If you are unable to meet that timeframe please contact me so that an alternative can be mutually agreed. Under section 88C RMA the processing of the applications is suspended until the information has been received and assessed for completeness, or the 15 working day time frame has expired.

1.0 SUBDIVISION MATTERS

Following a review of Appendix N (Subdivision Plan), Appendix E (Traffic Assessment) and the application AEE, further information regarding subdivision matters has been identified as being required:

- 1.1 A plan showing clearly the overall proposal of this aspect of the project:
 - The proposed boundaries
 - The proposed road alignment
 - The proposed areas of road to be stopped
 - The proposed alignments of public services – power, phone, water, sewer

- 1.2 A subdivision application ie: a written explanation of the subdivision proposal and an assessment against the relevant District Plan and Resource Management Act matters.
 - This should include, but not be limited to:
 - An explanation of the rationale for the proposed new boundary between Lots 1 and 2 and how this provides a useable Low Density Residential Lot and allows appropriately for the road realignment as Lot 2 appears to include significantly more land than is required for a relocated 20m wide road reserve.
 - Necessary information to establish the suitability of Lot 1 as a Low Density Residential lot, in particular, but not limited to its dimensions and ability to be serviced – water, sewage, power, phone and access and egress for vehicles.

- The applicant's intentions in relation to the existing dwelling shown across the new boundary

1.3 An explanation of the significance of "(A)" and "(B)" on the scheme plan.

1.4 Confirmation of the requirements of the power and phone providers.

2.0 NOISE

2.1 The Noise Assessment by Hegley Acoustics has been reviewed by Acousafe Consulting and Engineering Ltd and the following further information is required:

- Basis for the amended location of the noise contours along the western side of the pit
- Why are Figs. 12 and 13 different?
- Can an assessment be provided for noise from the vent shaft and portal (in the pit)?

3.0 IWI MATTERS

3.1 Please provide copies of the Memoranda of Understanding referred to in section 2.5 of the AEE.

3.2 In Appendix O – Proposed Land Use Conditions, under the heading Recognition of Tangata Whenua Values (Conditions 103 – 107) you have replicated conditions 63 – 65 inclusive from the Correnso consent and added a new condition numbered 108 under the heading Annual Consultation Reports. In order to understand the effectiveness of such conditions, please provide:

- An assessment of the value and success of the cultural awareness programme to tangata whenua and company employees;
- Information on the preparation of the cultural balance monitoring plan required by Condition 64 including details of its recommendations and solutions towards implementation of the plan's goal, being the achievement of the restoration and or enhancement of the Mauri of Pukewa and the surrounding landforms;
- Details on the implementation of condition 65 of the Correnso consent including information on items i) – iv) of that condition and iwi responses to any summaries presented.

3.3 Apart from sections 2.5, 5.18, 6 including an entry in Table 6.1 and 7.1 of the AEE and proposed conditions (Appendix O 103 – 108), there is no assessment of the cultural and environmental effects of the proposal on iwi. There is also scant discussion of tangata whenua in Section 8 of the AEE.

Please provide an assessment of the ways in which the applications address Part 2 RMA, in particular s.6(e) and (f), s.7(a) and s.8.

3.4 Please provide a chronology of the applicant's consultation with iwi on this proposal:

3.5 In the AEE it is stated that:

- no new cultural impact assessment for Project Martha has been sought by any iwi; and

- The relationship of iwi with Pukewa is acknowledged and remains a matter under discussion between OGNZL and iwi (any further detail on outcomes between the parties will be provided as, and when appropriate).

That the discussions are ongoing and confidential is also stated.

Set out in section 8.4.7.3. of the AEE, is a statement to the effect that implementation of and compliance with conditions (Appendix O 103 – 108) avoids remedies or mitigates the cultural effects of the proposal on iwi, specifically their relationship with Pukewa. What other measures are proposed to address the recognised iwi concerns?

4.0 VIBRATION

- 4.1 What is the likely total number of blasts for the PM4 operation and how many blasts per day? Also, the number of UG (Martha UG and REX + SUPA) blasts per day. How many blast events will this total involve and how many blast events can be expected per day for the project?
- 4.2 What is the duration of the PM4 blasts? Is it likely that the blast durations will be consistent and if not, what is the range of durations that can be expected?
- 4.3 What is the minimum distance of PM4 from occupied structures? Maximum projection distances are provided but not the minimum distance from the works to occupied structures. This information is needed to confirm factors of safety for fly- rock.
- 4.4 Will blasting mats be used when blasting close to occupied houses? It is acknowledged that the need for mats will be somewhat dependent on the minimum distance to occupied structures.
- 4.5 Why is compliance with blast vibration levels restricted to residential properties (zoned) or properties that are lawfully used for residential purposes? In the case of Project Martha, there will be other property in relatively close proximity to the operations that will experience blast induced vibrations.

5.0 PIT STABILITY ASSESSMENT FROM THE MARTHA UNDERGROUND MINE: APPENDIX P1_PSM

Dr Fuller has asked that the following matters be addressed:

- 5.1 When loose rockfill has been listed in Table 7.2 for proposed new stopes, has this been applied to all new stopes or have 30% of new stopes been filled with CAF as may be implied by the comment in the last paragraph on text page 13? If the latter, which stopes have been filled with CAF?
- 5.2 In section 8.1 paragraph 1 on text page 13, can the intended meaning of the last sentence be clarified and is this based on PSM's experience to date with the Martha pit (eg the north wall failure) or on pits in general of similar size?

6.0 GROUNDWATER ASSESSMENT: APPENDIX H1_GWS

6.1 Previous requests for further information that have not yet been addressed by the Applicant are as follows and are formally included in this request for further information:

- What information has been used to assess the permeability of the lower Andesite rockmass and what permeabilities have been assigned to this unit between about 700mRL and 1,000mRL, and below about 700mRL? If these are significantly different as the draft report seems to imply, can permeabilities for each be shown in Table 1.
- Is it correct to assume that the drawdown mechanism as the groundwater level in the lower Andesite moves below about 700mRL would be analogous to draining an overlying relatively permeable rockmass with a series of crisscrossing localized "box type" drains? If that is the case, what if any effect would this be expected to have on the drainage profiles in the overlying lower Andesite and would any substantial lateral expansion of the drained area be expected?
- It is noted in Section 5.1.2 that additional multilevel piezometers are recommended to be installed around the south and southwest perimeter areas of the Martha pit. There also seems to be a gap in groundwater monitoring in the southeast region and therefore, can your recommendation also include the southeast zone where surface settlements are predicted to be highest?

7.0 GEOTECHNICAL UNDERGROUND-REV A: APPENDIX M1_AMC

7.1 Previous requests for further information that have not yet been addressed by the Applicant are as follows and are formally included in this request for further information.

Dr Fuller advises that the AMC Geotechnical Assessment Report for Martha Underground provides minimal details of the planned mining in terms of:

- areas of particular lenses intended to be mined,
- sequence of mine access development and mining (stopping) sequence, and
- mining methods to be used.

7.2 The three points listed below outline **the minimum** information Dr Fuller advises that he needs to see to enable him to conduct an assessment of the geotechnical and stability aspects of the Martha Underground Mine:

1. At least three (3) horizontal sections at levels just below the base of the MP4 pit, the mid- levels of proposed mining in the Martha vein and towards the lower limit of mining. I can't be specific on the RL's because I don't have an overall vertical section to scale. Each is to include all lenses intersected and named, old historic unfilled stope voids, old historic filled stope voids and proposed new stopes colour coded according to mining method.
2. A series of vertical sections cut perpendicular to the average strike direction of the Martha vein at 50m intervals and extending from the surface to at least 500mRL showing MP4 pit, all veins intersected and named, and the same details as listed in 1. for stopping with the same colour code as the horizontal sections.
3. Typical vertical section/s showing the proposed top – down mining sequence. It is presumed that the top-down sequence relates to mining blocks within which there will a

series of stoping levels and stopes within the blocks mined with a bottom-up sequence. Details down to stope scale are required.

7.3 In addition to this information regarding the planned mining, the following further matters of detail need to be addressed:

1. It is stated that the pillar between the top mining level in the Rex vein and the surface is 80m thick and from earlier discussion, the thickness of lower (Quartz) Andesite is said to be at least 40m. This needs to be confirmed as does its adequacy to form a competent and stable pillar between the uppermost stope back in Rex and the near surface groundwater system. It appears from the geology model outlined in the Surface Settlement Assessment report that the near surface layers above the Andesite thicken further to the East of the Rex vein. Is this correct? If so, it needs to be considered in the surface pillar stability assessment.
2. What instrumentation (type and density) is recommended to properly monitor the stability of the surface pillar above the Rex vein?
3. Details of the proposed mining methods in various veins and areas in each that are proposed to be mined are required. These details may need to be included as part of the geotechnical assessment so results of that work can be considered in the context of the proposed mining.
4. The report notes that there is likely to be a change to the detailed mine plan as more information on the resource and ground conditions becomes available. Is this likely to result in any changes to the mining methods that are currently proposed and if so, what additional methods could be required?
5. It appears that some open stope mining is proposed. If that is the case, what are the size limits of open stope size before backfilling is required to preserve regional stability and how will this relate with ground conditions, proximity to the open cut, depth and any other factors influencing stability?
6. The modulus E for Quartz Andesite is listed in Table 3.1 as 47 GPa yet in Table 12.1 of PSM's MP4 assessment report, the rock mass modulus is shown as 8.7 GPa for undisturbed material. Does the higher value relate to intact rock or the rock mass?
7. Since PSM have now completed the assessment of the interaction between the proposed mining in MUG and the open cut, are there any implications of those results to the assessment of regional stability resulting from the proposed MUG and are there any additional recommendations required so that regional stability can be maintained?
8. On p18, paragraph 1, please clarify if "existing voids" means those within the orebody and in the country rock.
9. In paragraph 3 also on p18, is the intended meaning that CAF has the same strength as concrete?
10. In section 5.3.3 on p19, the wording could imply that mining in the Rex vein will cause surface disturbance. Please clarify if this is the meaning intended and if so what type of surface disturbance could be expected?

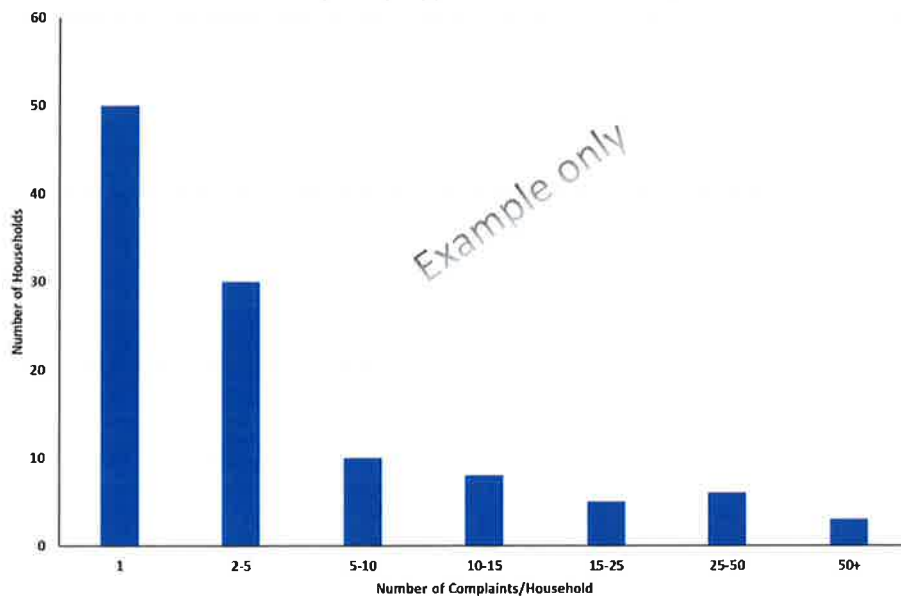
11. Are there any MUG project specific changes to the current void management plan recommended?
12. In the 3rd dot point on p24, are the "open stopes" those from historic mining or newly formed stopes?
13. Are there any areas of high priority for the location of geophones as part of the recommended seismic monitoring system?

8.0 PROPERTY VALUATIONS

8.1 Appendix X; Property Valuations by Telfer Young has been reviewed by Dr Phil McDermott and he has the following requests for further information:

1. **Further analysis of complaints** (cumulated across issues) covering the distribution of complainant households by number complaints laid relative to the Correnso operation. This will assist the Council to determine the penetration of nuisance issues and identify whether some form of response is justified. It will also contribute to an understanding of the catchment definitions Telfer Young have adopted to assess impacts for project Martha (Above, Fringe, Outer; pages 24 and 25) relative to the zones identified for Correnso (page 3, Appendix E).

This analysis could cover both Martha Underground and Correnso Underground mines, illustrated as follows (with purely hypothetical numbers):



This could be accompanied by a map of the distribution of complaints relative to the operations and as shares of households in the vicinity. Any households recording 5 or more complaints might also be analysed by years of ownership or occupancy at the time of complaint.

While these matters are discussed in the report clarity of illustration of how widespread issues are would be helpful in assessing the substance of effects.

2. **Long-term sales data** (Section 5, and Appendix 2) would be more helpful if data were to be transformed: (A) by de-seasonalising sales volumes (e.g., P.10 and Chart 3 Appendix

Band (B) by presenting long-term changes in average prices in real rather than nominal terms (say, December 2017 dollars, pages 11 and 12, chart 2, Appendix B).

3. The evidence suggests that any discount on property prices will not persist beyond five years (except perhaps for some households above the mine). Market disruption is expected to be lower for Project Martha than the Golden Link Project, where the Top Up programme ran for five years.

A more definitive position is sought on the use of AEP and Top Up provisions, which are presented as conditions underpinning the conclusions in paragraph 8.6.

4. It would be helpful to present the extrapolation on page 36, paragraph 7.11 within a **long-term perspective**, by incorporating it into a graph of real values from, say, 2000 to demonstrate more clearly the point that the author is making that any effect is a likely to be a short term to medium-term market aberration.
5. A more definitive or informative statement is sought on the likelihood of properties in the Martha Project area **maintaining existing insurance cover**, another condition underpinning the conclusions (paragraphs 6.2.2.8 and 8.6). This implies the need for discussion with insurance industry representatives.

9.0 PROPERTY MATTERS

- 9.1 The Advice Note for Condition # 87 provides a definition for "residential property". Please confirm that this definition extends to include residential flats and other like accommodation located above shops and other commercial businesses.
- 9.2 The AEP payments are made for affected occupied residences. Please advise if this programme is to be extended to occupied residential accommodation such as residential flats and other accommodation located above commercial businesses. Likewise, please advise why the AEP programme is not extended to properties used for non- residential purposes.
- 9.3 The Project Martha activities will occur beneath properties used (and zoned) for a range of activities besides housing. Please provide the rationale supporting the exclusion of non-residential properties from the property purchase and ex-gratia payment provisions set out in Condition #87. Please include reference to commercial accommodation such as hotels and motels.
- 9.4 As noted above, mining activities will occur beneath properties used (and zoned) for a range of purposes. A mechanism will be required to enable the Council to confirm that all affected "residential property" (or other defined affected property) has been addressed in terms of Condition # 87. For example, a plan could be provided to the Council and updated as required. Please suggest how this matter can be addressed.
- 9.5 The Correnso consent provides that the opportunity is available for the owners of properties adjacent to or in the immediate vicinity of the underground mining to seek to have their properties acquired by the consent holder (Condition #61 – Correnso). This provision is not provided for in the Proposed Project Martha conditions. Please provide the rationale for this position.

10.0 TRAFFIC

10.1 Following a review by of the HDC Design Services Unit. The following information is requested:

- Written confirmation from NZTA (as the road controlling authority for State Highway 2), that the assessment of impacts on the SH2/Baxter Rd and SH2/Crean Rd intersections are acceptable.
- Written confirmation from NZTA (as the road controlling authority for State Highway 25) that the assessment of impacts on the SH25/Martha Pit entrance intersection is acceptable

11.0 PLANNING MATTERS

11.1 Page 138 of the AEE includes the following; "Activity: Dust from heavy vehicles" . ; "Existing Mitigation Measures: Transport rock and ore from Martha Pit to the Process Plant and the Central, Northern and Eastern Stockpile areas by conveyor wherever practicable;" .

11.2 Further information is requested on how "wherever practicable" will be determined. The resource consent application does not address the need to transport rock and ore from the Pit to the process plant by heavy vehicle. If this is a possibility, then additional information on transportation effects is requested.

Yours sincerely



Mark Buttimore
Strategic Planning Projects Manager