

Before a joint hearing of the

Dunedin City Council
Otago Regional Council
Waitaki District Council

**LUC-2016-230 and LUC-2013-225/A
RM16.138
201.2016.779 and 201.2013.360-1**

Under the Resource Management Act 1991

In the matter of applications by Oceana Gold (New Zealand) Limited for
resource consents for the Coronation North Project

Statement of evidence of David McKenzie for Oceana Gold (New Zealand) Limited

14 October 2016

Applicant's solicitors:

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**anderson
lloyd.**

Qualifications and experience

- 1 My full name is David George McKenzie.
- 2 I am based in Christchurch with Opus International Consultants Limited (**Opus**) where I hold the position of Technical Principal, Landscape Architecture; a role that involves the technical oversight of our national Landscape Architecture Team. I am also a shareholder in Opus.
- 3 My qualifications include:
 - (a) Bachelor of Science (Geography) from the University of Otago in 1979, and
 - (b) Post-Graduate Diploma in Landscape Architecture from Lincoln College (now Lincoln University) in 1982.
- 4 I am a Registered Landscape Architect having practiced as a landscape architect for 34 years. For 32 of these years I have been a corporate member of the New Zealand Institute of Landscape Architects Inc and I am a Fellow of the Institute. I have a broad range of landscape planning and design experience obtained from project work for territorial authorities, government corporations and private companies such as Otago Regional Council, Dunedin City Council, Central Otago District Council, Gore District Council, Christchurch City Council, Palmerston North City Council, NZ Transport Agency, Mighty River Power, Pioneer Generation, King Country Energy and Contact Energy.

Background

- 5 I have been involved in providing the landscape input to a range of Oceana Gold (New Zealand) Limited's (**OceanaGold**) projects since 2002.
- 6 For the Coronation North Project (**the Project**), I prepared the landscape and visual assessment that was completed in April 2016: "Oceana Gold (New Zealand) Ltd Macraes Gold Project – Coronation North Project: Landscape and Visual Assessment" (**the LVA**). The LVA was included as Appendix 16 to the Assessment of Environmental Effects (**AEE**) submitted as part of the resource consent applications for the Project.
- 7 Prior to this, I prepared a Landscape Report in response to the 'landscape' condition (Condition 4.6) arising from Coronation Mine's Waitaki District Council (**WDC**) and Dunedin City Council (**DCC**) LAND USE CONSENT "CORONATION" – OCEANA GOLD (NZ) LTD; WDC Reference: 201.2013.360 and DCC Reference: LUC-2013-225. This Landscape Report was fully referred to in OceanaGold's Coronation Mine Operations and Management Plan to ensure that when the Coronation Waste Rock Stack is being constructed, OceanaGold will achieve the final form to meet landscape compliance.

- 8 This had followed on from my preparation of the May 2013 LVA for the Coronation Project: "Oceana Gold (New Zealand) Ltd Macraes Gold Project – Coronation Project: Landscape and Visual Assessment", providing landscape advice regarding OceanaGold's response to a request for further information from WDC and DCC and the preparation and presentation of landscape evidence before the joint resource consent application hearing in October 2013.
- 9 Two years prior to that, I provided landscape input to the Macraes Phase III Project (**MPIII**) in 2011 and prior to that the Frasers West, Frasers East, Deepdell, Golden Bar and Heritage and Art Park components of its Macraes Gold Project. I have also prepared the visual assessment to the Blackwater and Reefton Phase 2 components of its Reefton Gold Project.
- 10 I have also previously given evidence in support of the variation to the conditions of Landuse Consent 96/98 that control the location, height and associated design of the Frasers West Waste Rock Stack (**FWWRS**). Accordingly I am familiar with the way that OceanaGold plan for, design, manage and rehabilitate waste rock stacks and related open cut gold mining activities.
- 11 In preparing this evidence I have read:
- (a) The Project AEE, reports and statements of evidence of other witnesses for OceanaGold giving evidence relevant to my area of expertise;
 - (b) Various landscape and planning-related documents relevant to the preparation of the Project's LVA and these have been 'footnoted' in the LVA;
 - (c) The Peer Review Report on landscape matters prepared by Barry Knox, Landscape Architect, Dunedin City Council; and
 - (d) The Section 42A Report prepared by Andrew Purves, Consultant Planner, on behalf of Dunedin City Council and Waitaki District Council.
- 12 I have read the Code of Conduct for Expert Witnesses contained in the Environment Court of New Zealand Practice Note 2014 and I agree to comply with it. I have complied with it in the preparation of this evidence.

Scope of evidence

- 13 I have been asked by OceanaGold to prepare evidence to address matters raised in paras 83-89 of the Section 42A Report and to revisit my assessment of cumulative effects with a landscape perspective.
- 14 The full background to these landscape matters is provided in the Project's LVA.

Cumulative effects assessment

- 15 My Cumulative Effects Assessment formed Section 7 of the LVA, which read as follows:

Cumulative landscape effects are considered to be those that affect the physical landscape such as caused by earthworks for the haul road, site works, topsoil stripping, excavating the open cut pit and the progressive development of the waste rock stack. Cumulative visual effects can affect visual amenity values and it is generally recognised that this can occur in three ways. These are:

- **Combined effects** – resulting from two or more waste rock stacks, for instance, being seen from one viewpoint in the human field of vision (i.e., spanning 124° horizontally).
- **Succession effects** – resulting from two or more waste rock stacks being seen from one viewpoint but not in the human field of vision, i.e., the viewer has to turn to see one or other waste rock stacks.
- **Sequential effects** – resulting from the observer moving to another viewpoint and then seeing one or other waste rock stacks. Sequential effects are most commonly experienced along regularly used routes such as roads and cycle/walkways.

As implied by the Viewshed Maps and discussed relative to a number of the representative and salient viewpoints, cumulative effects of the combined, succession and sequential type relate to possible visual effects caused by the proposed Coronation North Project and the consented aspects of the existing Macraes Gold Project, which includes the currently operating Coronation Mine.

From the viewpoints considered to the south of Taieri Ridge, from which aspects of the Coronation North Project will potentially be seen - Viewpoints 1, 2, 3, 6, 8 and 9, the additional mining component that will be seen is one or two small aspects of the proposed Coronation Pit Extension. In all cases, the singular or pair of pit voids and their pit face backdrop that will be seen will be at or just below the skyline and some considerable distance away. In relation to Viewpoints 1, 2, 6 and 9 that distance will be such that the scale of void(s) will be reduced to the extent that does not equate as a cumulative effect from these particular viewpoint.

For Viewpoints 3 and 8, there is likely to be a cumulative effect on Viewpoint 3 as from this point the existing, consented Coronation WRS and haul road are clearly visible, along with aspects of the Deepdell WRS and a portion of the Mixed Tailings Storage Facility embankment. Seeing two aspects of the Coronation Pit Extension in this particular view will add another mining component to the view, but, again the scale of these two pit voids within this expansive view will limit the degree of accumulated effect. From Viewpoint 8, the addition of a portion of the Coronation Pit Extension will be a cumulative effect, but small scale of this additional mining element will limit the degree of accumulated effect.

From the one viewpoint on the north side of the Taieri Ridge where existing and proposed mining elements will be visible –

Viewpoint 12 – there will be a definite cumulative effect as there will be the addition of another waste rock stack to this view and the proposed Coronation North WRS will be larger and closer to the viewpoint than the consented Coronation WRS.

In this case, the effects of scale and distance, combined with established mitigation measures, will limit the visual effect of the consented waste rock stack and similarly, with time, will limit the visual effect of the Coronation North WRS. The landform change brought about by the additional waste rock stack and the excavation of the Coronation North Pit and the Pit Extension will remain and be cumulative.

In terms of the overall cumulative landscape and visual effect of the Project, the effect would be negligible to low from Macraes Flat looking north to Taieri Ridge, but the effect will high to moderate from the one viewpoint on Longdale Road looking south to Taieri Ridge.

- 16 In the Conclusion to the LVA I noted:

In terms of the overall cumulative landscape and visual effect of the Project, the effect will be low to negligible when seen from the southern or Macraes Flat side of the Taieri Ridge. From the north side of the ridge the cumulative effect will be high, but will become moderate with time.

Response to Landscape Peer Review Report

- 17 Mr Knox agrees with the LVA's description of the general character of the site and the landscape related planning requirements, although he notes that the Coronation North site is a Visually Prominent Area in the Dunedin District Plan (VPAs being areas where visual effects would be considered to be greater).
- 18 Mr Knox considers that the LVA understates the degree of adverse landscape related effects of the Project. He notes that the Project will have extensive adverse effects on the High Country Outstanding Landscape Area (**HCOLA**). It is his opinion that the consented Coronation Mine project was 'on the cusp' of being an Outstanding Natural Landscape (**ONL**), but that the Coronation North project sits within an area that is clearly ONL.
- 19 As noted in my Coronation Mine-related evidence I disagreed with the Coronation Mine site being ONL for the reasons outlined at the time and I remain of the same view in regard to the proposed Coronation North site. In my opinion the Mare Burn area of the Taieri Ridge ONL has gained this particular status due to the relative rarity and isolation of this 'upland, modified tussock country' landscape type within the Dunedin City territorial area; that is, it is an ONL 'locally' to this particular council. On the regional scale this landscape type is quite commonplace as can be seen relatively close at hand on the hill country in the eastern extent of Central Otago District and the southern, inland extent of Waitaki District. It would seem that my view is supported to a certain degree by the intention to alter the area's District Plan landscape status under the proposed Second Generation Plan (**p2GP**).

- 20 In regard to the District Plan changes, at page 22 of the Project's LVA under "*Key Implications relative to the Waitaki and Dunedin City District Plans*" I noted the following:

The elements of the statutory and policy documents outlined above have implications for an assessment of landscape and visual amenity effects of the proposed mining activity. Implications include:

- Common requirements of the Resource Management Act, Waitaki District Plan and Dunedin City District Plan are the protection of outstanding landscapes from inappropriate use and development, and the maintenance and enhancement of both amenity values and the general quality of the environment.
- The majority of the Coronation North Project lies within the Rural Zone of the Dunedin City Plan, and within a High Country OLA and is therefore subject to Section 6(b) of the RMA (refer to section 1.5.2 of this report). The City Plan recognises that the City's high country OLA is unique and distinctive and has policies to ensure these values are not compromised. The City Plan also recognises that the landscape is constantly evolving through natural processes, farming and other land uses and that the City's high country landscape can be vulnerable to the effects of change, including the visual effects of structures.
- Although the proposed 2GP no longer defines the Project area as an OLA, the zone "Rural High Country Zone" still defines the ridgeline as highly significant and although mining can occur there must be a "reasonable certainty" the land will be restored to an acceptable standard in regard to landform and productive potential.

The majority of the Coronation North Project lies within the Rural Zone of the Dunedin City Plan, and within a High Country OLA and is therefore subject to Section 6(b) of the RMA (refer to section 4.5.2 of this report). The City Plan recognises that the City's high country OLA is unique and distinctive and has policies to ensure these values are not compromised. The City Plan also recognises that the landscape is constantly evolving through natural processes, farming and other land uses and that the City's high country landscape can be vulnerable to the effects of change, including the visual effects of structures. OceanaGold will be progressively rehabilitating the waste rock stack and restoring the remainder of the site to an acceptable standard at mine closure and this aligns with the expectations of the proposed 2GP.

- 21 As noted the proposed Project site is currently within a High Country OLA, but that will change via the p2GP. As also noted OceanaGold will carry out site mitigation that aligns with the expectations of the p2GP.
- 22 The section 42A report says that Mr Knox subsequently notes that the p2GP has removed the HCOLA notation from this part of the Taieri Ridge and the Coronation North site would therefore not be part of an Outstanding Area under the p2GP. However I have not been able to find any reference to the zoning under the p2GP in Mr Knox's report. Given that the p2GP is at the hearing stage

and if consented, this Project or at least its rehabilitation will be implemented under the expected to be operative 2GP, not having reference to the future intended landscape status of the Project area seems an oversight.

- 23 Mr Knox assesses the overall cumulative landscape and visual effects of the Project as "low" for views from the south, whereas in my opinion it is "negligible to low", and as "high" for the Longdale Rd or northern view. In my opinion, the latter is "high to moderate".
- 24 Mr Knox agrees that proposed mitigation and the effects of scale and distance will limit the visual extent of the consented Coronation Mine Waste Rock Stack (**WRS**) and, with time, will also limit that of the proposed Coronation North WRS. However, it is Mr Knox's opinion that the landform change brought about by the additional WRS and Coronation North open cut pit will be significant, and cumulative.
- 25 In terms of cumulative effect, it is Mr Knox's opinion that the Project will be a further encroachment into the HCOLA and given the strong natural character elements and relatively unmodified nature of the broader surrounding landscape there would be a significant adverse effect on these values.
- 26 As agreed by all, mitigation measures proposed in the AEE will be a very important component of the consent package. Mr Knox refers to MPIII¹ 'landscape' conditions and says the conditions that applied for MPIII are comprehensive and should be adapted and strengthened if necessary to apply to the Coronation North project. Mr Knox considers diligent and timely rehabilitation is extremely important in this sensitive environment. Mr Knox supports the concept of setting aside nearby areas to promote terrestrial and freshwater values lost by mining operation.
- 27 I am uncertain why Mr Knox has focussed on the MPIII 'landscape' conditions, given that the Coronation Mine 'landscape' conditions² are provided as being indicative of the 'landscape' conditions that will be developed for this Project. It has been my experience that each set of 'Macraes' landscape conditions have been 'upgraded' from one application and consent hearing to the next over time and that the current 'Coronation Mine' conditions would be seen as 'superior' to the MPIII ones. This is especially the case as DCC, and my recollection is that included Mr Knox, had input to the consented 'Coronation Mine' landscape conditions.

¹ 'MPIII' was the abbreviation given to the Macraes Gold Projects Phase 3 Expansion project that was consented in 2011/12 and encompasses the current mining activity to the east of the Macraes area; all within Waitaki District.

² Refer Appendix 6 of the Project's LVA.

- 28 Mr Knox sums up in his conclusion that the Project's LVA analysis is thorough. He notes that there may be a difference in interpretation and emphasis given to the significance of the specific Coronation North site landscape, but whatever professional assessment of this landscape is referenced, there is very little debate that landscape values are regionally significant and of high value.
- 29 Mr Knox also notes that cumulative effects are important, over time a greater and greater area of natural landscape is modified and mostly restored, the longer time taken to mine and relatively slow incremental changes over several years or decades often mask how significant these changes may be.
- 30 I agree with Mr Knox on this. We do have a difference of opinion on 'degree' of effect, but only by one order of magnitude from a ranking process that does contain subjectivity. However, we are both of the view that mitigation of effects are appropriate for the values of the area. I will shortly discuss the proposed 'landscape' conditions and how the full set of proposed conditions in also addressing ecological and heritage factors seeks to mitigate the Project's effects on the landscape inclusive of and beyond that of the visual effects.

Response to Section 42A Report

- 31 Mr Purves notes that the Project's LVA is *"largely a repetition of the report prepared for the earlier Coronation consents with an emphasis on visual rather than landscape effects"* and that *"the assessment of cumulative effects for example continues focus exclusively on visual effects."* This is a fair observation given that the Coronation North project is an extension of the Coronation Mine project with an extended WRS and an enlarged open cut pit, but without substantive addition to the haul road as that is already in place and serving the Coronation Mine. I have taken a pragmatic approach where changes to geographic aspects - landform, landcover and landuse - results in landscape effects that will be 'seen' as visual effects being the perceptual aspect as that is how the landscape effects will be interpreted and 'seen'. I have kept away from associative aspects, being historical associations, tāngata whenua associations, recreational use and such as these are covered by other experts for this project. This pragmatic approach to landscape is not seen as a fatal flaw.
- 32 I note that the Project's LVA was finalised in April 2016. The Project's heritage and iwi archaeology reports were both produced subsequently in May. A couple of the ecology reports were finished late April, but a couple others were finished in May. My input was completed first before I had the benefit of reviewing those reports, however the findings of these reports stand by themselves. I have now read the respective reports and confirm that the content of those reports does not alter the opinions I expressed in the LVA.

- 33 In response to Mr Purves' observation "*that the mitigation measures used elsewhere at Macraes will also provide adequate mitigation at the Coronation site*" I consider this to be a reasonable expectation, especially as I noted earlier, the 'landscape' conditions have been refined and 'upgraded' going forward. I am assuming by 'Coronation site', Mr Purves means the proposed Coronation North project.
- 34 I concur with Mr Purves observation that this extension of the Coronation Mine to the north can be seen in the landscape context as a continuation of the existing mining operation. I do not recall posing this relative to the now-consented Coronation Mine being first being established on the Taieri Ridge.
- 35 At paragraph 86 of the Section 42A report, Mr Purves notes that Mr Knox in his Peer Review Report now considers the Coronation North project area to be no longer outstanding due to changes brought about by the p2GP, but there is "*very little debate that the values are high*". I have no issue with that and agree that the values of the area are high.
- 36 At paragraphs 87 and 88, Mr Purves reflects Mr Knox's observations on what the Project's 'landscape' conditions need to address or continue to address and that such have been largely effective in mitigating the broader Macraes Gold Project's visual effects to date. The need to adapt, and strengthen such conditions, if necessary, is noted. As I have stated, this is and will be OceanaGold's intention and it is acknowledged that the Coronation North WRS will be in a more sensitive environment. The changes and additions to the overall set of conditions proposed by OceanaGold goes hand-in-hand with this.
- 37 I concur with Mr Purves practical and pragmatic approach to refining the conditions as noted at his paragraph 89. His recommendations at his paragraphs 90, 91 and 92 follow on from this and I will discuss this further relative to the draft 'landscape' conditions for this Project.

Comment on proposed conditions

- 38 There are comprehensive rehabilitation conditions proposed in DCC / WDC Section 42A Report at Annexure A, including:
- (a) Condition 3 – Project Overview and Annual Work and Rehabilitation Plan, which requires annual reporting to Councils;
 - (b) Condition 4 – Rehabilitation, which sets out rehabilitation objectives, requirements for naturalising earthworks and minimising visibility and using a Landscape Architect for planning and design of structures; waste rock stack design principles, and revegetation requirements; and

(c) Condition 5 – Site Decommissioning and Closure requiring a Site Decommissioning Plan which will also address rehabilitation.

- 39 As previously mentioned the 'Macraes' set of conditions and the 'landscape' conditions in particular draw directly from the past sets of equivalent conditions, including the MPIII conditions and sets of 'landscape' conditions before that where they have been found to be practical and effective in meeting the required landscape outcomes. In this instance, the draft conditions for this Project replicate those that are in place for the consented Coronation Mine project, but with additions.
- 40 The 'landscape' additions include Condition 4.6 (a) A detailed description of the proposed waste rock stack. It is my understanding that this point will draw directly from Condition 11 – Waste Rock Stacks in terms of the 'mechanics' of WRS design and such, but formalises the expectation that the Project Landscape Architect will have input to the WRS design.
- 41 There is also to be a separate Condition 15 – Nature Conservation and Landscape Values; the detail of which is to be formulated as part of ongoing mitigation discussions between OceanaGold, Councils, Department of Conservation and iwi. My understanding is that the outcome of these discussions and therefore Condition 15 will be integrated with the expectations of the draft 'landscape' conditions 3, 4 and 5.
- 42 There is an expectation that areas of ecological value will be protected under condition 15 and this offset mitigation preserves add maintains, potentially will enhance those areas. In so doing, there will also be landscape and visual amenity benefits.
- 43 A 'for instance' of this is that as a result of current and ongoing 'Condition 15' discussions with the various interested parties, the footprint of the proposed Coronation North WRS has been redesigned to avoid a number of ecological and heritage features and this redesigned footprint is shown in the plan attached to Mr Dale Oram's evidence. While these changes are very recent and not shown in the WRS image included in the Viewpoint 12 photo-simulation, the changes will bring a noticeable re-shaping of the eastern flank of the WRS that will also have a benefit from the landscape/visual perspective.
- 44 Mr Purves makes specific reference to this integration of conditions at paragraphs 90, 91 and 92 of the Section 42A Report. As it stands Condition 4.10 (b) in stating "*tussock species which are as far as practicable sourced from Macraes Ecological District*" does, therefore, include the three specific tussock species that Mr Purves recommends be given particular note in this condition. These three tussock species – narrow leaved snow tussock, hard tussock and silver tussock – are amongst the most common tussock grasses in the local ecological district. I

also note a spelling mistake in Mr Purves' paragraphs 91 and 92, with the particular type of chionochloa specie being a 'snow tussock' and not 'now tussock'.

Conclusion

- 45 In my conclusion to the Project's LVA I noted that the Coronation Project will create a number of landscape and visual effects; the latter will range from low through to moderate-high (with only one assessed viewpoint having moderate-high visual effect) relative to specific viewpoints and overall cumulative landscape and visual effect will be low to moderate.
- 46 The focus of the higher level of visual effect is the change to landform, landcover and landuse that the Project will bring about when seen from an isolated section of Longdale Road, in particular. The landscape mitigation measures that are proposed via the draft conditions will act to moderate the landform change, though that change will still be large, and specifically for the Coronation North WRS, reinstate the landcover and in so doing return the land to its current productive landuse. The integration of the nature conservation and heritage conditions with the 'landscape' conditions will take this proposed mitigation beyond responding to the visual effects to the broader mitigation of landscape effects.

David McKenzie

14 October 2016