IN THE MATTER OF: the Resource Management Act 1991

And **The hearing of applications for resource consents RM16.138.01-20, LUC-2016-230 & LUC-2013-225/A and 201.2016.779 & 201.2013.360-1 associated with the proposed Coronation North Project, Macraes Flat.**

DECISION OF THE HEARING COMMITTEE

Contents

1 INTRODUCTION

This is the decision of a hearing committee comprising Commissioners Peter Garvan, Colin Weatherall and Dr Brent Cowie (chair) appointed jointly by the Otago Regional Council (the ORC), the Dunedin City Council (DCC) and the Waitaki District Council (WDC) to hear and decide a suite of applications made by Oceana Gold Limited (OGL, the applicant) to allow the expansion of the existing mining network mine on Macraes Flat, Otago. It is unusual for a group of applications to be made to three councils, but the reason for this is the area embraced by the land use consent application to the Territorial Authorities straddles the boundary between the Dunedin and Waitaki councils.

We had inspected the Macraes Flat area by 4WD vehicle and foot on Sunday 30 October, which was prior to the hearing commencing. We saw some of the existing mine workings, such as Frasers pit and one of the existing tailings dams. We travelled via the haul road and other local roads to see the existing Coronation Pit, the area to the south where that pit is to be extended, the location of the proposed Coronation North pit and proposed location of the new Waste Rock Stack (WRS) for the Coronation Pits and the Coal Creek catchment. We also saw the small catchments that drain this area towards the Mare Burn, many of the local roads, the location of houses and where submitters live, and some areas which have been protected by covenant as compensation or offsetting for previous mine workings. We much appreciated the opportunity to understand the layout of the land and the watercourses, and the location of the salient features, and we thank the applicant, and particularly Scott Mossman, for giving us that opportunity.

The initial hearing was held in the DCC offices from Monday 31 October to Thursday 3 November 2016. We adjourned the hearing at midday on Thursday 3 to await the applicant's response to our second minute requesting further information be provided, including legal matters, and setting out a process for the hearing to be re-convened.

The hearing was re-convened on Monday 21 November in the Council chamber of the ORC. The applicant had responded to technical questions and legal issues we had raised in our second minute, and provided a new set of proposed conditions for our consideration. We also had a letter from Ms Williams of the Department of Conservation which outlined how the applicant and the Department had reached agreement on conditions of consent, to which she spoke. We heard brief comments from Mr Horrell, the reporting officer for the ORC to

which he spoke, and we also had comment from Mr Purves, the reporting officer for the Territorial Authorities, to which Mr Kelvin Lloyd of Wildlands Consultants spoke.

For the applicant Ms St John, a lawyer employed by OGL, spoke on conditions and Mr Christensen gave his final right of reply. We adjourned the hearing at about 12.45pm on Monday 21. At that stage there were a couple of "loose ends" still to be tidied up, which were the details of the Erosion and Sediment Control Plan, and how the Habitat Enhancement Fund would be administered and what criteria would apply to its use. After having had those resolved by 30 November we closed the hearing on Friday 2 December 2016.

By the time the hearing was re-convened there was little if any opposition to the consents sought by OGL being granted, largely because the applicant had worked alongside most submitters in a very constructive way to reach agreements that covered off the submitter's concerns. The debate focussed on conditions of consent, and we discuss those in Section 10 of this decision.

2 THE PROPOSAL

2.1 Background to Mining at Macraes Flat

The area around Macraes Flat has been mined since the mid 1800's, but it has only been since 1990 that large scale open cast mining has been carried out continuously on the site by the applicant and its predecessors. The veins of gold, which have an alluvial origin, run approximately north-south, and at an oblique angle to the ground. The gold resource follows what is known as the Hyde-Macraes Shear Zone

This past mining has left:

- seven large open pits, some of which have been partly backfilled while others like Frasers Pit and Coronation Pit are still in operation;
- several tailings dams and waste rock stacks, some of which have been rehabilitated and are now used for grazing;
- a network of "haul roads" used by the huge trucks which carry away the rock and ore;
- a processing plant to extract gold from the rock ore; and
- a mosaic of protected areas of various kinds in and around Macraes Flat, all of which we understand are managed by the QEII Trust, and which have been provided as mitigation for the effects of previous mining activities.

A suite of new consents were granted to expand gold mining activities at Macraes in each of 2011 and 2013. The 2011 consents were for what is known as the Macraes Phase III consents. We need not describe all that here; suffice to say it included the expansion of existing pits and underground mining in Frasers Pit, all of which was intended to allow mining to continue post 2020.

In 2013 the applicant sought and was granted consents for what is known as the Coronation Pit. This presently covers an area of 62ha, with an associated waste rock stack covering 105ha to the north. The staged mining at Coronation has been accelerated because in 2014 a large slip in Frasers Pit closed the open pit and the associated underground mine for an extended period. This has led to the need to develop the Coronation North Pit, and to extend the existing Coronation Pit to the south, so that mining activities can continue at Macraes Flat. This is important for a number of reasons, not least that OGL employs over

550 people in Otago, most of whom would be left without work if mining were to cease for any extended period.

2.2 The Current Proposal

The applications before us were lodged on 24 - 26 May 2016 and were publicly notified on 23 July 2016. Nine submissions were received, of which two supported the applications, three were neutral and four opposed at least parts of the applications. We discuss these submissions in Section 5 of this decision, but we do note that one of the neutral submitters (the Kinney's) and two of the submissions opposing the application (Heritage New Zealand and the Department of Conservation) modified their stances after discussions with the applicant satisfied their main concerns.

After the applications were publicly notified the three Consent Authorities sought further information under the provisions of s92 of the Resource Management Act (the RMA, the Act). That information was provided by the applicant on 27 September 2016.

The application included a largely comprehensive Assessment of Environmental Effects,[1] supported by comprehensive expert assessments.

All the proposal lies in the Macraes Ecological District. This is a montane district that covers some 95,000ha and varies in altitude from about 80m to 820m at Highlay Hill. In 1997 about half of the Ecological District had been cultivated or otherwise modified to the extent that it could be considered exotic pasture. In answer to a question, Mr Rance, a witness for the Department of Conservation, estimated that now about two thirds of the district would be similarly modified.

In essence the proposal involved four main elements:[2]

- A 23ha extension to the south of the existing Coronation Pit.
- The formation of a new Coronation North Pit which would cover 69ha. An extension about 2km long to the existing haul road is also necessary to access the pit, as are some changes to unformed Mathesons Road.
- The development of new waste rock stack to the east of the proposed Coronation North Pit, which was originally proposed to cover 230ha but by the time of the hearing this had been reduced to 206ha to be developed in three stages.
- A potential water storage dam in the Coal Creek catchment.

We refer to these collectively as the proposal, and we now discuss each of these elements in turn, before giving our attention to two preliminary legal issues. Before doing so we note that all the drainage from the proposal is towards the Mare Burn, which is an ephemeral tributary of the Taieri River. About 4.4 – 6km of stream channel in the Mare Burn catchment, which has about 51km of stream channel, would be strongly affected by the proposal. We also note that the consents sought would allow the mining activity to occur 24 hours a day, 365 days a year, which is what occurs with the existing mine operations.

[1] We had doubts that sufficient assessment had been carried out on the effects of the proposed southern extension of the Coronation Pit. We discuss this in Section 2.1 below.

[2] There are a number of other activities necessary as part of the proposal, including storage of diesel and construction of temporary buildings. These were described in the application.

2.2.1 The Extension of the Coronation Pit

The Coronation Pit presently covers an area of around 62ha and is proposed to be extended to the south to encompass a further 23ha, with the Project Impact Area covering another 19ha to the south[3], bringing the total area to 42ha. The land that would be destroyed by this proposal is covered largely by a mix of old pine trees and exotic weed species such as gorse, along with tall tussock. According to Dr Thorsen, the applicant's expert terrestrial ecologist, it also supports some significant vegetation within just under 1.5ha of ephemeral wetlands. We did not observe these wetlands during our site visit, perhaps because the whole area was quite wet due to recent rainfalls.

No significant extra roading is necessary to access the southern extension of the Coronation Pit. However the applicant said that the existing consented waste rock stack for Coronation would not be used to its full capacity, with the consented limit of 94 million tonnes of rock covering 105ha being reduced to 29 million tonnes covering 41ha. This is because the full extent of the waste rock stack for Coronation would cover part of the proposed new Coronation North Pit. The waste rock from the Coronation Pit will instead be taken to the proposed new waste rock stack to be developed in conjunction with the proposed Coronation North Pit.

2.2.2 The Formation of the Coronation North Pit

The proposed site of the Coronation North Pit lies on a north facing slope, and is presently farmland owned by OGL, but leased back to the previous landowner James Peddie. The pit would cover some 69ha. The total Project Impact Area, which includes the waste rock stack as originally proposed (see below) the proposed Coronation North Pit and a 100m buffer around that pit is about 539ha. This area encompasses significant habitat for indigenous fauna (i.e. lizards, skinks and birds) and flora, supporting for instance 11 distinct vegetation communities.

Much of the evaluative material elsewhere in this decision focuses on the proposed Coronation North Pit, its effects, and how those effects can be avoided or mitigated.

2.2.3 The Development of a new Waste Rock Stack

The new waste rock stack is proposed to be located to the east of the proposed Coronation North Pit. It predominantly lies in the catchment of what is known as Trimbells Gully, which is a small ephemeral stream.[4] In 1997 a survey carried out as part of the Protected Natural Areas Programme in the Macraes Ecological District recommended that 564ha in Trimbells Gully be listed as a Recommended Area for Protection (RAP).[5] The most important natural feature in the RAP was the landform-vegetation combination of moist tussock shrub land on a basalt boulder slope. Dr Thorsen, the terrestrial ecologist for the applicant, found 10 vegetation communities within the Project Impact Area of Trimbells Gully.

In the AEE the waste rock stack was proposed to cover up to 230ha, but as presented to us in modified form at the hearing would cover up to 206ha, and be developed in three stages. There were two reasons for this change: first, to avoid a site with historic heritage values to

[3] This is a 100m buffer zone.

[4] In his evidence Dr Ryder referred to this stream as the Trimbells Gully tributary. We have called it Trimbells Gully, consistent with the terminology used by most people at the hearing.

[5] Like many other similar RAP's no formal protection had been given this gully, which at present is extensively farmed (as it was in 1997).

respond to the concerns of Heritage NZ, and second, to potentially minimise the effects of the proposed waste rock stack on the ecological values associated with the RAP. In saying this we note that the waste rock stack would still cover up to 108ha, or nearly 20%, of the 564ha in the Trimbells Gully RAP.

2.2.4 The Dam in the Coal Creek Catchment

The final element of the proposal is the possible development of a dam in the Coal Creek catchment, which is a small, ephemeral tributary of the Mare Burn, which is in turn a tributary of the Taieri River. The proposed dam would consist of a concrete embankment about 27 metres high, which would hold up to about 6,700 cubic metres of water and inundate about 8.3ha. The applicant asserted that the dam would provide a constant water flow of about 5 litres per second downstream to the Mare Burn, and that this would supplement flows in the Mare Burn.

Dr Thorsen, the terrestrial ecologist for the applicant, identified five vegetation communities that would be affected by the proposed dam.

The applicant regards the proposed Coal Creek dam as a "fall back" position if it is needed to limit discharges of contaminants (notably sulphate) downstream into the Mare Burn. Their evidence, particularly that of Dr Weber, was that a range of other options existed which would likely mean the dam would not be necessary as potential sulphate losses could be limited from the waste rock stack.

As part of the proposal to construct the dam, the applicant sought a new compliance site in the Mare Burn termed MB02, which is downstream of the confluence of Coal Creek. They sought that the compliance limits at MB02 be similar to those at MB01, the compliance site for the Coronation Pit (which is upstream of the Coal Creek confluence), where receiving environment standards are based on water quality being suitable as a water supply for stock.

By the end of the hearing the compliance limits at MB02 remained one of the few significant points of difference between the applicant and the reporting officers, with Mr Horrell, the reporting officer for the ORC, seeking more conservative standards than the applicant. We discuss this matter in detail in Section 10.1 of this decision.

2.3 Preliminary Legal Issues

There were two initial matters that we needed to give consideration to as they set the framework for how we addressed the applications before us.

The first of these is what activity status do the applications fall under? With one exception all the activities for which consent is sought are either restricted discretionary or fully discretionary activities. The exception is when the haul trucks, which are noisy, cross a "boundary" between the Macraes Mining Zone and the Rural Scenic Zone as defined in the operative Waitaki District Plan. Mr Christensen, legal counsel for the applicant, said that the proposed extension to the haul road could be dealt with by a variation to the current Coronation land use consent under s127 of the Act. However Mr Purves, the reporting officer for the territorial authorities, did not consider this appropriate, as the Coronation Project had been operating for one year whereas the current proposal is for three years additional work.

Strictly the noise the trucks make in the Rural Scenic Zone means they are in breach of the permitted activity standard in Rule 6.5.1, and so this becomes a non-complying activity.

Precedents exist that all the applications should therefore be "bundled" and all treated as non-complying activities.

The previous panel hearing the applications associated with the development of the Coronation Pit decided that this was a "minor technical breach" of the plan and led to a potentially perverse outcome if all the applications were bundled. Mr Purves recommended we take the same approach as that panel and we agree with him. In saying this we also note that the noise from the trucks on the haul road is very unlikely to be heard by any neighbours, which reinforces that the breach of the rule is this instance an artefact of the plan rather than something with any adverse effects. Accordingly we have treated all other aspects of the land use consent application, and all the applications to the ORC, as discretionary activities.

The second preliminary issue, was whether the Assessment of Environmental Effects (the AEE) provided by the applicant had sufficiently addressed the effects of extending the existing Coronation pit 23 ha further to the south. We asked Mr Christensen to provide us with a written appraisal as to where in the AEE this proposed extension had been addressed. This showed us that while the landscape assessment was comprehensive, in most other regards the assessment was in passing, or rather superficial.

This left open the question whether such an assessment should be provided, and given to submitters, who could then make further submissions on this matter alone. We decided however that this was not necessary, particularly as the only likely submitter, the Department of Conservation, indicated that they would not make further submissions on this matter. What we did instead was require the applicant to provide a succinct summary of the ecological values of this area in their right of reply, and indicate how any adverse effects could be mitigated or off-set. This was provided, by way of a summary report by Dr Thorsen, before the hearing was re-convened. We were satisfied by the information he provided.

3 THE EVIDENCE FOR THE APPLICANT

The applicant gave legal submissions and called 10 witnesses.

3.1 Mr Stephen Christensen, Anderson Lloyd

Mr Christensen opened the applicant's case with his legal submissions. The main matters he covered included:

- The activity status of the applications, which we have already discussed in Section 2.3 above where we decided to treat all the applications as discretionary.
- The decision making framework that we have to apply to the applications, including what he referred to as "a dynamic planning framework" with a new proposed Regional Policy Statement and a new proposed Dunedin City Plan.
- He summarised the effects of the activities for which consent is sought, relying on the expert witnesses being called by OGL.
- He outlined how the practical constraints faced by OGL mean that many effects cannot be avoided, so mitigation becomes very important.
- He described how the applicant has modified the proposal to stage the development of the waste rock stack to minimise the effects on the Trimbells Gully RAP.
- He detailed other further mitigation measures now proposed by the applicant.

We return to most of these matters later in this decision.

3.2 Mr Dale Oram, Oceana Gold Limited

Mr Oram is the General Manager of the Macraes Gold Operation. He gave background information on the company, the history of mining on the site, a summary of the proposal, the alternatives considered and the consultation that has been undertaken by the applicant. He listed the concerns expressed by submitters, and detailed how OGL would endeavour to resolve these. Like Mr Christensen he was critical of some sections of the proposed Regional Policy Statement.

The plant at Macraes processes about 6 million tonnes of ore per year. The company is the largest gold producer in the country, and in 2014 poured its four millionth ounce of gold from its New Zealand operations (which include Waihi and included Reefton). There are 535 jobs for staff and contractors at Macraes, and another 25 staff work in the company's Dunedin office. In response to questions, Mr Oram said that in the future further development of the gold resource is likely north of the proposed Coronation North Pit, and that drilling rigs were already assessing the likely extent of the gold resource there.

We need not summarise the other points discussed by Mr Oram, as we cover these elsewhere in this decision.

3.3 Mr David McKenzie, Opus

Mr McKenzie is a landscape architect who has had landscape input into operations at Macraes since 2002. He provided a landscape and visual assessment of the proposal, with the proposed waste stack being the prominent change in the landscape when this is viewed from some distance.

In broad terms Mr McKenzie's assessment was that the cumulative landscape and visual effect of the project would be:

a) low to negligible when seen from the southern (Macraes Flat) side of the Taieri Ridge; and
b) high, but reducing over time to moderate (as the waste rock stack is grassed over and returned to grazing) when viewed from the north side.

We discuss this further when we discuss Part 2 of the Act in Section 7.2, and when we discuss effects on landscape values in Section 7.3.4 of this decision.

3.4 Mr Andrew Carr, Carriageway Consulting

Mr Carr is a traffic engineer with over 25 years of relevant experience. His evidence addressed comments made by Mr Purves about local roads in his officer's report prepared on behalf of the two territorial authorities, along with some comments about the alignment of Golden Point Road. We discuss these matters in Section 7.3.9 of this decision.

3.5 Mr Kurt Bowen, Patterson Pitts Group

Mr Bowen is a registered surveyor. He discussed the alignment of Golden Point Road in response to the submission from Mr Neil Roy and Mr Purves' officer's report. Mr Bowen presented evidence that the current alignment of the road (which is on land owned by OGL) is significantly different (by about 200m) from that shown on old survey maps. In his experience actual and surveyed alignments could vary up to about 10 metres, but Golden Point Road was far outside this range.

3.6 Mr Nevil Hegley, Hegley Acoustic Consultants

Mr Hegley is an engineer with nearly 40 years of experience in acoustics, and has been involved at Macraes since 1988. He gave evidence on the effects of noise generated by mining activities associated with the proposal. He had measured the noise from the various excavators loading trucks in the OGL operations, and he also conservatively estimated the noise from a rock drill as this may be used at Coronation North.

In essence, he said that these activities would meet the permitted activity standards for noise in the two relevant District Plans. In response to questions however, he did say that under certain atmospheric conditions noise can travel further than usually be predicted, and so he was not surprised that at times residents of Macraes village could hear noise from blasting or trucks.

We discuss these matters in Section 7.3.5 below.

3.7 Dr Michael Thorsen, ERA Consultants

Dr Thorsen is a Principal Ecologist with ERA Ecology Limited, and has worked in biodiversity management since 1990, including 17 years with DoC. He has worked in the Macraes area since 2005 and has provided advice to OGL since 2013. His evidence focused on the ecological values of the area in and around the proposed Coronation North Pit, the Waste Rock Stack and the Coal Creek dam. He had carried out extensive studies on the flora, the lizards and skinks and the avifauna (birds) in and around most of these habitats.

Dr Thorsen had carried out his work within what he called a Project Impact Area (PIA) of 539ha. This includes the areas directly affected by the four main elements of the proposal, plus a 100m buffer area in most instances. He recorded 163 indigenous plant species within the PIA.

We asked Dr Thorsen to provide a summary assessment of which habitats that would be destroyed or significantly modified would meet the criteria under s6(c) of the Act as having significant indigenous vegetation and/or being significant habitats of indigenous fauna. His answer is summarised in the below table.

Location	**Significant Vegetation**	**Significant Bird Habitat**	**Significant Lizard Habitat**
Coronation North Pit	Yes	Yes	Yes
Coronation South Extension	Yes (ephemeral wetlands present)	No	Probably Not
Coal Creek Dam	Yes	Unsure	Yes
Waste Rock Stack Location (RAP)	Unsure	Unsure	Unsure

There was no real dispute about this summary, with all the witnesses who discussed terrestrial ecology at the hearing agreeing with it, apart from one matter that we did not think was very relevant (see Section 7.3.1 below).

As a final observation we commend Dr Thorsen for the frank appraisals given in his original work presented as part of the AEE, and at the hearing. His integrity in doing so was reinforced by witnesses for the Department of Conservation and Wildlands Consultants (who appeared for the local authorities) very largely agreeing with this evaluations of the significance of habitats that will be strongly affected or destroyed by the proposal.

3.8 Mr Brett Sinclair, Golder Associates

Mr Sinclair is the principal hydrogeologist with Golder Associates, and specialises in the management of groundwater. He has been involved in groundwater assessments at Macraes for the last 16 years. He did not expect any significant long term effects on groundwater supplies of nearby farmers as a result of the proposal.

On average in all months except May to July evaporation rates exceed rainfall at Macraes. For this reason flows in streams such as the Mare Burn can fall to zero, and median flows at the existing and proposed new compliance points (MB01 and MB02 respectively) are only about 10 and 20 litres per second respectively. The effects of the proposed Coronation North Pit on nearby groundwater levels would lead to a small decrease in flows in the Mare Burn, at least until the Coal Creek dam is built. On the other hand leaching from the waste rock stack would contribute an average of 2.4 l/s to the Mare Burn.

Mr Sinclair expected sulphate losses from the waste rock stack to increase over time. Mitigation measures had however managed to control leaching on other mine sites. Monitoring had also shown that while nitrate losses from a waste rock stack decrease over the first six years or so, they increase again quite significantly over the decade or so after that.

Mr Sinclair also discussed the very strong relationship of sulphate to total hardess, as developed from sampling undertaken in the nearby Deepdell Stream. Not surprisingly, as sulphate concentrations increase so does total hardness. He then discussed this in regard to proposed receiving environment standards in the Mare Burn, which we discuss extensively in Section 10.1 of this decision.

3.9 Dr Greg Ryder, Ryder Consulting

Dr Ryder is an experienced environmental scientist at Ryder Consulting, a company he formed 21 years ago. He has worked in the Macraes Flat area since the mid 1980's, and has been working for the applicant there for over 20 years.

Dr Ryder described the streams that would be impacted by the proposal, which were Trimbells Gully, Trimbells Gully tributary, Maori Hen Creek, Coal Creek and the Mare Burn. All these streams are small or very small, most are ephemeral, and all hold stocks of a geographically isolated species of galaxiid known as the Taieri Flathead Galaxias and most hold koura (freshwater crayfish). Most of the streams also showed signs of stock damage, such as trampling and pugging. Water quality and habitat quality was generally fair or poor, which is to be expected in such streams. The poorest quality habitat, and that with the lowest fish populations, was in the lower reaches of Coal Creek.

The flathead galaxias is found widely in other streams around Macraes Flat, including streams where high sulphate levels have been recorded on occasions. There is no information available however on its susceptibility to sulphate toxicity; nor is there such information on closely related species. Dr Ryder recommended toxicity trials be carried out.

We discuss these matters more in Sections 7.3.2 and 10.2 of this decision.

3.10 Dr Paul Weber, O'Kane Consultants

Dr Weber is the principal geochemist at O'Kane Consultants (NZ) Ltd. His evidence focused on options to reduce the leaching of sulphate salts from the proposed waste rock stack. This is important because sulphate toxicity in the downstream receiving environment is a potentially significant effect of the proposal. If losses cannot be contained from the waste rock stack, the only other mitigation option available to the applicant is the proposed Coal Creek dam.

Dr Weber explained that sulphate in the waters downstream of the waste rock stack is derived from the oxidation of pyrite (iron sulphate). This can be neutralised by calcium carbonate, which is also present in the rock. There are several options available to reduce sulphate losses: these primarily involve either limiting oxidation of the pyrite in the ore, or preventing sulphate being transported downstream by limiting water egress into the stack.

3.11 Ms Debbie Clarke, Oceana Gold

Ms Clarke outlined the applicant's draft conditions of consent, and the reasons for those. We need not detail her evidence here, partly because much of what she said is covered elsewhere in this decision, and because a detailed mitigation package was subsequently fully agreed with the Department of Conservation.

Ms Clarke also provided a witness statement by Ms Prue Harwood, an air quality expert employed by Beca. Ms Harwood attended the hearing and answered a few questions. We discuss the matters she covered in Section 7.3.6 of this decision.

3.12 Other Material Provided by the Applicant

The applicant also provided comprehensive other material relevant to our decision that was not spoken to at the hearing.

Mr Jeremy Yates, who is a geotechnical engineer, had provided a written brief of evidence, but as we had no questions of him he did not appear at the hearing. He has provided geotechnical advice to OGL since 2004. His evidence covered erosion and sediment control, the design of the proposed waste rock stack, and an assessment of the proposed Coal Creek dam.

The waste rock stack would be built to similar standards to other stacks at Macraes, all of which were stable and Mr Yeats was confident that the Coronation North waste rock stack would also be stable.

Mr Yeats also said the Coal Creek dam could be built to a high standard, consistent with the guidelines provided by the NZ Society of Large Dams. The proposed dam is not dis-similar to other medium sized dams constructed by the applicant at Macraes. We note that the dam will need a separate building consent, and this and conditions of consent for the dam require a full risk assessment.

Mr Michael Copeland provided an assessment of the economic effects of the project, which was given in Appendix 2 of the AEE. He discussed both the direct benefits and the indirect (or multiplier) benefits of the proposal, which will add about three year's life to the Macraes Gold Project. In summary he said that over the three years the proposal would:

- Mean there were about 257 jobs for local residents, with over $20 million of wage and salary payments and expenditiure of over $13 million in north east Otago.

- Retain 465 jobs in the rest of the Otago region, with payments to employees and expenditure in the region each of around $45 million.
- Allowing conservatively for multipliers of 1.5 for incomes and 2.0 for expenditure, Mr Copeland estimated that the proposal would lead to 930 retained jobs, and retained incomes and retained other expenditures each in the order of $90 million.

These figures were not challenged by any party to the hearing. We accept that there are very strong economic benefits from the proposal.

3.13 The Applicant's Right of Reply

The applicant gave their right of reply at the end of the hearing when it was re-convened on Monday 21 November. First, Ms St John worked through the applicant's revised proposed conditions of consent, which had been updated to reflect the agreement with DoC. She also commented on the additional changes sought by Mr Purves, which Mr Lloyd had advocated for at the re-convened hearing. We discuss these matters in Section 10.2 of this decision.

Mr Christensen then spoke to his written closing, during which he covered two main matters. The first was the applicant's response to Dr Hickey's evidence advocating for more conservative receiving environment standards at proposed compliance site MB02. The second was in response to a number of legal questions we had raised in our second minute, which we discuss either in Section 6 or Section 7.2 of this decision.

4 THE EVIDENCE FOR THE SUBMITTERS

Three submitters gave evidence at the hearing. They were the Department of Conservation, who on behalf of the Director General of Conservation provided legal submissions and four witnesses, Mr Neil Roy and Mr John Harvie.

4.1 Department of Conservation (DoC)

4.1.1 Ms Pene Williams, Legal Counsel

In her opening submissions Ms Williams made a number of points, including:

- She accepted that adverse effects cannot be avoided because of the nature of the mining activity, and that there is a balance between different adverse effects – citing for instance the height versus the area covered by the waste rock stack.
- For these reasons she accepted adverse effects needed to be mitigated or compensated for.
- The applicant had engaged in fruitful discussions with DoC, but three areas remained of concern for the Department, which were:

  a) the incursion of the proposed waste rock stack into an ecologically significant area (the Trimbell's Gully RAP);
  b) the effects of the proposed Coal Creek dam and the effects of sulphate toxicity on the habitat of native fish fauna; and
  c) the loss of lizard habitat.

- Ms Williams then provided a very helpful overview of what status we should give the various sections of Part 2 of the Act in our decision, and how we should consider

current and proposed planning instruments. We deal with those matters elsewhere in this decision.

- Finally Ms Williams commented on the proposed conditions of consent, and what DoC saw as the shortfalls in the mitigation package at that time. We need not detail that here, because as already noted DoC and the applicant did agree a full mitigation package prior to the hearing being re-convened on 21 November (see Section 7.3.1).

At the re-convened hearing we asked Ms Williams whether DoC now intended to withdraw their submission opposing the application. She said that the submission still stood, and the Department wished to reserve its position. We understand and respect that.

4.1.2 Mr Brian Rance

Mr Rance is a Technical Advisor – Ecology with DoC, for whom he has worked since its inception in 1987. He has extensive knowledge of the southern parts of the South Island, including threatened plant species. He first described the Macraes Ecological District, much of which we have already described in Section 2.2 of this decision. Among the matters he covered were:

- At the time of the Protected Natural Area Programme survey 356 indigenous plant species were recorded from the Macraes Ecological District, and many more are now known to be present, including many threatened and at risk species.
- He agreed with Dr Thorsen that the PIA supported vegetation communities of very high ecological value, and noted that there were 20 species of plant recorded in the PIA that are considered as threatened, at risk or data deficient.
- About 353ha of the PIA (which covers 539ha) is classified as acutely threatened (i.e. less than 10% of the original vegetation remains) in the Land Environments of New Zealand work released by the Ministry for the Environment in 2007.

Mr Rance then discussed elements of the applicant's proposed mitigation package. He considered that Highlay Hill offered "like for like", and although the Island Block in the Deepdell Gorge is not "like for like" and is some distance from the PIA, he still supported its inclusion in the mitigation package as it contained ecological values worthy of protection and was complementary to Highlay Hill. He sought extensions to both blocks, which were subsequently agreed by the applicant and form part of the agreed mitigation package.

4.1.3 Ms Lynn Adams

Ms Adams is a Technical Advisor – Fauna for DoC, for whom she has worked for 21 years. Her main work is as a herpetologist (who works on lizards and skinks), and she has been the leader of the NZ Lizard Technical Advisory Group for the last eight years. The main points covered in her evidence were:

- She considered that the proposal would result in the complete loss of all lizards from the new mine pit and the southern extension of the existing pit.
- The applicant's assessment of lizards was inadequate, and in addition to the three species recorded she thought it possible that several other species were likely to be present as they have been recorded nearby. Several of these species have high conservation status.
- In relation to the applicant's proposed mitigation package, she said that the proposed covenants at Highlay Hill and the Island Block would be neutral without (mammalian) predator control, she was "ambivalent" about the proposed creation of 10 lizard habitat boulder fields, and she supported the proposed research, but that the amount offered was not sufficient.

We note that in relation to the last point above the mitigation package agreed between the applicant and DoC takes account of much of what Ms Adams sought.

4.1.4 Dr Laurence Barea

Dr Barea is a Technical Advisor – Ecology for Biodiversity Offsets for DoC. His role involves implementing the Government's "Guidance on Good Practise for Biodiversity Offsetting in New Zealand".

Dr Barea concluded that it was not possible to offset the effects of the proposal, so full mitigation was necessary instead. He expressed considerable reservations about elements of the mitigation package proposed, noting for instance that no mitigation was proposed for the loss of 4.4km of linear stream channel, and that the proposed conditions for transferring plants were not satisfactory.

Much of the balance of what Dr Barea said has been overtaken by the agreement of a mitigation package between DoC and the applicant.

4.1.5 Mr Herbert Familton

Mr Familton is a resource management planner employed by DoC. His evidence focussed on the three main matters of concern to DoC at that time, which we listed when summarising Ms Williams' legal submissions. He was generally supportive of the balance of the applicant's proposed mitigation package, albeit with some significant changes and additions. As with Dr Barea, much of what Mr Familton said at the original hearing has been overtaken by the agreement of a mitigation package between DoC and the applicant.

4.2 Mr Neil Roy

Mr Roy lives on Horse Flat Road to the south east of the land subject to the proposal. He has had a long involvement in the OGL consenting process for the various Macraes gold mining developments, where his main concern has been public access to roads. He conditionally supported the proposal, and he acknowledged the benefits that mining has brought to the wider area.

Mr Roy questioned the use by the applicant of the Public Works Act (PWA) to close part of Golden Point and Matheson roads and use them as haul roads. He said that although such applications had been made to the DCC, approval was also needed from the WDC for Matheson Road, which he said formed the boundary between the two territorial authorities, and which had been partly "obliterated" by the applicant. In relation to this part of Matheson Road he surmised that the PWA application had not yet been approved because Overseas Investment Commission approval was a necessary first step. He nevertheless accepted the post mining replacement alignment for the yet to be legally stopped part of Matheson Road, but with the proviso that the future use of the road is not stalled by the protracted rehabilitation of the waste rock stack, which he said had often occurred elsewhere with other mine developments such as Golden Bar. He said that the new alignment of Matheson Road should be opened within six months of pit excavations being completed, as required by a previous Court order.

Mr Roy's other main concern was with Golden Point Road, which he said had never been properly closed on a permanent basis. Public traffic had been prevented from using the road as it was a Construction Zone, and it had been closed on a temporary basis but he said that had expired. He accepted proposed Conditions 13.3 and 13.4 of the land use consent, but continued to oppose Conditions 13.1 and 13.2.

Mr Roy next questioned the evidence of Mr Bowen for the applicant about the alignment of Golden Point Road. We discuss this matter in Section 7.3.9 below.

4.3 Mr John Harvie – Macraes Community Incorporated (MCI)

Mr Harvie is a local farmer whose property is about 7km from the Macraes village towards Dunback. He has lived in the area all his life, and opposed the applications. He is a committee member of the MCI, which he said had about 25 members. His submission included the following main matters:

- The increased traffic on Horse Flat, Matheson, Longdale and Four Mile Roads, such as by drilling rigs, as a result of the Coronation project. He noted the first three of these are used by the local school bus, and it would be appreciated if users could be made aware of this.
- MCI are upset by the poor condition of the new aligned section of the Macraes-Dunback Road required as part of the MGP111 consents.
- He said care was needed to limit dust emissions, and that noise could travel some distance and be heard at the village on foggy nights.
- The Island Block would need substantial weed control, as had occurred at the covenanted block at Cranky Jims Creek.
- MCI were concerned that with ongoing development at Macraes existing bonds may not be sufficient.

4.4 The Other Submitters

Six other submitters did not make any formal appearance at the hearing. They were:

1. Heritage New Zealand (HNZ), who had originally opposed the land use application. A letter dated 28 October 2016 was tabled at the hearing, saying that HNZ had held discussions with the applicant and mitigation measures had been agreed that satisfied their concerns. This covered three matters – the footprint of the waste rock stack, the carrying out of archaeological surveys prior to development and off-site mitigation measures. HNZ sought changes to conditions of consent to reflect the first two elements of this agreement, and we have done that. Given this and the agreement between the submitter and OGL, HNZ no longer opposed the application.

2. Mr and Mrs K O'Connell opposed the applications, expressed concerns about noise and dust and asked that a fair decision be made with appropriate conditions of consent. We trust we have done just that.

3. David and Jocelyn Kinney had not opposed the applications but expressed concerns about the effects of the proposal on groundwater levels in the springs they rely on for stock water. Mrs Kinney spoke very briefly at the first stage of the hearing, and tabled a letter that said after discussions with Mr Oram and Mr Mossman they were working on an agreement with OGL to provide an alternative water supply if adverse effects did occur. This agreement was then confirmed, and the Kinneys formally withdrew their submission at the re-convened hearing.

4. Craig and Erin Howard live on Horse Flat Road. They attended the hearing, but did not wish to speak. They did not oppose the applications but expressed concerns about noise, particularly at night, dust and road use and safety, such as for the school bus.

5. Kāi Tahu Ki Otago (KTKO) did not oppose the applications but sought that conditions of consent address specific concerns that they had about matters such as water quality and instream habitat. They also requested that a Cultural Impact Assessment be undertaken, and this was carried out (as discussed in Section 7.3.7).

6. Mr M and Mrs V O'Neill supported the application, saying the applicant had been a good neighbour and that they expected that their local road access would not be affected.

5 THE REPORTING OFFICERS

There were two principal reporting officers: Mr Andrew Purves, a consultant who reported on behalf of the two territorial authorities, and Mr Charles Horrell, an officer of the ORC. On behalf of the territorial authorities Mr Purves called two expert witnesses from Wildlands Consultants, Mr Kelvin Lloyd and Dr Mandy Tocher. A supplementary report had also been prepared by Mr Barry Knox, a landscape architect with the DCC, but Mr Purves did not call him separately as he was largely in agreement with what Mr McKenzie, the applicant's landscape architect, had said.

The ORC also called one expert witness, Dr Christopher Hickey from NIWA, who gave evidence about receiving aquatic environment standards at proposed site MB02 in the Mare Burn. We also heard some brief comments about galaxiids from Mr Peter Ravenscroft, a scientist employed by the ORC.

5.1 The Territorial Authorities

5.1.1 Mr Andrew Purves

Mr Purves' officer's report was taken as read. We thank him for that report, which we found very helpful. He recommended that the consent applications to the two territorial authorities be granted, and offered some further comment at the hearing as follows:

- He discussed the status of the activities, particularly in relation to the breach of permitted activity standards on part of the haul road. We have already discussed this matter in Section 2.3 above.
- In relation to the condition of local roads (such as Horse Flat, Matheson and Longdale) Mr Purves noted that in relation to repair of roads following the surveys recommended by Mr Carr, the Councils have other priorities and may not be able to respond immediately to any deteriorating local road conditions. He considered that the condition should be limited to the provision of information to the roading authorities. We agree, as we cannot bind a local authority to undertake particular functions in this decision.
- With respect to the alignment of Golden Point Road, he expressed sympathy for Mr Roy's long standing concerns, but noted that "our hands are tied" as all road stopping and temporary closures are completed under statutes other than the RMA, and so we have no jurisdiction. However he was going to explore with the applicant whether Golden Point Road south of Horse Flat Road could be re-instated earlier than the other roads used as haul roads, as this is the piece of road of most concern to Mr Roy because it was a formed road available for public use. This is provided for by Condition 13 of the land use consent granted by the DCC and WDC.

Mr Purves did not appear at the re-convened hearing on 21 November, but Mr Lloyd did, where he presented and explained some draft conditions he was proposing for ecological aspects of the land use consent. We discuss those matters in Section 10.2 of this decision.

5.1.2 Mr Kelvin Lloyd

Mr Lloyd, who is a plant ecologist, spoke to his written report. Among the main points he made were:

- The Macraes ecological district is montane and has a harsh climate. It has high indigenous plant diversity, which Mr Lloyd thought was because it is ecotonal, with an interfingering of forests, tussock lands and wetlands.
- He agreed with Mr Oram that farming has had greater effects than mining in the ecological distritct, but he did note that farming activities maintain habitat heterogeneity, whereas mining destroys habitat and then homogenises the landscape.
- He agreed with Mr Rance and Dr Thorsen about the high significance of the various habitats that will be destroyed or highly modified by the proposal.
- Of the two areas where covenanting was proposed, he considered the Highlay Hill block to be the most like for like of the two with similar rolling hills and basalt seep wetlands as the area around the proposed Coronation North Pit and the associated waste rock stack.
- The Island Block is dissimilar and at lower elevation. Historically it would have supported a broadleaf – kowhai vegetation assemblage which he thought could return over some decades and provide a valuable habitat in time, particularly as there are only a few hectares of this vegetation in the ecological district. He also considered the gully associated with the Deepdell Stream would be a valuable addition to the Island Block.[6]
- Finally Mr Lloyd made some comments about plant transfers and how their success could be measured, the need to manage wilding species such as pines in perpetuity, and why it was important to control grazing animals such as goats and deer within these covenanted areas. We discuss these matters in Section 10.2 of this decision.

5.1.3 Dr Mandy Tocher

Dr Tocher is a herpetologist, which is someone expert in lizards and skinks. She acknowledged that it is hard to quantify the extent of lizard and skink habitat in the areas covered by the proposal. Some species are difficult to find. She also considered that the totality of the areas mined by the applicant at Macraes will possibly have had cumulative effects on significant lizard and skink habitat.

Dr Tocher supported the applicant's move to mitigation, but made several points about this in relation to lizards and skinks:

- She agreed with Dr Thorsen that experts do not know if covenants have helped maintain lizard habitat. Fences would make no difference, but control of wilding species will.
- Like Ms Adams she was uncertain about the effectiveness of artificial rock habitats, although she noted that the Coronation Pit rock habitat mitigation areas had been colonised by the (very common) McCanns skink. However other species such as the Otago gecko show a high degree of site fidelity, meaning transferring them to another location may not be successful. In her words putting lizards on lizards may not work.
- She liked the idea of additional research on lizard habitat and how species could be retained in the face of similar future proposals.
- She was concerned that lizards would "get lost in the process" of decision making over the Habitat Enhancement Fund.

[6] This has subsequently been added to the mitigation package.

- Like Ms Adams she thought that in relation to lizards and skinks the control of mammalian predators “is not bang for the buck”.

5.2 The Regional Council

5.2.1 Mr Charles Horrell

Mr Horrell’s officer’s report was taken as read. We thank him for that report, which we found very helpful. He offered some further comment at the hearing which included:

- An outline of which of Ms Clarke’s conditions proposed by the applicant that he did not agree with at that stage, together with proposed amendments
- Comment on the evidence provided by some submitters, notably DoC.

Mr Horrell presented a brief further report at the re-convened hearing. This covered four matters:

- He and the applicant were still at odds about components of the proposed compliance schedule at MB02, although he was happy to remove any reference to nickel and manqanese, and dissolved oxygen would be covered by a condition in RM16.138.02.
- He preferred that a koura habitat mitigation plan be prepared via a Memorandum of Understanding with KTKO rather than as a condition of consent. This is what we have provided for.
- The contents of the Erosion and Sediment Control Plan had not been agreed at that time as Tonkin and Taylor had not been available due to urgent work resulting from the effects of the earthquake at Kāi koura. Mr Horrell anticipated that this would be resolved in due course, and that was the case.
- He updated the recommended conditions of consent, along with some commentary.

Mr Horrell recommended that we grant all the consents sought from the ORC.

5.2.2 Dr Christopher Hickey

Dr Hickey is a research scientist with NIWA with over 30 years of experience. He specialises in water quality guidelines and toxicology. He had provided a supplementary report to the ORC officer report by Mr Horrell, but presented replacement evidence at the first hearing.

His evidence focussed on receiving environment standards at proposed compliance monitoring site MB02. He differentiated between acute toxicity and chronic stressors, and expressed particular concern about total dissolved solids, conductivity and sulphate. He pointed out that the applicant’s proposed receiving environment standards for these (and some heavy metals such as arsenic) were far higher than the 95th percentiles for New Zealand rivers in the NIWA 100 rivers programme (rivers which we might point out are invariably much larger and with more permanent flow than the Mare Burn). He suggested interim guideline limits for sulphate in particular based on information derived from work in British Columbia, which allows somewhat higher sulphate when total hardness is higher. In response to a question about whether any toxicity testing had been carried out on galaxiids in New Zealand, he said some testing had been done on inanga, and they were found to be moderately sensitive to some common contaminants.

In their right of reply the applicant accepted Dr Hickey's recommendations for compliance limits for each of nitrate, ammonia, turbidity and suspended solids at MB02. This left sulphate as the major difference between him and OGL. We discuss this in Section 10.1 of this decision.

6 LEGAL CONSIDERATIONS

The present applications gave rise to two main legal considerations that we need to make some comment on before fully evaluating the applications against the statutory framework.

6.1 Cumulative Effects

The first of these is to what extent we need to consider the cumulative effects of all gold mining by OGL and its predecessors in and around Macraes Flat. This is because the definition of "effect" in the Act includes "any cumulative effect which arises over time or in combination with other effects". Several witnesses suggested that we needed to consider cumulative effects in our decision. Although they were generally speaking about cumulative ecological effects, we think it important to also consider cumulative effects on landscape.

Gold mining at Macraes has been subject to a series of resource consents, all of which we assume have had some significant effects on landscape values. These effects can be mitigated to some extent over time (such as by backfilling pits and rehabilitation of old waste rock stacks and returning them to grazing), but which by and large are irreversible. They are simply a consequence of large scale open pit mining.

However in relation to ecological effects, our understanding is that previous consent decisions have generally included a comprehensive mitigation package. We are aware for instance that there are several large areas subject to protective covenants from previous decisions.

These landscape changes and protected areas are all part of the existing environment on the site. It is not pragmatic for us to trawl through over 25 years of decisions to assess cumulative effects in the context of either landscape change or ecological mitigation at the time of those decisions. We cannot re-litigate those previous decisions, over which we have no jurisdiction. Rather what we have focussed on is that the landscape effects of the present proposal are minimised as much as is reasonably possible, and that the ecological effects of the current proposals are strongly mitigated.

6.2 Weight Given to the Planning Instruments

We had to consider eight different planning instruments in our decision. Six of these are operative. They are the Otago Regional Policy Statement (which dates back to 1994 and so is rather obsolete), the Regional Plan: Water for Otago, the Regional Plan: Waste for Otago, the Regional Plan: Air for Otago, the Waitaki District Plan and the Dunedin City Plan.

However two new instruments are currently going through the statutory process of the First Schedule of the RMA. These are the proposed Regional Policy Statement and the second generation proposed Dunedin City Plan.

The most relevant case law is a High Court decision which at paragraph 9 states:

> *It is the scheme of the RMA that there is always an operative plan and often a proposed plan. Before any consents are granted the operative plan has to be applied, and regard must be had to the proposed plan. The jurisprudence is that the*

closer the proposed plan comes to its final content, the more regard is had to it. Consent has to be given under both plans.[7]

Clearly full weighting must be given the operative RPS and the five operative plans.

Submissions have been made and decisions heard and released on a new proposed Regional Policy Statement (RPS). These decisions were open for appeal until 9 December.[8] In his closing submissions Mr Christensen provided a long list of matters which OGL are considering appealing, and representatives of DoC and the two territorial authorities made it clear that they were also likely to be lodging appeals. We were given to understand that the proposed RPS stakes out quite different policy positions to the operative RPS, and that this has given rise to considerable angst among the various stakeholders. For this reason we have given little weight to the provisions of the proposed RPS.[9]

The proposed Dunedin City Plan is at an earlier stage, with submissions lodged and hearings underway. Accordingly we can give it only very limited weight. However in one important regard – the removal of the status of part of the Project Impact Area as an Outstanding Natural Landscape Area - the provisions of the proposed Plan are not challenged. We discuss this further in Section 7.2.2 below.

7 STATUTORY ASSESSMENT

7.1 Assessment Criteria

As we have already discussed in Section 2.3 above, all the applications (bar one very minor exception) are for restricted or fully discretionary activities, and we have decided to treat them all as discretionary activities.

Decisions on resource consent applications for discretionary activities are made under the criteria listed in Section 104(1) of the RMA. Subject to Part 2 of the Act, we must have regard to the following matters:

a) any actual and potential effects on the environment of allowing the activity; and
b) any relevant provisions of
   i. a national environmental standard;
   ii. other regulations;
   iii. a national policy statement;
   iv. a New Zealand coastal policy statement;
   v. a regional policy statement or proposed regional policy statement;
   vi. a plan or proposed plan; and
c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

[7] Queenstown Central Ltd v Queenstown Lakes DC (2013) NZHC 815.

[8] The original appeal period closed on 14 November, but the territorial authorities of the Otago region successfully sought an injunction to give extra time for appeals to be lodged due to the recent triennial council elections.

[9] Late in the process of drafting this decision we were advised that over 20 appeals had been received on decisions on the proposed RPS, including one from OGL. We were also advised that the scope of the appeals was very broad, with many provisions being appealed. This reinforces our decision to give very little weight to the provisions of the proposed RPS.

In relation to these matters and the present applications:

- We discuss Part 2 RMA matters in Section 7.2 below.
- We see the actual and potential effects of the activities for which consent is sought as being those including: terrestrial ecological values, water quality and quantity, aquatic communities, landscape, noise and dust in the local environment, heritage and cultural values, local roads and infrastructure, and positive effects. We discuss these in Section 7.3 below.
- There are two potentially relevant national environmental standards (NES) and associated regulations. These are the NES for ambient air quality, and the NES for assessing and managing contaminants in soil for protecting human health. There are no restrictions under the air quality NES, and no activities have occurred on the site that are on the Hazardous Activities or Industries List, so it is very unlikely that there are significant concentrations of any contaminants in the land to be excavated under the proposal.
- The one relevant regulation is that for the measurement and reporting of water takes (2010), which we have taken into account in our decision by requiring monitoring of the takes authorised by consents such as RM16.138.11.
- The relevant national policy statement is the National Policy Statement for Freshwater Management 2014, which we discuss in Section 7.4 below.
- The operative Regional Policy Statement (RPS) for Otago dates back to 1994. A new proposed RPS was notified in May 2015, with decisions released on 1 October 2016 and appeals closing on 9 December 2016. Over 20 appeals were received. We discuss the relevant objectives and policies of the operative and proposed Regional Policy Statements in Section 7.5 below.
- The relevant regional plans are the operative Regional Plans: Water for Otago, Waste for Otago and Air for Otago. We discuss these in Section 7.6 below.
- The relevant district plans are the operative Waitaki District Plan, and the operative and proposed Dunedin City plans, which we discuss in Section 7.7 below

The wording of Section 104(1)(c) often invites debate as it is very open ended. We have decided that the two other relevant matters in this instance are the Cultural Impact Report prepared by Kāi Tahu ki Otago and the Iwi Management Plan, which is the Kāi Tahu ki Otago Natural Resource Management Plan 2005. We discuss these in Section 7.3.7 and 7.8 below.

As the proposal as a whole is classified as a Discretionary Activity, section 104B of the Act is also relevant for our decision. Under s104B, we can either grant or refuse one or more of the consents sought. If granted, we may impose conditions under s108 of the Act. In this case we have granted all the consents sought with conditions that we consider avoid or mitigate the effects of the proposal.

7.2 Part 2 of the Act

Decisions on resource consent applications are made "subject to Part 2 of the Act". We discuss these provisions in turn.

7.2.1 Section 5 – The Purpose of the Act

Section 5 of the RMA states its purpose and defines the sustainable management of natural and physical resources. In relation to s5 we make the following findings.

The granting of the applications confers strong social and economic benefits for the applicant, over 550 employees and contractors, and the Government through the payment of royalties. OGL is the second largest employer in the Waitaki District, and this provides very strong benefits to communities in north east Otago and the wider region, including Macraes Flat, Dunback, Palmerston, Waikouiti and Dunedin. We accept Mr Copeland's estimate that some $90 million will be provided as each of retained incomes and retained other expenditure in the Otago region over the three year life of the proposed project.

Although the life supporting capacity of some terrestrial and aquatic ecosystems will not be safeguarded, a full mitigation package that involves (among other things) protective covenants and long term habitat enhancement has been agreed with the Department of Conservation. Accordingly we are satisfied that on balance the significant adverse effects of the proposal on terrestrial ecological values have been fully mitigated.

The proposal will also have some significant adverse effects on the life supporting capacity of water, which is little surprising given that each of Trimbells Gully, Maori Hen Creek and the Mare Burn are ephemeral watercourses, and these generally are of limited value to aquatic life. These effects are unavoidable, but we consider that they are generally addressed by the conditions of consent, particularly in relation to the trout barrier in the Mare Burn, as the evidence is that the flathead galaxias thrives in and around Macraes Flat very largely because of the absence of trout.

We consider overall that given the extensive social and economic benefits of the project and the extensive mitigation package, the proposal is consistent with the purpose of the Act. In saying this we particularly note that the Supreme Court has recently noted that:

> *At the risk of repetition s5(2)(c) defines sustainable management in a way that makes it clear that protecting the environment from the adverse effects of use and development is an aspect of sustainable management – not the only aspect of course, but an aspect.*[10]

7.2.2 Section 6 – Matters of National Importance

Section 6 of the Act lists seven matters of national importance that decision makers have to recognise and provide for. Five of these are relevant to the present applications.

The first of these is s6(a), which requires among other things that rivers, wetlands and their margins be protected from inappropriate use and development. The proposed Coal Creek dam will inundate the margins of the stream, which Dr Thorsen said does provide significant habitat for terrestrial plants, and perhaps lizards and skinks. Given however that the proposed dam is something of a last resort, and given that an important function of the dam

[10] Environmental Defence Society Incorporated vs New Zealand King Salmon Limited (2014) NZSC 38

will be to protect habitat quality for the Taieri Flathead Galaxias, we are satisfied that this is not inappropriate development.

Section 6(b) states that the protection of outstanding natural features and landscapes is a matter of national importance. The site of the proposed Coronation North Pit is regarded as a Visually Prominent Area in the operative Dunedin City Plan, and Mr Knox of the DCC considered that the proposal will have extensive adverse effects on an Outstanding Natural Landscape Area in the Plan. For the applicant Mr McKenzie, while acknowledging that the upland modified tussock country landscape is quite rare in the Dunedin territorial district, noted that this landscape type is commonplace regionally (such as in the Central Otago District and the inland part of the Waitaki District). We might add that such landscapes are also very commonplace throughout the montane basins of the east of the South Island. Mr McKenzie also surmised that his view had some support by the intention to alter the areas District Plan landscape status under the new proposed Dunedin City Plan.

We agree with Mr McKenzie that the area considered to be an Outstanding Natural Landscape Area in the operative District Plan does not stand out at all, or that it is highly prominent, in a regional context. Accordingly we find the proposal is not inconsistent with the provisions of s6(b).

Section 6(c) states that the protection of areas of significant indigenous vegetation and the habitats of significant indigenous fauna is a matter of national importance. The applicant acknowledged that the proposal will destroy those habitats in the proposed new Coronation North Pit, the southern extension of the Coronation Pit and the inundation area of the proposed Coal Creek dam. The proposed waste rock stack will also destroy what may be significant values in part of the Trimbells Gully RAP.

We asked Mr Christensen how, in light of this, we could grant consent without clearly recognising and providing for these s6(c) values. He said that while there was some discrepancy in Environment Court decisions about how the NZ King Salmon case law[11] on consenting is to be applied, the finding of the High Court in the NZ Rail case remained instructive. It states that Part 2 should not:

> *be subjected to strict rules and principles of statutory construction which aim to extract a precise and unique meaning from the words used. There is a deliberate openness about the words, its meanings, and its connotations, which I think is intended to allow the application of policy in a general and broad way*.

We agree, and we also note that the same decision said that s5 is paramount in decision making. We have already found that the applications broadly meet the Purpose of the Act. And, very importantly, a full mitigation package does support s6(c) values in other areas to be protected in and around the Macraes Ecological District.

Section 6((e) states that the relationship of Maori and their culture and conditions with their ancestral lands, waters, sites waihi tapu and other taonga is a matter of national importance. These matters were addressed in the Cultural Impact Report prepared by Nyssa Parker-Harker and Kathryn Gale of Kāi Tahu Ki Otaku Limited.

Section 6(f) states that the protection of historic heritage from inappropriate subdivision, use and development is a matter of national importance. Heritage New Zealand (HNZ) had made a submission opposing the application. It later came to agreement with the applicant, and withdrew its opposition to the proposal (see Section 7.3.8 below).

[11] Environmental Defence Society Incorporated vs New Zealand King Salmon Limited (2014) NZSC 38

7.2.3 Section 7 – Other Matters

Section 7 of the Act lists other matters that we must have particular regard to in this decision. Four of these have some relevance here.

Sections 7(c) and 7(f) require respectively the protection and enhancement of amenity values, and the protection and enhancement of the quality of the environment. We do not think that the Project Impact Area has particularly high amenity values, apart perhaps from landscape which we discuss in Section 7.3.4 below. The proposal will have significant adverse effects on the quality of the environment in the Project Impact Area, but these effects are fully mitigated.

Section 7(d) requires that we have particular regard to the intrinsic values of ecosystems; again we consider that the mitigation package does just this.

Section 7(g) lists any finite characteristics of natural and physical resources. Clearly the gold resource at Macraes is finite, but without consents for the proposal being granted the employment of large numbers of staff would eventually be jeopardised. Natural resources similar to those in the Project Impact Area are found elsewhere in the Ecological District, and are provided for by the mitigation package.

7.2.4 Section 8 – The Principles of the Treaty of Waitangi

We had no evidence that any part of the proposal is contrary to the principles of the treaty.

7.3 Actual and Potential Effects

7.3.1 Effects on Terrestrial Ecological Values

In our view the strongest adverse effects of the four main elements of the proposal were on the associated significant terrestrial ecological values.

There was a consensus in the expert evidence provided us that the proposal would have strong adverse effects on the ecological values associated with the land that will be destroyed by the extended and new mine pits, inundated by the Coal Creek dam or covered by the proposed waste rock stack. Dr Thorsen, witnesses from DoC and the Wildlands staff considered that the site of the Coronation North Pit and the Coal Creek dam provided significant habitat (in terms of the criteria in s6(c) of the Act) for plants, and lizards and skinks. It also seems probable that the Trimbells Gully RAP also provides some similarly significant habitat. In a supplementary report prepared for the re-convened hearing Dr Thorsen also said that the area affected by the proposed southern extension of the Coronation Pit also supported some significant vegetation in small ephemeral wetlands.

One of the concerns raised by Wildlands in their supporting reports to the territorial authorities was that no work had been carried out on terrestrial insects, most notably Lepidoptera (moths and butterflies). We do not share that concern. The extent to which the sites of the proposed new mine pit, the waste rock stack and the lower reaches of Coal Creek may additionally provide significant habitat for insects does not matter, in so far that these sites clearly met the s6(c) RMA criteria in any case.

As Dr Barea said in his evidence on behalf of DoC, it was not possible to offset the effects of the proposal. Accordingly it became a question of how these effects on significant habitats could be mitigated.

In the end we did not have to decide that. Prior to the hearing being re-convened, the applicant came to an agreement with DoC[12] on a full mitigation package, and we had said that we would honour any agreement between those parties in the decision, and not change any elements of that. For the record that full mitigation package is:

a) a covenant in favour of the Department of Conservation protecting an area of about 99ha at Highlay Hill, to the east of the Project Impact Area;
b) a further covenant in favour of the Department of Conservation protecting an area of about 289ha in the Deepdell Gorge area;
c) a requirement on OGL to undertake wilding pine control in perpetuity on both covenants;
d) a $50,000 fund for the threatened plant translocation/cultivation/salvage programme with defined success measures and a trigger for unused monies to be transferred to the Habitat Enhancement Fund;
e) the provision of $75,000 for PhD level research on lizard habitat;
f) a Habitat Enhancement Fund of up to $250,000, provided in stages as developments such as the waste rock stack proceed; and
g) a new trout exclusion barrier in the Mare Burn.

We commend the applicant and DoC for coming to this agreement. It includes some rather innovative proposals, such as the lizard habitat research, which could have benefits far beyond Macraes Flat, and the provision of monies for the Habitat Enhancement Fund, which can be used to provide wide benefits.

7.3.2 Effects on Water Quality

The proposal could potentially have significant adverse effects on water quality in the receiving environment of the Mare Burn. This is primarily because of leaching from the waste rock stack of compounds such as (salts of) sulphate and nitrate, and also potentially elements such as zinc and arsenic. The discharge from the proposed Coal Creek dam could also be of deoxygenated water, with effects from reduced elements such as iron and sulphide on downstream water quality. According to Mr Weber there a number of possible measures, some of them quite simple, that could mitigate this potential effect.

The main effects of concern about such discharges are twofold: first, effects on aquatic biota, which we discuss below; and, second, effects on the quality of water for stock drinking. The receiving environment standards that we have imposed meet criteria for stock water supplies.

7.3.3 Effects on Aquatic Biota

The proposal will have a number of actual and potential effects on the aquatic fauna that inhabit the small tributaries of the Mare Burn that will be affected by the proposal, which are Trimbells Gully, Maori Hen Creek and Coal Creek.

The area around Macraes Flat is home to a geographically isolated species of small fish, known as the Taieri Flathead Galaxias. It has a threat status of threatened – nationally vulnerable.[13] This species is found in the headwater streams of the Taieri, Shag and Waikouiti Rivers on Macraes Flat. Like several other geographically isolated species of galaxias in the South Island, it evolved from the widespread and (generally) migratory species known as the Koaro, the young of which are part of the whitebait catch.

[12] Letter of Pene Williams dated 18 November 2016.

[13] This is based on the NZ Threat Classification System, which has been developed by DoC.

The flathead galaxias lives and breeds in small streams such as Trimbells Gully, Maori Hen Creek and the Mare Burn. It is a resilient fish, and is able to survive during warm summer conditions in ephemeral watercourses with negligible flow. Much of the reason it thrives in these very small catchments is the absence of predators such as trout, and to a lesser extent eels, which cannot get upstream of a barrier in the Mare Burn.

The other species of some interest in these small streams are koura, or freshwater crayfish. Although these have a threat status of "at risk – declining" we are less concerned about them, as koura are widespread and can live in small streams or still water such as ponds.

There are two potential adverse effects on the flathead galaxias. The first, which is the loss of up to about 4.4km of stream channel in Trimbells Gully and Maori Hen Creek is unavoidable. As we understand it if the Coal Creek dam proceeds, a further 1.5 - 2km of stream channel would be lost, although the quality of that habitat is low compared with what we might call low-moderate habitat quality in the other impacted watercourses. Dr Ryder said that if the dam is constructed some of these effects may be mitigated by a 5 litre per second residual flow released below the dam to the Mare Burn, but although we accept this may have benefits, no evidence was provided to substantiate that.

The second potentially adverse effect is sulphate toxicity in the Mare Burn receiving environment. Although anecdotal evidence suggests that these galaxiids are not very susceptible to sulphate, this is based only on their survival in a stream where sulphate levels exceeded 1,000 g/m^3 on one sampling occasion. Dr Hickey, a witness for the Regional Council, suggested that in the absence of toxicity testing conservative sulphate receiving standards of 128 g/m^3 should be set for the Mare Burn for the proposed MB02 compliance site. The applicant sought the same 1,000 g/m^3 standard for sulphate as at MB01, with toxicity testing of the flathead galaxias undertaken to show that this was appropriate.

For the reasons discussed in Section 10.1 of this decision we have taken a position between those advocated by Dr Hickey and the applicant for sulphate compliance standards at MB02.

7.3.4 Effects on Landscape

The effects of the proposal on landscape values in the local environment were addressed in the evidence of Mr McKenzie and reported on by Mr Knox.

We have already summarised what Mr McKenzie said in his evidence and we have discussed the reasons why we do not consider any part of the local landscape in the vicinity of the proposal to be outstanding (see Section 7.2.2 above).

By far the most visible feature in the landscape will be the new waste rock stack. However this will not be prominent from any location other than towards the north-west, where Longdale Road provides access to several farm properties, such as that leased by OGL to its former owner James Peddie, and the O'Neill property over the ridge. At this point Longdale Road is no more than a single lane gravel road, and we can see no reason why it would be used by more than local residents. Accordingly we are not unduly concerned by Mr McKenzie's conclusion that the impact of the waste rock stack on landscape values when viewed from the north side is high, but reducing over time to moderate (as the waste rock stack is grassed over and returned to grazing). Of more relevance the waste rock stack will be barely visible from Macraes ridge to the east.

We conclude that although the visual impacts of the proposed waste rock stack will be high when viewed from the north or north west, so few people will see this that the actual effects are moderate only, and as such we consider them to be acceptable.

7.3.5 Effects of Noise on Local Residents

The effects of the proposal on noise levels in the local environment were discussed in the evidence of Mr Hegley. Using conservative modelling he predicted that the noisiest stage of mining (with mining plant on the surface area being worked and the maximum number of trucks on the haul road the 10 minute noise levels at the Howard residence would be 29 dBA, that at the O'Neills 24 dBA, and that at the Roy, Tisdale and O'Connell residences would be 19 dBA. He noted the predictions at the Howard and O"Neill residences were identical to those for the Coronation project, and that all these were well within the lower night time noise limit of 40 dBA in existing Coronation consent conditions and the District Plan. He also noted that OGL had installed double glazing and mechanical ventilation at the Howard residence, which would further mitigate any noise heard.

Mr Hegley did note that in calm conditions with a temperature inversion some noise would likely be heard from the haul trucks, but he also noted that such conditions are uncommon at Macraes and wind causes background noise in any case. He concluded that in terms of the requirements of the RMA noise effects of the proposal on local residents will be less than minor. We accept that they will be no more than minor.

7.3.6 Effects on Air Quality on Local Residents

The effects of the proposal on air quality in the local environment were discussed by Ms Prue Harwood of Beca in Appendix 3 of the AEE, and she discussed the concerns raised by submitters the O'Connell's in her report attached to Ms Clarke's evidence. She said that the applicant had an extensive air quality monitoring network around the various mining pits, and apart from some readings attributed to a malfunctioning instrument, dust and Total Suspended Particulate concentrations in the air met consent standards

In her attachment to Ms Clarke's evidence Ms Harwood noted that the O'Connells are about 5.6km from the Coronation Pit and about 7.2km from the proposed Coronation North pit. Monitoring at nearby sites had shown compliance with consent standards for Coronation (apart from when the instruments malfunctioned), and as Coronation North is further from the submitters she considered there would be no adverse effects from the proposal on them. We agree with her assessment.

In her Appendix 3 Ms Harwood similarly concluded that the effects of discharges to air from the proposed Coronation North Pit on any local residents would be no more than minor. Again we agree with her assessment.

7.3.7 Effects on Values held by Takata Whenua

A Cultural Impact Assessment of the proposal was prepared by Kāi Tahu Ki Otago (KTKO) with assistance from members of three Runanga (Moeraki, Puketeraki and Otakou). None of these parties submitted on the applications.

The CIA outlined the cultural values approach to resource management and discussed the cultural associations with east Otago. It noted that a small moa hunter settlement had existed about 8km south of Macraes Flat, and that other sites such as urupa and umu had been found in the same area. Local resources such as moa and tuna (eels) would have been used by takata whenua, and the area was part of a major trail network.

An archaeological survey had been carried out and had recorded a number of potential sites that could have been used as shelters associated largely with an old trail. Extensive work has been undertaken to find out if this was the case. No features of significance to Nga Runanga were found in the footprint of the proposed Coronation North Pit, but possible sites were found within the footprint of the waste rock stack. There may also be sites within the footprint of the Coal Creek dam.[14] A number of plant species found in the area were used for purposes such as making rain proof clothing.

Nga Runanga also expressed concern about:

- The downstream effects of discharges from the waste rock stack on water quality, despite mitigation measures.
- The effects on vegetation, particularly the taonga species taramea (spear grass), which they noted was classified "at risk" by DoC.
- The effects on avifauna, including the effects on three taonga species (pipit, grey warbler and paradise shelduck).
- The effects on the flathead galaxiid and koura.

A number of possible mitigation measures were outlined, some of which are provided for in this decision. We discuss most of the matters raised in the KTKO report elsewhere in this decision.

7.3.8 Effects on Heritage Values

The submission by Heritage New Zealand raised several matters of concern about the effects of the proposal on historic or archaeological values. In response the applicant agreed three broad measures that Heritage NZ considered would avoid, remedy or mitigate the effects of the proposal on historic heritage. Those measures are:

1. Modification of the footprint of the waste rock stack to avoid several archaeological sites. This is provided for in Condition 4.5 of the land use consent granted by the DCC and WDC.
2. Proposed conditions of consent, in particular Condition 14.1 of the land use consent which requires an archaeological survey of the Coronation North site and the Coal Creek dam if that is constructed. We have imposed such condition.
3. An agreement regarding off-site mitigation measures to achieve long term preservation of heritage sites of comparable significance to those that will be affected by the proposal

On this basis Heritage New Zealand withdrew its opposition to the proposal in a letter dated 28 October 2016. Given this, we consider that the effects of the proposal on historic and heritage values will be avoided or mitigated.

7.3.9 Effects on Local Roads and Infrastructure

There were a number of concerns raised by submitters about the potential effects of the proposal on the use of local roads. Strong concerns were also expressed, notably by Mr Harvie, about the state of part of the Macraes-Dunback road near the mines, but that is not a matter that we have any control of. Mr Mossman did tell us on our site visit that there will be a significant amount of basalt excavated at Coronation North, and that will provide very good base rock for the road. We cannot require that occur, but given the current state of the road any significant improvement is to be welcomed.

[14] A review condition we have included on all the ORC consents allows conditions to be reviewed if sites of value to Nga Runanga are located or confirmed.

Several submitters were concerned that the proposal would increase traffic volumes on local roads, such as Horseflat, Matheson, Longdale and Four Mile Roads. This led in turn to concerns about maintenance of these roads, and the safety of the school bus.

For OGL Mr Oram spoke to these concerns in his evidence. In his view the proposal should not much increase traffic on these roads, which are used only by light vehicles as all heavy vehicles use the haul roads, which are quicker and easier even for light traffic. He also said that OGL would introduce an internal policy alerting staff to the school bus route and timetable, and reminding them to adhere to the road code for school buses.

In regard to the maintenance of local roads, Mr Carr said that OGL would agree to use a common process which involves a pre-activity survey of road condition with any necessary remedial works carried out prior to the commencement of the activity. Periodic surveys are then carried out and remedial works done, and after the activity ceases the roads are re-instated to their original condition if this is necessary. He said this procedure is typically included in a management plan for the activity. Such a process is provided for in Condition 13.6 of the land use consent granted by the DCC and WDC.

Mr Bowen, a witness for the applicant and Mr Roy, a submitter, had different views on whether the current alignment of Golden Point Road from the Macraes-Dunback Road had been legally changed from the old survey line or not. Mr Bowen's evidence was that the existing alignment of Golden Point Road between Horse Flat Road and Golden Point Road, which is on land owned by OGL, is about 200m from the old surveyed road.[15] Mr Roy said that the old surveyed road should have been retained as a legal road and properly formed, noting that it was now partly inundated by a tailings dam. He also said that access to part of his property on the alternative route via Horse Flat Road was about seven times longer than if the legal surveyed road was constructed.

We accept that Mr Roy is likely to be correct, but the current alignment of Golden Point is as it is, and it is not at all practical to change that now, or form a new road parallel to the existing alignment of Golden Point Road. On Mr Purves' advice we have required that the current Golden Point Road be vested in the WDC once its use as a haul road is no longer essential. We hope that will at least partly satisfy Mr Roy's concerns about Golden Point Road.

7.3.10 Other Potential Effects

Several other activities could potentially have significant effects if not well managed. Examples include hazardous substances and sediment. We are satisfied that these potential effects can be managed appropriately through conditions of consent.

7.3.11 Positive Effects

There are strong positive effects from our granting of the applications sought. We described these when discussing s5 of the Act in Section 7.2.1 above. Perhaps most significantly granting the applications will provide ongoing employment for nearly 600 people, with all the flow on benefits that provides for the community in towns such as Palmerston and Waikouiti, and cities like Dunedin.

[15] We note that Mr Carr said that in his experience this was not unusual in regions such as Southland, Otago and the West Coast where in many cases the road reserves were often determined as desktop exercise without reference to local geography.

7.4 The National Policy Statement for Freshwater Management 2014 (the NPS)

The Objectives of Part A of the NPS relate to water quality and are focused on maintaining and improving water quality and safeguarding its life supporting capacity. The objectives are to be achieved by (in summary):

a) Establishing freshwater objectives and setting water quality limits (Policy A1);
b) Specifying targets and implementation methods to improve water quality within defined time frames (Policy A2); and
c) Imposing conditions on resource consents to ensure that water quality limits and targets are met (Policy A3).

The ORC considers that the Regional Plan: Water at least implicitly addresses Policies A1 and A2 of the NPS. We agree with this, and so Policy A4 does not need to be applied in this instance.

Accordingly our main concern is to ensure Policy A3 is met in this decision and in doing so we have to ensure compliance with the:

1. National Objectives Framework which is Appendix 1 of the NPS, where the only really relevant criterion in this case is the provision of safe water for stock drinking.
2. Ammonia and nitrate toxicity criteria in the attribute tables that set "national bottom lines" in Appendix 2 of the NPS. These are included in the compliance standards for proposed monitoring site MB02. We note that there is no similar criterion for sulphate, which is main contaminant of concern in the receiving environment.

We discuss these matters in detail in Section 10.2 of this decision.

7.5 The Operative and Proposed Regional Policy Statements (RPS)

We think it is fair to say that there are significant issues that limit our ability to consider both the operative and proposed Regional Policy Statements.

The operative RPS dates back to 1994, which is over 20 years ago. Accordingly most of its provisions are rather outdated. In his officer's report Mr Horrell listed what he considered to be the relevant objectives and policies from the operative RPS, and concluded that the proposal is generally consistent with these. We have read the objectives and policies listed in the officer's report, and we support his conclusion. As already noted, we have given very weight to the proposed RPS given its provisions are subject to wide appeals.

7.6 The Regional Plans

7.6.1 The Regional Plan: Water for Otago

The Water Plan was notified in February 1998, and became operative in 2003. Since then the plan has been subject to a series of changes, the most recent of which was Plan Change 6A.

In his officer's report Mr Horrell listed what he considered to be the relevant policies from the Water Plan. These were in Chapters 5 (water values), 6 (water quantity), 7 (water quality), 8 (beds and margins), 9 (groundwater). There are no regionally significant wetlands affected by the proposal, so Chapter 10 is not relevant.

Chapter 5 discusses values, but the policies are focused more on values to Kāi Tahu and other more highly regarded values of water bodies, rather than those of the small ephermal streams that will be affected by the proposal. We agree with Mr Horrell's conclusion that the proposal is consistent with Chapter 5.

In relation to Chapter 6 the applicant seeks to take water from the open pit so operations can take place there. This will not affect any natural flows. We note that there also could be a supplementary flow of up to 5l/s in the Mare Burn if the Coal Creek dam is constructed, but we doubt that this will have much benefit in this ephemeral watercourse. We agree with Mr Horrell's conclusion that the proposal is largely consistent with Chapter 6.

The focus of Chapter 7 of the Water Plan is predominantly on larger discharges (such as human or animal waste) to water and the need for mixing zones and the like, rather than on the smaller scale of both the discharges and the receiving environment for the proposal. Preference is stated for discharges to land versus water, but that is not practicable in this instance. We agree with Mr Horrell's conclusion that the proposal is consistent with Chapter 7.

In relation to the other two Chapters 8 and 9, Mr Horrell similarly concluded that the proposal was consistent with their provisions. We note also that while some stream beds and their margins will be significantly affected by the proposal, as discussed elsewhere we do not see that as any reason not to grant the consents sought given the comprehensive mitigation package provided for in the conditions of consent.

7.6.2 The Regional Plan: Waste for Otago

In his officer's report Mr Horrell discussed the Macraes Gold Project in the context particularly of Chapters 5 and 6 of this plan, which deal with contaminated sites and hazardous substances and waste respectively. He noted that ORC staff are in the process of identifying potentially contaminated areas from the gold mining project over the last 25 or so years. He concluded that the applications are considered to be consistent with this plan. We heard no evidence that questioned this conclusion.

7.6.3 The Regional Plan: Air for Otago

Mr Horrell similarly discussed the provisions of the air plan. He noted that the potential effects of the proposed discharges to air on human health are considered to be low. He concluded that the applications are considered to be consistent with this plan. We heard no evidence that questioned this conclusion.

7.7 The District Plans

A number of provisions are relevant to all the District Plans. All for instance promote the safe and efficient use of transport infrastructure while seeking to avoid, remedy or mitigate the effects on the environment of developing the network. Similarly all seek to avoid or mitigate the adverse effects of the use and storage of hazardous substances, and to avoid effects on historic heritage. The proposal is generally consistent with such objectives and policies.

7.7.1 The Operative Waitaki District Plan

Mr Purves outlined the relevant provisions of the operative plan in his officer's report. As we have already discussed in Section 2.3 the proposal is in both the Macraes Mining Zone and the Rural Scenic zone in the plan. Specific policies provide for mining in the former zone, but policies still anticipate that mineral extraction may take place in the rural zones provided an assessment is completed of the sensitivity of the area and the degree to which adverse effects are avoided, remedied or mitigated.

In terms of the other main policies Mr Purves said:

- The landscape policies seek to manage landscape change in the Rural Scenic Zone in a way that maintains significant landscape values.
- Earthworks are encouraged to take place away from sensitive areas and where possible should be restored to a contour sympathetic to the surrounding physiography.
- Areas identified as containing significant indigenous vegetation and significant habitats of indigenous fauna are to be protected.
- A general policy seeks to manage land use for areas with conservation values by maintaining connectivity and providing habitat for species reliant on patchworks of indigenous vegetation.
- A policy recognises that Kāi Tahu whanui has manawhenua of lands within the district.

7.7.2 The Operative and Proposed Dunedin City Plans

Mr Purves told us in his officer's report that the overall structure of the operative and proposed plans is similar. Each has chapters with over-arching objectives and policies, with zone based policies and with specific resources and values, such as landscape, biodiversity and heritage.

The objectives of the operative plan broadly require that in the rural zone the post mining footprint would need to be rehabilitated in a way that meets the needs of future generations and meet the expected amenity values for the area. There are some more significant constraints in the proposed plan, but as discussed in Section 6.2 above we can give little weight to that at this stage. We agree with Mr Purves that the effects of the proposal on rural character are significant, notably because of the scale of the proposal and the effects on significant vegetation.

The proposal is generally contrary to the biodiversity objectives and policies in the operative plan. The objectives seek to retain remaining areas of significant indigenous vegetation and significant habitats of indigenous fauna; a policy is more directive and seeks to avoid the effects of land use activities that compromise these significant values. A peer reviewer (Mr Lloyd) considered that significant mitigation would be necessary to off-set or compensate for the loss of such values.

7.7.3 Conclusion

In our view while the proposal is neutral to many of the objectives in the district plans, it is inconsistent or contrary to the general direction of objectives and policies relating to ecological values. However given the extensive mitigation package agreed with the Department of Conservation, which will protect similar values in perpetuity on other nearby land, we are satisfied that these effects are appropriately mitigated.

As already discussed we do not see the proposal as having significant adverse effects on any significant landscape, and effects on archaeological values are now avoided.

7.8 The Iwi Management Plan

The relevant Iwi Management Plan is the Kāi Tahu ki Otago Natural Resource Management Plan 2005. In his officer's report Mr Horrell listed its many provisions that could be considered of some relevance to the present proposal.

We have examined those provisions and we do see any that weigh strongly against the applications being granted. A Cultural Impact Assessment has been prepared, which we discussed in Section 7.3.7 above, and conditions of consent can be reviewed if sites of cultural significance are discovered.

8 Sections 105 and 107 of the Act

These two sections of the RMA must be considered when granting certain types of discharge permit – in this case discharges to water.

Section 105(1) of the Act requires that we must, in addition to s104 considerations, have regard to:

a) *the nature of the discharge and the sensitivity of the environment to adverse effects;*

b) *the applicant's reasons for the proposed choice; and*

c) *any other possible alternative methods of discharge, including discharge into any other receiving environment.*

In our second minute we asked the applicant to consider capturing the "leachate" from the waste rock stack and discharging this to another environment, such as a tailings dam or an old mine pit. In saying this we accepted that the waters of the Mare Burn and the small tributaries such as Maori Hen Creek and Trimbells Gully that flow into it do not constitute a very sensitive receiving environment in terms of s105(1)(a).

The applicant's response to this was that there was no practical alternative to discharging downstream towards the Mare Burn[16]. They pointed out that there was no reticulated electricity on site, that the "leachate" would have had to be pumped in perpetuity and that there could adverse effects in any alternative receiving environment. We accept that these are significant practical impediments, and that in this instance there is no practical alternative receiving environment than downstream catchments, and so the applicant meets the test of s105(1)(c).

The other relevant section is s107(1) of the Act, and particularly sections 1(f) and 1(g). These require that after reasonable mixing that the water quality affected by a discharge be suitable for stock water, and that there be no adverse effects on aquatic life. It was the potential effects on aquatic life (namely the flathead galaxias) that were of concern to us, and we discuss this in Section 10.1 of this decision.

[16] We do note however that in response to questions Mr Weber had said that other options, such as pumping water to the pit lakes, could be investigated by the applicant.

9 Overall Conclusions

We need to come to an overall broad judgment about how the applications have been assessed as discretionary activities in terms of the s104 criteria. Our main conclusions are as follows:

- Re the purpose of the Act, the strong social and economic benefits of the proposal, and the comprehensive mitigation package agreed with the Department of Conservation in our view substantially outweigh the significant adverse effects of the proposal on the life supporting capacity of some terrestrial and aquatic ecosystems.

- The proposal will not in our view adversely affect any outstanding natural landscapes or features.

- While the proposal will have strong adverse effects on significant indigenous vegetation and the habitats of significant indigenous fauna, these effects too are addressed fully by the comprehensive mitigation package agreed with the Department of Conservation.

- Effects on historic heritage, and on Maori and their culture and traditions, are avoided or mitigated by the conditions of consent.

- There are no matters in Sections 7 and 8 of the Act that weigh against granting the applications.

- While there are significant effects on terrestrial ecological values, these too are mitigated in full by the comprehensive mitigation package agreed with the Department of Conservation.

- There are unavoidable adverse effects from the proposal on habitat availability for each of the Taieri Flathead Galaxiias, and koura, the freshwater crayfish. The galaxiid is widespread in streams in and around Macraes Flat, and the evidence was that it is a very resilient species that can thrive in ephemeral streams, and its local "success" was as much due to the absence of predatory trout as any other factor. For this reason, provision and maintenance of a trout barrier on the Mare Burn is important. Koura can live in still water and habitat will be created to mitigate effects on their stream habitat in the area of the proposal.

- Effects on landscape are significant, but only when seen from small local roads to the north of the waste rock stack. Effects are barely visible (if at all) from other viewing points.

- The effects of the proposal on noise levels and air quality for local residents are no more than minor.

- The proposal is consistent with the two relevant National Environmental Standards, and conditions imposed ensure consistency with the National Policy Statement for Freshwater Management 2014.

- While there will be adverse effects on local roads, those can largely be addressed via conditions of consent. One matter we cannot solve in this decision is Mr Roy's about access along Golden Point Road to his property, as that is a matter largely decided under other statutes.

- The proposal is not contrary to the Objectives and Policies of the planning instruments we can give full weight to when these are read collectively.

- The proposal is not contrary to the provisions of sections 105 and 107 of the Act.

For these reasons, which are all detailed elsewhere in this decision, we have decided to grant all the consents sought by the applicant for the proposal.

10 Conditions of Consent

As we have already noted there was substantial agreement among the main parties about the conditions on which consents have been granted. In particular the applicant and DoC had reached agreement on a comprehensive mitigation package (see Section 7.3.1), and the reporting officers and the applicant had reached agreement on most other conditions.

We had previously stated that we would not impose conditions of consent that changed any agreement between DoC and the applicant, so these conditions are included in the land use consent granted. Similarly we see no reason to change conditions negotiated between the reporting officers and the applicant. There was also no debate that all the consents should be granted for terms of up to 35 years[17], so that is what we have done, subject of course to review conditions should any unforeseen eventualities arise.

In the Introduction to this decision we noted that at the completion of the applicant's right of reply there were a couple of loose ends to be tidied up. One of those was who would administer the Habitat Enhancement Fund, and, more importantly, on what and where it could be spent. That is provided for in Conditions 15.15 to 15.17 of the land use consent granted by the territorial authorities. In essence, the monies will be administered by the DCC, and the purpose of the fund is to protect and enhance significant terrestrial ecological values that are found in the Macraes Ecological District with a focus on lizards and their habitat. Priority is given to spending the monies in the Ecological District, but it may be used to provide for significant terrestrial values found in that District but present within either of the two territorial authorities or the wider Otago region.

There was however several matters of disagreement between the reporting officers and the applicant, and we now discuss these.

10.1 Compliance Standards in the Mare Burn

The one existing compliance site in the Mare Burn is at what is known as MB01, which receives the water draining from the Coronation Waste Rock Stack. The receiving environment standards at that site are based on stock water drinking standards. Importantly, the sulphate compliance standard is set at 1,000 g/m^3.

The applicant had proposed a new compliance site in the Mare Burn downstream of MB01, which would be known as MB02. This site is downstream of the Coronation North Waste Rock Stack, and downstream of Coal Creek. They proposed compliance standards be the same as for MB01 (although at the re-convened hearing OGL did acknowledge that new

[17] Some of the construction consents are granted for terms of 10 years and the discharge to air consent has the same expiry date and conditions as for the other comparable consents held by OGL.

criteria recommended by Dr Hickey for suspended solids, turbidity, nitrogen and ammonia were acceptable).[18]

Dr Hickey, an expert witness for the Regional Council, told us that he thought the receiving environment standards at MB02, particularly for sulphate, should be considerably more stringent than exists at MB01. This was to support the populations of the flathead galaxiid, which Dr Ryder said could survive even in very low flow conditions in streams around Macraes Flat, and which could thrive during better flow years, which he attributed in large part to the absence of trout. In his final report to us Mr Horrell supported Dr Hickey's proposed compliance schedule for MB02. However this was strongly opposed by the applicant, and a substantial part of their right of reply focussed on this matter.

There are four elements or compounds where there are differences remaining between Dr Hickey and the applicant. The first three of these are zinc, arsenic and cyanide. We understand that Dr Hickey's recommendations are based on ANZECC trigger guidelines from the year 2000. These are very conservative, and indicate only that they may cause some chronic effects. We also consider this is most likely to occur in filter feeders as these can accumulate heavy metals in their flesh. However all the common invertebrate species recorded by Dr Ryder in these small streams are browsers, so bio-accumulation will not occur in either these species or, we think, the flathead galaxias. Accordingly, in the absence of evidence to the contrary, we have stuck with the applicant's present compliance standards from MB01 for these elements or compounds.

The greatest difference between Dr Hickey and the applicant was the receiving environment standard for sulphate, which is predominantly in the form of salts such as calcium or magnesium sulphate, sourced from the discharge from the waste rock stack. Dr Hickey relied primarily on a study from British Columbia where of eight species tested, 80% were shown to be adversely affected by a sulphate concentration of 1,000 g/m^3 in soft water.[19] On this basis, and assuming the waters of the Mare Burn would be soft, he recommended we set an interim compliance value for sulphate at MB02 of 128 g/m^3 with progressively higher levels as the water became harder.

The applicant sought an interim compliance standard for sulphate at MB02 of 1,000 g/m^3 as it is to protect water for stock drinking at MB01. However the only substance they could cite to support this was that "the evidence at levels approaching (and perhaps even exceeding) the existing compliance level for sulphate of 1,000 g/m^3 there has been no observed adverse response in the (flathead galaxias) population."[20]

We assume this refers to Figure 6 in the summary evidence of Mr Sinclair, which relates total hardness to total sulphate in the Deepdell Stream, where Dr Ryder said that the flathead galaxias continues to thrive, despite occasional very low flows. There have been many records of total sulphate there of over 250 g/m^3, which strongly suggests Dr Hickey's recommended lowest standard of 128 g/m^3 when the water is soft is too conservative. On the other hand of the scores of records listed, only three spot samples have exceeded 500 g/m^3 of total sulphate, which does not support Mr Christensen's assertion (nor does it appear that at times these high values were recorded anyone actually looked at effects of high sulphate concentrations on the flathead galaxias).

[18] Noting that the Freshwater NPS would have required us to set these standards for each of nitrogen and ammonia in any case.

[19] Replacement evidence of Christopher Hickey paragraph 38. There is an obvious mathematical error. Most of the sensitive stages were larvae or juvenile fish.

[20] Stephen Christensen, right of reply, paragraph 14(i).

Given that recorded sulphate levels from the Deepdell Stream is the only firm evidence of any kind about the toxicity of sulphate to flathead galaxiids, we have set an interim compliance standard of 400 g/m^3 of sulphate at MB02. As suggested by the applicant we have not related this to hardness, as we think that unnecessarily complicates the matter. This compliance standard we think is a little generous to the applicant given the very limited actual (versus speculative or theoretical) evidence that we have. Conditions of several consents also provide for toxicity testing of the galaxiid, particularly its young stages, and if that shows they are more or less sensitive to the compliance standard we have set, an advice note makes sure that this compliance standard for sulphate at MB02 can be varied or reviewed. This is consistent with Dr Ryder's evidence.

We accept that this means that it is more likely that the Coal Creek dam will have to be built, although Mr Weber did outline a range of measures to reduce sulphate concentrations in the outflow from the waste rock stack. Given also that it will be well over a year until the waste rock stack starts losing significant amounts of sulphate, there is ample time for OGL to carry out chronic and acute toxicity testing on the flathead galaxiid.

10.2 Ecological Conditions on the Land Use Consent

While in large part the applicant and Mr Purves for the territorial authorities agreed on proposed conditions of consent, some disagreement remained between OGL and Mr Lloyd of Wildlands about some of what we would call the "ecological conditions". Our decisions on these outstanding matters are:

- We support the applicant's view that the most appropriate vehicle for consulting with Nga Runanga is via the Memorandum of Understanding, rather than being "required" via a formal consent condition.

- We agree with the applicant that there is no need to have a condition of consent that deals specifically with avifauna (namely the NZ Falcon and the South Island pied oystercatcher) as birds are highly mobile. Similarly we see no reason to restrict mining during November to protect bird breeding, particularly as such a condition would highly impractical for a "24/7" gold mining operation.

- In relation to grazing species such as goats and deer, Mr Lloyd said they may or may not be present in the covenanted areas but sought some form of control via consent conditions. The applicant's preference was for informal control (e.g. by allowing access for private hunters), and we support their approach.

- Mr Purves sought the Highlay Hill covenant should be registered with the QEII Trust. However the agreement between OGL and DoC provided for the Department managing that covenant, and that is what we have agreed to.

The most complex issue of disagreement related to the translocation of threatened, at risk or locally uncommon plant species. We understand that the prospect of success with most plant transplants is not high. The applicant sought to transfer specimens of at least 10 species from a list of 15 and gave some details through an outline table prepared by Dr Thorsen. Mr Lloyd sought species be transferred from a list of 19 species (which included four additional species from those proposed by the applicant). He also sought that "success" be described in conditions of consent (which the applicant considered was best dealt with in the Ecological Management Plan) and that for each translocation that failed, $10,000 should be transferred to the Habitat Enhancement Fund (which the applicant strongly opposed).

Our decisions are:

- Attempted translocations will occur of at least 12 species from the list of 19, with flexibility to add further species.

- The "success" of the transplants will be measured using the criteria suggested by Dr Lloyd.

- The applicant will need to prepare an Annual Coronation North Ecological Monitoring Report (they had agreed to a report, but it was not titled) that will review the success of the ecological mitigation package. We have also made a number of other minor amendments to conditions suggested by Dr Lloyd.

- We do not agree with Dr Lloyd that without the $10,000 per species "penalty provision" the applicant would not have to do anything, and we agree with the applicant that such a provision is not at all appropriate.

11 Decisions

Having regard to all the evidence presented, and the relevant statutory criteria, and pursuant to sections 104(1) and 104C of the Resource Management Act 1991, we hereby grant consent to all the applications lodged.

Attached to this decision are the following consent documents:

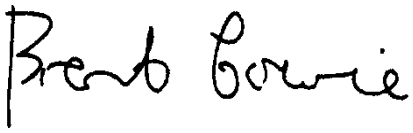
a) Consents granted by **Otago Regional Council** for the following:

Land use consent RM16.138.01 for a term of 10 years
Land use consent RM16.138.02 for a term of 35 years
Discharge permit RM16.138.03 for a term of 10 years
Discharge permit RM16.138.04 for a term of 35 years
Discharge permit RM16.138.05 for a term of 35 years
Discharge permit RM16.138.06 for a term of 35 years
Discharge permit RM16.138.07 for a term of 35 years
Discharge permit RM16.138.08 for a term of 35 years
Discharge permit RM16.138.09 for a term of 10 years
Discharge permit RM16.138.10 for a term of 10 years
Water permit RM16.138.11 for a term of 10 years
Water permit RM16.138.12 for a term of 35 years
Water permit RM16.138.13 for a term of 10 years
Water permit RM16.138.14 for a term of 35 years
Water permit RM16.138.15 for a term of 35 years
Water permit RM16.138.16 for a term of 35 years
Water permit RM16.138.17 for a term of 35 years
Discharge permit RM16.138.19 for a term of 15 years and eight months (to expire 31 August 2032)
Water permit RM16.138.20 for a term of 35 years

b) Land use consent 201.2016.779 and 201.2013.360-1 granted by **Waitaki District Council** for a term of 35 years

c) Land use consent LUC-2016-234 and LUC-2013-225/A granted by **Dunedin City Council** for a term of 35 years.

Signed at Christchurch this 20th day of December 2016



Signed by Brent Cowie (Chair)
……..
Brent Cowie
Independent Commissioner (Chair)

OCEANA GOLD CORONATION AND CORONATION NORTH PROJECT
DCC & WDC CONSENT AND CONDITIONS
20 December 2016

WAITAKI DISTRICT COUNCIL AND DUNEDIN CITY COUNCIL
LAND USE CONSENT "CORONATION & CORONATION NORTH" – OCEANA GOLD (NEW ZEALAND) LTD
WDC Reference: 201.2016.779 and 201.2013.360.1
DCC Reference: LUC-2016-234 and LUC-2013-225A

Pursuant to the Resource Management Act 1991, the Waitaki District Council and Dunedin City Council grants its consent to Oceana Gold (New Zealand) Limited for gold mining operations involving:

(a) The extraction of minerals and overburden by mechanical means from the Coronation North pit and expanded Coronation Pit shown on "Coronation & Coronation North Project WDC/DCC LUC Consents Map 1" annexed;

(b) The transport, treatment and processing of minerals extracted from the Coronation North pit and expanded Coronation Pit;

(c) The stacking, deposit and storage of substances considered to contain any mineral from the Coronation North pit and expanded Coronation Pit;

(d) The deposit of waste rock produced by Coronation North pit and expanded Coronation Pit on the Coronation and Coronation North waste rock stacks shown on "Coronation & Coronation North Project WDC/DCC LUC Consents Map 1" annexed and described at (a) above and the deposit of waste rock as backfill into the Coronation North and Coronation pits;

(e) The construction and use of the Coal Creek Reservoir shown on "Coronation & Coronation North Project WDC/DCC LUC Consents Map 1" annexed and described at (a) and (d) above;

(f) The construction, maintenance and use of a haul road from Coronation North area to the gold processing plant;

(g) The construction and use of two haul road crossings (approximately centred at grid reference NZTM 2000 1397100E 4975800N Horse Flat Road and NZTM 2000 1398200E 4974200N Golden Point Road);

(h) The use and storage of diesel and explosives;

(i) The construction and use of temporary buildings;

(j) The de-commissioning, rehabilitation, de-construction or dismantling of the mine and of any structures and works resulting from activities set out in paragraphs (a) – (i) above;

(k) The construction, operation and maintenance of silt ponds and silt control facilities necessary for controlling runoff from the Coronation and Coronation North mining operation;

(l) The formation of a pit lake in the Coronation North pit and the formation of a pit lake in the expanded Coronation pit.

The duration of this consent shall be 35 years.

DEFINITIONS

"Act" means the Resource Management Act 1991, and includes all amendments to the Act, and any enactments made in substitution for the Act.

"Project Overview and Annual Work and Rehabilitation Plan" means the Project Overview and Annual Work and Rehabilitation Plan required by Condition 3.

"Building" means any temporary or permanent structure.

"Building Work" means work for or in connection with the construction, alteration, operation, demolition or removal of a building and includes site work.

"Councils" means the Waitaki District Council and the Dunedin City Council and includes its successors, and also includes any person to whom the consent authorities delegate or transfer any of its functions, powers and duties as a consent authority under the Act.

"**Disturbed Land**" means any land where the soil has been removed or modified and includes any waste rock stacks, or any other structures that have not been rehabilitated with soil and vegetation.

"Exploration" means any activity undertaken for the purpose of identifying mineral deposits or occurrences and evaluating the feasibility of mining particular deposits or occurrences of one or more minerals; and includes any drilling, dredging, or excavations (whether surface or sub-surface) that are reasonably necessary to determine the nature and size of a mineral deposit or occurrence; and "to explore" has a corresponding meaning.

"Landscape Architect" means a professional member of the New Zealand Institute of Landscape Architects Inc. or equivalent body.

"**Life of the Macraes Gold Project**" means the period ending when all mining operations at Macraes cease.

"Macraes Ecological District" means the area described by the Department of Conservation (James Bibby), 1997: *Macraes ecological district: survey report for the Protected Natural Areas Programme*, ISBN 0478019254, 9780478019254 and as also defined in McEwen, W.M. (1987): *Ecological regions and districts of New Zealand, incorporating third revised edition in four 1:500 000 maps (Part 4)*. New Zealand Biological Resources Centre publication No. 5. 125p + maps.

"Mining" means to take, win, or extract, by whatever means, a mineral existing in its natural state in land, or a chemical substance from that mineral, for the purpose of obtaining the mineral or chemical substance; but does not include prospecting or exploration; and "to mine" has a corresponding meaning.

"Mining Operations" means operations in connection with mining, exploring, or prospecting for any mineral, gold, including –

(a) The extraction, transport, treatment, processing, and separation of any gold mineral; and

(b) The construction, maintenance, and operation of any works, structures, and other land improvements, and of any machinery, and equipment, connected with such operations; and

(c) The removal of overburden by mechanical or other means, and the stacking, deposit, storage, and treatment of any substance considered to contain any mineral; and

(d) The deposit or discharge of any mineral, material, debris, tailings, refuse, or wastewater produced from or consequent on, any such operations; and

(e) The doing of all lawful acts incidental or conducive to any such operations - when carried out at or near the site where the mining, exploration, or prospecting is carried out.

"Nga Runanga" means Te Runanga o Moeraki, Kati Huirapa Runaka ki Puketeraki and Te Runanga o Otakou.

"ORC" means the Otago Regional Council and includes its successors, and also includes any person to whom the council delegates or transfers any of its functions, powers and duties under the Act.

"Prospecting" means any activity undertaken for the purpose of identifying land likely to contain exploitable mineral deposits or occurrences; and includes:

(a) Geological, geochemical, and geophysical surveys;

(b) The taking of samples by hand or hand held methods; and

(c) Aerial Surveys, - and "to prospect" has a corresponding meaning.

"Site work" means work on a building site, including earthworks, preparatory to or associated with the construction, alteration, demolition or removal of a building.

"Structure" includes a dam and a waste rock stack.

"Supporting documents" means the supporting documents listed as Appendices 1 - 22, and Addendums to the application lodged and receipted by the Councils in May 2016, and also includes all other material (including further information in response to s92

RMA requests, statements of evidence and submissions) provided by the applicant to the consent authorities in support of the application for the consent.

"Rehabilitation objectives and terms" means the rehabilitation, objectives and terms set out in Condition 4.

"Works" includes any excavation, drilling and includes a road.

1. GENERAL

1.1 This consent shall be exercised substantially in accordance with the Coronation North application for resource consent lodged to, and receipted by, the Councils in May 2016, including the Assessment of Environmental Effects and all Supporting Documents (which are deemed to be incorporated in, and form part of this consent), except to the extent that any condition in this consent is inconsistent with such material. If there is an inconsistency the conditions and terms of this consent shall prevail.

1.2 Pursuant to Section 125(1) of the Resource Management Act 1991 this consent shall lapse on the expiry of five years after the date of issue of the consent unless the consent is given effect to before the end of that period or upon application in terms of Section 125 (1) (b) of the Act, the Councils may grant a longer period of time.

1.3 The consent holder shall notify the Councils in writing of the first exercise of this consent.

1.4 In the event of any non-compliance with the conditions of this consent, the consent holder shall notify the Councils within 24 hours of the non-compliance being detected. Within five working days the consent holder shall provide written notification to the Councils providing details of the non-compliance. This notification will at a minimum include an explanation of the cause of the non-compliance, the steps taken to remedy the situation and steps taken to avoid any future occurrence of the non-compliance.

1.5 The Councils may, in accordance with sections 128 and 129 of the Act, serve notice on the consent holder of its intention to review the conditions in the last week of March in any year for the purposes of:

(a) Dealing with any adverse effect on the environment (including cultural values) which may arise from the exercise of this consent and which is appropriate to deal with at a later stage, or which become evident after the date of commencement of the consent,

(b) Ensuring the conditions of this consent are appropriate,

(c) Ensuring rehabilitation is completed in accordance with the rehabilitation conditions of this consent;

(d) Requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment arising as a result of the exercise of this consent.

1.6 The Councils may, within 6 months of receipt of the Coronation North Project Cultural Impact Assessment prepared by Kai Tahu Ki Otago on behalf of Te Rūnanga o Moeraki, Te Runanga o Otakou and Kāti Huirapa Rūnaka ki Puketeraki, commissioned in 2016, serve notice of its intention under Sections 128 and 129 of the Act to review the conditions of this consent for the purpose of amending or adding conditions to address mitigation of the effect(s) from activities authorised under this consent on cultural values and associations.

1.7 The consent holder shall remedy or adequately mitigate any adverse effect on the environment from the exercise of this consent which becomes apparent after the expiry of this consent.

1.8 Prior to the expiry of this consent, the consent holder shall ensure that all rehabilitation and everything necessary to comply with the conditions of this consent has been completed.

Advice Note

In addition to the fees payable for the processing of this application, where further site inspections are required to monitor compliance with any of the conditions, the Councils may render an account to the consent holder for additional monitoring fees at the rate prescribed in the Annual Plan on the basis of time involved.

2. LOCATION OF VARIOUS MINING ACTIVITIES

2.1 The pits, waste rock stacks, water reservoir and haul road shall not materially exceed those footprints shown on ““Coronation & Coronation North Project WDC/DCC LUC Consents Map 1” annexed.

2.2 (a) Coronation waste rock stack shall be formed so that the whole footprint of the stack is used as shown on “Coronation Project WDC/DCC LUC Consents Map 1” annexed unless the waste rock stack is reduced proportionally.
(b) Coronation North waste rock stack shall be formed in accordance with Condition 4.5.

3. PROJECT OVERVIEW AND ANNUAL WORK AND REHABILITATION PLAN

3.1 The consent holder shall submit a Project Overview and Annual Work and Rehabilitation Plan to the Councils by 31 March each year that will cover the forthcoming year (1 July to 30 June). The consent holder may, at any time, submit to the Councils an amended Project Overview and Annual Work and Rehabilitation Plan. The Project Overview and Annual Work and Rehabilitation Plan shall include, but not be limited to:

(a) A description and timeline of intended mining activities for the duration of mining operations including a plan showing the location and contours of all existing and proposed structures at completion of mining;
(b) A description (including sequence, method and form) of mining operations, monitoring and reporting carried out in the last 12 months;
(c) A detailed description (including sequence, method and form) of all mining operations, monitoring and reporting, not covered by a separate management plan intended to be carried out in the next 12 months;
(d) An explanation of any departure in the last 12 months from the previous Project Overview and Annual Work and Rehabilitation Plan;
(e) Plans showing the contours (at 5 metre intervals) and footprints of all works and structures and any proposed changes at the end of the next 12 months;
(f) A description and analysis of any unexpected adverse effects on the environment that have arisen as a result of the exercise of the consent in the last 12 months and the steps taken to deal with it and the results of those steps;
(g) A description and analysis of any non-compliance with any conditions of consent that have occurred in the last 12 months and the steps that were taken to deal with it and the results of those steps;
(h) A full report describing and evaluating the mitigation measures used in the last 12 months and any that are proposed to be implemented in the next 12 months. This should detail where further mitigation is proposed or has been undertaken as a result of a non-compliance event and/or any adverse effects on the environment;
(i) A summary description of all Management Plans and Manuals required under this land use consent and any resource consents issued by ORC and details of any review or amendment of any of the Management Plans or Manuals;
(j) An overview of the monitoring and reporting programme for the previous 12 months and any changes proposed for the next 12 months;
(k) A detailed section on rehabilitation including, but not limited to the following:
    i. The total area of disturbed land during the mining of Coronation North, including the haul road, yet to receive rehabilitation and indicative rehabilitation dates for various areas of the mine site;
    ii. The area of additional disturbed land in the coming year that will require future rehabilitation;
    iii. The area of disturbed land rehabilitated in the previous year;
    iv. The area of disturbed land proposed to be rehabilitated in coming year;
    v. A description of rehabilitation planned for the life of mine at Coronation North;
    vi. A description of proposed rehabilitation methods for any area, including proposed topsoil to be stripped and stockpiled, surface pre-treatment and re-use of topsoil on finished areas in the next 12 months.;
    vii. The details of the location, design (including shape form and contour) and construction of all permanent structures;
    viii. Drainage details for any disturbed land and recently rehabilitated areas;
    ix. Details of any vegetation to be used as part of rehabilitation for the next 12 month period;
    x. Detailed results of any revegetation trials.

(l) A description of any rehabilitation problems encountered and the steps being taken to resolve these problems;
(m) An up to date and detailed calculation of the cost of dealing with any adverse effects on the environment arising or which may arise from the exercise of this consent;
(n) An up to date and detailed calculation of the costs of complying with all rehabilitation conditions of this consent;
(o) An up to date and detailed calculation of the costs of any monitoring required by the conditions of this consent;
(p) A contingency closure plan describing in detail the steps that would need to be taken if mining operations stopped in the next 12 months in accordance with Condition 20; and
(q) Any other information required by any other condition of this consent and any related consent.

3.2 Each year the consent holder shall provide the Chair of Macraes Community Incorporated, Kāti Huirapa ki Puketeraki, Te Runanga o Otakou and Te Rūnanga o Moeraki with a copy of the Project Overview and Annual Work and Rehabilitation Plan.

3.3 The Project Overview and Annual Work and Rehabilitation Plan for this consent may be combined with any Project Overview and Annual Work and Rehabilitation Plan required by any other consent held by the consent holder for mining operations at Macraes Flat.

3.4 The consent holder shall provide the Councils with any further information, or report, which the Councils may request after considering any Project Overview and Annual Work and Rehabilitation Plan. This information or report shall be provided in the time and manner required by the Councils.

3.5 The consent holder shall exercise this consent in accordance with all defined conditions and the current Project Overview and Annual Work and Rehabilitation Plan.

3.6 The consent holder shall design and construct all permanent earthworks to the form shown in the Project Overview and Annual Work and Rehabilitation Plan.

4. REHABILITATION

4.1 The rehabilitation objectives to be achieved by the consent holder are:-

(a) To ensure short and long term stability of all structures and works and their surrounds;

(b) To avoid maintenance after completion of rehabilitation requirements;

(c) To protect soil from erosion and to protect water from contaminants affected by mining operations;

(d) To stabilise and rehabilitate the banks and surrounds of any waterbodies;

(e) To return land as closely as possible to its original condition, including any exotic pastoral and indigenous species appropriate to the area; and

(f) To visually integrate finished structures, land-forms and vegetation into the surrounding landscape so they appear to be naturally occurring features; and,

(g) To control invasive environmental weeds, including wilding conifers, in the Disturbed Land for the Life of the Macraes Gold Project.

Earth Shaping and Visual

4.2 The consent holder shall locate, form and shape all earthworks so that their profiles, contours, skylines and transitions closely resemble and blend with the surrounding natural landforms. If earthworks cannot be fully naturalised, the consent holder shall minimise the extent of their visibility and maximise their integration into the surroundings.

4.3 The consent holder shall use a Landscape Architect in the planning and design of all permanent earthworks and structures.

Waste Rock Stack

4.4 The consent holder shall design and construct the waste rock stack in accordance with the following principles:

(a) Slopes shall be suitably shaped in cross-profile to match nearby natural slopes;

(b) Slope gradients shall be no steeper than nearby natural surfaces;

(c) Transitions between natural and formed surfaces shall be rounded and naturalised;

(d) Contours should be curvilinear in plan form, in keeping with original natural contours in that area;

(e) The skyline shall be variable and curved, simulating natural skylines;

(f) New landforms shall be aligned and located so they seem to continue, not cut across, existing landscape patterns; and

(g) Silt ponds shall be removed and the site rehabilitated or be converted to stock water drinking ponds following completion of mining operations and rehabilitation.

4.5 The consent holder shall stage the construction of Coronation North Waste Rock Stack (WRS) as follows:

(a) Waste rock deposition will commence in Area A shown on "Coronation North Waste Rock Stack Option Figure 1" annexed.

(b) Once Area A is constructed to its maximum practicable extent, the consent holder shall next deposit waste rock in Area B shown on "Coronation North Waste Rock Stack Option Figure 1" annexed.

(c) When Area B is constructed to its maximum practicable extent the consent holder shall finally deposit waste rock in Area C shown on "Coronation North Waste Rock Stack Option Figure 1" annexed.

Advice Note:

The purpose of staging construction of the WRS is to avoid the deposit of waste rock in Area B or Area C, or as a minimum to defer the waste rock deposit in those areas. The consent holder has committed to examine the feasibility of expanding Area A of the waste rock stack as a means to reduce encroachment into an area recommended for protection (RAP).

4.6 Where practicable the waste rock shall be backfilled into pits in order to minimise the size of waste rock stack.

4.7 Prior to the commencement of the Coronation North waste rock stack, the consent holder shall in consultation with the Councils, design the shape and construction details of the stack. The final design and construction details shall be lodged with the Councils and include a report prepared by a Landscape Architect that includes, but is not limited to, the following:

(a) A detailed description of the proposed waste rock stack;

(b) A detailed description of the adjoining landforms; including their slopes and transitions; and

(c) A detailed discussion on how the proposed waste rock stack meets the principles set out in condition 4.4 (a) – (f).

4.8 If after commencement of the construction of the Coronation North waste rock stack, the consent holder wishes to change the design or construction details it shall design the changes in consultation with the Councils. The design or construction changes shall be lodged with the Councils. The change document shall include a report by a Landscape Architect that details the proposed changes and reassess whether the design changes better meet the principles set out in condition 4.4 (a) – (f).

<u>Soil</u>

4.9 The consent holder shall, as far as practicable, stockpile soil from any disturbed land, unless the soil is required to be left in place to protect water and soil values.

4.10 All salvaged soil shall be used on disturbed land for rehabilitation purposes.

Revegetation

4.11 The consent holder shall in accordance with the rehabilitation objectives undertake progressive rehabilitation of disturbed land as operational activities allow. It shall be revegetated with:

(a) Exotic pastoral species; and

(b) Tussock species which are as far as practicable sourced from the Macraes Ecological District and include *Chionochloa rigida subsp. rigida* (narrow-leaved snow tussock) *Festuca novae-zelandiae* and *Poa cita*. Details of area, density and methods of planting are set out in the Ecological Management Plan required under Condition 15.

4.12 The consent holder shall maintain vegetation cover until the expiry of this consent and ensure that the vegetation, including any vegetation established on disturbed land, shall be self-sustaining after expiry.

Soil and Vegetation Monitoring

4.13 At three yearly intervals, the consent holder shall complete a review of all soil and pasture on land that has been rehabilitated. The first review shall be not later than the third anniversary of the commencement of this consent. The review shall include, but not be limited to, the following:

(a) Monitoring for ground cover, species components, plant nutrition status, soil organic matter and concentrations of exchangeable nutrients in the soil;

(b) Analysis and interpretation of the monitoring results by a suitably qualified soil or agricultural scientist;

(c) Evaluation of the vegetation and its potential to be self-sustaining for pastoral farming after mining ceases; and

(d) Any necessary recommendations for future rehabilitation, including plant species or varieties to be used, cultivation and seeding methods to be introduced, or fertilisers to be used; and,

(e) A copy of the review will be forwarded to the Councils and Department of Conservation within three months of the review being completed.

5. SITE DECOMMISSIONING AND CLOSURE

5.1 The consent holder shall submit to the Councils a Site Decommissioning Plan, not less than 12 months before completion of the operations.

5.2 The Site Decommissioning Plan shall include but not be limited to:

(a) A plan(s) showing the final design and intended contours (at 5 metre intervals) of all permanent structures and works, including but not limited to, waste rock stacks, permanent earthworks, pit lakes, roads, water storage reservoirs or other works which under this consent or any related consent are authorised or required to remain after the relevant consents expire;
(b) A summary of rehabilitation completed to date, and details of rehabilitation required to fulfil the conditions of this consent and any related consents;
(c) Details on infrastructure to be decommissioned, such infrastructure may include buildings, plant, and equipment;
(d) Details of specific infrastructure to remain on-site post-closure. Such infrastructure may include buildings, plant, equipment and any monitoring structures required by this consent and any related consent to remain after the expiry of the consents;
(e) Details of management, any ongoing maintenance, monitoring and reporting proposed by the consent holder to ensure post-closure activities are carried out in accordance with the conditions of this consent;
(f) Details of measures to protect public safety, including any fencing yet to be completed;
(g) The costs of complying with (a)-(f) above.

5.3 The consent holder shall remove all buildings, plant and equipment (whether attached to the land or not) associated with site decommissioning. This condition does not apply to:

(a) Any waste rock stacks, permanent earthworks, silt pond, waterbody, road or other works and any associated plant and equipment which under this or any other resource consent is permitted or required to remain after decommissioning or after this consent expires;

(b) Any monitoring structure required by this or any other resource consent to remain after the expiry of this consent.

6. COMPLAINTS

6.1 The consent holder shall maintain a record of any complaints received regarding their operation. The register shall include, but not be limited to:

(a) name and location of site where the problem is experienced;
(b) nature of the problem;
(c) date and time problem occurred, and when reported;
(d) action taken by consent holder to remedy the situation and any policies or methods put in place to avoid or mitigate the problem occurring again.

6.2 The register of complaints shall be incorporated into the Project Overview and Annual Work and Rehabilitation Plan required by Condition 3 of this consent and provided to the Councils on request.

7. BLASTING AND VIBRATION

7.1 The consent holder shall ensure that blasting practices minimise air and ground borne vibration. Fly-rock shall be minimised and all blasting procedures shall be carried out so as to ensure the safety of employees and the public. No blasting shall occur when the weather is unsuitable.

7.2 Blasting shall be restricted to within the following hours: Monday-Friday 9am to 5.30pm Saturday and Sunday 10am to 4.30pm

7.3 Details of blasting method, strength of the blast and time of blast shall be entered into a record kept for that purpose and shall be available to the Councils on request. This information shall also be included in the monitoring report, required under Condition 9.

7.4 Vibration due to blasting or any other activity associated with the mining operation, when measured at any point within the notional boundary of any dwelling not owned by the consent holder, shall not exceed a peak particle velocity measured in the frequency range 3-12 Hz of 5 mm/sec provided this level may be exceeded on up to 5% of the total number of blasts over a period of 12 months. The level shall not exceed 10 mm/sec at any time.

7.5 Airblast overpressure from blasting associated with the mining operation, when measured at any point within the notional boundary of any dwelling not owned by the consent holder shall not exceed a peak non-frequency-weighted (Linear or flat) level of 115 decibels (dB), provided this level may be exceeded on up to 5% of the total number of blasts over a period of 12 months. The level shall not exceed 120 dB (Linear peak) at any time. For the purpose of this consent, C-frequency-weighting may be considered equivalent to the Linear or Flat-frequency-weighting.

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

8. NOISE

Noise limits

8.1 The consent holder shall ensure that all construction and operation activities associated with the mining operations are designed and conducted so that the following noise limits are not exceeded at the locations specified in Condition 8.2:

(a) On any day between 7 am to 9 pm (daytime): 50 dBA L_{Aeq}; and

(b) On any day between 9.00 pm to 7.00am the following day (night-time): 40dBA L_{Aeq}; and/or 70 dBA L_{Amax}.

Measurement Locations

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

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

Measurement and Assessment

8.3 All noise measurements referred to in Conditions 8.1 and 8.2 above shall be measured in accordance with the provisions of NZS 6801:2008 Acoustics: Measurement of Environmental Sound, and shall be assessed in accordance with the provisions of NZS
6802:2008 Acoustics: Environmental Noise.

9. MONITORING OF NOISE, AIRBLAST AND VIBRATION

9.1 Prior to exercise of this consent, the consent holder shall prepare a Noise, Airblast and Vibration Monitoring Plan, which shall be provided to the consent authorities The plan shall include but not be limited to:

(a) Details of the monitoring locations, the frequency of monitoring and the method of measurement and assessment in accordance with Conditions 7.4, 7.5 8.1 and 8.2;
(b) Procedures for recording blasting method, strength of the blast and time of blast; and
(c) Procedures for addressing non-compliant results and notification of the Councils.

9.2 The Noise, Airblast and Vibration Monitoring Plan for this consent may be combined with any other Noise, Airblast and Vibration Monitoring Plan required by any other consent held by the consent holder for mining operations at Macraes Flat.

9.3 The consent holder shall exercise this consent in accordance with the Noise, Airblast and Vibration Monitoring Plan. The consent holder shall review the plan annually and if necessary update it. Confirmation of the review shall be included in the Project Overview and Annual Work and Rehabilitation Plan. The Councils shall be provided with any updates of the plan within one month of any update occurring.

9.4 The consent holder shall produce a report each year summarising the results of the Noise, Airblast and Vibration Monitoring. The report shall be included in the Project Overview and Annual Work and Rehabilitation Programme.

9.5 All measurements from the monitoring programmes shall be recorded and shall be made available to the Councils on request.

10. LIGHTING

10.1 All flood lighting luminaires that could potentially cause a glare nuisance or a traffic hazard shall be fitted with shields and, as far as is practicable, orientated so that the principal output is directed away from residences and traffic.

11. WASTE ROCK STACKS

11.1 The Coronation North waste rock stack shall be designed for operating basis earthquake (OBE) with a recurrence interval of 150 years and maximum design earthquake (MDE) with a recurrence interval of 2,500 years and otherwise shall otherwise be designed in accordance with sound engineering practice.

11.2 The consent holder shall engage a suitably qualified geotechnical engineer to design the waste rock stack. A construction report shall be prepared for the waste rock stack and this report provided to the Councils prior to the commencement of construction of the waste rock stack. The report shall include details of site formation, design construction, appearance, and testing for stability of the waste rock stack, and shall include evaluation of the long-term stability and performance of the waste rock stack.

11.3 The Coronation North waste rock stack shown on "Coronation North Project WDC/DCC LUC Consents Map 1" annexed shall not exceed 695mRL.

12. FINAL PIT LAKES

12.1 The pit shall be designed such that at all times, the pit lake has sufficient freeboard to fully contain waves induced by landslides and earthquakes.

12.2 No less than twelve months prior to commencement of filling of the pit lake, the consent holder shall provide the Councils with a Closure Manual for the lake. The manual shall include, but not be limited to:

(a) Details of how Condition 12.1 shall be achieved;

(b) Details of the lake filling, including but not limited to mean flow-rates, location of inflows and the quality of the discharge; and

(c) Details of the long term pit wall stability.

12.3 The consent holder shall exercise this consent in accordance with the Closure Manual. The consent holder shall review the manual annually and if necessary update it. Confirmation of the review shall be included in the Project Overview and Annual Work and Rehabilitation Plan. The consent holder shall provide the Councils with any updates of the plan within one month of any update occurring.

13. ROADING

13.1 Within 12 months of the Coronation North and Coronation Pits ceasing excavation the consent holder shall reinstate for public use that part of Golden Point Road south of Horse Flat Road shown on "Coronation Project 2013 WDC/DCC LUC Consents Map 1" annexed. At the same time the consent holder shall define and take steps to vest to the Council (and make lawfully available to the Council pending completion of vesting) the legal road.

13.2 To achieve the reinstatement of that part of Golden Point Road under Condition 13.1 the following work must be completed:

(a) The haul road shall be decommissioned, and replaced with a public road that has a minimum road reserve of 15 metres in width, and a carriageway of 5 metres in width;

(b) The public road shall be formed to a minimum 150 mm sub-base and a base course of 100mm AP4O with a wearing course of AP2O;

(c) The road shall also be delineated and marked to a public road standard;

(d) Design and construction details shall be lodged with the Waitaki District Council for its approval.

13.3 Within 6 months of completion of mining operations in Coronation North and Coronation Pits and rehabilitation of the project areas to the point of decommissioning silt ponds, the consent holder shall define and take steps to vest to the respective Councils (and make lawfully available to the Councils pending completion of vesting) a legal road of no less than 20m wide that approximately follows the green line shown on the annexed Figure 2 (as a replacement for the unformed Matheson Road). Depending on the extent of pit excavations, the road may be modified to be south or southwest of the green line. Prior to vesting, the road shall be graded to a standard enabling it to be used as a fine weather track for four wheel drive vehicles. The consent holder shall not have any ongoing responsibility to maintain the track or any form of public access along this unformed road as a consequence of this grading.

13.4 Within 6 months of completion of mining operations in Coronation North and Coronation Pits ceasing and rehabilitation of the project areas to the point of decommissioning silt ponds, the consent holder shall define and take steps to vest to the Waitaki District Council (and make lawfully available to the Council pending completion of vesting) a legal road of no less than 20 metres wide that approximately follows the Coronation haul road alignment (as indicatively shown marked in orange on the annexed Figure 2) between Horse Flat Road and Matheson Road (as a replacement for the unformed Golden Point Road). Prior to vesting, the road shall be graded to a standard enabling it to be used as a fine weather track for four wheel drive vehicles. The consent holder shall not have any ongoing responsibility to maintain the track or any form of public access along this unformed road as a consequence of this grading.

13.5 The consent holder shall provide unformed access that generally follows the orange line south of Horse Flat Road shown on "Coronation Project 2013 WDC/DD LUC Consents Maps" annexed.

Advice Note: All road stopping, temporary road closures and vesting of new road reserve is to be completed under other relevant statutes.

13.6 The consent holder shall prepare a road maintenance plan. The purpose of the road maintenance plan is to monitor the condition of Horse Flat Road, Matheson Road, Longdale Road and Four Mile Road to ascertain whether the need for any maintenance on the road is indicated. The Plan shall be provided in writing to the Councils prior to first exercise of the consent. A copy shall be forwarded to the Chairperson of Macraes Community Incorporated.

The Plan shall include but not be limited to the following:

(a) Details of how road inspections, which are to be carried out before and at completion of mining extraction operations and at least annually during mining extraction operations;

(b) Measures to record any reported roading maintenance issues reported by staff or the public;

(c) Road condition standards to be reported against; and

(d) Details on reporting procedures to the Councils.

13.7 The consent holder shall prepare an annual road maintenance report that sets out the results of road inspections carried out in the previous year and any reported roading maintenance issues. The report shall be provided in writing to the Councils and a copy forwarded to the Chairperson of Macraes Community Incorporated.

14. HERITAGE

14.1 Prior to any land disturbance, the consent holder shall have engaged a suitably qualified and experienced archaeologist to complete a survey of pre and post-1900 archeological sites within the Disturbed Land concerned.

14.2 Within six months of the date of issue of consents, the consent holder shall update the consent holder's Heritage Management Plan for the Macraes site in consultation with Heritage New Zealand Pouhere Taonga to include the Coronation North Project area. The objective of the Heritage Management Plan shall be to avoid the modification or destruction of any identified heritage site unless there is no other reasonable option and to inform and guide the consent holder on the future management of heritage sites in consultation with Heritage New Zealand Pouhere Taonga that includes but is not limited to:

(a) Providing a map of the archaeological sites to be modified or destroyed, and a detailed plan and photographic record for each archaeological site;

(b) Providing a map of the archaeological sites that are to remain unaffected by the mining operation;

(c) Methods to record in situ material;

(d) Methods to recover artefacts discovered from historic workings and procedures to record and, if necessary, save material.

14.3 The consent holder shall provide a copy of the revised Heritage Management Plan to the Councils within 2 months of any update occurring.

14.4 The consent holder shall not modify or destroy those archaeological sites that are mapped as remaining unaffected in Condition 14.2 (b). Where possible, the sites shall be identified on the ground so mining staff are aware of their existence.

14.5 The mining operation shall be carried out in accordance with the updated Heritage Management Plan.

14.6 If the consent holder:

(a) Discovers koiwi tangata (human skeletal remains), or Maori artefact material, the consent holder shall without delay:

(i) Notify the Councils, Tangata whenua and Heritage New Zealand Pouhere Taonga and in the case of skeletal remains, the New Zealand Police.

(ii) Stop work within the immediate vicinity of the discovery to allow a site inspection by Heritage New Zealand Pouhere Taonga and the appropriate runanga and their advisors, who shall determine whether the discovery is likely to be extensive; if a thorough site investigation is required and whether an Archaeological Authority is required.

(iii) Any koiwi tangata discovered shall be handled and removed by tribal elders responsible for the tikanga (custom) appropriate to its removal or preservation.

(b) Discovers any feature or archaeological material that predates 1900, or heritage material, or disturbs a previously unidentified archaeological or heritage site, the consent holder shall without delay:

(i) Cease work immediately at that place and within 20m around the site;

(ii) Shut down all machinery, secure the area, and advise the Site Manager;

(iii) Secure the site and notify the Heritage New Zealand Regional Archaeologist and the Councils. Further assessment by an archaeologist may be required;

(iv) If the site is of Maori origin, notify the Heritage New Zealand Regional Archaeologist, the Councils nad the appropriate iwi groups or kaitiaki representative of the discovery and ensure site access to

enable appropriate cultural procedures and tikanga to be undertaken, as long as all statutory requirements under legislation are met (Heritage New Zealand Pouhere Taonga Act 2014, Protected Objects Act 1975). Heritage New Zealand will determine if an archaeological authority under the Heritage New Zealand Pouhere Taonga Act 2014 is required for works to continue:

(v) Recommence site work following consultation with the Councils, Heritage New Zealand and iwi, provided that any relevant statutory permissions have been obtained.

Advice note: An archaeological authority from Heritage New Zealand Pouhere Taonga may be required before work can proceed.

14.7 Site work shall recommence following consultation with the Councils, Heritage New Zealand Pouhere Taonga, Tangata whenua, and in the case of skeletal remains, the NZ Police, provided that any relevant statutory permissions have been obtained.

15. NATURE CONSERVATION AND LANDSCAPE VALUES

15.1 Within 6 months of exercising this consent the consent holder shall engage a suitably qualified and experienced ecologist to prepare and submit to the Councils a Coronation North Project Ecological Management Plan ("EMP"). The EMP may be combined with any EMP required by any other consent held by the consent holder for mining operations at Macraes Flat. The purpose of the EMP is to ensure compliance with conditions of this consent and otherwise to minimise the actual and potential adverse effects on the threatened at risk and locally uncommon species and general ecological values. The EMP shall be developed and prepared in consultation with the Department of Conservation and the consent holder shall provide a copy to the Department of Conservation, Nga Runanga, ORC and Councils. The EMP shall:

(a) Include sections covering vegetation and threatened plant management, lizard management and aquatic management;

(b) Have the following objectives:

(i) To minimise the adverse effects from the implementation of the Coronation North Project on amenity/landscape; indigenous vegetation; threatened plants; resident lizard populations; and aquatic biota;

(ii) To protect indigenous flora, threatened, at risk and locally uncommon plants and vegetation types; resident lizard populations, and aquatic fauna where practicable.

(c) Detail the methods by which the objectives set out in Condition 15.1(b) shall be achieved, including:

(i) Legal protection, fencing and management of Island Block and Highlay Hill areas as described in conditions 15.3-15.5;

(ii) propagation of plant species as detailed in condition 15.6;

(iii) transplanting of the threatened plants identified in condition 15.7;

(iv) minimisation of construction effects including during construction of Coronation North Waste Rock Stack by keeping the area of disturbed land to a minimum; and

(v) monitoring.

(d) The consent holder shall implement the programme of activities specified in the EMP and in any subsequent EMP reports created pursuant to condition 15.2(c).

15.2 The consent holder shall engage a suitably experienced and qualified ecologist, to prepare an annual Coronation North Ecological Monitoring Report:

(a) describing the works and other actions completed by the consent holder in the previous twelve months in order meet the purpose and objectives of the EMP; and

(b) evaluating the progress of the tussock species planting on rehabilitated land, transplanting of threatened plant species and the propagation and subsequent planting of the fifteen rare plant species listed in condition 15.6(a).

(c) Describing what methods are to be implemented in the following 12 months in order to meet the purpose and objectives of the EMP.

The consent holder shall provide the Councils, Nga Runanga and Department of Conservation with a copy of the report by no later than 31 July each year. The report may be combined with any EMP report required by any other consent held by the consent holder for mining operations at Macraes Flat.

15.3 The consent holder shall set aside two areas of land comprising:

(a) Approximately 289 hectares known as Island Block as shown on the Plan annexed as Figure 3; and

(b) Approximately 99 hectares known as Highlay Hill as shown on the Plan annexed as Figure 4.

15.4 The consent holder shall fence and manage the areas identified in condition 15.3 to protect existing and naturally regenerating indigenous terrestrial flora and fauna located within the respective land areas. This purpose shall be achieved by:

(a) Fencing both areas as shown on Figures 3 and 4 attached to these conditions and removing all stock from both areas within 18 months of the exercise of this consent.

(b) Felling (but not removing) existing exotic wilding trees within 18 months of exercise of this consent.

(c) Maintaining stock-proof fencing as shown on Figure 4 attached to these conditions.

(d) Allowing natural ecological successional processes to occur on the land by undertaking no farming or mining activities.

15.5 The consent holder shall, within 18 months of the exercise of this consent, execute covenants in favour of the Minister of Conservation over the areas described at condition 15.3 pursuant to section 77 of the Reserves Act 1977, and register the covenants against the relevant land titles. The conservation purposes of the covenants shall be as described at condition 15.4 for protection of terrestrial and not aquatic values, and the obligations of the covenanter shall be limited to maintaining fencing and ensuring the covenanted land is not used for farming or mining purposes. The survey and legal costs associated with creating the covenants in registrable form shall be borne by the consent holder.

15.6 The consent holder shall, using a suitably qualified person or persons, fund measures for the translocation and/or cultivation of seeds, cuttings or other cultivation material from a selection of at least 12 of the following plant species taken from plants located within the impacted footprint of the Coronation North project ("salvage species") for planting out in areas undisturbed by mining activities:

Simplicia laxa;
Pachycladon cheesemanii;
Ranunculus ternatifolius;
Senecio dunedinensis;
Sonchus novae-zealandiae;
Carmichaelia corrugata;
Coprosma intertexta;
Deschampsia cespitosa;
Cardamine bilobata;
Largenophora barkeri;
Annogramma leptophylla;
Carex inopinata;
Aciphylla subflabellata;
Carex tenuiculmis;
Carmichaelia crassicaulis ssp. crassicaulis;
Carex kaloides;
Epilobium insulare
Olearia bullata; and
Rumex flexuosus.

15.7 Annually, as part of the consent holder's Annual Coronation North Ecological Monitoring Report, the area of land to be disturbed in the following 12 months shall be assessed for the presence of the species identified in condition 15.6 above and a programme for cultivating and planting out and/or translocating a selection of plants taken from those species identified shall be determined by the consent holder in consultation with the Department of Conservation.

15.8 The consent holder shall monitor the success of all plantings annually for five years following planting and shall detail the plantings carried out and the "success" of the plantings in its annual Coronation North Ecological Monitoring Report. In this context success means the successful survival and growth of the plant species so that they may form potentially viable populations, and shall be monitored by recording the survival and growth of individual plants and noting any flowering and recruitment of new individuals. Success shall be demonstrated by at least 75% of established plants surviving, or at least 50% of transplants increasing in size compared with their establishment.

15.9 The consent holder shall include in its annual Coronation North Ecological Monitoring Report details of all costs incurred to date to fund the measures outlined in paragraphs 15.6 to 15.8, such funding to total not less than $50,000 (excluding GST) over a period not exceeding 4 years (cultivation and establishment) and 5 years (monitoring). If, upon assessment of the monitoring results for the fourth year of operations following (and including) the year in which the consent holder first exercises this consent, the consent holder in

consultation with the Department of Conservation determines that fewer than 10 plants of each of 12 salvage species are growing, in a manner that is successful as described in Condition 15.8, then:

(a) the consent holder may discontinue any further measures under paragraphs 15.6 to 15.8; and
(b) whether the consent holder discontinues such measures or not, the difference (if any) between the total costs incurred to that time to fund the measures outlined in paragraphs 15.6 to 15.8 and the total budget for such measures of $50,000 shall be transferred to the Habitat Enhancement Fund.

15.10 The consent holder is under no obligation to continue any measures under paragraphs 15.6 to 15.8 beyond nine years from first exercise of this consent.

15.11 Within 6 months of the exercise of this consent the consent holder shall make provision for the total sum of NZ$75,000 to be available for use by an appropriately qualified researcher, Masters or PhD student over 3 years to:
(a) participate in the lizard habitat creation required by condition 15.12 below and to conduct research to determine the success of that or similar habitat; and
(b) conduct research into the effect of mitigation for mining activities on lizard populations as outlined in condition 15.13 below.

These monies shall be paid to the DCC for administrative purposes, and to ensure they are spent appropriately.

15.12 (a) The consent holder shall construct at least ten lizard habitat areas (each one approximately 10m x 10m or equivalent area) consisting of vegetated, deep rock piles and boulders. This lizard habitat shall be within:
(i) areas in and around the margins of the Coronation North Waste Rock Stack identified by the researcher referred to in condition 15.11 or a suitably qualified herpetologist as suitable for lizard habitat creation;
(ii) areas surrounding the Coronation North Project Area identified by the researcher referred to in condition 15.11 or a suitably qualified herpetologist as suitable for lizard habitat creation.
(b) The consent holder shall consult with the researcher referred to in condition 15.11 or a suitably qualified herpetologist when placing and designing lizard habitat.
(c) As a minimum, the consent holder shall create habitat designed and constructed to provide suitable refuge for the range of lizard species found within the Coronation North project footprint.
(d) The consent holder shall only plant fruit bearing shrubs and tussocks around the margins of rock piles to benefit lizards where it is recommended by the researcher referred to in condition 15.11 or a suitably qualified herpetologist.
(e) The consent holder shall arrange for the researcher referred to in condition 15.11 or a suitably qualified herpetologist to monitor lizard colonisation of new rock piles on an annual basis for five years from the creation of the piles, using best practice techniques to detect changes in abundance over time. The results of this monitoring shall be reported each year in the annual Coronation North Ecological Monitoring Report.

15.13 The consent holder shall assist the researcher referred to in condition 15.11 to undertake research that has the objective of identifying the benefit of the conservation and preservation of the lizard species affected by the Coronation North project. This study may include survey of the footprint of the Coronation North waste rock stack before construction, survey of the Coronation North waste rock stack during construction and survey of a suitable control site to compare population numbers and diversity.

15.14 The consent holder shall establish a Habitat Enhancement Fund ("the Fund") of up to $250,000 to be paid by instalments pursuant to condition 15.16 below. The Dunedin City Council shall receive and administer the Fund, in consultation with Waitaki District Council for the purpose stated in condition 15.15 below.

15.15 The purpose of the Fund shall be to protect and enhance significant terrestrial ecology values, that are found in the Macraes Ecological District, which may include but are not limited to lizards and their habitat. For the avoidance of doubt, the Fund may be spent on a project or projects in accordance with the following priority order:

(a) It is related to land within the Macraes Ecological District.
(b) It is related to land within either or both the Dunedin City or Waitaki District local authority areas.
(c) It is related to land within the Otago region and significant terrestrial ecology values that are found within the Macraes Ecological District.

15.16 The Fund shall be endowed by the consent holder in instalments as follows:

(a) $117,000 shall be paid before, pursuant to condition 4.5(a) above, waste rock is first deposited in Area A shown on "Coronation North Waste Rock Stack Option" shown in Figure 1 attached to these conditions.
(b) $67,000 shall be paid on the earlier of:
    1. Two (2) years from the date when waste rock is first deposited in Area A; or
    2. The date upon which waste rock is first deposited in Area B shown on "Coronation North Waste Rock Stack Option shown in Figure 1 attached to these conditions.
(c) $66,000 shall be paid on the earlier of:
    1. Four (4) years from the date when waste rock is first deposited in Area A; or
    2. The date upon which waste rock is first deposited in Area C

    PROVIDED THAT the payment required by Condition 15.16(c) shall not be required if, prior to either of the events described in condition 15.16(c)(1) and (2) occurring the consent holder provides written confirmation to the Councils that it does not intend to place waste rock in Area C and makes an application under s127 to vary this consent be removing the ability to place waste rock in Area C.

15.17 All of the payments made by the consent holder under condition 15.16 above shall be made to the Dunedin City Council, whose receipt of payment shall constitute fulfilment of the consent holder's responsibility.

16. FENCING

16.1 Stock-proof fencing shall be used to keep livestock away from all working areas.

16.2 On the completion of mining operations the consent holder shall ensure that all fences, required to restrict people and/or stock for safety purposes, are installed and maintained. This shall include fences to be installed and maintained around Coronation North and Coronation pit lakes.

17. MANAGEMENT OF HAZARDOUS SUBSTANCES

17.1 The Consent Holder shall ensure that all fuels and oils used at the site are contained in appropriately bunded facilities and that all fuel/oil dispensers are fitted with non-return valves.

17.2 Refuelling, lubrication and any mechanical repairs shall be undertaken in a manner that provides sufficient mitigation measures to ensure that no spillages onto the land surface or into water occur.

18 BONDS

Obligations to be secured

18.1 The consent holder shall provide and maintain in favour of the Councils one or more bonds to secure:

(a) The performance and completion of rehabilitation in accordance with the conditions of this consent; and

(b) The carrying out of the monitoring required by the conditions of this consent;

and

(c) The remediation of any adverse effect on the environment that may arise from the exercise of this consent; and

(d) Compliance with conditions 18.13 - 18.17 of this consent.

When bonds to be provided

18.2 Before the commencement of this consent, the consent holder shall provide to the Councils one or more bonds required by Condition 18.1

Form of bond

18.3 Subject to the other provisions of this condition, any bond shall be in the form and on the terms and conditions approved by the Councils.

Surety

18.4 Any bond shall be given or guaranteed by a surety acceptable to the Councils.

18.5 The surety shall bind itself to pay for the carrying out and completion of the conditions of consent which are the subject of the bond on default by the consent holder or the occurrence of any adverse environment effect requiring remedy during or after the expiry of this consent.

Amount

18.6 The amount of each bond shall be fixed annually by the Councils which will take into account any calculations and other matters submitted by the consent holder relevant to the determination of the amount to be bonded in the Project Overview and Annual Work and Rehabilitation Plan, or otherwise.

18.7 The amount of the bond(s) shall include:

(a) The estimated costs of complete rehabilitation in accordance with the conditions of consent on the completion of the mining operations proposed for the next year and described in the Project Overview and Annual Work and Rehabilitation Plan.

(b) The estimated costs of:

i. Monitoring in accordance with the monitoring conditions of the consent;

ii. Monitoring for and of any adverse effect of the activity authorised by this consent which may become apparent during or after expiry of this consent;

iii. Monitoring any rehabilitation required by this consent.

(c) Any further sum which the consent authority considers necessary for monitoring and dealing with any adverse effect on the environment that may arise from the exercise of the consent whether during or after the expiry of this consent.

18.8 The amount shall be calculated for the duration of this consent and for a period of 20 years after its expiry.

18.9 If, on review, the total amount of bond to be provided by the consent holder is greater or less than the sum secured by the current bond(s), the consent holder, surety and the Councils may, in writing, vary the amount of the bond(s).

General

18.10 While the liability of the surety is limited to the amount of the bond(s), the liability of the consent holder is unlimited.

18.11 Any bond may be varied, cancelled, or renewed at any time by written agreement between the consent holder, surety and Councils.

Costs

18.12 The costs (including the costs of the consent authority) of providing, maintaining, varying and reviewing any bond shall be paid by the consent holder.

Bonding on expiry or surrender of this consent

18.13 For a period of 20 years from the expiry or surrender of this consent the consent holder shall provide in favour of the Councils one or more bonds.

18.14 The amount of the bond to be provided under Condition 18.13 shall include the amount (if any) considered by the Councils necessary for:

(a) Completing rehabilitation in accordance with the conditions of this consent.

(b) Monitoring for and of any adverse effect on the environment that may arise from the exercise of the consent.

(c) Monitoring any measures taken to prevent, remedy or mitigate any adverse effect on the environment that may arise from the exercise of this consent.

(d) Dealing with any adverse effect on the environment which may become apparent after the surrender or expiry of this consent.

(e) Contingencies.

18.15 Without limitation, the amount secured by the bond given under Condition 18.13 may include provision to deal with structural instability or failure, land and water contamination, and the failure of rehabilitation in terms of the rehabilitation objectives and conditions of this consent. Costs shall include costs of investigating, preventing, remedying or mitigating any adverse effect.

18.16 The bond(s) required by Condition 18.13 must be provided on the earlier of:

(a) 12 months before the expiry of this consent;
(b) Three months before the surrender of this consent.

18.17 Conditions 18.3, 18.4, 18.5, 18.8, 18.9, 18.10 and 18.11 apply to the bond(s) required by Condition 18.13.

19. PUBLIC LIABILITY INSURANCE

19.1 The consent holder shall effect and keep current public liability insurance for an amount not more than twenty million dollars. The amount shall be determined by the Councils in consultation with the consent holder.

19.2 The indemnity expressed in the insurance policy shall be sufficiently wide in its coverage so as to include claims arising from damage caused by structural

failure, or damage resulting from fire or explosion and all fire fighting costs resulting from the consent holder's operations in respect of the land and from any accidental or otherwise spillage of any chemical or reagent and/or resulting clean up and restoration costs and the costs of mitigation of those events.

19.3 The consent holder shall provide to the Councils annually a copy of the insurance policy and the receipt evidencing payment of the premium in respect of any such policy.

19.4 The consent holder shall also indemnify the Councils against any claim arising from the public use of public roads for the time being under control of the consent holder.

20. CLOSURE OF OPERATIONS

20.1 The consent holder shall annually supply to the Councils a contingency plan for the early closure of the mine, as part of the Project Overview Annual Work and Rehabilitation Programme. This contingency plan shall be updated annually. The plan shall address the objectives listed in Condition 4 and include:

(a) An evaluation of the residual risk of the operation with regard to the neighbouring community and environment; and

(b) A plan for the long term management of the site, in particular the area of open pits or consequent lakes and the Coal Creek water reservoir, and include details of on-going maintenance and monitoring requirements and restrictions on future use.

(c) Describe in detail what needs to be done to:

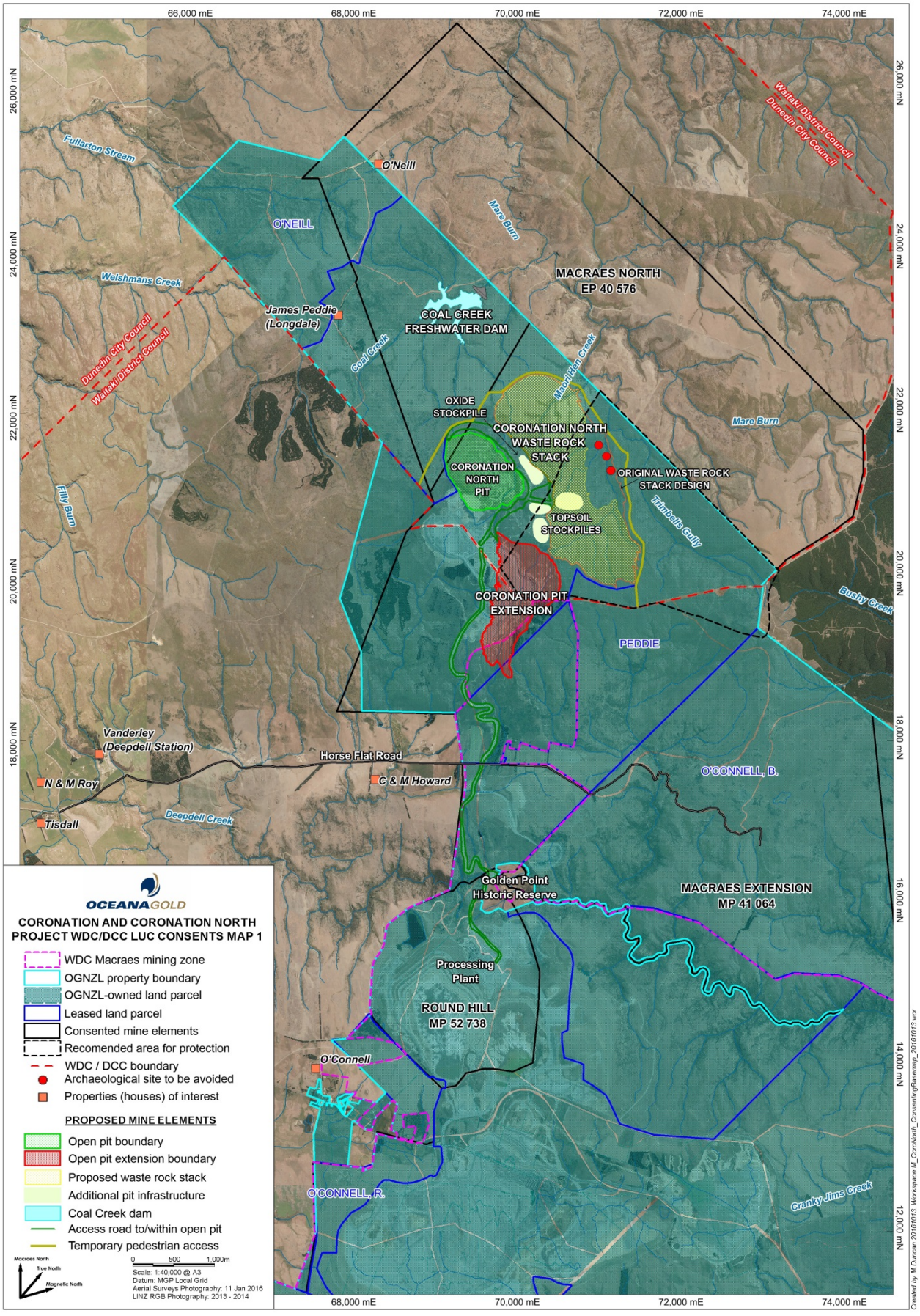
i. Decommission the mine site in accordance with this consent;

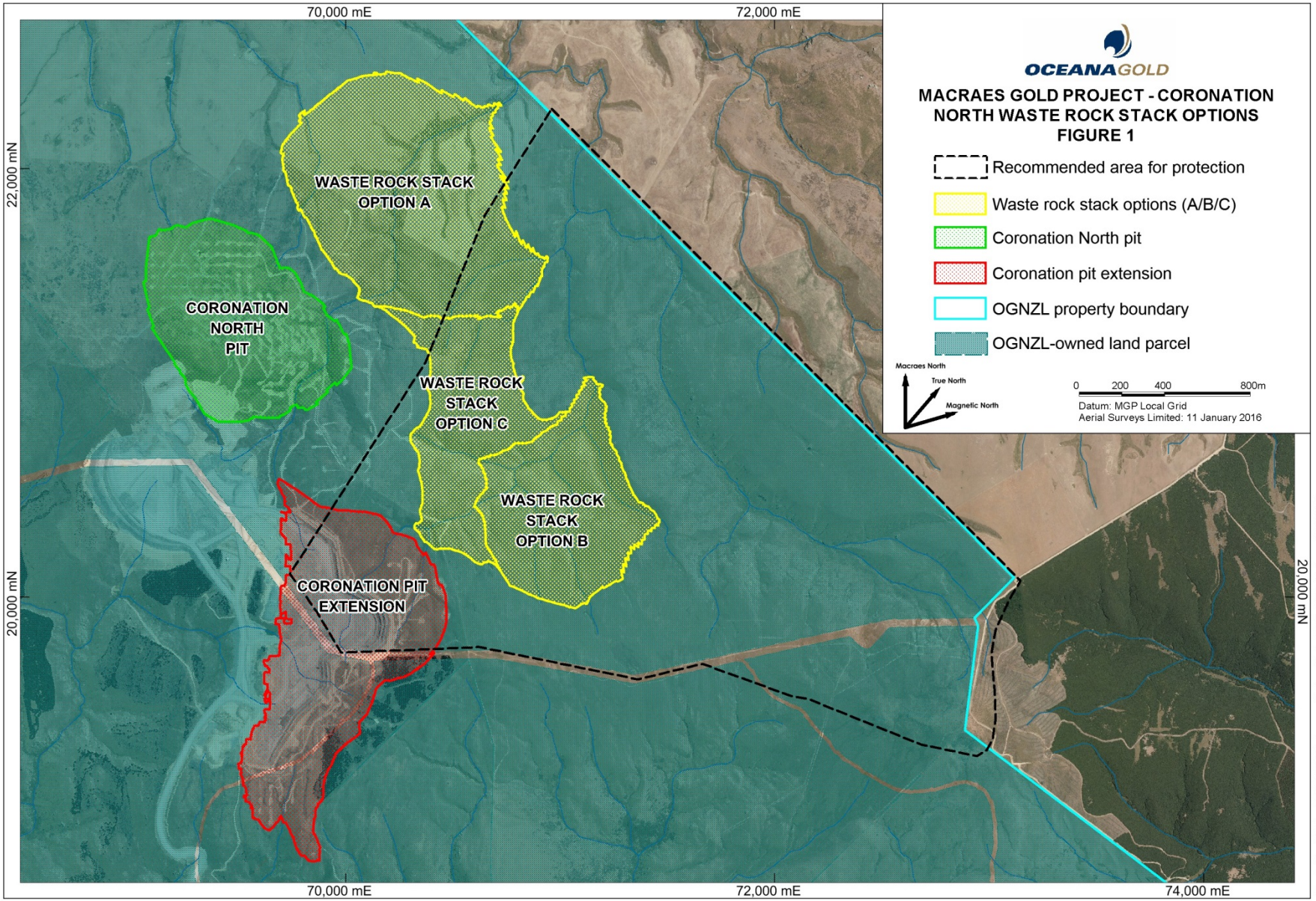
ii. Rehabilitate the mine site in accordance with this consent;

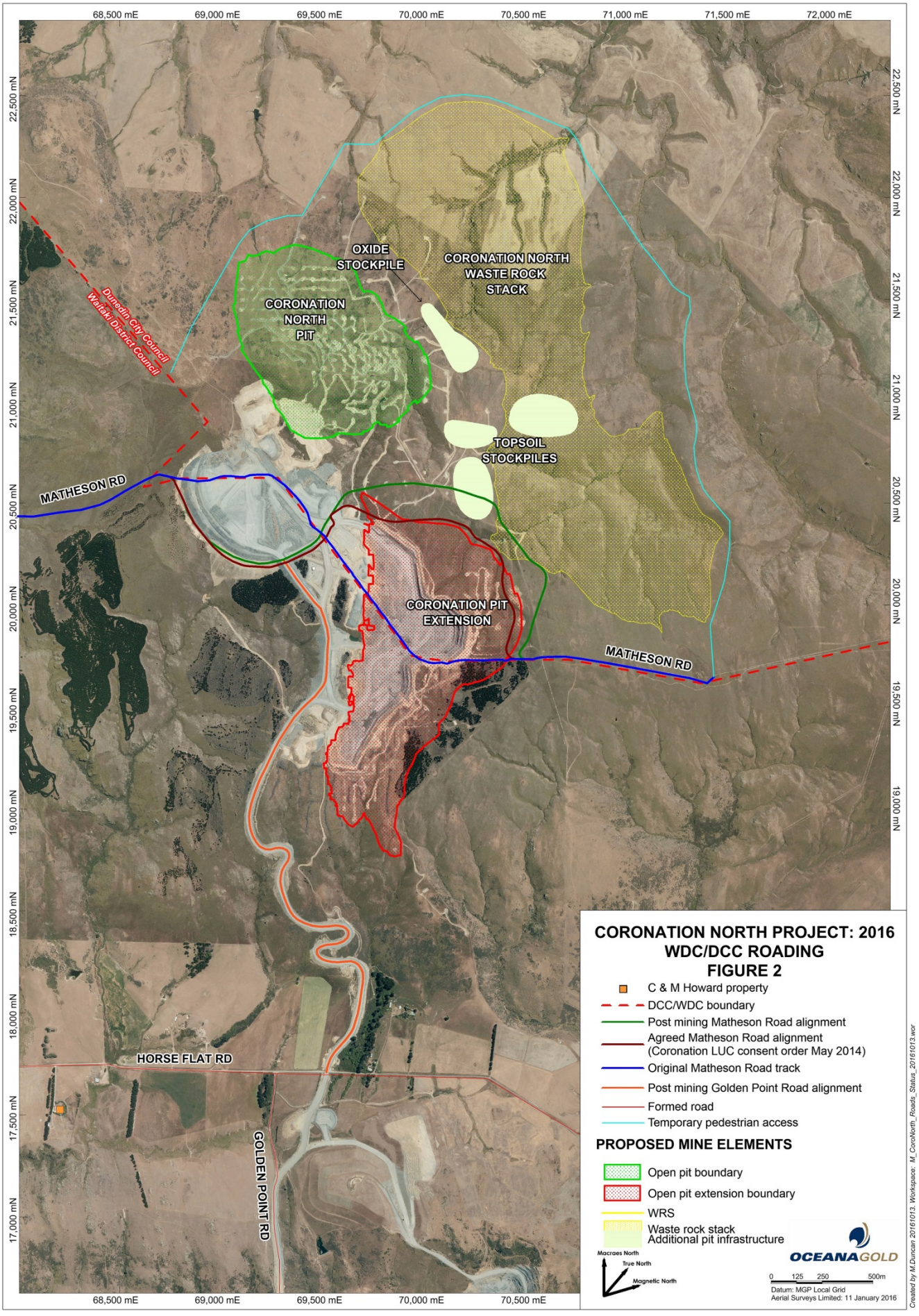
iii. Comply with other conditions relevant to cessation of mining; and

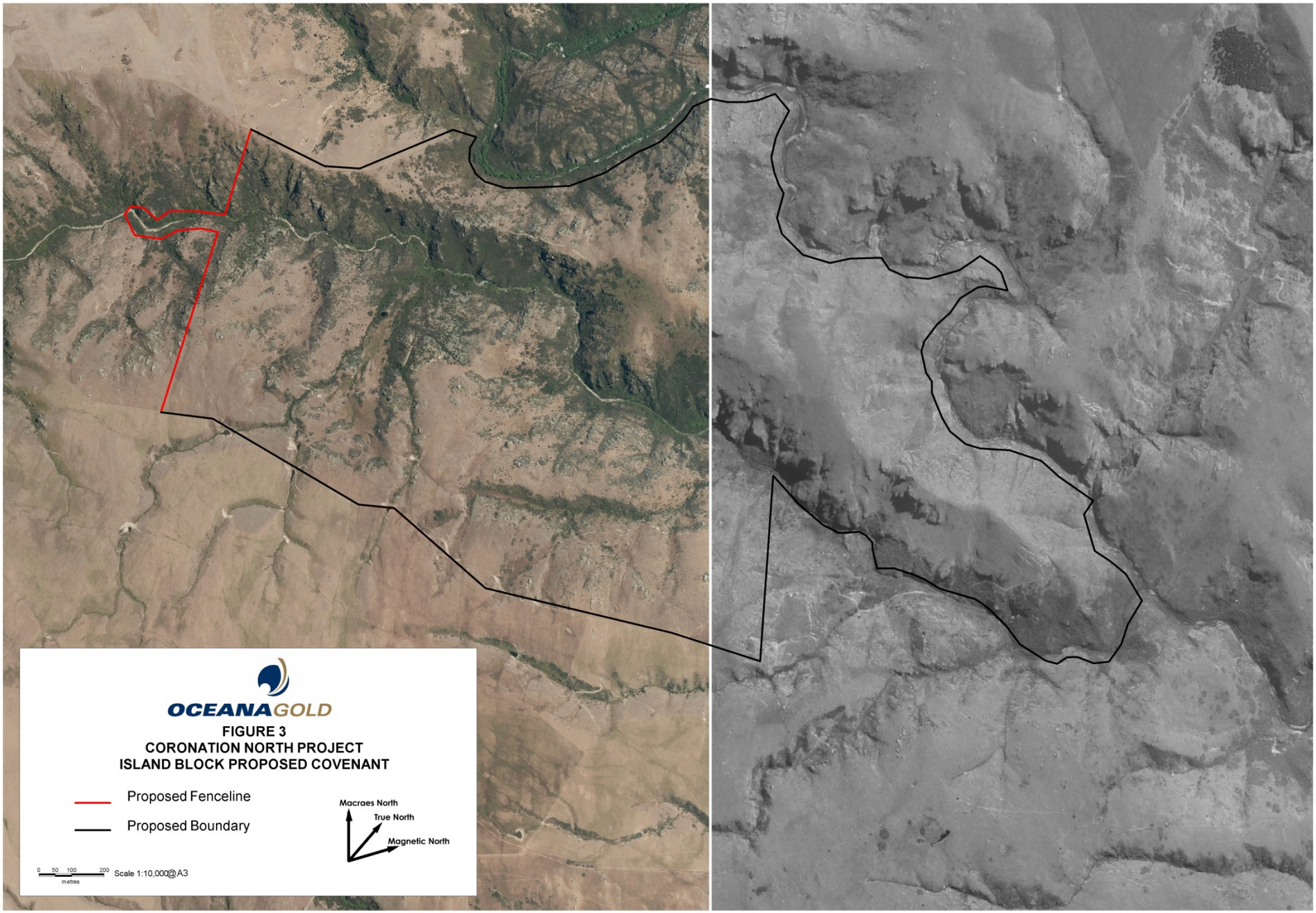
iv. The costs needed to comply with (i)-(iii).

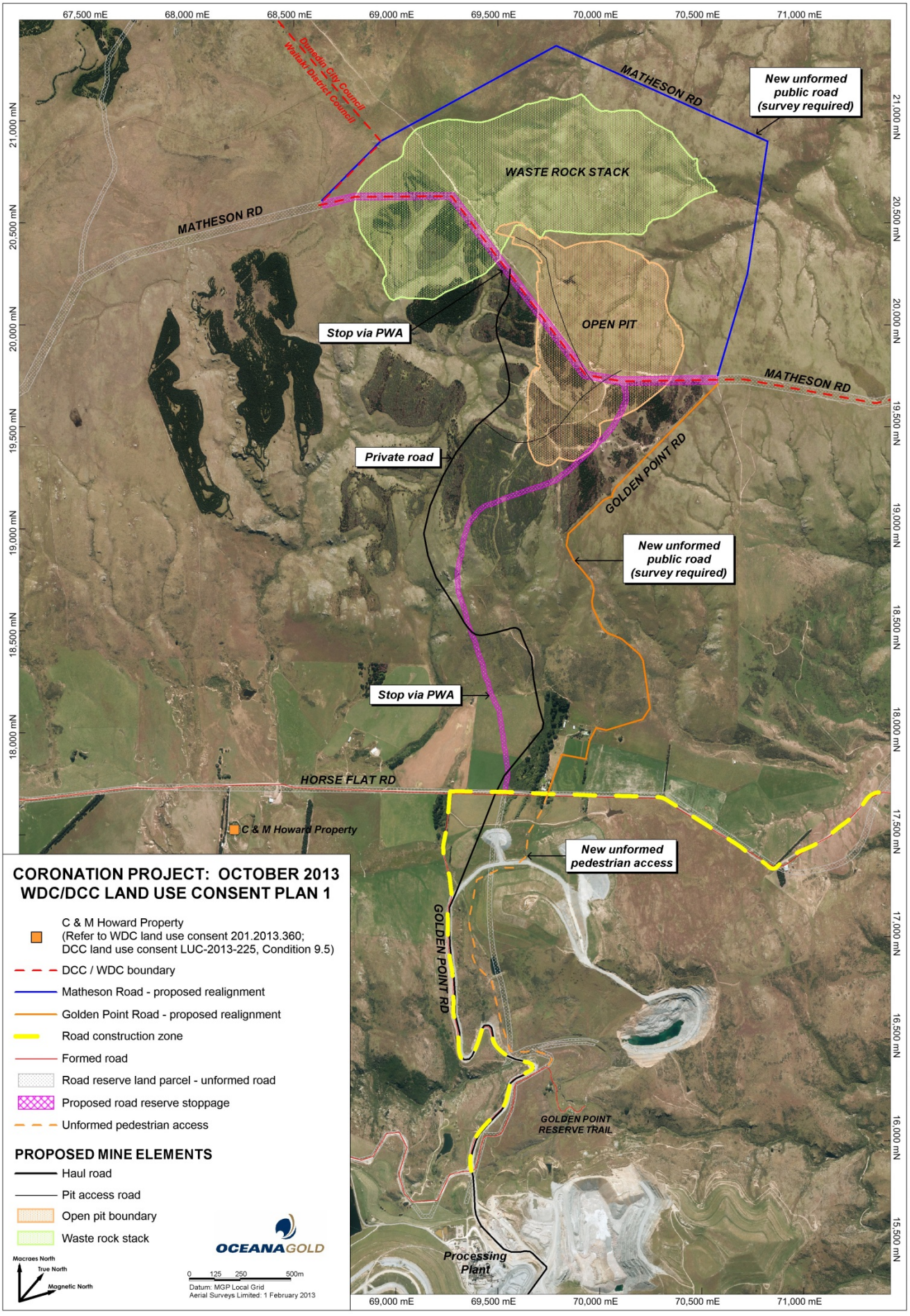
ANNEXES

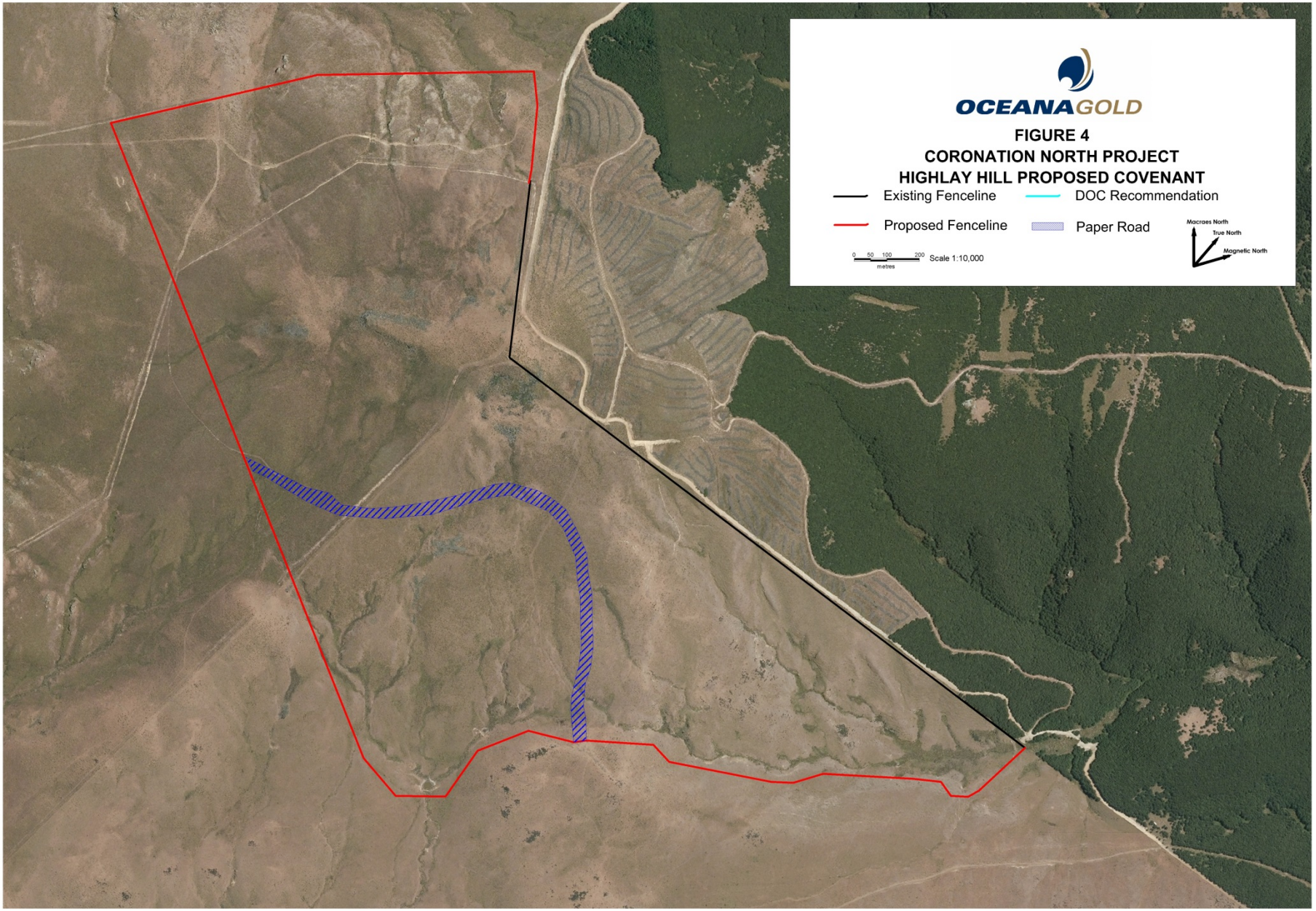

66,000 mE
68,000 mE
70,000 mE
72,000 mE
74,000 mE
26,000 mN
24,000 mN
22,000 mN
20,000 mN
18,000 mN
16,000 mN
14,000 mN
12,000 mN
Fullarton Stream
O'Neill
O'NEILL
Mare Burn
Welshmans Creek
MACRAES NORTH
EP 40 576
James Peddie
(Longdale)
COAL CREEK
FRESHWATER DAM
Coal Creek
Waitaki District Council
Dunedin City Council
Maori Jean Creek
OXIDE
STOCKPILE
CORONATION NORTH
WASTE ROCK
STACK
CORONATION
NORTH
PIT
ORIGINAL WASTE ROCK
STACK DESIGN
TOPSOIL
STOCKPILES
Trimbells Gully
Filly Burn
CORONATION PIT
EXTENSION
PEDDIE
Bushy Creek
Vanderley
(Deepdell Station)
Horse Flat Road
N & M Roy
C & M Howard
O'CONNELL, B.
Tisdall
Deepdell Creek
Golden Point
Historic Reserve
MACRAES EXTENSION
MP 41 064
Processing
Plant
ROUND HILL
MP 52 738
O'Connell
O'CONNELL, R.
Cranky Jims Creek
OCEANAGOLD
CORONATION AND CORONATION NORTH
PROJECT WDC/DCC LUC CONSENTS MAP 1
WDC Macraes mining zone
OGNZL property boundary
OGNZL-owned land parcel
Leased land parcel
Consented mine elements
Recomended area for protection
WDC / DCC boundary
Archaeological site to be avoided
Properties (houses) of interest
PROPOSED MINE ELEMENTS
Open pit boundary
Open pit extension boundary
Proposed waste rock stack
Additional pit infrastructure
Coal Creek dam
Access road to/within open pit
Temporary pedestrian access
Macraes North
True North
Magnetic North
0 500 1,000m
Scale: 1:40,000 @ A3
Datum: MGP Local Grid
Aerial Surveys Photography: 11 Jan 2016
LINZ RGB Photography: 2013 - 2014
Created by M.Duncan 20161013 Workspace:M_Corc\North_Consenting\Basemap_20161013.wor


70,000 mE
72,000 mE
74,000 mE
22,000 mN
20,000 mN
WASTE ROCK STACK OPTION A
CORONATION NORTH PIT
WASTE ROCK STACK OPTION C
WASTE ROCK STACK OPTION B
CORONATION PIT EXTENSION
OCEANAGOLD
MACRAES GOLD PROJECT - CORONATION NORTH WASTE ROCK STACK OPTIONS
FIGURE 1
Recommended area for protection
Waste rock stack options (A/B/C)
Coronation North pit
Coronation pit extension
OGNZL property boundary
OGNZL-owned land parcel
Macraes North
True North
Magnetic North
0 200 400 800m
Datum: MGP Local Grid
Aerial Surveys Limited: 11 January 2016
Created by H.Petry 20161210. Workspace:M_CoroNorth_WRS_ABC_Options_20161210.wor


68,500 mE
69,000 mE
69,500 mE
70,000 mE
70,500 mE
71,000 mE
71,500 mE
72,000 mE
22,500 mN
22,000 mN
21,500 mN
21,000 mN
20,500 mN
20,000 mN
19,500 mN
19,000 mN
18,500 mN
18,000 mN
17,500 mN
17,000 mN
OXIDE STOCKPILE
CORONATION NORTH WASTE ROCK STACK
CORONATION NORTH PIT
Dunedin City Council
Waitaki District Council
TOPSOIL STOCKPILES
MATHESON RD
CORONATION PIT EXTENSION
MATHESON RD
HORSE FLAT RD
GOLDEN POINT RD
CORONATION NORTH PROJECT: 2016
WDC/DCC ROADING
FIGURE 2
C & M Howard property
DCC/WDC boundary
Post mining Matheson Road alignment
Agreed Matheson Road alignment
(Coronation LUC consent order May 2014)
Original Matheson Road track
Post mining Golden Point Road alignment
Formed road
Temporary pedestrian access
PROPOSED MINE ELEMENTS
Open pit boundary
Open pit extension boundary
WRS
Waste rock stack
Additional pit infrastructure
Macraes North
True North
Magnetic North
OCEANAGOLD
0 125 250 500m
Datum: MGP Local Grid
Aerial Surveys Limited: 11 January 2016
Created by M.Duncan 20161013. Workspace: M_CoroNorth_Roads_Status_20161013.wor


OCEANAGOLD
FIGURE 3
CORONATION NORTH PROJECT
ISLAND BLOCK PROPOSED COVENANT
Proposed Fenceline
Proposed Boundary
Macraes North
True North
Magnetic North
0 50 100 200
metres
Scale 1:10,000@A3


67,500 mE
68,000 mE
68,500 mE
69,000 mE
69,500 mE
70,000 mE
70,500 mE
71,000 mE
21,000 mN
20,500 mN
20,000 mN
19,500 mN
19,000 mN
18,500 mN
18,000 mN
17,500 mN
17,000 mN
16,500 mN
16,000 mN
15,500 mN
Dunedin City Council
Waitaki District Council
MATHESON RD
New unformed public road (survey required)
WASTE ROCK STACK
MATHESON RD
Stop via PWA
OPEN PIT
MATHESON RD
Private road
GOLDEN POINT RD
New unformed public road (survey required)
Stop via PWA
HORSE FLAT RD
C & M Howard Property
New unformed pedestrian access
GOLDEN POINT RD
GOLDEN POINT RESERVE TRAIL
Processing Plant
CORONATION PROJECT: OCTOBER 2013
WDC/DCC LAND USE CONSENT PLAN 1
C & M Howard Property
(Refer to WDC land use consent 201.2013.360;
DCC land use consent LUC-2013-225, Condition 9.5)
DCC / WDC boundary
Matheson Road - proposed realignment
Golden Point Road - proposed realignment
Road construction zone
Formed road
Road reserve land parcel - unformed road
Proposed road reserve stoppage
Unformed pedestrian access
PROPOSED MINE ELEMENTS
Haul road
Pit access road
Open pit boundary
Waste rock stack
OCEANAGOLD
Macraes North
True North
Magnetic North
0 125 250 500m
Datum: MGP Local Grid
Aerial Surveys Limited: 1 February 2013


OCEANAGOLD
FIGURE 4
CORONATION NORTH PROJECT
HIGHLAY HILL PROPOSED COVENANT
Existing Fenceline
DOC Recommendation
Proposed Fenceline
Paper Road
Macraes North
True North
Magnetic North
0 50 100 200
metres
Scale 1:10,000

Our Reference: A942102 Consent No. RM16.138.01

LAND USE CONSENT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Oceana Gold (New Zealand) Limited

Address: 22 MacLaggan Street, Dunedin

To disturb, deposit and reclaim the bed of unnamed tributaries of Maori Hen Creek, Trimbells Gully, Mare Burn and Coal Creek for the purpose of constructing the Coronation North Waste Rock Stack

For a term expiring 10 years from the commencement of this consent

Location of consent activity: Coronation North Project, approximately 7.5 kilometres to the northwest of the intersection of Macraes Road and Red Bank Road, Macraes Flat.

Legal description of consent location: Pt Section 2 Blk V Highlay SD

Map Reference: Within a 1 kilometre radius of NZTM 2000: E1395000 N4979000

Conditions

Specific

1. This consent shall be exercised together with Discharge Permit RM16.138.03, Discharge Permit RM16.138.04, Discharge Permit RM16.138.05, Discharge Permit RM16.138.09, Water Permit RM16.138.20 and any subsequent variations to these consents.

2. The disturbance, deposition and reclamation shall not occur outside of the area marked Coronation North Waste Rock Stack as shown on Appendix I attached.

3. Underdrains shall be constructed in the natural channels that form the unnamed tributaries of Maori Hen Creek, Trimbells Gully, Mare Burn and Coal Creek beneath the footprint of the Coronation North Waste Rock Stack by placement of large rocks covered by appropriately graded material to provide sufficient filtering to prevent blockage of the drains by finer material unless it is identified in the "Best Practicable Options Report" required by Condition 5 of Consent RM16.136.02 that underdrains should be constructed differently or not be constructed at all.

Performance Monitoring

4. The consent holder shall notify the Consent Authority in writing at least ten working days prior to the commencement of work authorised by this consent.

5. a) Prior to the exercise of this consent, the consent holder shall establish a fund of NZ$20,000 for provision of trout exclusion devices to protect native fish habitat, particularly Taieri flathead galaxias (Galaxias depressiceps), and shall pay an additional $20,000 to the Department of Conservation (via a multiple deposit scheme Westpac account nominated by the Department) tagged for trout exclusion device maintenance. Within 6 months the consent holder shall commence consultation with the Department of Conservation to determine suitable locations for the trout exclusion devices, with some preference to be given to locations within the Mare Burn catchment.
   (b) The consent holder shall provide the Consent Authority with details of the determined locations of the trout exclusion devices within one month of these being determined.
   (c) The trout exclusion devices shall be designed or supplied by a suitably qualified person.
   (d) The trout exclusion devices shall be installed within 24 months of the locations being determined.

6. Prior to the first exercise of this consent the consent holder shall, in consultation with the Consent Authority and the Department of Conservation, develop and submit a Mitigation Plan that achieves the translocation of freshwater crayfish (Koura/*Paranephrops planifons*) and Taieri flathead galaxias (Galaxias depressiceps) from areas affected as a result of Coronation North Project to the Mare Burn below the confluence of Coal Creek. The Mitigation Plan shall identify the stage of land disturbance that triggers the requirement for translocation of Koura and Galaxias depressiceps.

7. The consent holder shall implement the programme of activities specified in the Mitigation Plan developed under condition 6.

General

8. All machinery and equipment that has been in watercourses shall be water blasted and treated with suitable chemicals or agents prior to being brought on site and following completion of the works, to reduce the potential for pest species being introduced to or taken from the watercourses, such as didymo. At no time during the exercise of this consent shall machinery be washed within the bed of a watercourse.

9. (a) Works shall, as far as practicable, be undertaken when flows in the watercourses are low.
   (b) Work shall be undertaken with the minimum time required in the wet bed of the watercourses and with the minimum necessary bed disturbance.
   (c) All reasonable steps shall be taken to minimise the release of sediment to water.

(d) At the completion of the works authorised by this consent, the consent holder shall ensure that all plant, equipment, chemicals, fencing, signage, debris, rubbish and any other material brought on site is removed from the site. The site shall be tidied to a degree at least equivalent to that prior to the works commencing.

10. The consent holder shall ensure that once completed the works authorised by this consent do not cause any flooding, erosion, scouring, land instability or property damage. Should such effects occur due to the exercise of this consent, the consent holder shall, if so required by the Consent Authority and at no cost to the Consent Authority, take all such action as the Consent Authority may require to remedy any such damage.

11. The Consent Authority may, within 6 months of receipt of the Coronation North Project Cultural Impact Assessment prepared by Kai Tahu Ki Otago on behalf of Te Runanga o Moeraki, Te Runanga o Otakou and Kati Hurapa Runanga ki Puketeraki, commissioned in 2016; serve notice of its intention to review the conditions of this consent for the purpose of amending or adding conditions to address mitigation of the effect(s) of the exercise of this consent on cultural values and associations. All costs associated with any such review shall be borne by the consent holder.

12. During the exercise of this consent, the consent holder should ensure that fuel storage tanks and machinery working and stored in the construction area shall be maintained at all times to prevent leakage of oil and other contaminants into the watercourse name. No refueling of machinery shall occur within any watercourse. In the event of contamination, the consent holder shall undertake remedial action and notify the Consent Authority within 24 hours.

13. (a) The consent holder shall provide and maintain in favour of the Consent Authority one or more bonds to secure:
    i) The performance and completion of rehabilitation in accordance with the conditions of this consent; and
    ii) The carrying out of the monitoring required by the conditions of this consent; and
    iii) The remediation of any adverse effect on the environment that may arise from the exercise of this consent.
    iv) Compliance with Conditions 13(m)-13(q) of this consent.

    (b) Before the first exercise of this consent, the consent holder shall provide to the Consent Authority one or more bonds required by Condition 13(a).

    (c) Subject to the other provisions of this consent, any bond shall be in the form and on the terms and conditions approved by the Consent Authority.

    (d) Any bond shall be given or guaranteed by a surety acceptable to the Consent Authority.

    (e) The surety shall bind itself to pay for the carrying out and completion of the conditions of consent which are the subject of the bond on default by the consent holder or the occurrence of any adverse environment effect requiring remedy; during or after the expiry of this consent.

(f) The amount of each bond shall be fixed annually by the Consent Authority which will take into account any calculations and other matters submitted by the consent holder relevant to the determination of the amount to be bonded in the Project Overview and Annual Work and Rehabilitation Plan required for by condition 6 of RM16.138.05, condition 6 of RM16.138.10, condition 8 of RM16.138.17 and condition 10 of RM16.138.18.

(g) The amount of the bond(s) shall include:

i) The estimated costs of complete rehabilitation in accordance with the conditions of consent on the completion of the mining operations proposed for the next year and described in the Project Overview and Annual Work and Rehabilitation Plan.

ii) The estimated costs of:

- Monitoring in accordance with the monitoring conditions of the consent;
- Monitoring for and of any adverse effect of the activity authorised by this consent which may become apparent during or after expiry of this consent;
- Monitoring any rehabilitation required by this consent.

iii) Any further sum which the Consent Authority considers necessary for monitoring and dealing with any adverse effect on the environment that may arise from the exercise of the consent whether during or after the expiry of this consent.

(h) The amount shall be calculated for the duration of this consent and for a period of 20 years after its expiry.

(i) If, on review, the total amount of bond to be provided by the consent holder is greater or less than the sum secured by the current bond(s), the consent holder, surety and the Consent Authority may, in writing, vary the amount of the bond(s).

(j) While the liability of the surety is limited to the amount of the bond(s), the liability of the consent holder is unlimited.

(k) Any bond may be varied, cancelled, or renewed at any time by written agreement between the consent holder, surety and Consent Authority.

(l) The costs (including the costs of the Consent Authority) of providing, maintaining, varying and reviewing any bond shall be paid by the consent holder.

(m) For a period of 20 years from the expiry or surrender of this consent the consent holder shall provide in favour of the Consent Authority one or more bonds.

(n) The amount of the bond to be provided under Condition 13(m) shall include the amount (if any) considered by the Consent Authority necessary for:

i) Completing rehabilitation in accordance with the conditions of this consent.

ii) Monitoring for and of any adverse effect on the environment that may arise from the exercise of the consent.

iii) Monitoring any measures taken to prevent, remedy or mitigate any adverse effect on the environment that may arise from the exercise of this consent.

iv) Dealing with any adverse effect on the environment which may become apparent after the surrender or expiry of this consent.

v) Contingencies.

(o) Without limitation, the amount secured by the bond given under Condition 13m) may include provision to deal with structural instability or failure, land and water contamination, and the failure of rehabilitation in terms of the rehabilitation objectives and conditions of this consent. Costs shall include costs of investigating, preventing, remedying or mitigating any adverse effect.

(p) The bond(s) required by Condition 13(m) must be provided on the earlier of:

i) 12 months before the expiry of this consent.

ii) Three months before the surrender of this consent.

(q) Conditions 13(c), (d), (e), (h), (i), (j) and (k) apply to the bond(s) required by Condition 13(m).

14. If the consent holder:

(a) Discovers koiwi tangata (human skeletal remains), or Maori artefact material, the consent holder shall without delay:

i) Notify the Consent Authority, Tangata whenua, Heritage New Zealand, and in the case of skeletal remains, the New Zealand Police;

ii) Stop work within the immediate vicinity of the discovery and within 20 metres around the site to allow a site inspection by the Heritage New Zealand Regional Archeologist and the appropriate iwi groups or kaitiaki representative who shall determine whether the discovery is likely to be extensive; if a thorough site investigation is required and whether an Archaeological Authority is required;

iii) Site access shall be facilitated to enable appropriate cultural procedures and tikanga to be undertaken, as long as all statutory requirements under legislation are met (Heritage New Zealand Pouhere Taonga Act 2014, Protected Objects Act 1975);

iv) Remains are not to be moved until such time as Heritage New Zealand and iwi have responded. Any koiwi tangata discovered shall be handled and removed by tribal elders responsible for the tikanga (custom) appropriate to its removal or preservation; and

v) Site work shall recommence following consultation with the Consent Authority, Heritage New Zealand, Tangata whenua, and in the case of skeletal remains, the NZ Police, have provided that any relevant statutory permissions have been obtained.

(b) Discovers any feature or archaeological material that predates 1900, or heritage Material, or disturbs a previously unidentified archaeological or heritage site, the consent holder shall without delay:

i) Cease work immediately at that place and within 20m around the site;

ii) The contractor must shut down all machinery, secure the area, and advise the Site Manager;

iii) The Site Manager shall secure the site and notify the Heritage New Zealand Regional Archaeologist and the Consent Authority. Further assessment by an archaeologist may be required;

iv) If the site is of Maori origin, the Site Manager shall notify the Heritage New Zealand Regional Archaeologist, the Consent Authority and the appropriate iwi groups or kaitiaki representative of the discovery and ensure site access to enable appropriate cultural procedures and tikanga to be undertaken, as land as all statutory requirements under legislation are met (Heritage New Zealand Pouhere Taonga Act 2014, Protected Objects Act 1975). Heritage New Zealand will determine if an archaeological authority under the Heritage New Zealand Pouhere Taonga Act 2014 is required for works to continue; and

v) Site work shall recommence following consultation with the Consent Authority, Heritage New Zealand and iwi, provided that any relevant statutory permissions have been obtained.

Review

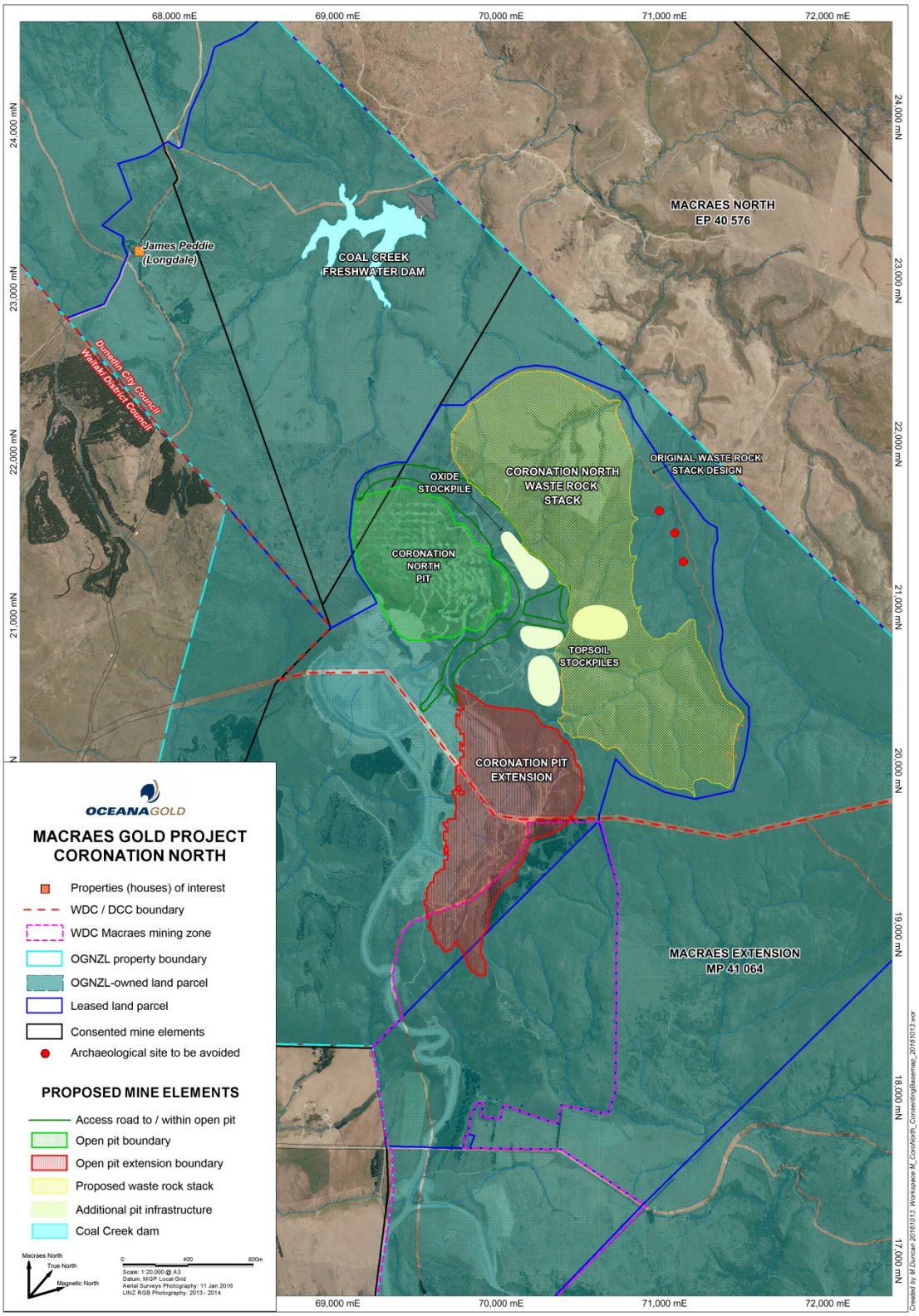
15. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within three months of each anniversary of the commencement of this consent, for the purpose of:
(a) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the consent; or
(b) ensuring the conditions of this consent are consistent with any National Environmental Standards; or
(c) requiring the consent holder to adopt the best practicable option, in order to remove or reduce any adverse effect on the environment arising as a result of the exercise of this consent.

Notes to Consent Holder

1. *The consent holder shall also comply with all notices and guidelines issued by Biosecurity New Zealand, in relations to avoiding spreading the pest organism Didymosphenia geminata known as "Didymo" (refer to www.biosecurity.govt.nz/didymo).*

2. *The consent holder shall ensure that any contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. A copy of this consent should be present on site at all times while the work is being undertaken.*

Appendix I
RM16.138.01



Our Reference: A942102 Consent No. RM16.138.02

LAND USE CONSENT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Oceana Gold (New Zealand) Limited

Address: 22 MacLaggan Street, Dunedin

To place a structure and disturb the bed of Coal Creek for the purpose of constructing the Coal Creek Freshwater Dam embankment

For a term expiring 35 years from the commencement of this consent

Location of consent activity: Coronation North Project, approximately 7.5 kilometres to the northwest of the intersection of Macraes Road and Red Bank Road, Macraes Flat.

Legal description of consent location: Pt Section 2 Blk V Highlay SD

Map Reference: Within a 1 kilometre radius of NZTM 2000: E1392800 N4979400

Conditions

Specific

1. The dam and associated structures shall be sized, constructed and located generally as described in the application for consent lodged with the Consent Authority on 25 May 2016.

2. This consent shall be exercised together with Discharge Permit RM16.138.07, Discharge Permit RM16.138.08, Water Permit RM16.138.16, Water Permit RM16.138.18 and any subsequent variations to these consents.

3. The Coal Creek Freshwater dam shall be generally sited as shown in Appendix I attached.

4. For the purpose of Section 125 of the Resource Management Act 1991, this consent shall not lapse.

5. Prior to the exercise of this consent the consent holder shall provide the consent authority with a Best Practicable Options (BPO) Report prepared by suitably qualified expert(s) which identifies BPO for achieving compliance with water quality parameters set at compliance site MB02 and identifies whether, and the extent to which, construction of the Coal Creek Freshwater Dam is required.

6. This consent shall not be exercised unless the BPO report identifies that constructing the dam is essential to achieve achieving compliance with water quality parameters set at compliance site MB02.

7. During construction of the Coal Creek Freshwater dam, the consent holder shall keep the area of disturbed ground to a minimum.

8. The Coal Creek Reservoir shall have an auxiliary spillway capable of passing the 1 in 5000 Annual Exceedance Probability flood.

9. The Coal Creek Freshwater dam embankment shall be designed for an operating basis earthquake with a recurrence interval of 150 years and a safety evaluation earthquake with a recurrence interval of 2,500 years.

10. The dam shall be fitted with a floating outlet system with a discharge pipe installed through the base of the embankment to ensure that the water discharged is from the upper surface of the reservoir.

11. The consent holder shall ensure that for purposes of water quality improvements and oxygenation, the water discharged from the base of the embankment flows over a short section of rip rap material before flowing into a small silt pond (this may be the same silt pond as used for the silt control during construction of the embankment) from where it will overflow into the creek bed.

12. The consent holder shall conduct continuous dissolved oxygen monitoring at monitoring point CCMP01 (Coal Creek just prior to the confluence with the Mare Burn at approximately NZTM 2000: E1392985 N4980236) for a one month period following filling of the reservoir to its final height and then annual 7-day continuous dissolved oxygen during the period 1 February to 31 May for the term of the consent to ensure that dissolved oxygen is >7.0g/m3. Information on flow and metrological conditions shall be collected for the period of monitoring.

13. Works shall, as far as practicable, be undertaken when flows in the watercourse are low.

Performance Monitoring

14. The consent holder shall notify the Consent Authority in writing at least ten working days prior to the commencement of the works authorised by this consent.

General

15. Machinery used to undertake the works shall not be operated from within the wet bed of Coal Creek.

16. The consent holder shall ensure that any bed disturbance is limited to the extent necessary to carry out the works.

17. The consent holder shall minimise damage to riparian vegetation when exercising this consent.

18. The consent holder shall ensure that once completed the works authorised by this consent do not cause any flooding, erosion, scouring, land instability or property damage.

19. If the consent holder:
    (a) Discovers koiwi tangata (human skeletal remains), or Maori artefact material, the consent holder shall without delay:
        i) Notify the Consent Authority, Tangata whenua, Heritage New Zealand, and in the case of skeletal remains, the New Zealand Police;
        ii) Stop work within the immediate vicinity of the discovery and within 20 metres around the site to allow a site inspection by the Heritage New Zealand Regional Archaeologist and the appropriate iwi groups or kaitiaki representative who shall determine whether the discovery is likely to be extensive; if a thorough site investigation is required and whether an Archaeological Authority is required;
        iii) Site access shall be facilitated to enable appropriate cultural procedures and tikanga to be undertaken, as long as all statutory requirements under legislation are met (Heritage New Zealand Pouhere Taonga Act 2014, Protected Objects Act 1975);
        iv) Remains are not to be moved until such time as Heritage New Zealand and iwi have responded. Any koiwi tangata discovered shall be handled and removed by tribal elders responsible for the tikanga (custom) appropriate to its removal or preservation; and
        v) Site work shall recommence following consultation with the Consent Authority, Heritage New Zealand, Tangata whenua, and in the case of skeletal remains, the NZ Police, have provided that any relevant statutory permissions have been obtained.
    (b) Discovers any feature or archaeological material that predates 1900, or heritage Material, or disturbs a previously unidentified archaeological or heritage site, the consent holder shall without delay:
        i) Cease work immediately at that place and within 20m around the site;
        ii) The contractor must shut down all machinery, secure the area, and advise the Site Manager;

iii) The Site Manager shall secure the site and notify the Heritage New Zealand Regional Archaeologist and the Consent Authority. Further assessment by an archaeologist may be required;

iv) If the site is of Maori origin, the Site Manager shall notify the Heritage New Zealand Regional Archaeologist, the Consent Authority and the appropriate iwi groups or kaitiaki representative of the discovery and ensure site access to enable appropriate cultural procedures and tikanga to be undertaken, as lond as all statutory requirements under legislation are met (Heritage New Zealand Pouhere Taonga Act 2014, Protected Objects Act 1975). Heritage New Zealand will determine if an archaeological authority under the Heritage New Zealand Pouhere Taonga Act 2014 is required for works to continue; and

v) Site work shall recommence following consultation with the Consent Authority, Heritage New Zealand and iwi, provided that any relevant statutory permissions have been obtained.

20. (a) The consent holder shall provide and maintain in favour of the Consent Authority one or more bonds to secure:

i) The performance and completion of rehabilitation in accordance with the conditions of this consent; and

ii) The carrying out of the monitoring required by the conditions of this consent; and

iii) The remediation of any adverse effect on the environment that may arise from the exercise of this consent.

iv) Compliance with Conditions 20(m) to 20(q) of this consent.

(b) Before the first exercise of this consent, the consent holder shall provide to the Consent Authority one or more bonds required by Condition 20(a).

(c) Subject to the other provisions of this consent, any bond shall be in the form and on the terms and conditions approved by the Consent Authority.

(d) Any bond shall be given or guaranteed by a surety acceptable to the Consent Authority.

(e) The surety shall bind itself to pay for the carrying out and completion of the conditions of consent which are the subject of the bond on default by the consent holder or the occurrence of any adverse environment effect requiring remedy; during or after the expiry of this consent.

(f) The amount of each bond shall be fixed annually by the Consent Authority which will take into account any calculations and other matters submitted by the consent holder relevant to the determination of the amount to be bonded in the Project Overview and Annual Work and Rehabilitation Plan, or otherwise.

(g) The amount of the bond(s) shall include:

i) The estimated costs of complete rehabilitation in accordance with the conditions of consent on the completion of the mining operations proposed for the next year and described in the Project Overview and Annual Work and Rehabilitation Plan.

ii) The estimated costs of:

- Monitoring in accordance with the monitoring conditions of the consent;
- Monitoring for and of any adverse effect of the activity authorised by this consent which may become apparent during or after expiry of this consent;
- Monitoring any rehabilitation required by this consent.

iii) Any further sum which the Consent Authority considers necessary for monitoring and dealing with any adverse effect on the environment that may arise from the exercise of the consent whether during or after the expiry of this consent.

(h) The amount shall be calculated for the duration of this consent and for a period of 20 years after its expiry.

(i) If, on review, the total amount of bond to be provided by the consent holder is greater or less than the sum secured by the current bond(s), the consent holder, surety and the Consent Authority may, in writing, vary the amount of the bond(s).

(j) While the liability of the surety is limited to the amount of the bond(s), the liability of the consent holder is unlimited.

(k) Any bond may be varied, cancelled, or renewed at any time by written agreement between the consent holder, surety and Consent Authority.

(l) The costs (including the costs of the Consent Authority) of providing, maintaining, varying and reviewing any bond shall be paid by the consent holder.

(m) For a period of 20 years from the expiry or surrender of this consent the consent holder shall provide in favour of the Consent Authority one or more bonds.

(n) The amount of the bond to be provided under Condition 20(m) shall include the amount (if any) considered by the Consent Authority necessary for:

i) Completing rehabilitation in accordance with the conditions of this consent.

ii) Monitoring for and of any adverse effect on the environment that may arise from the exercise of the consent.

iii) Monitoring any measures taken to prevent, remedy or mitigate any adverse effect on the environment that may arise from the exercise of this consent.

iv) Dealing with any adverse effect on the environment which may become apparent after the surrender or expiry of this consent.

v) Contingencies.

(o) Without limitation, the amount secured by the bond given under Condition 23(m) may include provision to deal with structural instability or failure, land and water contamination, and the failure of rehabilitation in terms of the rehabilitation objectives and conditions of this consent. Costs shall include costs of investigating, preventing, remedying or mitigating any adverse effect.

(p) The bond(s) required by Condition 20(m) must be provided on the earlier of:

i) 12 months before the expiry of this consent.

ii) Three months before the surrender of this consent.

(q) Conditions 20(c), (d), (e), (h), (i), (j) and (k) apply to the bond(s) required by Condition 20(m).

Review

21. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within three months of each anniversary of the commencement of this consent, for the purpose of:
(a) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the consent; or
(b) ensuring the conditions of this consent are consistent with any National Environmental Standards; or
(c) requiring the consent holder to adopt the best practicable option, in order to remove or reduce any adverse effect on the environment arising as a result of the exercise of this consent.

Notes to Consent Holder

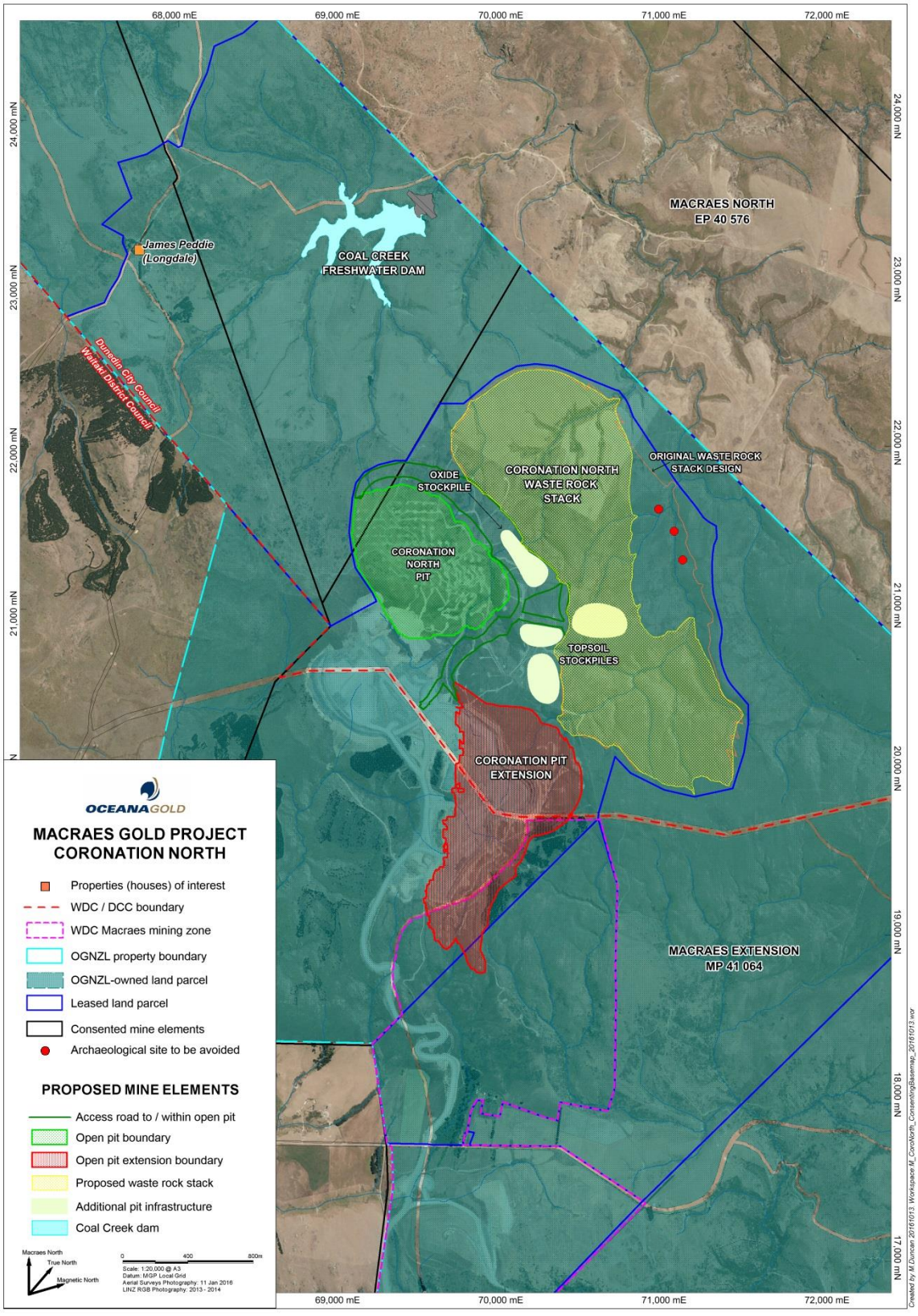
1. *The Consent Holder shall also comply with all notices and guidelines issued by Biosecurity New Zealand, in relations to avoiding spreading the pest organism Didymosphenia geminata known as "Didymo" (refer to www.biosecurity.govt.nz/didymo).*

2. *Under the Heritage New Zealand Pouhere Taonga Act 2014 an archaeological site is defined as any place in New Zealand that was associated with human activity that occurred before 1900 and provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand (see Section 6). For pre-contact Maori sites this evidence may be in the form of Taonga (artefacts) such as toki (adzes) or flake tools as well as bones, shells, charcoal, stones etc. In later sites of European/Chinese origin, artefacts such as bottle glass, crockery etc. may be found, or evidence of old foundations, wells, drains or similar structures. Pre-1900 buildings are also considered archaeological sites. Burials/koiwi tangata may be found from any historic period. Archaeological sites are legally protected under Sections 42(1) & (2) of the Heritage New Zealand Pouhere Taonga Act 2014.*

3. *It is an offence under S87 of the Heritage New Zealand Pouhere Taonga Act 2014 to modify or destroy an archaeological site without an Authority from Heritage New Zealand irrespective of whether the works are permitted or a consent has been issued under the Resource Management Act or Building Act.*

4. *Building Consent for construction of the 'Large Dam' must be sought prior to the exercise of this consent.*

Appendix I
RM16.138.02



Our Reference: A942104

Consent No. RM16.138.03

DISCHARGE PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Oceana Gold (New Zealand) Limited

Address: 22 MacLaggan Street, Dunedin

To discharge silt and sediment to water for the purpose of constructing the Coronation North Waste Rock Stack

For a term expiring 10 years after the commencement of this consent

Location of consent activity: Coronation North Project, approximately 7.5 kilometres to the northwest of the intersection of Macraes Road and Red Bank Road, Macraes Flat.

Legal description of consent location: Pt Section 2 Blk V Highlay SD

Map Reference: Within a 1.5 kilometre radius of NZTM 2000: E1395000 N4979000

Conditions

Specific

1. This consent shall be exercised together with Land Use Consent RM16.138.01, Discharge Permit RM16.138.04, Discharge Permit RM16.138.05, Discharge Permit RM16.138.09, Water Permit RM16.138.20 and any subsequent variations to these consents.

2. The discharge shall occur within and immediately downstream of the area marked Coronation North Waste Rock Stack shown on Appendix I attached.

3. No contaminants other than silt and sediment shall be discharged to water.

4. The consent holder shall take all practicable steps to minimise the release of sediment into water.

Management Plans

5. (a) Prior to exercise of this consent, the consent holder shall submit to the Consent Authority an Erosion and Sediment Control Plan for the Coronation North Project. The Erosion and Sediment Control Plan and plan requirements shall not be of a standard less than that required by the latest revision of the Environment Canterbury document "Erosion and Sediment Control Guideline", except that the sediment retention ponds shall be designed in accordance with Engineering Geology Limited "Coronation North Project Erosion and Sediment Control" report dated 29 April 2016. The Erosion and Sediment Control Plan shall include, but not be limited to:

    i) Details of the design and location of all erosion and sediment control devices including final details of all catchments and sub-catchments of all works related to erosion and sediment control within the Coronation North Project area;
    ii) Key responsibilities relating to implementation of the plan;
    iii) Construction details and specifications of all proposed erosion and sediment control measures e.g. including but not limited to details of all drains and ponds associated with erosion and sediment control and surface water management;
    iv) A construction timetable and details of necessary staging;
    v) Maintenance, monitoring and reporting procedures (e.g. including but not limited to details of parameters to be measured, frequency of monitoring, monitoring locations and corrective actions to be implemented in the event that test results are inconsistent with monitoring requirements and/or cross reference to the Water Quality Management Plan and Compliance and Monitoring Schedule that otherwise provide for all such requirements);
    vi) Emergency response procedures, including response procedures for flood events and silt pond dam failure scenarios; and
    vii) Certification from a suitably qualified engineer, that is approved by the Consent Authority, that the proposed erosion and sediment control measures comply with the conditions of the consent.

    (b) The Erosion and Sediment Control Plan for this consent may be combined with any Erosion and Sediment Control Plan required by any other consent held by the consent holder for mining operations at Macraes Flat.
    (c) The consent holder shall exercise this consent in accordance with the Erosion and Sediment Control Plan.
    (d) Not less than three weeks prior to the commencement of soil disturbance, the consent holder shall submit to the Consent Authority the Erosion and Sediment Control Plan. If required by the Consent Authority, the consent holder shall amend the Erosion and Sediment Control Plan. The consent holder shall exercise this consent in accordance with the Erosion and Sediment Control Plan.
    (e) The consent holder shall review the Erosion and Sediment Control Plan annually and if necessary, update it. Details of the review shall be included in the Project Overview and Annual Work and Rehabilitation Plan. The Consent Authority shall be provided with any updates of the plan within 1 month.

General

6. No lawful take of water is to be adversely affected as a result of any discharge.

7. (a) The consent holder shall provide and maintain in favour of the Consent Authority one or more bonds to secure:
    i) The performance and completion of rehabilitation in accordance with the conditions of this consent; and
    ii) The carrying out of the monitoring required by the conditions of this consent; and
    iii) The remediation of any adverse effect on the environment that may arise from the exercise of this consent.
    iv) Compliance with Conditions 7 (m) to 7 (q) of this consent.

    (b) Before the first exercise of this consent, the consent holder shall provide to the Consent Authority one or more bonds required by Condition 7(a).

    (c) Subject to the other provisions of this consent, any bond shall be in the form and on the terms and conditions approved by the Consent Authority.

    (d) Any bond shall be given or guaranteed by a surety acceptable to the Consent Authority.

    (e) The surety shall bind itself to pay for the carrying out and completion of the conditions of consent which are the subject of the bond on default by the consent holder or the occurrence of any adverse environment effect requiring remedy; during or after the expiry of this consent.

    (f) The amount of each bond shall be fixed annually by the Consent Authority which will take into account any calculations and other matters submitted by the consent holder relevant to the determination of the amount to be bonded in the Project Overview and Annual Work and Rehabilitation Plan required for by condition 6 of RM16.138.05, condition 6 of RM16.138.10, condition 8 of RM16.138.17 and condition 10 of RM16.138.18.

    (g) The amount of the bond(s) shall include:
    i) The estimated costs of complete rehabilitation in accordance with the conditions of consent on the completion of the mining operations proposed for the next year and described in the Project Overview and Annual Work and Rehabilitation Plan.
    ii) The estimated costs of:
        - Monitoring in accordance with the monitoring conditions of the consent;
        - Monitoring for and of any adverse effect of the activity authorised by this consent which may become apparent during or after expiry of this consent;
        - Monitoring any rehabilitation required by this consent.
    iii) Any further sum which the Consent Authority considers necessary for monitoring and dealing with any adverse effect on the environment that may arise from the exercise of the consent whether during or after the expiry of this consent.

    (h) The amount shall be calculated for the duration of this consent and for a period of 20 years after its expiry.

(i) If, on review, the total amount of bond to be provided by the consent holder is greater or less than the sum secured by the current bond(s), the consent holder, surety and the Consent Authority may, in writing, vary the amount of the bond(s).
(j) While the liability of the surety is limited to the amount of the bond(s), the liability of the consent holder is unlimited.
(k) Any bond may be varied, cancelled, or renewed at any time by written agreement between the consent holder, surety and Consent Authority.
(l) The costs (including the costs of the Consent Authority) of providing, maintaining, varying and reviewing any bond shall be paid by the consent holder.
(m) For a period of 20 years from the expiry or surrender of this consent the consent holder shall provide in favour of the Consent Authority one or more bonds.
(n) The amount of the bond to be provided under Condition 7(m) shall include the amount (if any) considered by the Consent Authority necessary for:

i) Completing rehabilitation in accordance with the conditions of this consent.
ii) Monitoring for and of any adverse effect on the environment that may arise from the exercise of the consent.
iii) Monitoring any measures taken to prevent, remedy or mitigate any adverse effect on the environment that may arise from the exercise of this consent.
iv) Dealing with any adverse effect on the environment which may become apparent after the surrender or expiry of this consent.
v) Contingencies.

(o) Without limitation, the amount secured by the bond given under Condition 7(m) may include provision to deal with structural instability or failure, land and water contamination, and the failure of rehabilitation in terms of the rehabilitation objectives and conditions of this consent. Costs shall include costs of investigating, preventing, remedying or mitigating any adverse effect.
(p) The bond(s) required by Condition 7(m) must be provided on the earlier of:

i) 12 months before the expiry of this consent.
ii) Three months before the surrender of this consent.

(q) Conditions 7 (c), (d), (e), (h), (i), (j) and (k) apply to the bond(s) required by Condition 7(m).

8. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within three months of each anniversary of the commencement of this consent, for the purpose of:
(a) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the consent; or
(b) ensuring the conditions of this consent are consistent with any National Environmental Standards; or
(c) requiring the consent holder to adopt the best practicable option, in order to remove or reduce any adverse effect on the environment arising as a result of the exercise of this consent.

Appendix I
RM16.138.03