Otago Regional Council

Section 42A Staff Recommending Report

Application RM20.024
Oceana Gold (New Zealand) Limited

The recommendation in the staff report represents the opinion of the writers and it is not binding on the Hearing Commissioners. The report is evidence and has no greater weight than any other evidence that the Hearing Commissioners will hear and consider.

Elyse Neville
Senior Consents Officer

28 July 2020

Executive Summary

Oceana Gold (New Zealand) Limited (the applicant) have applied for various consents to allow the Deepdell North Stage III Project to be undertaken. This project includes the re-handling of the Deepdell North Waste Rock Stack to the current Deepdell South Pit to allow the formation of the Deepdell North Pit and Deepdell East Waste Rock Stack respectively. It also includes the reclamation of various watercourses within the Deepdell Creek catchment and other activities associated with the project. The applicant is seeking various terms for the 14 consents that have been applied for, that are reflective of the activities. The application has been submitted to Waitaki District Council as well, and is to be heard jointly.

The key issues for this application are:

- Effects on water quality
- Effects on aquatic ecology
- Sizing of the culvert and diversion channels

After assessing the actual and potential effects of the proposed activity and the provisions of the relevant planning documents and submissions, the recommendation of this report is to **approve** the application. The effects of the activities consented by the Otago Regional Council are less than minor, providing the activities are undertaken in accordance with recommended consent conditions and that the proposed mitigation measures put in place.

Report writers

Please note that this report contains the recommendations of the Consent Officer and represents the opinion of the author. It is not a decision on the applications.

My name is Elyse Neville. I am a Senior Consents Officer employed by the Otago Regional Council. I have been employed by the Council as a Consents Officer since May 2014.

I hold the qualifications of a Bachelor of Environmental Management with Honours from Lincoln University. I am an associate member of the New Zealand Planning Institute.

I have been involved with the Oceana Gold (New Zealand) Limited application since it was lodged and received.

OTAGO REGIONAL COUNCIL
SECTION 42A REPORT

ID Ref:	**A1348408**
Application Nos:	**RM20.024.01-14**
Prepared For:	**Hearing Commissioner**
Prepared By:	**Elyse Neville, Senior Consents Officer**
Date:	**28 July 2020**

Subject: Section 42A Recommending Report – RM20.024

1. Purpose

This report has been prepared under Section 42A of the Resource Management Act 1991 (RMA) to assist in the hearing of the application for resource consent made by Oceana Gold (New Zealand) Limited (the Applicant). Section 42A allows local authorities to require the preparation of such a report on an application for resource consent and allows the consent authority to consider the report at any hearing.

The Hearing Commissioner has directed in their Minute 1 dated 3 July 2020 that a Section 42A Report be made available. The purpose of the report is to assist the Hearing Commissioner in deciding on the application.

Background Information

Applicant: Oceana Gold (New Zealand) Limited

Applicant's agent: Phil Petersen, Mitchell Daysh

Site details: Macraes Flat, approximately 5.3 kilometres north east of the intersection of Horse Flat Road and Macraes Road

Map references (NZTM 2000):

Deepdell North Stage III Pit: E1397786 N4975675

Deepdell East Waste Rock Stack: E1398218 N4975926

Legal Descriptions:

Deepdell North Stage III Project Element	Legal description	Record of Title	Owner
Deepdell North Stage III Pit	Part Section 12 Block VII Highlay SD	OT16B/855	Applicant
Horse Flat Waste Rock Stack	Part Section 11 Block VII Highlay SD	OT16B/855	Applicant
	Section 10 Block VII Highlay SD	OT18C/1099	Applicant
Deepdell South Backfill	Part Section 1 Block VIII Highlay SD	OT16B/854	Applicant

	Part Section 12 Block VII Highlay SD	OT16B/855	Applicant

Reason: To undertake activities associated with the mining of gold under the Deepdell North Stage II Project

Previous permits: None applicable to this application

Notification: The application was approved to be publicly notified under delegated authority on 2nd May 2020.

Site visit: Site visits for this application were undertaken on the 17th February 2020 and 16th June 2020

The consents sought for the Deepdell North Stage III Project are summarised below:

Consent Number and Type	Activity
RM20.024.01: Water Permit	Take surface water and groundwater from the Deepdell North Stage III Pit for the purpose of dewatering and for dust suppression
RM20.024.02: Discharge Permit	To discharge rainfall run off water and associated contaminants to land in a manner that may enter groundwater from the mined pit surface within Deepdell North Stage III pit for the purpose of constructing and operating and open pit mine.
RM20.024.03: Land Use Consent	To disturb, deposit onto or into an approximately 480 metre length of the bed of an unnamed tributary of Camp Creek for the purpose of establishing a drainage network and stockpiles.
RM20.024.04: Water Permit	To permanently divert water from an unnamed tributary of Camp Creek for the purpose of establishing a drainage network and stockpiles.
RM20.024.05: Land Use Consent	To disturb a contaminated site for the purpose of creating Deepdell North Stage III Pit.
RM20.024.06: Land Use Consent	To permanently reclaim the bed of an unnamed tributary of Camp Creek, and an unnamed tributary of Highlay Creek for the purpose of creating a drainage network, stockpiles and the a waste rock stack
RM20.024.07: Water Permit	To dam water in Deepdell North Stage III Pit for the purpose of creating the Deepdell North Pit Lake
RM20.024.08: Water Permit	To take surface water for the purpose of creating the Deepdell North Pit Lake
RM20.024.09: Discharge Permit	To discharge waste rock to land where it (and the resulting contaminants) may enter surface and groundwater and to discharge water from the waste rock stack, silt ponds and pit to land in a manner that may enter water for the purposes of constructing and operating a waste rock stack and dust suppression.
RM20.024.10: Land Use Consent	To disturb, deposit, onto or into an approximately 350 m of the ephemeral bed and approximately 130 metres of the intermittent bed of an unnamed tributary of Highlay Creek for the purposes of constructing a waste rock stack

RM20.024.11: Land Use Consent	To disturb the bed, deposit into the bed and place a 51 metre long culvert and embankment structure into the bed of an unnamed tributary of Highlay Creek for the purposed of realigning Horse Flat Road
RM20.024.12: Discharge Permit	To discharge contaminants from mining operations and post mining rehabilitation to air for the purpose of undertaking mining operations.
RM20.024.13: Water Permit	To take surface water from silt ponds associated with the Deepdell North Stage III project for the purpose of dust suppression
RM20.024.14: Discharge Permit	To discharge contaminants and water from silt ponds to unnamed tributaries of Highlay Creek, Camp Creek and Deepdell Creek for the purpose of operating silt ponds for the Deepdell North Stage III Project.

2. Key Issues

I believe that the key issues with this application in relation to the Otago Regional Council are:

- Effects on water quality
- Effects on aquatic ecology
- Sizing of the culvert and diversion channels

3. Summary of Recommendation

After assessing the actual and potential effects of the applications and submissions and considering all of the matters in section 104 of the Resource Management Act 1991 the recommendation of this report is that this application be **approved**, subject to the conditions and for the recommended terms.

Please note that this report contains the recommendations of the Consent Officer and represents the opinion of the writer. It is not a decision on the application.

4. Description of the Proposed Activity

4.1 Overview

The Macraes Gold Project (MGP) is located approximately 30 kilometres (km) to the north west of Palmerston, in East Otago. The existing mining operation is located at its closest 1 to 2 km east of the Macraes Township and is predominantly surrounded by farmland. The Macraes township is comprised of approximately 15 houses, a school and a historic hotel.

The Macraes Gold Project is the largest goldmine in New Zealand and since it was first commissioned in 1990, over 5 million ounces of gold have been produced. The existing and consented mining infrastructure at MGP includes:

- Various open pits
- The Frasers Underground mine
- Numerous waste rock stacks, both active and rehabilitated
- A network of haul roads and service tracks

- A processing plant
- Tailings storage facilities and
- A comprehensive network of water management infrastructure.

The applicant is continually reviewing the life of the MGP in light of current knowledge of the gold resource and the economic value of mining. Recent exploration success has highlighted opportunities to re-mine and expand a previously mined area currently known as Deepdell North Waste Rock Stack. Immediately to the east of this is the Deepdell South Pit. Both of these features sit within the existing footprint, and are to the north west of the MGP, in between the processing plant and the Coronation Project. The applicant is therefore seeking consent to undertake activities associated with a new gold mining development at its Macraes Gold Project, to be known as the Deepdell North Stage III Project (DDNSIII).

The project includes:

- Deepdell North Stage III Pit – this is a pit that has been previously mined, and is currently backfilled with waste rock to form the Deepdell North Waste Rock Stack. This is currently rehabilitated with pasture and has a footprint 18.7 hectares (ha), the DDNSIII project involve re-handling this waste rock to the new waste rock stack to create Deepdell North Stage III Pit, and will result in the previous footprint of the open pit to be expanded to 38 ha.
- The Deepdell East Waste Rock Stack (Deepdell East WRS) will involve backfilling of the existing Deepdell South Pit with the re-handled material from the old Deepdell North Waste Rock Stack, and will expand out to the north of the project site. The applicant intends to re-establish the original ground contours when backfilling Deepdell South Pit. At the waste rock stack northern extent it will cross Horse Flat Road, meaning Horse Flat Road will need to be realigned around the waste rock stack. The Deepdell East WRS has a footprint of 70.6 ha and a storage capacity of 59.5 Million tonnes (Mt)

The DDNSIII Pit is estimated to contain approximately 6.5 Mt of ore, and will produce 98.4 Mt of backfill waste, 2.4 Mt of in-situ oxide waste and 41.5 Mt of fresh waste. Total movement of material will be approximately 57 Mt and the project is expected to take approximately 2 years to complete.

The mining methods and means of managing environmental effects will be similar to those used for the existing and consented activities at the MGP. Figure 1 below shows an overview of the layout of the DDNSIII project. Consents needed relate to:

- Sections of tributaries to both Camp Creek and Highlay Creek will be permanently diverted to allow for the proposed waste rock stack, and for stockpiles and cut off drains;
- A culvert will be placed in a tributary of Highlay Creek to allow for the realignment of Horse Flat Road;
- Access will be via the existing Coronation haul road and Deepdell South haul road.
- The existing Processing Plant and tailings storage facilities will be used to process ore from the DDNSIII Pit and to manage processing waste.
- The mining rate at the MGP when Deepdell North Stage III is being undertaken will be similar to current and past operations at the MGP site.
- Water is to be taken from the Deepdell North Stage III Pit and associated silt ponds and used for dust suppression at the DDNSIII project site.
- The DDNSIII project will be progressively rehabilitated with exotic pasture seed that is compatible with existing vegetation patterns on the site, to allow the ground to be returned to agricultural pasture. At closure a pit lake will be formed, and the haul road will be rehabilitated.
- The DDNSIII project will drain from various associated silt ponds to the Deepdell Creek catchment, which is a tributary of the Shag River/Waihemo River.

- The realignment of approximately 900 metres of Horse Flat Road is required to bypass the northern extent of the proposed Deepdell east Waste Rock Stack and this includes a 51 metre long, 900 mm diameter culverted vehicle crossing embankment in an unnamed tributary of Highlay Creek.
- Upon completion of mining surface flows will be diverted from the Deepdell East WRS into the Deepdell North Stage III Pit to create a lake (Deepdell North Pit Lake).

Consents already held

- Silt ponds are required to capture seepage from the waste rock stack, and to hold water taken from the pit during dewatering. Water Permit 2010.155.V1, Water Permit 2010.156.V1, Water Permit 2010.157.V1, Discharge Permit 2010.158.V1 and Discharge Permit 2010.159.V1. These consents are due to expire on the 20th December 2020, and replacement consent is in the processing of being applied for. Surface water runoff around the pits, waste rock stack, and haul road will be managed with diversion drains and silt control ponds located in gullies downstream of disturbed areas.

- Consent is already held by the applicant to create a freshwater dam in Camp Creek. Water Permit RM10.351.35, Water Permit RM10.351.36, Water Permit RM10.351.37, Water Permit RM10.351.38, Land Use Consent RM10.351.39 were obtained during a previous round of consenting, but the dam is yet to be constructed. This freshwater dam forms part of the applicant's proposed mitigation measures to dilute the concentrations of various contaminants within the Deepdell Creek catchment.

4.3 Application Documents

The applicant has provided the following documentation with the application:

- Oceana Gold (NZ) LTD Deepdell North Stage III Project Assessment of Environmental Effects dated 6 December 2019;
- Appendix A: Records of Title
- Appendix B: Plan Drawings of Proposal
- Appendix C: Relevant Existing Consent Certificates
- Appendix D: Terrestrial Ecology Reports
- Appendix E: Water Quality Effects Assessment
- Appendix F: Noise Assessment Report
- Appendix G: Air Blast and Vibration Report
- Appendix H: Heritage Report
- Appendix I: Health, Safety and Environment Compliance Standard
- Appendix J: Geotechnical Assessment Reports for Pit and WRS
- Appendix K: Road Embankment and Culvert Report
- Appendix L: Air Effects Report
- Appendix M: Landscape, Natural Character and Visual Amenity Assessment Report
- Appendix N: Rehabilitation Report
- Appendix O: Aquatic Ecology Effects Assessment
- Appendix P: Traffic Assessment Report
- Appendix Q: Economic Assessment
- Appendix R: Erosion and Sediment Control Report
- Appendix S: Proposed Consent Conditions
- Appendix T: Groundwater Assessment Report

4.4 Notification and Submissions

The applicant requested public notification of this application. Public notification was approved under delegated authority, and the application was notified on 2nd May 2020 and closed on the 29th May 2020. Four submissions were received by the Otago Regional Council, 2 opposing the application, one neutral and one supporting the application. Of the 4 submissions received, 3 submitters stated that they wished to be heard.

Aukaha

Aukaha submitted on behalf of Kāti Huirapa Rūnanga ki Puketeraki and Te Rūnanga o Ōtākou. Their submission was neutral to the application. They stated that they were seeking to work with the applicant outside of the consent process to address potential effects of the application prior to the hearing and/ or granting of any resource consents, to allow any proposed measures to be incorporated into consent conditions.

Aukaha state that the Kai Tahu ki Otago Natural Resource Management Plans 1995 and 2005 are the principal resource management planning documents for Kai Tahu ki Otago. they express Kai Tahu ki Otago values, knowledge and perspectives on natural resource and environmental management issues. The mining activities of groundwater discharges, treated mine water discharges, stormwater runoff, diversion of watercourses upstream and downstream of the mines are considered to be issues by Aukaha.

- Adverse effects on mauri are not addressed by the mitigation measures proposed by the applicant.
- Cumulative effects are difficult to assess and address the cumulative effects of the Macraes Gold Project on cultural values as each component has been consented separately.
- Kaitiakitaka is the inherited responsibility of those who hold mana whenua to ensure that the mauri of the natural resources of the area is sustained, and available for use now and in the future. Concern surrounds the long term effects of the project after its completion.
- Terms of consent are no longer than 25 years.
- Consent conditions include controls that ensure that the closure of the project site is managed and appropriately, e.g. managing long term discharges and ecological stability.
- The Heritage New Zealand Accidental Discovery Protocol is included in consent conditions to ensure that any unidentified culturally significant sites are protected.
- That a condition is included requiring the consent holder to comply with any Ecological Management Plan and Ecological Enhancement Area Management Plan (EEAMP) written for the project.

Department of Conservation

The Director General of Conservation submit in opposition to the application. The general concerns with the proposal are:

- The details of the proposed protection mechanisms and future management of the proposed offset areas, including objective and management thresholds.
- The need for more specific details in the EEAMPs to refine matters such as objectives, performance standards, intervention thresholds, monitoring, adaptive management conditions and the need to comply with the EEAMPs at all times.
- The loss of lizard populations and measures to enhance populations and habitat carrying capacities
- The loss of indigenous vegetation on the project impact area, with subsequent loss of ecosystem types and loss of threatened plants with no ability for recovery or restoration.
- The lack of assessment of the effects of the proposal on invertebrates, particularly beetles, butterflies and moths and the need for an invertebrate index
- The loss of habitat and the effects on the hydrology on freshwater species, particularly Kōura and Taieri Flathead Galaxias present, and ensuring best practice is applied to avoid contamination issues for freshwater values.

Macraes Community Incorporated

Macraes Community Incorporated (MCI) submitted in opposition to the application, in relation to dust, noise, water quality, rehabilitation and roading. They are concerned with the applicant's past and present lack of monitoring, and the failure of the applicant to meet past resource consent conditions. MCI state that the lack of accountability is having a negative effect on the Macraes Community.

MCI state that they oppose the land being put into covenants managed by the Department of Conservation leading to the loss of productive farmland and farming infrastructure. Farmland that has been put into covenants is opposed for a large number of reasons by MCI, including the lack of past and present pest and weed management, issues and increased liability for

neighbouring farmers in relation to burning consents and the economic effects that flow on from this.

MCI would like to see:

- that the council be held accountable for insufficient monitoring conditions
- rehabilitation is done to a more satisfactory level
- transparency around bonding conditions to future proof the community should the applicant default on their responsibilities
- transparency around tailings and rock stack storage facilities. MCI would like to see past pits filled before new dams and waste rock stacks are created.

Appin Farms Limited

Appin Farms Limited (Appin) submitted in support of the application. They have been consulted with by the applicant regarding the effects of the proposed project, and the applicant has proposed to address the adverse effects on Appin, primarily by reinstating the woolshed and associated facilities that are currently within the footprint of the proposal, outside of the project area. Appin states that this is to be the subject of a private agreement between themselves and the applicant.

Effects relating to noise, hours of operation, visual pollution, access, road use and safety will be address in the Waitaki District Council S42A report.

5. Description of the Environment

5.1 Description of the Site and Surrounding Environment

The Macraes Site

The site sits within an existing mining site. The Macraes mining site is in a rural upland landscape of rolling hills of moderate relief and with characteristic broad ridge crests. Prominent regional landscape features include the Nenthorn Valley, Taieri Ridge, Taieri Valley and the Rock and Pillar Range, which lie to the south and west. The Shag (Waihemo) Valley and Kakanui Mountains, including the Horse Range are to the north, and the coastal hills and extinct volcanic cones of Palmerston and Waikouaiti to the east and southeast.

The DDNSIII Site

The DDNSIII project area is steep to rolling country, rising steeply from the north side of Deepdell Creek to a relatively flat plateau on either side of Horse Flat Road and then rising steeply again to the Taieri Ridge.

The current mining components of the Macraes Operation in the immediate vicinity of the DDNSIII project area are the current Coronation haul road, existing Deepdell Waste Rock Stack (WRS) that was completed in 2003, and the existing, mined Deepdell South Pit. The Golden Point Road section of the haul road was built to access the Deepdell South Pit and the associated waste rock stack, and the haul road from Horse Flat Road up to the Coronation and Coronation North pits has been in place since construction began on that in July 2014.

The existing Deepdell WRS sits on the terrace above Deepdell Creek and a residual section of haul road runs from this WRS down and across to the Deepdell South Pit, which has been excavated into the terrace face just upstream from the Golden Point Historic Reserve.

The proposal is located on a minor catchment boundary between Deepdell Creek and one of Deepdell Creeks tributaries, Highlay Creek.

5.1.1 Meteorology and Climate

Meteorological variables are measured at a climate station located on Golden Point Road approximately 5.5 km south of the existing Coronation Operation. Wind blows predominantly from the south westerly and north westerly direction. The strongest winds also come from these directions. Winds from the north easterly direction tend to be lighter and less frequent and winds from the south easterly direction are rare. The average wind speed measured between 2012 and 2018 (inclusive) was 3.3 metres per second (m/s) and calm conditions only occurred for 3.0 % of the time. Winds exceeding 5 m/s, which is the critical wind speed for the pick up of dust from unconsolidated surfaces, occurred for 20.1% of the time.

The relatively high frequency of winds exceeding 5 m/s and the relatively low rainfall make the area susceptible to the generation of dust.

The average annual rainfall measured by the applicant at the Golden Point Climate station between 2012 and 2018 (inclusive) was 550 millimetres (mm).

5.1.2 Surrounding Land Use

Pastoral farming is the dominant land use in the area, followed by gold mining. Gold mining has a history in the area that dates to the 19th Century, with old workings, buildings and other historic artefacts spread across the area. Macraes is rural and on the eastern edge of the schist country and the broader historic goldfields of Central Otago.

The Macraes village has its own hotel, school, churches, cemeteries and small clusters of houses with various outbuildings and shelter belts. The village sits in out of the way and various local roads lead to even more isolated farms and homesteads.

5.2 Schedule 1 of the Regional Plan: Water

The RPW outlines the natural and human use values of various watercourses throughout the Otago Region. Tributaries of Highlay Creek and Camp Creek will be affected by this application as will Deepdell Creek. Highlay Creek and Camp Creek are both tributaries to Deepdell Creek, which itself is a tributary of the Shag River/Waihemo. Highlay Creek and Camp Creek are not identified within this schedule, however Deepdell Creek is identified in this schedule for having the following natural and ecosystem values:

- Absence of aquatic pest plants identified in the Pest Plant Management Strategy for the Otago Region.
- Presence of indigenous fish species threatened with extinction.
- Significant habitat for flathead galaxiid.

Schedule 1AA of the RPW identifies Otago resident native freshwater fish and their threat status. The Deepdell Creek catchment is known to provide habitat for the Taieri flathead galaxias and kōura, neither of which are listed within this schedule.

Schedule 1B of the RPW identifies rivers where the water taken is used for public water supply purposes and Schedule 1C identifies registered historic places. There are no Schedule 1B or 1C values in close proximity to the proposed activity.

Schedule 1D of the RPW identifies the spiritual and cultural beliefs, values and uses associated with water bodies of significance to Kai Tahu. Deepdell Creek is not identified as having any Schedule 1D values, however it is a tributary of the Shag River/Waihemo, which is identified as having the following values:

- **Kaitiakitanga:** the exercise of guardianship by Kai Tahu, including the ethic of stewardship.
- **Mauri:** life force.
- **Waahi tapu and/or Waiwhakaheke:** sacred places; sites, areas and values of spiritual values of importance to Kai Tahu.
- **Waahi taoka:** treasured resource; values, sites and resources that are valued.
- **Mahika kai:** places where food is procured or produced.
- **Kohanga:** important nursery/spawning areas for native fisheries and/or breeding grounds for birds.
- **Trails:** sites and water bodies which formed part of traditional routes, including tauraka waka (landing place for canoes);
- **Cultural materials:** water bodies that are sources of traditional weaving materials (such as raupo and paru) and rongoa (medicines); and
- **Waipuna:** sources of water highly regarded for their purity, healing and health-giving powers.

5.4 Regionally Significant Wetlands

A Regionally significant wetland has been defined in policy 10.4.1A of the RPW as any wetland that is:

a) Listed in schedule 9 of the RPW, and mapped in maps F1-F63; or
b) Within a wetland management area listed in Schedule 9 and mapped in maps F1-F63; or
c) Higher than 800 metres above sea level.

The project is located below 800 metres above sea level and is not in the vicinity of any wetland identified or wetland management area identified in Schedule 9. Therefore, there will be no effect on any Regionally Significant Wetland.

6. Status of the Application

The project involves several activities which trigger rules in the Regional Plan: Water for Otago (RPW), the Regional Plan: Waste for Otago (RPWa) and the Regional Plan: Air for Otago (RPA). Full details of the individual consents, the activities and their activity status are listed below:

Deepdell North Stage III Pit

Consent Number and Type	Activity	Permitted Rule	Rule and Plan	Activity Status
RM20.024.01: Water Permit	Take surface water and groundwater from the Deepdell North Stage III Pit for the purpose of dewatering and for dust suppression	12.1.2.5 (RPW) 12.2.2.6 (RPW)	Surface water Take: RPW Rule 12.1.5.1 Groundwater Take: RPW Rule 12.2.4.1	Discretionary Discretionary

RM20.024.02: Discharge Permit	To discharge rainfall run off water and associated contaminants to land in a manner that may enter groundwater from the mined pit surface within Deepdell North Stage III pit for the purpose of constructing and operating and open pit mine.	12.B.1.10 (RPW)	Discharge of contaminants to land: RPW Rule 12.B.4.2 Discharge of contaminants to land: RPWa Rule 6.6.1(1)	Discretionary Discretionary
RM20.024.03: Land Use Consent	To disturb, deposit onto or into an approximately 480 metre length of the bed of an unnamed tributary of Camp Creek for the purpose of establishing a drainage network and stockpiles.	N/A	RPW Rule 13.5.3.1	Discretionary
RM20.024.04: Water Permit	To permanently divert water from an unnamed tributary of Camp Creek for the purpose of establishing a drainage network and stockpiles.	12.3.2.1	RPW Rule 12.3.4.1	Discretionary
RM20.024.05: Land Use Consent	To disturb a contaminated site for the purpose of creating Deepdell North Stage III Pit.	N/A	RPWa Rule 5.6.1	Discretionary
RM20.024.06: Land Use Consent	To permanently reclaim the bed of an unnamed tributary of Camp Creek, and an unnamed tributary of Highlay Creek for the purpose of creating a drainage network, stockpiles and the a waste rock stack	N/A	RPW Rule 13.5.3.1	Discretionary
RM20.024.13	take of water from the silt ponds associated with the Deepdell North Stage III project for the purpose of dust suppression		RPW Rule 12.1.5.1	Discretionary

Deepdell North Stage III Pit Lake

Consent Number and Type	**Activity**	**Permitted Rule not met**	**Rule and Plan**	**Activity Status**

RM20.024.07: Water Permit	To dam water in Deepdell North Stage III Pit for the purpose of creating the Deepdell North Pit Lake	12.3.2.1 (RPW)	RPW rule 12.3.4.1	Discretionary
RM20.024.08: Water Permit	To take surface water for the purpose of creating the Deepdell North Pit Lake	12.1.2.5 (RPW)	RPW Rule 12.1.5.1	Discretionary

Deepdell East Waste Rock Stack and Deepdell South (Pit Backfill) Waste Rock Stack

Consent Number and Type	Activity	Permitted Rule	Rule and Plan	Activity Status
RM20.024.09: Discharge Permit	To discharge waste rock to land where it (and the resulting contaminants) may enter surface and groundwater and to discharge water from the waste rock stack, silt ponds and pit to land in a manner that may enter water for the purposes of constructing and operating a waste rock stack and dust suppression.	12.B.1.10 (RPW)	Discharge of contaminants to land: RPW Rule 12.B.4.2 Discharge of contaminants to land: RPWa Rule 6.6.1(1)	Discretionary Discretionary
RM20.024.10: Land Use Consent	To disturb, deposit, onto or into an approximately 350 m of the ephemeral bed and approximately 130 metres of the intermittent bed of an unnamed tributary of Highlay Creek for the purposes of constructing a waste rock stack	N/A	RPW rule 13.5.3.1	Discretionary
RM20.024.11: Land Use Consent	To disturb the bed, deposit into the bed and place a 51 metre long culvert and embankment structure into the bed of an unnamed tributary of Highlay Creek for the purposed of realigning Horse Flat Road	13.2.1.7B (RPW)	RPW rule 13.2.3.1	Discretionary

RM20.024.14: Discharge Permit	To discharge contaminants and water from silt ponds to unnamed tributaries of Highlay Creek, Camp Creek and Deepdell Creek for the purpose of operating silt ponds for the Deepdell North Stage III Project.	12.B.1.10 (RPW)	Discharge of contaminants to land: RPW Rule 12.B.4.2	Discretionary

Air

Consent Number and Type	Activity	Permitted Rule	Rule and Plan	Activity Status
RM20.024.12: Discharge Permit	To discharge contaminants from mining operations and post mining rehabilitation to air for the purpose of undertaking mining operations.	16.3.5.3 (RPA)	RPA Rule 16.3.5.9	Discretionary

Overall, the application is considered to be a **discretionary activity.**

Post notification amendment
Applications RM20.024.01-12 were notified, and after notification it became apparent that for ease of use two of the consents needed to be split, as follows:

Water Permit RM20.024.13: Split dust suppression take from Water Permit RM20.024.01 to allow for the take and retake of water from the silt ponds for dust suppression

Discharge Permit RM20.024.14: split the discharge from the silt ponds from the waste rock Discharge Permit RM20.024.09. The description of RM20.024.09 has also been amended to accurately reflect the activities that the applicant has applied for in this discharge permit.

Both of these activities were implied in the notification, and will not impact on the submissions received. This change is simply an administrative change, and the effects were described in the initial application. There is no need to renotify this minor amendment.

6.1 Permitted Activities

The applicant has stated that they will operate in accordance with the following permitted activity rules:

- Rule 12.3.2.1 of the RPW for the diversion of clear water around the proposal and the diversion of runoff water from the waste rock stack to the Deepdell North Silt Pond.
- Rule 12.3.2.1 of the RPW for the permanent diversion of water in an unnamed tributary of Highlay Creek for the purpose constructing the Deepdell East WRS.

Therefore consent is not required for these activities.

7. Assessment of Environmental Effects

7.1 Surface Water Quality

Surface water quality has been analysed by Dr Michael Greer for Aquanet Consulting Limited (Aquanet) on behalf of the Council. Mr James Blyth for Taylor Collaborations Limited (Collaborations) have undertaken an assessment of the Goldsim model used by the applicant to illustrate the predicted surface water quality and flow within the DDSNIII project.

Gold Sim Model Overview
The Gold Sim model has been designed to represent current mining state while also assessing the impact of future mine development (DDNSIII project) on hydrology and water quality, to test how this development may impact on the applicant's ability to meet existing resource consent limits in downstream locations during operation and post closure.

Overall, Mr Blyth found that the model was suitably calibrated for flow and water quality, based on the data available and presented by the applicant. However, Mr Blyth recommends that further monitoring and collection of hydrological and water quality data is undertaken as this will help validate the models input assumptions while also providing additional information to improve the model's performance in the future.

Water Quality in Deepdell Creek and Shag River
The applicant has proposed the same compliance criteria (detailed in appendix S of the application) as in existing consents already held by the applicant. Dr Greer states when those consents are considered as part of the existing environment, the proposed activity will not result in any further degradation of pH, arsenic, cyanideWAD, copper, iron, lead, zinc and sulphate. However the compliance criteria for copper and zinc in Deepdell Creek and the Shag River/Waihemo and the arsenic criteria for Deepdell Creek exceed the default guideline values (DGV) set out in the Australian and New Zealand Guidelines for fresh and Marine Water Quality (ANZWQ) for the protection of 80% of species, and would allow for significant adverse effects in an unimpacted watercourse. In addition, the predicted increase in nitrate concentrations suggested by the applicant's Water Quality Effects Assessment and Ecological Effects Assessment could well increase the risk of periphyton growth to the extent that adverse effects could occur. Dr Greer states that should the compliance limits proposed by the applicant be imposed, there would be potential for adverse effects on the water courses if they are reached. However, the applicant's modelling has shown that the actual concentrations that are expect are much lower. A revised compliance criteria has been recommended, should this be adopted effects on the environment would then be expected to be minor.

Water Quality in Highlay Creek
Contaminants that will be discharged from the proposed Deepdell East WRS will enter a western tributary of Highlay Creek via a silt pond and to groundwater through seepage. A present, these watercourses are home to kōura and the threatened Taieri flathead galaxias and a 'good' condition macroinvertebrate community. Dr Greer states that existing compliance standards for Deepdell Creek at site DC08 will not protect against significant adverse effects in Highlay Creek. Specifically, they would allow arsenic, copper and zinc concentrations in Highlay Creek to exceed the ANZWQ DGVs for the protection of 80% of species, when concentrations of those parameters within Highlay Creek are currently sufficiently low to protect 95% of species. However, the water quality analysis provided by the applicant does show that the discharge of contaminants from the proposed Deepdell East Waste Rock is not likely to cause significant adverse toxicity effects in Highlay Creek or its tributary.

Dr Greer states the expected increase in nitrogen may increase the risk of plant growth significantly. Table 1 below provides the current and future contaminant concentrations in

Highlay Creek and suggested compliance criteria standards for HC02. Dr Greer states that while a nitrate standard for toxicity has been recommended in Table 1 it should be noted that this will not control for periphyton growth. Looking at the expected nitrate concentrations, it is clear that the activity will increase nutrients to the extent that the risk of periphyton growth will be significantly increased. Dr Greer recommends that periphyton targets or standards should be considered as a way of managing potential periphyton growth. If these proposed compliance criteria are adopted, it would be expect that the effects on the watercourses would be minor.

Table 1: Current and future contaminant concentrations in Highlay Creek and suggested compliance criteria (Note standards are based on existing species protection thresholds)

Parameter	DC08 standard	Loop Rd. standard	Current 95th %ile conc. Highlay Creek	Future 95th %ile conc. Highlay Creek	Current species protection level Highlay Creek	Future species protection level Highlay Creek	Rec. stand. (protection level)	% species protection guidelines (ANZWQ/Hickey (2013))			
								80%	90%	95%	99%
Arsenic	0.15	0.01	0.002	0.013	95%	95%	0.013 (95%)	0.14	0.042	0.013	0.0008
Cyanide	0.1	0.1	-	-	N/A	N/A	0.018 (80%)	0.018	0.011	0.007	0.004
Copper	0.009	0.009	0.0013	0.001	95%	99%	0.0014 (95%)	0.0025	0.0018	0.0014	0.001
Lead	0.0025	0.0025	0.0001	0.002	99%	95%	0.0034 (95%)	0.0094	0.0056	0.0034	0.001
Zinc	0.12	0.12	0.0025	0.002	99%	99%	0.008 (95%)	0.031	0.015	0.008	0.0024
Nitrate (med./95th%ile)	N/A	N/A	0.09/0.41	0.9/4.1	99%	95%	2.4/3.5 (95%)	1.0/1.5	2.4/3.4	3.8/5.6	6.9/9.8

Nitrate

The applicant has identified that the mining activities could contribute to downstream nitrogen loading the receiving waterbodies. The applicant engaged GNS who have undertaken preliminary isotopic test work on nitrogen, which indicates the sources of nitrogen are from incomplete combustion of explosives and nitrogen found in host rock. On behalf of the applicant, Ryder Consulting Limited (Ryder) have undertaken a study on the ecological values of Deepdell Creek and the Shag River/Waihemo, and recommend that the National Policy Statement for Freshwater Management (NPSFM) Attribute B value for Nitrate-N (median = 2.4 mg/L, 95th percentile = 3.5 mg/L) be used as an appropriate target for the Deepdell Creek and Shag River/Waihemo.

The applicant states that measured values for Nitrate-N and Ammoniacal-N for the last 12 months have been in compliance with Attribute B for both sites. However, Dr Greer states that based on the nitrate data presented in the applicant's water quality effects assessment, such standards would allow for a significant increase in nitrate in both the Deepdell Creek and the Shag River/Waihemo as the maximum concentration at compliance sites on both waterways in 2018-2019 was <0.5 mg/L. Dr Greer recommends that nitrate limits should be set based on periphyton growth, or at a maximum the NPS-FM attribute state A thresholds (median =1.0 mg/L 95th percentile = 1.5 mg/L).

Dr Greer also recommend that limits are set for both dissolved inorganic nitrogen (DIN) and dissolved reactive phosphorous (DRP), as both contribute to periphyton growth. Dr Greer states that it would not be appropriate in this context to use the attribute standards set out in the NPS-FM 2019 draft for DIN and DRP. The approach used to develop these attribute states

is yet to gain widespread acceptance in the scientific community, and the Ministry for the Environment has now confirmed that these attribute states will not be included in the NPS-FM 2020.

The applicant has proposed installing the Camp Creek Dam (already consented) that would collect clean, freshwater for discharge to the Deepdell Creek catchment to reduce contaminant levels within the watercourse during times of low flow. This is discussed further in section 6.4 below

Overall, it is considered that the discharge to Deepdell Creek and Shag River/Waihemo are unlikely to cause toxicity effects on aquatic life that are greater than those allowed by existing consents. However, appropriate compliance criteria are required for Highlay Creek to prevent significant adverse effects and will therefore need to be lower than those currently set for Deepdell Creek and the Shag River.

Increases in nitrate in Highlay Creek, Deepdell Creek and Shag River/Waihemo as a result of the DDNSIII project could increase the risk of nuisance periphyton growth. Appropriate compliance criteria are required to ensure that blooms do not cause significant adverse effects on aquatic life.

7.2 Groundwater

Groundwater Quality

Mr Peter Cochrane for Tonkin and Taylor (T&T) has undertaken an assessment of groundwater quality on behalf of council. They state that the DDNSIII Project has the potential to impact groundwater quality through the infiltration of seepage from the waste rock stacks into groundwater and through discharge from the pit lake. The applicant's groundwater assessment report concluded that the potential adverse effects on groundwater quality is expected to be less than minor. Mr Cochrane agrees with this conclusion.

Groundwater Levels

A previous evaluation of the Deepdell Creek catchment groundwater recharge rates estimated regional groundwater recharge to be approximately 32 millimetres per year.

Groundwater levels in the vicinity of the proposed Deepdell North Stage III Pit have been monitored monthly in observation bores since 2001. The monitoring data shows that the existing groundwater is relatively close to the surface on the northern upslope side of the pit, and deeper on the southern downslope side.

The applicant's groundwater assessment report concluded that the effects on groundwater levels would be constrained to within the boundaries of the land owned by the applicant, and as there are no other identified groundwater users in the area, no other groundwater users are expected to be impacted by dewatering activities. Mr Cochrane agrees with this conclusion.

Overall, Mr Cochrane concluded that there would be no more than minor effects on groundwater providing proposed mitigation measures and appropriate consent conditions were in place.

7.3 Aquatic Ecology

The proposed activities will occur in the Deepdell Creek Catchment, which has already been subject to existing mine developments. Deepdell Creek and its tributaries are known to be habitat for a threatened fish, the Taieri flathead galaxias and also for the at risk kōura, the freshwater crayfish. Two major tributaries of Deepdell Creek, Highlay Creek and Camp Creek are within the project footprint and Deepdell Creek itself will receive runoff water from the mine area via these tributaries.

The aquatic ecological report provided by the applicant describes the existing aquatic environment within the mine area. This report shows that Highlay Creek and Camp Creek are impact by the existing mining activity already, and more widely by the farming activities in these catchments. The creeks are generally accessible to stock and grazing occurs with some associated stock damage to the creeks.

The habitat and macroinvertebrate communities within Deepdell Creek Catchment are impacted but not to a high degree by the farming activity. The threatened fish, the Taieri flathead galaxias is absent from the stream reaches to be lost in the mine development, as they occur in the permanently flowing reaches downstream of the development. Kōura are thought to be present in some of the stream reaches to be lost. Therefore, there is little or no direct impact on the populations of Taieri flathead galaxias, but could be some impacts on kōura populations.

The proposed activities will cause the loss of some headwater streams that will be covered by the waste rock stack or incorporated into the mine pit. Dr Richard Allibone for Water Ways Consulting Limited (WWC) have undertaken the assessment of aquatic ecology for this application.

Highlay Creek
WWC notes that the stream courses to be lost in the Highlay Creek sub-catchment are small headwater streams that are generally ephemeral or intermittent in nature. Approximately 350 m of ephemeral and intermittent stream in the Highlay Creek sub-catchment is to be lost as a result of the DDNSIII project. WWC state that these stream reaches have already been impacted by farming activities and previous mine activity, and therefore have a degraded habitat. These reaches of stream have been identified by the applicant as not being important for the spawning of indigenous fauna, trout or salmon. While the wider Deepdell Creek catchment supports populations of threatened fish or kōura, these tributaries in Highlay Creek do not. Therefore, it is considered that the loss of these reaches is acceptable and will have less than minor effect on aquatic ecology.

Camp Creek
Camp Creek has a highly modified tributary running alongside the haul road that will remain unaltered. A second tributary with ephemeral headwaters that flow to a small pond then flows into a cut off drain to the modified stream which will be subject to the most habitat loss. The applicant estimates that 450 m of ephemeral watercourses and 100 m of cut off drain will be lost in the Camp Creek sub-catchment.

The applicant has proposed a mitigation measure to recreate habitat for kōura by converting a pond and the remaining cut off drain into a diversion watercourse for water that will be directed to an existing silt pond. This is discussed further in the next section.

Overall it is considered that the impacts of the watercourse loss are limited. While the Taieri flathead galaxias is present within the Deepdell Creek catchment, the habitat that is available within the tributaries of Highlay Creek and Camp Creek would not support them. Therefore The Taieri flathead galaxias will not lose habitat as however koura, if present within these watercourses, will. As discussed in the section below, the effectiveness of the proposed mitigation for this is uncertain and will require further monitoring to show it is effective.

7.4 Proposed Mitigation

Kōura Habitat
Dr Allibone for WWC notes that the applicant's aquatic ecology assessment provides some mitigation suggestions for the loss of kōura habitat. The main proposed mitigation is constructing a clean water cut-off drain that could support kōura and attempting to make a silt retention pond into kōura habitat. WWC state that the first of these mitigation options will struggle to provide flowing water and this means the habitat created is far from idea. Similarly, the use of a sediment retention pond is unlikely to provide good kōura habitat as the settling sediment and poor water quality are not idea for kōura habitat.

Should this proposed mitigation measure be adopted, monitoring would be required to prove that it is effective. This could include a survey of the koura present prior to undertaking any works, and then undertaking regular monitoring once the proposed mitigation measures have been established to determine its effectiveness.

Camp Creek Dam

The applicant has identified the potential for water quality in the receiving water courses and further downstream (Shag River/Waihemo) to be adversely affected by discharges of contaminants from the proposal. The applicant has proposed a variety of mitigation measures to address this, including ongoing monitoring of water quality in receiving environment, ongoing monitoring and management of onsite measures to prevent erosion and generation of leachate with appropriate techniques to contain and /or treat contaminants prior to discharge. One of these mitigation measures is to construct the Camp Creek Dam ,which was consented as part of another consenting project. This dam is designed to collect freshwater which will allow for it to be discharged as required to provide a base, or 'flushing' flow to Deepdell Creek during times of low flows. The idea being that this 'flushing' flow would help to dilute contaminant concentrations, and could potentially aid in flushing out periphyton growth, depending on the volume of the flow.

Dr Allibone states that further work and monitoring will be required to determine if flushing flows work as desired under the existing consent condition. Dr Allibone states that from experience, flushing flows from some dams are unable to achieve the management objective as there are limitations on the size of the flushing flow that can be released due to the dam design.

7.5 Water Quantity

7.5.1 Surface Water Takes

The applicant has applied to take water from the Deepdell North Stage III Pit and associated silt ponds for the purpose of dewatering and dust suppression during mining operations, and to form a pit lake post mining. The proposed consents include:

- Take and use water from Deepdell North Silt Pond, Deepdell West Silt Pond and Deepdell South Silt Pond for the purpose of dust suppression
- Take surface water and groundwater from Deepdell North Pit for the purpose of dewatering Deepdell North Pit
- Take water and use from rainfall runoff and groundwater infiltration for the purpose of creating Deepdell North Pit Lake

During mining, rainfall runoff water and groundwater that has infiltrated into the operational pit will be dewatered through pumping and discharged to the drainage system that runs to the Deepdell North Silt Pond for treatment. Runoff water from the operation Waste Rock stacks will also be discharged to these sediment retention (silt) ponds. Some of the water from these silt ponds is to be taken for dust suppression on site during drier periods.

After mining has ceased, the proposed pit will no longer be dewatered, and will instead be left to fill with rainfall runoff from both the pit and parts of the WRS and any groundwater that infiltrates to form a pit lake. This pit lake is modelled to overflow in 2120.

Once mining has finished the waste rock stack (WRS) will be rehabilitated so that runoff will be primarily rainfall and any seepage from the WRS that enters surface flows. This water will flow through silt ponds for treatment prior to being discharged to the Deepdell Creek Catchment.

The applicant has applied to take the proposed water as primary allocation under restricted discretionary rule 12.1.4.2. The Deepdell North Stage III project is situated within the Shag River/Waihemo catchment, which is listed in Schedule 2A of the RPW. At present, the Shag River/Waihemo catchment only has 0.2 L/s of surface water primary allocation available. The applicant is seeking to take water from the pit at a rate of up to 200 L/s.

With the exception of the proposed water take for dust suppression, these water takes are required for the management of water that collects in the open pit, as opposed to being takes that are directly from water courses. Due to this, and the lack of primary allocation available it is recommended that the surface water takes from the pit during mining operations and after closure be treated as a further supplementary take under discretionary rule 12.1.5.1. The take for dust suppression from Deepdell North Silt Pond, (where the pit water is to be discharged to) should be considered a retake under discretionary rule 12.1.5.1. The take for dust suppression from the silt ponds should also be considered a further supplementary take depending on which silt pond the water is to be taken from under discretionary rule 12.1.5.1.

Policy 6.4.10 of the RPW discusses this type of supplementary take and states that it provides for further supplementary allocation when flows are above the natural mean flow. At such times, water is sufficiently abundant so that taking will have no more than minor effect on instream values or other take. Any perennial watercourse that are located within the waste rock stack or pit footprints are proposed to be diverted around and back into the catchment, leaving on the water that is collected within the footprint of these features as rainfall runoff. The rainfall runoff from the waste rock stack will make its way to the associated silt ponds, while the rainfall runoff from the pit will make its way down to the bottom of the pit, and join any groundwater that has collected within the pit. There will be no more than minor effect on instream values when taking this water.

Therefore, the water (with the exception of that taken for dust suppression), will not be lost from the catchment, although it does not meet the definition of being a non-consumptive take. Instead it will be held for a period of time before being returned to the catchment via the silt ponds during operation mining, or through infiltration back to groundwater or overtopping of the pit during the post mining phase.

There is no allocation limit with a further supplementary take, which lends itself to the applicant's need to not have a limit to the volume of water able to be taken, given that it is unable to control the volume of water captured in the pit from rainfall events or groundwater infiltration. The timing of these takes would not have an effect on the flow rate of water within the Shag River/Waihemo, as there is not an immediate hydrological connection between the taking of water from the pit and the nearby watercourses. With the exception of the water that

is to be taken from the silt ponds for dust suppression, no water that is taken will be lost from the catchment, instead it is being either treated and discharged via the silt pond during the operational phase, or being held within the pit lake before eventually going to ground or overtopping the pit.

7.5.2 Minimum flow

Policy 6.4.6, states that in considering granting a resource consent to take water from a Schedule 2A river within primary allocation, a minimum flow lower than that specified in Schedule 2A can be granted on a case by case basis provided:

a) The take has no measurable effect on the flow at any schedule 2A monitoring site at flows at or below the minimum flow applying to the primary allocation
b) Any adverse effect on any aquatic ecosystem value or natural character of the source water body is no more than minor; and
c) There is no adverse effect on any lawful existing take of water.

While the proposed takes will not be classed as primary allocation, the essence of this policy is such that providing the take has no adverse effects on any monitoring site, aquatic ecosystem, natural character or lawful take of water then a reduction in the minimum flow below that which is set in the plan can be considered. As discussed above, the applicant's proposal is unique in that the majority of the water will not be lost from the catchment, and while Deepdell Creek will be affected by what water is collected in the pit, there is not an immediate connection with what is happening in the pit to Deepdell Creek. Therefore, the timing of the take should have minimal, if any affect on the volume of water within the Deepdell Creek catchment.

7.5.3 Groundwater Allocation

It is expected that some groundwater will be redirected from its normal flow path, into the pit. The aquifer is an unnamed, unmapped aquifer and there are no other groundwater users within the vicinity of the pit.

As detailed in section 7.4 above, providing the applicant augments the flow within Deepdell Creek with the proposed water from the Camp Creek Dam, the potential adverse effects on Deepdell Creek and the ecology in Deepdell Creek as a result of the groundwater take are minor.

Overall, it is considered that the potential adverse effects of the water takes on the Deepdell Creek and wider Shag River/Waihemo catchments are acceptable, and given the way water is to be taken it is recommended that the takes be considered further supplementary takes, with no minimum flow required.

7.5.4 Effect of Groundwater Take on Surface Water flows in Deepdell Creek

The applicant's groundwater assessment report states that the impact of the proposed dewatering on groundwater levels and flows into Deepdell Creek is expected to be less than minor, for the following reasons:

- Deepdell Creek is outside of the estimated zone of groundwater drawdown impacts.
- Deepdell Creek is at a lower elevation than the base of the proposed pit, therefore the groundwater level will not be drawn below the stream bed elevation.

While the proposed dewatering is not expected to directly impact groundwater levels near Deepdell Creek, it may reduce groundwater discharge to the stream. However, as

groundwater is only a very small portion of flows in Deepdell Creek, the effect of the project on surface water flows are likely to be less than minor.

The application has been assessed by Mr Peter Cochrane for Tonkin and Taylor (T&T). Mr Cochrane states that the groundwater assessment report concluded that while proposed dewatering is not expected to directly impact groundwater levels near Deepdell Creek, it may reduce groundwater discharge to Deepdell Creek. Given that the applicant intends to use the freshwater dam it will establish at Camp Creek as a mitigation measure by releasing flow from it to the catchment, this will address any hydrological issues at the same time. As a result, it was concluded that there would be no more than minor effects on surface water flows as a result of the proposed activities.

7.6 Geotechnical and Stability Matters

The Deepdell East WRS comprises backfilling of the existing Deepdell South Pit, and raising the ground level to the north. Mr Scott Sutherland for T&T has reviewed the application, and state that there is currently a suitable foundation for the waste rock stack (noting that construction monitoring is to be undertaken and it will be ensured that all soil is completely removed prior to construction). The designed volume is considered appropriate to store the estimated volume of waste rock.

The DDNSIII Pit comprises an extension to the existing Deepdell North Pit, which is currently backfilled with waste rock. Mr Sutherland states that the applicant has proposed staged pit development, observation of performance and modification of wall designs as necessary, which is considered an acceptable approach. This approach has been applied previously to stages 1 and 2 of the Deepdell North Pit. The applicant has offset the WRS site approximately 125 m north of the final pit boundary, which is considered to be acceptable by Mr Sutherland.

Overall, Mr Sutherland agrees with the assessment in the application.

7.7 Culvert and Diversion Drains

Culvert

The applicant is proposing to install a 51metre long, 900 mm diameter culvert within an unnamed tributary of Highlay Creek to allow for the realignment of Horse Flat Road. Figure 1 below shows the proposed activity, with the culvert marked as the new road embankment on the top right corner of the plan.

Engineering Geology Ltd has designed the culvert on behalf of the applicant, and states that it has been preliminary sized to pass a 1 in 20 year annual exceedance probability (AEP) rainfall event during the construction of the Deepdell East WRS, and for a 1 in 100 AEP rainfall event permanently.

The culvert is to be constructed from a concrete pipe with either a reinforced concrete inlet, or rock protection and filter material to prevent erosion. The culvert will be capable of passing a peak flow of 1.7 cubic metres per second (m^3/s).

To control surface water runoff during the construction of the road embankment a small cofferdam is proposed upstream, with HDPE pipes to pass water through the construction area. Once the concrete culvert is in place, the HDPE pipes can be passed through the culvert. Engineering Geology Ltd state that a silt pond should be put in place downstream of the road embankment/culvert to treat sediment laden surface water runoff from the road embankment and road realignment construction.

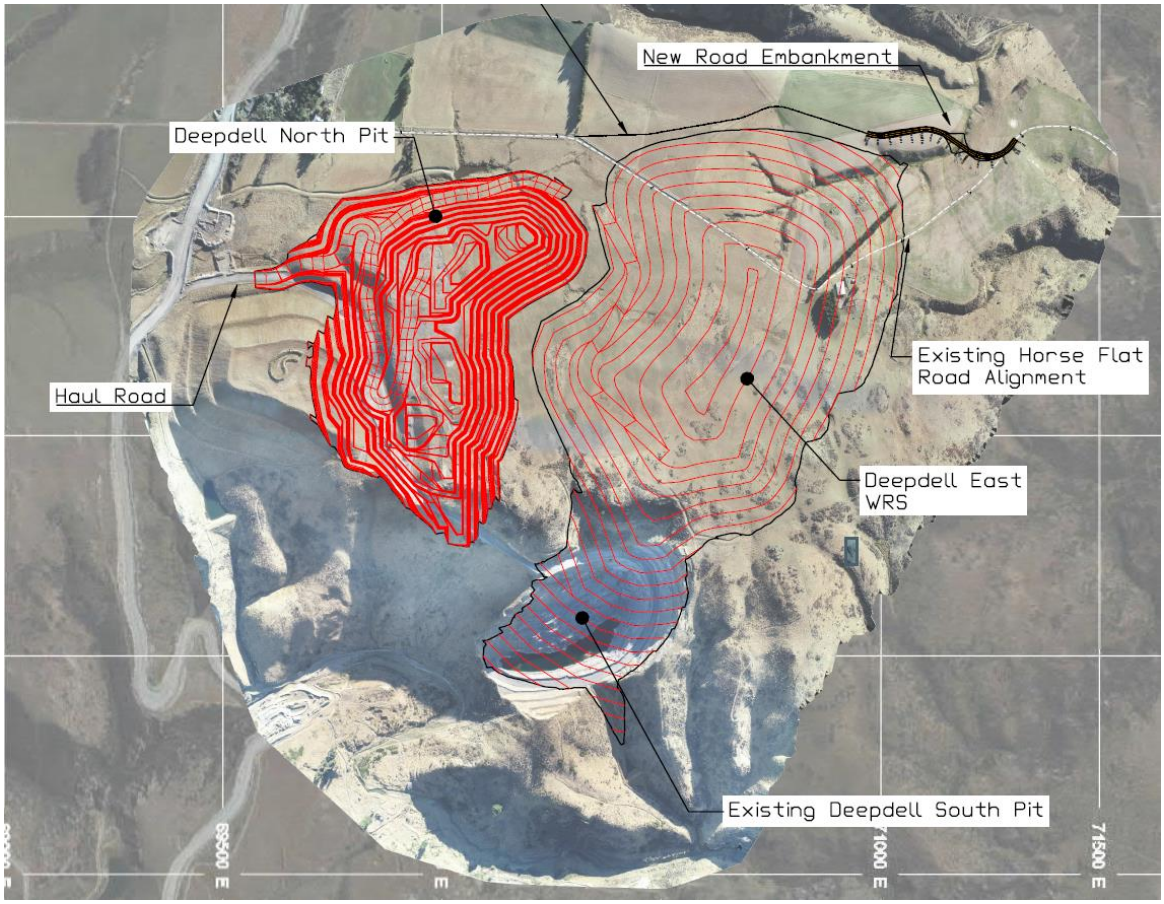

Figure 1 Location of Culvert (Road Embankment) (Source: Application, Horse Flat Road Realignment Technical Report)

Mr Richard Brunton for Tonkin and Taylor (T&T) has reviewed the application, and a copy of this report has been included with the hearing reports. Mr Brunton states that while the calculations are robust, Engineering Geology Limited (EGL), when designing the culvert crossing have not taken into account an appropriate climate change scenario for the rainfall intensity given the anticipated life of the works. Given this, the culvert should be re-sized/designed to accommodate the increased flow. However, it is considered that the calculation method and assumptions, with exception of the design flow used to calculate the culvert sizing are acceptable.

The applicant intends to case the culvert with an earth embankment, which should the culvert become blocked, will cause a significant volume of water to build up behind the embankment.

Diversion Drains

The applicant intends to reclaim parts of several watercourses to allow for the establishment of drainage networks, stockpiles and the waste rock stack. To facilitate this, these watercourses are to be diverted through diversion drains, which will join back up with the original watercourse. T&T have review the sizing of the proposed diversion drains, and find that while the calculations are robust, they have not taken into account climate change. As with the culvert, the diversion drains need to be resized/designed to accommodate this increased flow.

Dr Greer from Aquanet and Dr Allibone from Water Ways Consulting limited (WWCL) have also reviewed the application on behalf of Council. Dr Allibone states that there are no native

fish that are expected to lose habitat as a result of the culvert, reclamations and diversion drains, however kōura habitat loss is expected to occur. The applicant has proposed mitigation (detailed in section 6.4 of this report), which the effectiveness of is uncertain and would need to be monitored.

Dr Greer states that should the culvert works be undertaken in accordance with the proposal, with appropriate construction methodologies and sediment controls there will be no more than minor effects on aquatic life.

Overall, providing the calculations are redone to take into account climate change, and the culvert and diversion drains are resized/redesigned accordingly the adverse effects of the proposed activities are considered to be no more than minor providing the proposed mitigation measures, appropriate monitoring, management and consent conditions are implemented.

7.8 Air Quality

An assessment of the application was undertaken by Mr John Iseli of Specialist Environmental Services Limited (SES). The primary contaminant discharged from mining and associated activities is total suspended particulate matter (TSP) which includes PM_{10} (inhalable particles less than 10 microns in diameter). Large particles have potential to cause nuisance dust effects, whereas finer particles have potential to cause adverse health effects. Monitoring of air discharges has been undertaken at various locations around the mine site, including in the area of the proposed project when mining was last active there. SES have taken into account these results, as well as the separation distance from the prosed activity

Wind conditions in excess of 5 m/s have the greatest potential to transport dust for significant distances. It should be noted that the low annual rainfall and relatively high average wind speeds contribute to the dust generation potential of mining activities in this area. SES notes that some activities undertaken will generate relatively fine particulate matter with potential to be transported significant distance, even at lower wind speeds, when dry conditions prevail. These activities include stripping of overburden and topsoil, vehicle movements on the haul road, and formation of the large bund to the west of the haul road.

The most affected property is considered to be the Howard residence, which is located approximately 1.1 km from the haul road and 1.5 km from the proposed DDNSIII pit. The residence will be affected during winds from the north-eastern quarter that occur for approximately 12% of the time during a typical year. The Howard dwelling may experience dust effects from the proposed discharge at times, particularly associated with overburden stripping, noise bund formation and heavy vehicle movements on the haul road.

The applicant proposes to continue to employ the dust mitigation measures that are used for the existing mining at the Macraes operation. Mitigation measures include:

- Application of water to haul roads
- Limiting vehicle speeds on haul roads,
- Planning overburden stripping activities for days when weather conditions are favourable,
- Minimising drop heights from trucks and excavation equipment,
- Minimising haul distances,
- Revegetation of exposed surfaces, including the outer walls of the waste rock stack and
- Undertaking blasting within the pit.

Mr Iseli notes that while these measures are generally appropriate, a speed limit of 60 km per hour is indicated for haul roads. This limit is high and trucks moving on haul roads at this speed would generate significant dust emissions. Speed limits of up to 20 km an hour are typically imposed for large quarry sites, and SES recommend this limit be imposed for the section of

haul road to the east of the Howard residence, which could be adjusted based on monitoring results. Continuous monitoring with a real time TSP monitor is also recommended.

The proposed waste rock stack is also a potential significant source of dust, but has greater separation from the Howard residence. Given the separation distance from the proposed activity to the Howard residence and other sensitive receptors, SES consider that the discharge of dust to air over the two year period of operation is not likely to cause adverse health effects, subject to the proper use of appropriate dust control measures.

A real time Total Suspended Particulate (TSP) monitor is recommended to be placed near the closest neighbouring residence (Howard Residence). This will enable the potential effects to be detected and remedied sooner.

Overall, the adverse effects of the proposed activities are considered to be no more than minor providing the proposed mitigation measures, appropriate monitoring, management and consent conditions are implemented.

7.9 Contaminated Sites and Hazardous Substances

The proposed activities are partially located within an area of land that has been part of a previous mining operation. Part of the area is an open pit, while there is also a waste rock stack. These areas put the site of the Hazardous Activities and Industries List (HAIL) and it is considered to be actually or potentially contaminated land.

The waste rock from the previously completed waste rock stack is to be re-handled and moved to what was Deepdell South Pit and the land to the north to form the new Deepdell East Waste Rock Stack. The applicant states that mining on site to date has demonstrated that the effects of extracting waste rock stack is able to be controlled adequately using established on site methodologies.

The applicant as a Dust Management Plan in place for the rest of the site already, and recommended conditions of consent will ensure that appropriate dust control measures are in place to reduce its dispersion. The backfilled Deepdell South Pit and the area of Deepdell East Waste Rock stack site will be rehabilitated as soon as practicable with topsoil applied and pasture to allow for grazing. The new Deepdell North Stage III Pit will be allowed to fill to form a pit lake. The applicant states that these approaches to rehabilitation are established and wide spread across the wider Macraes Gold Project site and have demonstrated to be effective in re-establishing topsoil and vegetation.

The applicant states that while this proposal will create additional land area that has been subject to HAIL activities, it will not create any adverse contaminated land effects that exceed a level considered to be minor.

Overall, it is considered that the applicant will be disturbing a contaminated site, however effects as a result of this will be managed throughout various consent conditions, and will therefore be acceptable.

7.10 Heritage Values

The wider Macraes district is a complex and extensive heritage landscape. There are a variety of historic sites representing both Maori and European settlement. Since the early 1990s a vast number of archaeological and heritage assessments and inventory work has been undertaken.

An assessment of the project area has been undertaken by Origin Consultants on behalf of the applicant. No heritage items included in the New Zealand Heritage List/Rārangi Kōrero is

contained within the area affected by the project, nor is any heritage item identified in Schedule 1C of the RPW.

Overall, it is considered that appropriate consent conditions have been recommended that would ensure that should any archaeological artefacts be encountered, appropriate measures are taken to ensure that they are investigated appropriately.

7.11 Landscape and Amenity Values

The applicant is proposing to undertake further mining activity in an area that has previously been mined, and therefore already has a modified landscape, and modified amenity values. The proposal will result in the back filling of a currently open pit, and the recreation of an open pit that currently sits as a waste rock stack. The applicant requested WSP Opus to undertake an assessment on the visual amenity values of the project area. It was concluded that the effect on visual amenity values that will arise from the DDNSIII project are low relative to those effects already consented for the existing mining activities with the MGP, and are therefore accepted as contributing the landscape identity. Overall, while the proposed DDNSII project will result in changes to the amenity values of the several watercourses that are to be disturbed or reclaimed within the area, it is considered effects ion amenity values will be minor when considering the wider landscape.

7.12 Cultural Values

An assessment of cultural values attributed to the wider Macraes area was provided in the Cultural Impact Assessment (CIA) report prepared by Aukaha for the Coronation North Project on behalf of Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki and Te Rūnanga o Ōtākou (Ngā Rūnanga). While the CIA does not specifically describe the cultural values that apply to the immediate Deepdell North Stage III Project area, the applicant has provided an assessment of where this information refers to the wider Macraes area, which is detailed below. It should be noted that a CIA specific to the Deepdell North Stage III Project is to be undertaken by Aukaha.

Cultural Association with the Deepdell Creek and Waihemo (Shag) River
All catchments along the East Coast, regardless of their size, were part of the seasonal trails and behaviours associated with mahinga kai, and hapū, and whānau bonding.

Most of the river mouths have over the span over hundreds of years, supported human populations. Water plays a significant role in takata whenua spiritual beliefs and cultural traditions. The loss and degradation of this resource through drainage, pollution and damming is a significant issue for Aukaha and is considered to have resulted in material and cultural deprivation.

Resource Use in the Area
In addition to the mineral resource that were found in the upper Northern Branch Waikouaiti River and Waihemo (Shag) River catchments, the area known today as Macraes Flat contained many natural resources that were valued by Māori. Streams and ponds contained raupō and tuna (eels), and supported waterfowl that would be harvested during the seasonal moult (flappers). Forested gullies housed a range of birds and provided timber. Open tussock grassland originally supported weka, quail and formerly moa. Also naturally occurring taramea (spear grass), tikumu (mountain daisy) harakeke (flax) and probably tī kōuka (cabbage tree).

Ara Tawhito (Travel Routes)
The trails and resource gathering places of Kāi Tahu were widespread throughout Otago.

Seasonal travel and places of encampment ensured the depth of association and traditions were continuously renewed and transferred to succeeding generations. The Macraes Flat area was part of a major trail network running north-south and east-west, linking the Waihemo Valley directly with the lower Taieri wetlands bordering Maukaatua. The area, as discussed, contained natural resources that would have been targeted by Māori occupying more permanent settlements nearby, or on seasonal mahika kai gathering expeditions.

Cultural Sites in the Area
An archaeological survey of an earlier version of the Deepdell North Stage III Project with a different waste rock stack location (Horse Flat WRS) was undertaken in March 2018.

No archaeological sites of Maori origin were found in the area of the earlier proposed Deepdell North Stage III Project area, although the area includes schist outcrops with shelter qualities that may contain archaeological deposits. These shelters are relatively small and exposed, making it unlikely that anything other than stone, ash, or charcoal of an archaeological nature would survive into modern time given the low amount of natural deposition of protective cover affecting the wider survey area.

Further afield an orthoquartzite quarry (NZAA reference I43/68) and non-extant remains of a small settlement dating from the moa-hunter period (NZAA reference I43/96) are located within 8km south of the Macraes township towards Nenthorn. Many other sites including urupā, orthoquartzite quarries, rock-shelters, artefact (taoka) finds and umu occur in the same area within 10km of Macraes Flat.

These sites are evidence of the traditional use and importance of this area to tākata whenua. Many place names along the East Coast originate from the waka Araiteuru. The names of the waves which wrecked the waka, plus the names of the many passengers of the waka are represented in the names of the reefs, hills, and mountains of East Otago.

Te Wai a te Atua is the name of a stream in the Nenthorn district, which may refer to 3 O'Clock Stream. Aside from the significant name, the site was a food gathering place where eel, weka and later pigs were taken by Māori. Finally, there are a variety of sites of interest to iwi lining the Waihemo Valley, and parts of the upper catchment of the Waikouaiti River.

7.13 Cumulative Effects

The applicant is currently seeking resource consent for another expansion at the MGP that could impact water quality in Deepdell Creek and the Shag River/Waihemo. The Golden Point Underground Project (application RM20.130) seeks to undertake an underground mining operation in Golden Point Pit, which is located to the south east of the DDNSIII project site.
The applicant has provided a cumulative effects assessment as part of the Gold Point Underground consent application process. It was considered that the Golden Point Underground project was likely to be completed prior to the DDNSIII application, so cumulative effects on Deepdell Creek and Shag River/Waihemo is to be considered here.

Mr Greer has assessed the Cumulative Effects Assessment provided by the applicant, and state that the report demonstrates that the water quality compliance criteria contained in existing consents held by the applicant are very likely to be met in Deepdell Creek and the Shag River/Waihemo during and after the implementation of both the DDNSIII and Golden Point Underground projects. However, it should be noted that some of the existing compliance criteria may not protect against significant adverse effects, and may allow for water quality to be degraded from its current state. Additionally, as stated in section 7.1 above, Mr Greer states that using attribute state B thresholds from the NPS-FM 2014 for nitrate concentrations would allow for a significant increase in nitrate in both water courses, and would not protect

against significant adverse cumulative effects if adopted as compliance criteria in consent conditions.

Mr Greer has recommended compliance criteria for Highlay Creek, and nitrate concentrations that while more stringent than those proposed by the applicant, should result in better water quality. However, monitoring of periphyton growth is also required to ensure that the increase in nitrate discharge from both projects does not result in nuisance periphyton growth.

8. Section 104 Evaluation

Section 104 of the Act sets out the matters to be considered when assessing an application for a resource consent. These matters are subject to Part 2, the purpose and principles, which are set out in Sections 5 to 8 of the Act.

The remaining matters of Section 104 to be considered when assessing an application for a resource consent are:

(a) the actual and potential effects on the environment of allowing the activity;

(ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity;

(b) any relevant provisions of a national environmental standard, other regulations, a national policy statement, the Regional Policy Statement (RPS), the Regional Plan: Water (RPW); and

(c) any other matter the Council considers relevant and reasonably necessary to determine the application.

8.1 S104(1)(a) – Actual and potential effects on the environment of allowing the activity

Section 104(1)(a) of the RMA requires the council to have regard to any actual and potential effects on the environment of allowing the activity. This includes both the positive and the adverse effects.

Positive effects
The proposal will have the following positive effects:

- An additional year to the MGP mine life, which results in employment and income for individual employees, and economic benefit to the East Otago and wider Otago region from the continued operations at the mine which will average approximately $ 84 million.

Adverse effects
In considering the adverse effects, the Consent Authority:
- may disregard those effects where the plan permits an activity with that effect; and
- must disregard those effects on a person who has provided written approval.

The assessment and conclusion of the "permitted baseline" for the s95A adverse effects assessment are considered applicable to s104(2), and so are not repeated here.

The assessment of adverse effects undertaken for notification identified and evaluated adverse effects, and these are adopted for the purposes of s104(1)(a).

Summary

Taking into consideration the positive economic effects, above and the assessment of adverse effects done for notification purposes, providing recommended consent conditions and mitigation measures are put in place, actual and potential effects on the environment are considered to be less than minor.

8.2 S104(1)(ab)

The applicant has proposed an offset to address the residual adverse effects on indigenous flora and fauna that remain from the proposed development after the implementation of avoiding, remedying or mitigating any adverse effects. This offset is to address these effects on terrestrial flora and fauna, and therefore is not applicable to any activities the applicant has applied for with the Otago Regional Council. Instead, the Waitaki District Council will address this offsetting.

8.3 S104(1)(b) Relevant Planning Documents

The relevant planning documents in respect of this application are:

- The Regional Plan: Water for Otago
- Water Permits Plan Change (Proposed Plan Change 7)
- The Regional Plan: Waste for Otago
- The Regional Plan: Air for Otago
- The Operative Regional Policy Statement, Proposed Regional Policy Statement and Partially Operative Regional Policy Statement
- The Proposed Water Permits Plan Change (Plan Change 7).
- The National Policy Statement for Freshwater Management
- The Resource Management (National Environmental Standards for Air Quality) Regulations 2004
- National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health
- The National Environmental Standard for Sources of Human Drinking Water
- Resource Management (Measurement and Reporting of Water Takes) Regulations 2010

8.4 Regional Plan: Water for Otago

Objective and Policy Assessment

The RPW was notified in 28 February 1998 and became operative in 1 January 2004. This is a relevant Regional Plan that consents are required under. It is noted here, that the RPW was drafted before the NPS-FM 2014 (amended 2017) was notified and has not been updated to give effect to the NPS-FM. Council notified its Progressive Implementation Programme in December 2018 and has a plan to implement the NPS-FM. Part of this plan and as directed by the Minister for the Environment is that a plan change to the Water Plan will be notified in March 2020. Issues with the Planning framework have also been raised in Environment Court cases, including the 'Lindis' decision by Judge Jackson *(Lindis Catchment Group Incorporated Vs Otago Regional Council ENV-2016-CHC-61*)on a plan change to the Water Plan specific to the Lindis catchment and a series of consents to take water to replace deemed permits.

Relevant objectives and policies from the RPW are considered below:

Objective 5.3.1 *to maintain or enhance the natural and human use values, identified in Schedules 1A, 1B and 1C that are supported by Otago's lakes and rivers.*

Objective 5.3.2 *To maintain or enhance the spiritual and cultural beliefs, values and uses of significance to Kai Tahu, identified in Schedule 1D, as these relate to Otago's lakes and rivers.*

The application has less than minor effects on the values listed in Schedules 1B, 1C and 1D of the RPW and detailed in section 5.2 of this report. The proposed activities will have less than minor effect on Taieri flathead galaxiid populations, but may have an effect on the kōura populations should they be present within the unnamed tributaries of both Highlay Creek and Camp Creek that are to be disturbed. The applicant has proposed mitigation measures to limit the impact on kōura, and these measures have been recommended as consent conditions. The application is therefore consistent with these objectives.

Policy 5.4.1 *To identify the following natural and human use values supported by Otago's lakes and rivers, as expressed in Schedule1:*

- *a) Outstanding natural features and landscapes;*
- *b) Areas with a high degree of naturalness;*
- *c) Areas of significant indigenous vegetation, significant habitats of indigenous fauna, and significant habitats of trout and salmon;*
- *d) Ecosystem values;*
- *e) Water supply values*
- *f) Registered historic places; and*
- *g) Spiritual and cultural beliefs, values and uses of significance to Kai Tahu.*

Policy 5.4.2 *In the management of any activity involving surface water, groundwater or the bed or margin of any lake or river, to give priority to avoiding, in preference to remedying or mitigating:*

- *(1) Adverse effects on:*
  - *(a) Natural values identified in Schedule 1A;*
  - *(b) Water supply values identified in Schedule 1B;*
  - *(c) Registered historic places identified in Schedule 1C, or archaeological sites in, on, under or over the bed or margin of a lake or river;*
  - *(d) Spiritual and cultural beliefs, values and uses of significance to Kai Tahu identified in Schedule 1D;*
  - *(e) The natural character of any lake or river, or its margins;*
  - *(f) Amenity values supported by any water body; and*
- *(2) Causing or exacerbating flooding, erosion, land instability, sedimentation or property damage.*

Policy 5.4.3 *In the management of any activity involving surface water, groundwater or the bed or margin of any lake or river, to give priority to avoiding adverse effects on:*

- *(a) Existing lawful uses; and*
- *(b) Existing lawful priorities for the use, of lakes and rivers and their margins.*

Policy 5.4.4 *To recognise Kai Tahu's interests in Otago's lakes and rivers by promoting opportunities for their involvement in resource consent processing.*

Policy 5.4.8 To have particular regard to the following features of lakes and rivers, and their margins, when considering adverse effects on their natural character:

a) The topography, including the setting and bed form of the lake or river;
b) The natural flow characteristics of the river;
c) The natural water level of the lake and its fluctuation
d) The natural water colour and clarity in the lake or river;
e) The ecology of the lake or river and its margins; and
f) The extent of use or development within the catchment, including the extent to which that use and development has influenced matters (a) to € above.

Policy 5.4.9 To have particular regard to the following qualities or characteristics of lakes and rivers, and their margins, when considering adverse effects on amenity values:

(a) Aesthetic values associated with the lake or river; and
(b) Recreational opportunities provided by the lake or river, or its margins.

The proposed activities will have no more than minor effects on the natural values identified in Schedule 1. There are no known native freshwater fish that are identified in schedule 1AA within this catchment. There are no schedule 1B water supplies that will be affected by these activities. There are no registered historic places listed in schedule 1C that are within the vicinity of these activities. Schedule 1D values have not been attributed to the Deepdell Creek Catchment, instead are from the Shag River/Waihemo catchment. The proposed activities will not have effects on these schedule 1D values.

There are no lawful uses held by any other person within the vicinity of the project area that will be affected by the proposed activities.

The applicant has consulted with Aukaha prior to lodging the application, and Aukaha submitted during the notification period, as detailed in section 4.4 of this report. The applicant states that Aukaha are in the process of undertaking a Cultural Impact Assessment specific for the Deepdell North Stage III Project.

The permanent reclamation and diversion of the unnamed tributaries of Highlay Creek and Camp Creek will change the natural character and amenity values of the water courses, however the applicant states that the landscape and visual effects are not considered to be significant in the wider context of the area. The overall area has already been subject to significant changes through previous mining and farming activities. The applicant states that the unnamed tributary of Camp Creek is already highly modified (straightened and channelised) and the unnamed tributary of Highlay Creek is ephemeral, possibly intermittent. As detailed in section 6.2 of this report these reaches of stream that are to be lost do not support populations of threatened fish, but some do support kōura populations. As discussed in section 7.4 of this report, the applicant has proposed mitigation measures to account for this loss of kōura habitat.

The applicant's modelling indicates that downstream water quality on a cumulative basis will remain compliant with existing consent limits and recommended compliance criteria, result in minor effects on the water courses.

Providing the sizing of the culvert and diversion drains are amended to take into account climate change, the proposed activities will not exacerbate flooding, and a variety of measures are to be put in place to avoid erosion, land instability and sedimentation.

Overall the application is consistent with the policies above.

Policy 6.4.0 *To recognise the hydrological characteristics of Otago's water resources, including behaviour and trends in:*

a) The levels and flows of surface water bodies; and

b) The levels and volumes of groundwater; and

c) Any interrelationships between adjoining bodies of water, when managing the taking of water.

Policy 6.4.0C *To promote and give preference, as between alternative sources, to the take and use of water from the nearest practicable*

The applicant has proposed to take water from Deepdell North Stage III Pit during mining to dewater the pit, and to form a pit lake during closure. The applicant has also applied to take water from the various silt ponds associated with the activity for dust suppression. Given the purpose of the takes, there are no other alternative locations that water could be take from, and this is the nearest practicable source. As detailed in section 6.3, the take of the water from the pit could likely result in a temporary will result in a reduction of flows within Deepdell Creek, which is to be augmented with water from the proposed Camp Creek Dam mitigation plan. therefore, it is considered that the application is consistent with these policies.

Policy 6.4.1 To enable the taking of surface water, by:

(a) Defined allocation quantities; and

(b) Provision for water body levels and flows,

except when

(i) the taking is from Lakes Dunstan, Hawea, Roxburgh, Wanaka or Wakatipu, or the main stem of the Clutha/Mata-Au or Kawarau Rivers.

(ii) All of the surface water or connected groundwater taken is immediately returned to the source water body.

(iii) Water is being taken which has been delivered to the source water body for the purpose of that subsequent take.

Policy 6.4.3 For catchments identified in Schedule 2A, except as provided for by Policy 6.4.8, minimum flows are set for the purpose of restricting primary allocation takes of water.

Policy 6.4.5 The minimum flows established by Policies 6.4.3, 6.4.4, 6.4.6, 6.4.9 and 6.4.10 will apply to resource consents for the taking of water, as follows:

(a) In the case of new takes applied for after 28 February 1998, upon granting of the consent; and

(b) In the case of any resource consent to take surface water from within the Taieri above Paerau and between Sutton and Outram, Welcome Creek, Shag, Kakanui, Water of Leith, Lake Hayes, Waitahuna, Trotters, Waianakarua, Pomahaka and Lake Tuakitoto catchment areas as defined in Schedule 2A, upon the operative date of this Plan subject to the review of consent conditions under Sections 128 to 132 of the Resource Management Act; and

(c) In the case of any existing resource consent to take surface water from the Manuherikia catchment area (upstream of Ophir) and the Taieri catchment areas Paerau to Waipiata, Wapiata to Tiroiti, Tiroiti to Sutton, as defined in Schedule 2A, upon collective review of consent conditions within those catchments under Sections 128 to 132 of the Resource Management Act; and

(d) *In the case of any existing resource consent to take surface water within a catchment area not specified in Schedule 2A, upon the establishment of a minimum flow set for the water body by a plan change, subject to the review of consent conditions under Sections 128 to 132 of the Resource Management Act.*

Policy 6.4.6 To consider granting an application for a resource consent to take water from a Schedule 2A river, within primary allocation, subject to a minimum flow lower than that specified in Schedule 2A, on a case-by-case basis, provided:

(a) *The take has no measurable effect on the flow at any Schedule 2A monitoring site at flows at or below the minimum flow applying to the primary allocation; and*

(b) *Any adverse effect on any aquatic ecosystem value or natural character of the source water body is no more than minor; and*

(c) *There is no adverse effect on any lawful existing take of water.*

Policy 6.4.10 In addition to Policy 6.4.9, to provide for further supplementary allocation without any restriction on the volume taken, where the minimum flow applied is equal to the natural mean flow.

The surface water takes are from within the Shag River/Waihemo catchment, which is listed in Schedule 2A of the RPW. The proposed water takes, with the exception of the water to be used for dust suppression, are required for the management of water that collects in the open pit, as opposed to takes that are directly from water courses. Subject to recommended consent conditions, there are no instream values that will be affected by the takes, and any impact that taking water when dewatering will have can be mitigated by the use of flows from the Camp Creek Dam, as proposed by the applicant. The takes from the pit and for dust suppression should be considered as further supplementary allocation under policy 6.4.10, as the volume of water required to be taken is determined on the amount of rainfall that has occurred. As the purpose of the water permits is for water management, minimum flow restrictions should not apply. In this instance, no residual flow is considered necessary.

Overall, the applications are considered to be largely consistent with the purpose and principles of Chapter 6 of the RPW.

Policy 6.4.7 The need to maintain a residual flow at the point of take will be considered with respect to any take of water, in order to provide for the aquatic ecosystem and natural character of the source water body.

A residual flow has not been recommended as the takes are not from a watercourse.

Policy 6.4.16 In granting resource consents to take water, or in any review of the conditions of a resource consent to take water, to require the volume and rate of take to be measured in a manner satisfactory to the Council unless it is impractical or unnecessary to do so.

Proposed consent conditions require the applicant to measure the water taken using a water meter, the data will be recorded electronically using a datalogger and be sent to Council. Should the recommended consent conditions be adopted, the application is will be consistent with this policy.

Policy 6.4.19 When setting the duration of a resource consent to take and use water, to consider:

(a) The duration of the purpose of use;
(b) The presence of a catchment minimum flow or aquifer restriction level;
(c) Climatic variability and consequent changes in local demand for water;
(d) The extent to which the risk of potentially significant, adverse effects arising from the activity may be adequately managed through review conditions;
(e) Conditions that allow for adaptive management of the take and use of water;
(f) The value of the investment in infrastructure; and
(g) Use of industry best practice.

The recommended term is discussed in section 10 below where these seven points above are discussed.

Policy 7.B.1 Manage the quality of water in Otago lakes, rivers, wetlands and groundwater by:

(a) Describing, in Table 15.1 of Schedule 15, characteristics indicative of good quality water; and

(b) Setting, in Table 15.2 of Schedule 15, receiving water numerical limits and targets for achieving good quality water; and

(c) Maintaining, from the dates specified in Schedule 15, good quality water; and

(d) Enhancing water quality where it does not meet Schedule 15 limits, to meet those limits by the date specified in the Schedule; and

(e) Recognising the differences in the effects and management of point and non-point source discharges; and

(f) Recognising discharge effects on groundwater; and

(g) Promoting the discharge of contaminants to land in preference to water.

7.B.2 Avoid objectionable discharges of water or contaminants to maintain the natural and human use values, including Kāi Tahu values, of Otago lakes, rivers, wetlands, groundwater and open drains and water races that join them.

7.B.3 Allow discharges of water or contaminants to Otago lakes, rivers, wetlands and groundwater that have minor effects or that are short-term discharges with short-term adverse effects.

7.B.4 When considering any discharge of water or contaminants to land, have regard to:

(a) The ability of the land to assimilate the water or contaminants; and

(b) Any potential soil contamination; and

(c) Any potential land instability; and

(d) Any potential adverse effects on water quality; and

(e) Any potential adverse effects on use of any proximate coastal marine area for contact recreation and seafood gathering.

7.B.6 When assessing any consent to discharge contaminants to water, consider the need for and the extent of any zone for physical mixing, within which water will not meet the characteristics and limits described in Schedule 15, by taking account of:

(a) *The sensitivity of the receiving environment; and*

(b) *The natural and human use values, including Kāi Tahu values; and*

(c) *The natural character of the water body; and*

(d) *The amenity values supported by the water body; and*

(e) *The physical processes acting on the area of discharge; and*

(f) *The particular discharge, including contaminant type, concentration and volume; and*

(g) *The provision of cost-effective community infrastructure; and*

(h) *Good quality water as described in Schedule 15.*

7.B.7 Encourage land management practices that reduce the adverse effects of water or contaminants discharged into water.

7.B.8 Encourage adaptive management and innovation that reduces the level of contaminants in discharges.

The applicant has undertaken water modelling to understand the potential extent of adverse effects as a result of the proposed activities. Compliance limits have been proposed that would require the applicant to meet appropriate environmental limits for the catchment. The applicant has proposed land management practices during the construction phase that will control sediment and prevent it from entering the surrounding watercourses. The applicant has proposed to construct the previously consent Camp Creek dam which will form a mitigation measure and help to reduce the level of contaminants with the Deepdell Creek catchment and aid in reducing the potential for excessive periphyton growth.

Overall, should the recommended consent conditions, compliance criteria and proposed Camp Creek dam mitigation measures be put in place, then the application is consistent with these policies.

7.C.1 When considering applications for resource consents to discharge contaminants to water, to have regard to opportunities to enhance the existing water quality of the receiving water body at any location for which the existing water quality can be considered degraded in terms of its capacity to support its natural and human use values.

7.C.2 When considering applications for resource consents to discharge contaminants to water, or onto or into land in circumstances which may result in any contaminant entering water, to have regard to:

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

(b) *The financial implications, and the effects on the environment of the proposed method of discharge when compared with alternative means; and*

(c) *The current state of technical knowledge and the likelihood that the proposed method of discharge can be successfully applied.*

7.C.3 When considering any resource consent to discharge a contaminant to water, to have regard to any relevant standards and guidelines in imposing conditions on the discharge consent.

7.C.4 The duration of any new resource consent for an existing discharge of contaminants will take account of the anticipated adverse effects of the discharge on any natural and human use value supported by an affected water body, and:

(a) Will be up to 35 years where the discharge will meet the water quality standard required to support that value for the duration of the resource consent;

(b) Will be no more than 15 years where the discharge does not meet the water quality standard required to support that value but will progressively meet that standard within the duration of the resource consent;

(c) Will be no more than 5 years where the discharge does not meet the water quality standard required to support that value; and

(d) No resource consent, subsequent to one issued under (c), will be issued if the discharge still does not meet the water quality standard required to support that value.

7.C.8 To promote the use of contingency plans for the prevention, containment and recovery of the accidental spill of any hazardous substance which may adversely affect water quality.

7.C.9 To support the coordination of measures to remedy or mitigate the adverse effects associated with accidental spills which could potentially contaminate water.

The applicant has undertaken site wide modelling to determine the likely extent of adverse effects of the proposed activities in and around the site. As detailed in section 6.1 of this report, the discharge of contaminants from the proposed activities should not have significant adverse effects provided the recommended compliance criteria is adopted as a consent condition, and is complied with by the applicant.

The recommended durations of consent are discussed in section 10 below where these seven points above are discussed. Consent conditions are recommended that require the applicant to have appropriate management plans in place for various aspects of the project, which include contingency plans and notifying the Council should something go wrong.

Overall, subject to the compliance with recommended consent conditions, the application is consistent with the above policies.

Policy 8.4.1 When managing activities in, on, under or over the bed or margin of any lake or river, to give priority to avoiding changes in the nature of flow and sediment processes in those water bodies, where those changes will cause adverse effects:

(a) On the stability and function of existing structures located in, on, under or over the bed or margin of any lake or river;

(b) Arising from associated erosion or sedimentation of the bed or margin of any lake or river, or land instability; or

(c) Arising from any reduction in the flood carrying capacity of any lake or river

Policy 8.6.1 In managing the disturbance of the bed or margin of any lake or river, to have regard to any adverse effect on:

(a) The spawning requirements of indigenous fauna, and trout or salmon;

(b) Bed and bank stability;

(c) Water quality;

(d) Amenity values caused by any reduction in water clarity; and

(e) Downstream users.

Policy 8.6.2 To promote best management practices for activities that occur within or adjacent to the bed of lakes and rivers in order to avoid, remedy or mitigate any adverse effect.

Policy 8.8.1 To consider practical alternatives to:

(a) The reclamation of the bed of any lake or river; and

(b) The deposition of any substance in, on or under, the bed or margin of any lake or river.

Policy 8.8.2 To require only cleanfill be used to create any reclamation of the bed of a lake or river.

The applicant is applying to disturb, deposit and reclaim parts of unnamed tributaries of both Camp Creek and Highlay Creek as well as install a 51 m long culvert to allow for the realignment of Horse Flat Road. The applicant has proposed various erosion and sediment control measures, and intends to develop an Erosion and Sediment Control Plan for the site to ensure that sediment is not discharged to the catchment. There are no practical alternatives beyond what the applicant has proposed given the location and nature of the proposed activities. Reclamations of the watercourses are to be undertaken using waste rock.

Other than the reclamation of watercourses with waste rock, the applications are considered overall to be largely consistent with Chapter 8 of the RPW.

Policy 9.4.18 To identify land of high risk in terms of the vulnerability of underlying groundwater to leachate contamination and to manage, with respect to this land:

(a) Change in land use to activities which have the potential to result in leachate discharges, so that the activities are, where practicable, located elsewhere, or contaminants are contained;

(b) Existing land use activities so that any potential for groundwater contamination is monitored and, where necessary, corrective action is taken;

(c) Point source discharges of water or contaminants to land or groundwater;

(d) Excavation, so that any protective soil mantle or impervious stratum is retained, replaced, or alternative groundwater protection is provided.

Policy 9.4.19 To identify land which protects underlying aquifers from leachate contamination and to manage excavation, with respect to this land, so that any protective soil mantle or impervious stratum is retained or replaced, or alternative groundwater protection is provided.

Policy 9.4.21 To support appropriate codes of practice and management guidelines for land use activities which may result in contaminants entering groundwater.

The land at the site of the proposed activities is not considered to be at high risk in terms of the vulnerability of underlying groundwater leachate contamination. It was determined that the

potential adverse effects on groundwater quality as a result of the proposed activities is expected to be less than minor. Overall, it is considered that the application is consistent with the policies in Chapter 9 of the RPW.

Policy 10.4.1 Otago's regionally significant wetland values are:

- *A1 Habitat for nationally or internationally rare or threatened species or communities;*
- *A2 Critical habitat for the life cycles of indigenous fauna which are dependent on wetlands;*
- *A3 High diversity of wetland habitat types;*
- *A4 High degree of wetland naturalness;*
- *A5 Wetland scarce in Otago in terms of its ecological or physical character;*
- *A6 Wetland which is highly valued by Kai Tahu for cultural and spiritual beliefs, values and uses, including waahi taoka and mahika kai;*
- *A7 High diversity of indigenous wetland flora and fauna;*
- *A8 Regionally significant wetland habitat for waterfowl; and*
- *A9 Significant hydrological values including maintaining water quality or low flows, or reducing flood flows.*

There are no Regionally Significant Wetlands located within the Deepdell North Stage III site.

8.5 Water Permits Plan Change (Proposed Plan Change 7)

The Water Permits plan change (Proposed Plan Change 7) was notified on the 18th March 2020, however on the 8 April 2020 the Minister for the Environment called in the Water Permits Plan Change. Because the process has been called in, the Environmental Protection Agency (EPA) will renotify the plan change by issuing a Notice of Direction, which will also call for submissions.

Weight to be afforded

The objectives and policies of PPC7 are relevant all new applications that are lodged, in accordance with section 104(1)(b) of the Act.

Generally, where a proposed plan is recently notified limited weight should be given to the objectives and policies. PPC7 represents a significant shift in Council policy in order to accord with the NPSFM and Part 2 of the Act, seeks to implement a ministerial recommendation under section 24(A) of the Act, and implements a coherent pattern of objectives and policies. Therefore, relatively more weight can be placed on the objective and policies of PPC7 in considering and determining this resource consent application.

Objective and Policy Assessment

The relevant PPC7 objectives and policies are considered below:

Objective 10A.1.1 Transition toward the long-term sustainable management of surface water resources in the Otago region by establishing an interim planning framework to manage new water permits, and the replacement of deemed permits and water permits to take and use surface water (including groundwater considered as surface water) where those water permits expire prior to 31 December 2025, until the new Land and Water Regional Plan is made operative.

Policy 10A.2.2 Irrespective of any other policies in this Plan concerning consent duration, only grant new resource consents for the take and use of water for a duration of no more than six years.

The recommended term is discussed in section 10 below where this policy is also discussed further.

8.6 Regional Plan: Waste for Otago

The following policies from Chapter 5 (Contaminated Sites) and Chapter 6 (Hazardous Substances and Waste) of the RPWa are relevant to these applications:

Policies 5.4.1 & 6.4.12 *To recognise and provide for the relationship Kai Tahu have with Otago's natural and physical resources.*

Policy 5.4.3 *To contain contaminated sites and rehabilitate them to the extent that is practicable having regard to the use to which the land is to be put.*

Policy 5.4.5 *To prepare and maintain a register outlining details of sites which are contaminated.*

Policy 6.4.1 *To promote the safe transportation, and the use, treatment, storage and disposal of hazardous substances and hazardous wastes in such a manner that avoids adverse environmental effects.*

Policy 6.4.2 *To encourage the implementation of a standard system for collecting data on hazardous substances held, used and transported within Otago.*

Policy 6.4.12 *To recognise and provide for the relationship Kai Tahu have with Otago's natural and physical resources through:*

a) Providing for the management and disposal of Otago's hazardous substances and hazardous wastes in a manner which takes into account Kai Tahu cultural values; and
b) Supporting hazardous waste disposal methods which avoid, remedy or mitigate adverse effects on the environment and the mauri of its natural and physical resources; and
c) Protecting waahi tapu and waahi taoka from hazardous waste management practices; and
d) Ensuring that Kai Tahu access to waahi tapu and waahi taoka is not compromised by waste management practices; and
e) Acknowledging that future generations will inherit the results of good and bad waste management practices; and
f) Maintaining consultation with Kai Tahu on issues relating to hazardous substances and hazardous waste management.

The Deepdell North Stage III project site, and wider MGP is a highly modified mine site. Contaminated sites are created through the deposition of waste rock and tailings. Once fully remediated though, these sites will be suitable for the proposed end land use, being pasture and stock grazing. The applicant is proposing to re-handle waste rock from the current Deepdell North Waste Rock Stack to form the Deepdell North Stage III Pit and Deepdell East

Waste Rock Stack. These areas have been identified in the Council's register of potentially contaminated sites. The potential effects from waste rock have been identified and control measures have been devised as a result.

Overall, the applications are considered to be consistent with Chapters 5 and 6 of the RPW.

8.7 Regional Plan: Air for Otago

The Regional Plan: Air for Otago (RPA) has issues, objectives and policies that address air quality and management issues. The following policies from the RPA are relevant to this application:

Policy 7.1.1 *To recognise and provide for the relationship Kai Tahu have with the air resource through procedures that enable Kai Tahu to participate in management of the air resource.*

Policy 8.2.3 *In the consideration of any application to discharge contaminants to air, Council will have:*

- *(a) Particular regard to avoiding adverse effects including cumulative effects on:*
  - *(i) Values of significance to Kai Tahu;*
  - *(ii) The health and functioning of ecosystems, plants and animals;*
  - *(iii) Cultural, heritage and amenity values;*
  - *(iv) Human health; and*
  - *(v) Ambient air quality of any airshed; and*
- *(b) Regard to any existing discharge from the site, into air, and it's effects.*

Policy 8.2.4 *The duration of any permit issued to discharge contaminants to air will be determined having regard to:*

- *(a) The mass and nature of the discharge;*
- *(b) The nature and sensitivity of the receiving environment; and*
- *(c) Any existing discharge from the site, into air and its effects.*

Policy 8.2.5 *To require, as appropriate, that provision be made for review of the conditions of any resource consent to discharge contaminants into air.*

Policy 10.1.1 *The Otago Regional Council will encourage:*

- *(a) People undertaking land use activities to adopt management practices to avoid, remedy or mitigate any adverse effects of dust beyond the boundary of the property; and*
- *(b) City and district councils to use land use planning mechanisms and other land management techniques to manage land use activities which have the potential to result in dust beyond the boundary of the property.*

Policy 11.1.1 *To avoid or mitigate any adverse effects on human health or amenity values resulting from the discharge of offensive or objectionable odour through the use of:*

- *a) Good management practices (including the use of codes of practice) and process technology that has an inherently low odour potential to ensure the amount of odorous contaminants generated by a process or activity is minimised;*
- *b) Appropriate control technologies to reduce the emission of odorous contaminants;*

c) *Site planning mechanisms and other land use management techniques to reduce the potential for adverse off site effects; and*
d) *Tools and techniques that provide an objective assessment of odour, such as olfactometry, odour dose response assessments and community surveys.*

The applicant has undertaken consultation with Aukaha throughout the process. Aukaha have also submitted on the application. Aukaha are in the process of completing a Cultural Impact Assessment for the DDNSIII project.

The potential effects on human health from the dust emissions are considered to be low risk due to the proposed dust control measures and the distance of the nearest property from the project area. A real time Total Suspended Particulate (TSP) monitor is recommended to be placed near the closest neighbouring residence. This will enable the potential effects to be detected and remedied sooner.

A review condition has been recommended on the consent. The duration of consent has been discussed further in section 10 of this report. Overall, subject to the recommended conditions of consent, it is considered that the application is consistent with the relevant objectives and policies of the RPA.

8.8 Regional Policy Statement, Proposed Regional Policy Statement and Partially Operative Regional Policy Statement

The Regional Policy Statement for Otago

The Regional Policy Statement for Otago (RPS) provides an overview of Otago's resource management issues, and ways of achieving integrated management of natural and physical resources. The provisions of Chapter 5 (Land) and Chapter 6 (Water) of the RPS are relevant to these applications. It is noted that with the partially operative RPS, many of the provisions of the RPS have now been revoked. Objectives and policies discussed below are those that remain in effect.

Policy 5.5.5 To minimise the adverse effects of landuse activities on the quality and quantity of Otago's water resource

Policy 5.5.6 To recognise and provide for the protection of Otago's outstanding natural features and landscapes

The applicant intends to rehabilitate the exposed areas on an ongoing basis to ensure that they are exposed for the minimum amount of time. The DDNSIII project is within an area that has already been modified by open pit mining, with an open pit mine and rehabilitated waste rock stack present. The application will result in some previously untouched farmland being used for the waste rock stack and expansion of the pit. Overall it is considered that the application meets the policies of chapter 5.

Objective 6.4.3 Safeguard the life-supporting capacity.

Objective 6.4.4 Maintain and enhance the ecological, intrinsic, amenity and cultural values.

Objective 6.4.5 Avoid, remedy or mitigate degradation of the resource resulting from the use development or protection of the beds and banks of water bodies.

Objective 6.4.6 Mitigate the threat of flooding and riverbank erosion from the use, development or protection of water bodies.

Policy 6.5.5 To promote a reduction in the adverse effects of contaminant discharges into Otago's water bodies

It has been determined that the DDNSIII project will have an effect on water quality, however recommended compliance limits and the addition of flushing flows from the Camp Creek Dam mitigation measure should help to manage these potential adverse effects. Overall, subject to the recommended conditions of consent, the application will meet the objectives and policies of Chapter 6 of the RPS.

The proposed Regional Policy Statement and Partially Operative Regional Policy Statement

The proposed Regional Policy Statement (pRPS) was notified on 23 May 2015 and a decision was released 1 October 2016. Significant weight can be given to the pRPS as it is substantially through the statutory process. The pRPS was made partially operative on the 14th of January 2019 (PO-RPS), with the exception of all provisions and explanatory material in Chapter 3: Otago has high quality natural resources and ecosystems. The provisions that are the subject of court proceedings and are not made operative are shaded in grey below. Full consideration is given to the operative provisions of the PORPS. I acknowledge the regional planning framework does not give full effect to the provisions of the Freshwater NPS (discussed further in Section 8.9). In the event of any inconsistency, it is appropriate to give these provisions greater weight than those in the RPW. Weighted consideration is given to the provisions that have not been made operative in conjunction with the remaining operative provisions of the RPS, outlined above.

The relevant policies of the pRPS/PORPS include the below. The objectives have not been included here as the policies give effect to the Objectives in the pRPS/PORPS:

- *Provide for the economic wellbeing of Otago's people and communities by enabling the resilient and sustainable use and development of natural and physical resources (Policy 1.1.1)*

- *Provide for social and cultural wellbeing and health and safety by recognising and providing for Kāi Tahu values; taking into account the values of other cultures; taking into account the diverse needs of Otago's people and communities; avoiding significant adverse effects of activities on human health; promoting community resilience and the need to secure resources for the reasonable needs for human wellbeing; promoting good quality and accessible infrastructure and public services (Policy 1.1.2).*

The application will add additional years to the life of the mine, which in turn will provide for the economic wellbeing of the East Otago community, and wider Otago region.

- *Achieve integrated management of Otago's natural and physical resources (Policy 1.2.1)*
- *Taking the principles of Te Tiriti o Waitangi into account including by involving Kāi Tahu in resource management processes implementation, having particular regard to the exercise of kaitiakitaka and taking into account iwi management plans (Policy 2.1.2)*
- *Managing the natural environment to support Kāi Tahu wellbeing (Policy 2.2.1)*

- *Recognise and provide for the protection of sites of cultural significance to Kāi Tahu including the values that contribute to the site being significant (Policy 2.2.2)*
- *Enable Kāi Tahu relationships with wāhi tupuna by recognising that relationships between sites of cultural significance are an important element of wāhi tupuna and recognising and using traditional place names (Policy 2.2.3)*

The applicant has actively sought input from Aukaha, and have commissioned a Cultural Impact Assessment from Aukaha for this project. As detailed in section 4.4 of this report, Aukaha have submitted on this application.

- *Managing for freshwater values including*
  - *Maintain or enhance ecosystem health in all Otago aquifers, and rivers, lakes, wetlands, and their margins*
  - *Maintain or enhance the range and extent of habitats provided by fresh water, including the habitat of trout and salmon*
  - *Recognise and provide for the migratory patterns of freshwater species, unless detrimental to indigenous biological diversity*
  - *Avoid aquifer compaction and seawater intrusion in aquifers*
  - *Maintain good water quality, including in the coastal marine area, or enhance it where it has been degraded*
  - *Maintain or enhance coastal values*
  - *Maintain or enhance the natural functioning of rivers, lakes, and wetlands, their riparian margins, and aquifers*
  - *Maintain or enhance the quality and reliability of existing drinking and stock water supplies*
  - *Recognise and provide for important recreation values*
  - *Maintain or enhance the amenity and landscape values of rivers, lakes, and wetlands*
  - *Control the adverse effects of pest species, prevent their introduction and reduce their spread*
  - *Avoid, remedy or mitigate the adverse effects of natural hazards, including flooding and erosion*
  - *Avoid, remedy, or mitigate adverse effects on existing infrastructure that is reliant on fresh water (Policy 3.1.1)*
- *Manage the beds of rivers, lakes, wetlands, their margins and riparian vegetation to:*
  - *Safeguard the life supporting capacity of freshwater;*
  - *Maintain good quality water, or enhance it where it has been degraded;*
  - *Maintain or enhance bank stability;*
  - *Maintain or enhance ecosystem health and indigenous biological diversity;*
  - *Maintain or enhance as far as practicable their natural functioning and character and amenity values*
  - *Control the adverse effects of pest species, prevent their introduction and reduce their spread; and*
  - *Avoid, remedy or mitigate the adverse effects of natural hazards, including flooding and erosion. (Policy 3.1.2)*

The applicant is seeking to discharge water, and disturb, deposit and reclaim the bed of several water courses. Appropriate sediment control consent conditions and water quality compliance criteria have been recommended to manage the beds, margins and freshwater values of the watercourses.

- *Manage air quality to achieve maintenance of good air quality that supports human health or enhance air quality where it has been degraded and maintain and enhance amenity values. (Policy 3.1.6)*

The main concern surrounding air quality with the project is the emission of dust. The applicant already has a Dust Management Plan in place for the rest of the MGP site, and it is a condition of consent that this is updated to include the DDNSIII site. It is also recommended that the applicant undertake real time TSP monitoring to ensure that the air quality is maintained.

- *Minimise soil erosion resulting from activities, by undertaking all of the following:*
  - *Using appropriate erosion controls and soil conservation methods;*
  - *Maintaining vegetative cover on erosion prone land;*
  - *Remediating land where significant soil erosion has occurred;*
  - *Encouraging activities that enhance soil retention (Policy 3.1.8)*

Soil erosion could occur from the waste rock stack. The applicant has stated that they will progressively rehabilitate the waste rock stack with pasture cover, which will help to minimise soil erosion.

- *Manage ecosystems and indigenous biological diversity in terrestrial, freshwater and marine environments to:*
- *Maintain or enhance ecosystem health and indigenous biological diversity in terrestrial, freshwater and marine environments (Policy 3.1.9)*
- *Identify and protect the significant values of wetlands (Policy 3.2.15 & 3.2.16)*

The applicant is proposing to undertake mitigation measures to ensure ecosystem health of the freshwater environments.

- *Manage the use, storage and disposal of hazardous substances (Policy 4.6.2)*

The applicant has a variety of plans and procedures in place such as a risk management plan, a health and safety management system and an emergency management control plan for the site which manages the use, storage and disposal of hazardous substances.

- *Ensure contaminated or potentially contaminated land does not pose unacceptable risk to people and the environment (Policy 4.6.5)*

The MGP has been identified as a verified Hazardous Activities Industries List (HAIL) site. Current and recommended consent conditions and various management plans help to ensure that the contaminants do not pose unacceptable risk to people and the environment.

- *Protect and enhance places and areas of historic heritage (Policy 5.2.3)*

Work has been undertaken to identify historic heritage within the area of the DDNSIII project. Consent conditions requiring Accidental Discovery Protocols to be undertaken should historic artefacts be encountered have also been recommended.

- *Manage offensive or objectionable discharges to land, water and air (Policy 5.4.1)*
- *Apply an adaptive management approach to avoid, remedy or mitigate actual and potential adverse effects that might arise and that can be remedied before they become irreversible (Policy 5.4.2)*

Mitigation measures, compliance criteria and monitoring conditions have been recommended to ensure that no discharge is offensive or objectionable and that potential adverse effects are adequately managed before they become irreversible.

Policy 5.4.6 Offsetting for indigenous biological diversity
Consider the offsetting of indigenous biological diversity offsetting, when:
(a) Adverse residual effects of activities cannot be avoided, remedied or mitigated;

(b) The offset achieves no net loss and preferably a net gain in indigenous biological diversity;
(c) The offset ensures there is no loss of individuals of rare or vulnerable species as defined in reports published prior to 14 January 2019 under the New Zealand Threat Classification System ('NZTCS');
(d) The offset is undertaken where it will result in the best ecological outcome, preferably:
(i) Close to the location of development; or
(ii) Within the same ecological district or coastal marine biogeographic region.
(e) The offset is applied so that the ecological values being achieved are the same or similar to those being lost;
(f) The positive ecological outcomes of the offset last at least as long as the impact of the activity, preferably in perpetuity;
(g) The offset will achieve biological diversity outcomes beyond results that would have occurred if the offset was not proposed;
(h) The delay between the loss of biological diversity through the proposal and the gain or maturation of the offset's biological diversity outcomes is minimised."

(2) directs that the Otago Regional Council amends its proposed Otago Regional Policy Statement by adding the following policy 5.4.6A (Limits to compensation)

Policy 5.4.6A Biological Diversity Compensation
Consider the use of biological diversity compensation:
(a) When:
(i) Adverse effects of activities cannot be avoided, remedied, mitigated or offset; and
(ii) The residual adverse effects will not result in:
(1) The loss of an indigenous taxon (excluding freshwater fauna and flora) or of any ecosystem type from an ecological district or coastal marine biogeographic region;
(2) Removal or loss of viability of habitat of a threatened or at risk indigenous species of fauna or flora under the New Zealand Threat Classification System (NZCTS);
(3) Removal or loss of viability of an originally rare or uncommon ecosystem type that is associated with indigenous vegetation or habitat of indigenous fauna;
(4) Worsening of the NZTCS conservation status of any threatened or at risk indigenous freshwater fauna.
(b) By applying the following criteria:
(i) the compensation is proportionate to the adverse effect;
(ii) the compensation is undertaken where it will result in the best practicable ecological outcome, preferably:
(1) close to the location of development;
(2) within the same ecological district or coastal marine biogeographic region;
(iii) the compensation will achieve positive biological diversity outcomes that would not have occurred without that compensation;
(iv) the positive ecological outcomes of the compensation last for at least as long as the adverse effects of the activity; and
(v) the delay between the loss of biological diversity through the proposal and the gain or maturation of the compensation's biological diversity outcomes is minimised."

The applicant is proposing to offset adverse effects on the native shrubland, wetlands and terrestrial ecology that is to be lost. These adverse effects are covered under the application to the Waitaki District Council. No adverse effects as a result of the proposed activities covered

by Otago Regional Council Plans require offsetting. Therefore for activities cover by this council, the application is consistent with these two policies.

For the above reasons the application is generally consistent with the provisions of both the RPS and PO-RPS.

8.9 National Policy Statement Freshwater Management (NPSFM)

The National Policy Statement for Fresh Water Management 2014 and amended in 2017 ("NPS-FM") provides a National Objectives framework to assist regional councils and communities to more consistently and transparently plan for freshwater objectives. The NPS-FM also directs how regional councils are to manage freshwater through their planning documents, and in the consideration of resource consent applications.

The Council has decided to progressively implement the policies in the NPS-FM in accordance with Policy E1, as set out in its Progressive Implementation Programme (adopted in October 2018). The Council's Progressive Implementation Programme provides that the Council will carry out a plan review to the Regional Plan Water to implement the policies in the NPS-FM (including establishing freshwater management units, freshwater objectives, and attributes in accordance with Policy CA), to be notified by December 2025. Individual plan changes are planned to be notified within the next 12 months, with priority being given to the Arrow, Cardrona and Manuherikia catchments.

The objectives and policies in the NPS-FM are relevant when considering applications to take water, discharge to water and undertake instream works. The following objectives and policies are considered to be the most relevant to this application:

Objective A1: To safeguard the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, of fresh water; and the health of people and communities, as affected by contact with fresh water in sustainably managing discharges of contaminants.

Objective B1: To safeguard the life supporting capacity, ecosystem processes and indigenous species including their associated ecosystems of freshwater, in sustainably managing the taking, using, damming or diverting of freshwater.

Objective A2: The overall quality of fresh water within a freshwater management unit (FMU) is maintained or improved.

Objective A3: The quality of freshwater within a freshwater management unit is improved so it is suitable for primary contact more often, unless

a) Regional targets established under Policy A6(b) have been achieved; or
b) Naturally occurring processes mean further improvement is not possible.

The proposed discharges, damming and diversion of freshwater will be undertaken in a manner that looks to safeguard the life supporting capacity of ecosystem process and indigenous species. The applicant has proposed mitigation measures to help safeguard the life supporting capacity of the ecosystems, and recommended consent conditions should work to ensuring this. There is concern that the quality of the water that the compliance limits proposed by the applicant would allow high levels of contaminants to be discharged that would lead to adverse effects within Highlay Creek and Deepdell Creek and the Shag River. More stringent compliance criteria has been recommended. The applicant has also proposed to

mitigate these potentially high concentrations through the use of additional flows from the yet to be constructed Camp Creek Dam. Therefore, the application is considered to be generally consistent with these objectives, should the recommended compliance criteria be adopted, and Camp Creek Dam mitigation plan successfully be put in place.

Objective A4: To enable communities to provide for their economic well-being, including productive economic opportunities, in sustainably managing freshwater quality, within limits.

Objective B5: To enable communities to provide for their economic well-being, including productive economic opportunities in sustainably managing freshwater quantity, within limits.

The applicant states that the DDNSIII project will result in approximately $84 million to the local economy as a result of the continued operation of the mine site. As a result the application is consistent with these objectives.

Objective C1: To improve integrated management of fresh water and the use and development of land in whole catchments, including the interactions between fresh water, land, associated ecosystems and the coastal environment.

Policy A1: requires changes to regional plans to establish freshwater objectives and set freshwater quality limits for all FMUs, and to establish methods to avoid over-allocation.

Policy A2: relates to FMUs that do not meet the freshwater objectives made under Policy A.1 and requires targets and implementation methods to improve water quality.

Policy A3 requires conditions to be imposed on discharge permits to ensure limits and targets specified in Policy A1 and A2 can be met and imposing rules that require the adoption of the best practicable option.

Council has proposed a progressive implementation plan for meeting the NPS-FM and this includes developing a new land and water plan that will be notified by 2023 that includes objective and targets for FMUs in accordance with the requirements of Policy A1-A3 of the NPS-FM. A review condition has been recommended to allow conditions to be imposed on the discharge permit, if required, once the new land and water plan is fully operative.

Policy A4 only applies to new discharges or discharges where there is a change or increase in any discharge. It requires the following:

1. When considering any application for a discharge the consent authority must have regard to the following matters:
    a) the extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water and
    b) the extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided.

2. When considering any application for a discharge the consent authority must have regard to the following matters:
    a) the extent to which the discharge would avoid contamination that will have an adverse effect on the health of people and communities as affected by their contact with fresh water; and

b) the extent to which it is feasible and dependable that any more than minor adverse effect on the health of people and communities as affected by their contact with fresh water resulting from the discharge would be avoided.

The receiving environments for the discharges are already subject to similar discharges from mining activities. There is concern that the increase in these discharges, both from this project itself, and the addition of the Golden Point Underground mine will result in an increase in contaminant levels within the watercourses. Increased nitrate levels will likely result in excessive periphyton growth which will cause an adverse effect on the life supporting capacity of the Deepdell Creek catchment, and potentially the wider Shag River/Waihemo catchment. The applicant has proposed to dilute the water in Deepdell Creek as required through the discharge of freshwater from the yet to be constructed Camp Creek Dam. Providing this mitigation measure is installed, and that the applicant meets the recommended compliance criteria for surface water quality, the application would be generally consistent with this policy.

Policy A5 requires changes to regional plans to identify specified rivers and lakes, and primary contact sites and to state the improvements that will be made to these so they are suitable for primary contact recreation, and to outline how they will be maintained once regional targets have been achieved.

Policy A6 requires the development of regional targets to improve the quality of fresh water in specified rivers and lakes to achieve the national target by 31 December 2018.

As discussed previously, a review condition has been recommended to allow conditions to be imposed on the discharge permits, if required, once the new land and water plan is fully operative. Therefore the application is consistent with these policies.

Policy A7 requires Council to consider when giving effect to the NPS-FM how to enable communities to provide for their economic well-being, including productive economic opportunities, while managing within limits. The applicant states that the approval of the DDNSIII project will result in approximately $84 million going into the local, and wider Otago economy.

Part B of the NPS-FM relates to water quantity. Objective B2 is particularly important in the case of over-allocated catchments as allocation is not currently fully addressed in the RPW. Objective B2 seeks to “avoid any further over-allocation of fresh water and phase out existing over-allocation”.[1] If a particular catchment is considered to be over allocated, and the Council was to grant a new permit for the same volume as authorised under the current deemed permit, the decision would not avoid further over allocation in line with Objective B2.

Given that there is only 0.2 L/s available from the Shag River/Waihemo catchment, the proposed water takes have been allocated as further supplementary takes. Therefore, the application will be consistent with Objective B2 of the NPS-FM as the proposed take will not cause the numeric threshold of water available in the Shag River/Waihemo catchment to be exceeded.

Whilst the RPW is not a NPS-FM compliant plan Objective B1 (safeguarding the life supporting capacity, ecosystem processes and indigenous species in sustainably managing the taking of

[1] The NPSFM defines over-allocation as:
the situation where the resource: a) has been allocated to users beyond a limit; or b) is being used to a point where a freshwater objective is no longer being met. This applies to both water quantity and quality.

freshwater), Objective B3 (improve and maximise the efficient allocation and use of water), Objective B4 (protect significant values of wetlands and outstanding freshwater bodies), are still relevant. It is considered that the proposed consent conditions and mitigation measures mean that the applications are consistent with these Objectives.

Policies in the NPS-FM are also relevant to this application. In particular Policies B5 and B7. These policies are important as whilst the RPW is not a NPS-FM plan and Freshwater Management Units (FMUs) have only just been determined, there is clear direction that decisions must not result in future overallocation. In this case if the application is granted as recommended, it will not result in any future over allocation of the catchment.

Overall, it is considered that the application is consistent with the objectives and policies of the NPS-FM.

8.10 Resource Management (National Environmental Standards for Air Quality) Regulations 2004

In October 2004 the New Zealand Government introduced a set of National Environmental Standards (NES) for Ambient Air Quality. This NES was subsequently amended in 2005 and 2011. These standards replace the previous Ambient Air Quality Guidelines (NZAAQG) for PM_{10}, SO_2, NO_2, O_3 and CO. In effect, the new standards convert the ambient air quality guidelines into standards and stipulate a maximum number of allowable exceedances of the concentration limits. For sulphur dioxide, the standards stipulate an absolute maximum concentration limit. Under the NES, Councils will have until 2020 to achieve ambient air quality, within their regions, that meets the proposed standards.

The applicant is proposing to discharge dust from its mining operation to air. The applicant has a dust management plan in place for its site, and recommended conditions of consent will require appropriate dust controls be in place to ensure that there is as little dust discharged as possible. It is proposed that the applicant monitor Total Suspended Particulate emissions with a real time Total Suspended Particulate (TSP) monitor placed near the closest neighbouring residence. This will enable the potential effects to be detected and remedied sooner.

The proposed discharge to air will not reduce the Council's ability to achieve ambient air quality standards providing recommended consent conditions are adopted.

Overall, it is considered that the application is consistent with the relevant policies of the NES.

8.11 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 came into effect on 1 January 2012. The NES provides a nationally consistent set of planning controls and soil contaminant values, and ensures that contaminated land is appropriately identified and assessed before it is developed and, if necessary, is remediated or managed to make the land safe for human use.

The applicant has applied for resource consent from the Waitaki District Council under the NES. This report does not assess the proposed activity against the requirements of the NES and it is the responsibility of the applicant to apply for any additional consents as necessary.

8.12 National Environmental Standard for Sources of Human Drinking Water

Regulations 7 and 8 of the National Environmental Standard for Sources of Human Drinking Water (NES) need to be considered when assessing water permits that have the potential to affect registered drinking water supplies that provide 501 or more people with drinking water for 60 or more calendar days each year.

The closest drinking water supply not held by the applicant is the Palmerston community water take from the Shag River. The compliance limits and proposed mitigation measures should ensure that the impact on water quality is such that adverse effects on the Palmerston drinking water supply will be avoided.

8.13 Resource Management (Measurement and Reporting of Water Takes) Regulations 2010

Accurate, complete and current water information is a critical building block in establishing a water management system in which water is effectively allocated and efficiently used.

The regulations apply to holders of water permits (resource consents) which allow fresh water to be taken at a rate of 5 litres/second or more, specifically:

- Regulation 8 - Permit holder must provide records and evidence to regional council

Recommended consent conditions will require the applicant to provide abstraction records in accordance with the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010.

8.14 Section 104(1)(c) - Any other matters

Kai Tahu ki Otago Natural Resource Management Plan 2005

The Kai Tahu ki Otago Natural Resource Management Plan 2005 (NRMP) is considered to be a relevant other matter for the consideration of this application. This is because the RPW is yet to be amended to take into account this Plan and this Plan expresses the attitudes and values of the four Papatipu Rūnaka: Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga. The following objectives and policies are of most relevance to this application:

- To require that resource consents applications seek only the amount of water actually required for the purpose specified in the application.
- To require that all water takes are metered and reported on, and information be made available upon request to Kai Tahu ki Otago.
- To oppose the granting of water take consents for 35 years.
- To require monitoring of all discharges to be undertaken.
- To encourage management plans for all discharge activities.
- To require all discharge systems to be well maintained and regularly serviced.
- To require cultural assessments for any discharges to air.
- To require that work be undertaken when water levels are naturally low or dry.
- To require that works are not undertaken during spawning season of certain fish species and fish passage is provided for at all times.
- To require that any visual impacts at the site of the activity are minimal.
- To require that all practical measures are undertaken to minimise sediment or other contaminant discharge and that wet concrete does not enter active flow channels.
- To require that machinery only enters the dry bed of the waterway to the extent necessary to undertake the work, and that it is kept clean and well-maintained, with refuelling occurring away from the waterway. Machinery operating in flowing water is to be discouraged.

- To require that buffer zones are established and agreed upon with the Papatipu Runaka between the flowing water and the site of any river or instream work.

The applicant has sought various terms for the proposed consents, ranging from is seeking a 10 years to unlimited. Several of the consents have sought 35 year durations, based on long term nature of the activities.

Recommended consent conditions will require all discharges to be monitored, and water takes to be metered. The nature of the activities means that the visual impacts of the activity on the site are unavoidable, however as the applicant is seeking to undertake works in a area that was previously mined, visual impacts will be less than if the area had not been mined previously.

Recommended conditions of consent will require sediment to be minimised during instream works and restrict machinery to the dry bed of the watercourse for the extent necessary.

Based on the above comments it is therefore considered that the application is consistent with the NRMP providing the recommended consent conditions are adopted.

Professor Skelton's Report and Minister's Recommendations

Professor Skelton's report and the Minister's recommendations fall under another matter relevant and are reasonably necessary to determine the application as per section 104(1)(c). The report and recommendations provide clear direction in terms of the inadequacy of the current planning framework to manage freshwater in accordance with national direction, and the recommended methods to solve this issue. However, the weight placed on these matters is not determinative of the consent application in regard to granting the water permits. This report has been considered but has not changed the recommendation to grant the consent.

8.15 Section 105 and 107 Evaluation of Discharges

Section 105(1) states for a discharge permit that the Consent Authority shall have regard to:

a) the nature of the discharge, the sensitivity of the receiving environment, and the applicant's reasons for the proposed choice; and
b) any possible alternative methods of discharge including discharge into any other receiving environment.

Section 107(1) of the Act states that a discharge permit shall not be granted if, after reasonable mixing, the contaminant or water discharged is likely to give rise to all or any of the following effects in the receiving waters:

- The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material; or
- Any conspicuous change in the colour or visual clarity; or
- Any emission of objectionable odour; or
- The rendering of fresh water unsuitable for consumption by farm animals; or
- Any significant adverse effects on aquatic life.

These matters were considered in section 6 of this report. In summary, consent can be granted in regard to the matters in s105(1) and 107(1) of the Act.

8.16 Part 2 of the Act

Under Section 104(1) of the RMA, a consent authority must consider resource consent applications "subject to Part 2" of the RMA, specifically, sections 5, 6, 7 and 8.

The Court of Appeal has recently clarified how to approach the assessment of "subject to Part 2" in section 104(1). In *R J Davidson* the Court of Appeal found that (in summary):[2]

Decision makers must consider Part 2 when making decisions on resource consent applications, where it is appropriate to do so. The extent to which Part 2 of the RMA should be referred to depends on the nature and content of the planning documents being considered.

Where the relevant planning documents have been prepared having regard to Part 2 of the RMA, and with a coherent set of policies designed to achieve clear environmental outcomes, consideration of Part 2 is not ultimately required. In this situation, the policies of these planning documents should be implemented by the consent authority. The consideration of Part 2 "would not add anything to the evaluative exercise" as "genuine consideration and application of relevant plan considerations may leave little room for Part 2 to influence the outcome". However, the consideration of Part 2 is not prevented, but Part 2 cannot be used to subvert a clearly relevant restriction or directive policy in a planning document.

Where it is unclear from the planning documents whether consent should be granted or refused, and the consent authority has to exercise a judgment, Part 2 should be considered.

If it appears that the relevant planning documents have not been prepared in a manner that reflects the provisions of Part 2, the consent authority is required to consider Part 2.

The proposal is consistent with the purpose and principles of the Act, as outlined in Section 5. Section 5 states that the purpose of the Act is to "to promote the sustainable management of natural and physical resources". Sustainable management has two facets. The first aspect is "managing the use, development and protection of natural and physical resources in a way, or at a rate which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety". In this respect, the concept of sustainable management is permissive. The purpose of the Act is achieved by allowing activities that benefit people. In this case the applicant is proposing to undertake the DDNSIII project in order to extend the life of the mine, enabling further exploration and recovery of a valuable resource whilst ensuring employment and economic gain for people within the region. Careful planning and appropriate conditions of consent will ensure that potential adverse effects from the Deepdell North Stage III Project are avoided, mitigated or controlled.

However, there is another aspect to sustainable management. The use, development and protection of resources are only allowed while:

(a) "sustaining the potential of natural and physical resources, (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of air, water, soil and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment."

The granting of these applications with the conditions imposed, and including the requirement for monitoring to ensure adverse effects are avoided, is consistent with the ethic of sustainable management of resources.

Section 6 of the Act requires that in assessing the applications, the following matters of national importance are recognised and provided for:

a) The preservation of the natural character of the coastal marine area, wetlands, and lakes and rivers and from inappropriate subdivision, use, and development:

[2] *R J Davidson Family Trust v Marlborough District Council* [2018] NZCA 316.

b) The protection of outstanding natural features and use, and development:

c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:

d) The maintenance and enhancement of public access lakes, and rivers:

e) The relationship of Maori and their culture and traditions sites, waahi tapu, and other taonga.

f) The protection of historic heritage from inappropriate subdivision, use and development.

g) The protection of recognised customary activities.

Section 6 of the Act sets out those matters of national importance that are to be recognised and provided for in achieving the purpose of the Act.

The application is not contrary to Section 6(a) of the Act, in that the applicant has adequately assessed the potential effects of the proposed activities. Where there are shortcomings in this assessment, recommended conditions of consent will provide for further assessment, with review conditions allowing the findings of any further assessment to be taken in account and provided for. The MGP site is a highly modified mine site with little natural character. Although a small portion of the site to be developed as part of the DDNSIII project have not yet been impacted upon by mining activities, these sites are associated with limited natural values. Consequently, subject to recommended consent conditions, the effects on remaining natural character will be no more than minor.

Section 7 of the Act sets out those matters that have particular regard attributed to them in achieving the purpose of the Act. Matters relevant to the proposal under consideration are as follows:

(a) kaitiakitanga and the ethic of stewardship;

(b) the efficient use and development of natural and physical resources;

(c) maintenance and enhancement of amenity values;

(d) intrinsic values of ecosystems;

(f) maintenance and enhancement of the quality of the environment; and

(g) any finite characteristics of natural and physical resources;

In contrast to section 6, the matters set out in section 7 are not declared to be matters of national importance.

The proposed activities will affect ecosystems located in and around the MGP site. However, these effects have been assessed and appropriate mitigation is proposed. Furthermore, due to proposed consent conditions, the effects on ecosystems will be avoided where possible.

In respect of Kaitiakitanga, Iwi authorities were provided with the opportunity to exercise guardianship in regard to the natural and physical resources in the area. They are currently preparing a CIA to cover these issues.

Section 8 requires all persons acting under the Act to take into account the principles of the Treaty of Waitangi. Recommended conditions of consent will allow for consent conditions to be reviewed as required based on the findings of the CIA. Consequently, the principles of the Treaty of Waitangi (te Tiriti o Waitangi) have been taken into account.

Subject to the recommended consent conditions being adopted, the application is consistent with Part 2 of the RMA.

8.11 Section 108 and 108AA of the Act

Recommended conditions for the proposed consents are appended to this report. These are recommended in accordance with Sections 108 and 108AA of the Act. These conditions include those proposed by the Applicant.

In proposing the draft consent conditions, I have varied from that proposed in the application for the following:

- A pit lake compliance schedule has been recommended; and
- Stricter and additional compliance criteria have been recommended for the Highlay Creek and Camp Creek compliance points to reduce adverse effects on the Deepdell Creek and Shag River catchments.

9. Recommendation

9.1 Reason for Recommendation

It is recommended that this consent application is approved subject to the appended conditions and for the recommended term because:

a. The DDNSIII project will provide for the continuation of a range of major benefits relating to employment and socio-economic wellbeing. The extended life of the MGP will continue to support the infrastructure activities of local communities.
b. Where adverse effects are anticipated, consent conditions requiring appropriate monitoring and compliance criteria to be put in place have been recommended.
c. The proposed activity is generally consistent with the objectives and policies of the Regional Plan: Water, Regional Plan: Waste and Regional Plan: Air.

10. Term of Consent (Section 123)

The table below details the terms of consent sought by the applicant, the recommended term and the reason for each consent. Policy 6.4.19 of the RPW states that when considering the duration of a resource consent to take and use water the following are considered:

- The duration of the purpose of use;
- The presence of a catchment minimum flow or aquifer restriction level;
- Climatic variability and consequent changes in local demand for water;
- The extent to which the risk of potentially significant adverse effects arising from the activity may be adequately managed through review conditions;
- Conditions that allow for the adaptive management of the take and use of water;
- The value of the investment in infrastructure; and
- Use of industry best practice.

Policy 10A.2.2 of PPC7 states:

Irrespective of any other policies in this Plan concerning consent duration, only grant new resource consents for the take and use of water for a duration of no more than six years.

In addition to these policies, the Kai Tahu ki Otago Natural Resource Management Plan 2005 (NRMP) opposes the granting of consents for 35 years.

Furthermore, case law has distilled the following factors that will be relevant to the Council's determination of the duration of a resource consent:

- The duration of a resource consent should be decided in a manner which meets the RMA's purpose of sustainable management;
- Whether adverse effects would be likely to increase or vary during the term of the consent;
- Whether there is an expectation that new information regarding mitigation would become available during the term of the consent;
- Whether the impact of the duration could hinder implementation of an integrated management plan (including a new plan);
- That conditions may be imposed requiring adoption of the best practicable option, requiring supply of information relating to the exercise of the consent, and requiring observance of minimum standards of quality in the receiving environment;
- Whether review conditions are able to control adverse effects;
- Whether the relevant plan addresses the question of the duration of a consent;
- The life expectancy of the asset for which consents are sought;
- Whether there was significant capital investment in the activity/asset; and
- Whether a particular period of duration would better achieve administrative efficiency.

The applicant is seeking to take both surface and groundwater from Deepdell North Pit, which has made its way into the pit through rainfall runoff and groundwater infiltration. They are seeking two permits to undertake this, one during operations to allow for the pit to be dewatered (RM20.024.01); and one post closure to allow for the water to collect and form a pit lake (RM20.024.08). The applicant is also seeking a third consent to allow for the take of water from the silt ponds associated with the DDNSIII project for the purpose of dust suppression (RM20.024.13). It is considered appropriate to have a 6 year term of consent for both RM20.024.01 and RM20.024.13 as they are only required for the term of the work.

However, it would be impractical for RM20.024.08. Policy 6.4.19 of the RPW states when considering a term for a consent the duration of the purpose of use should be considered. RM20.024.08 will not be exercised until mining has ceased. A 6 years term for RM20.024.08 would not provide adequate time for the activity to be undertaken, especially seeing as it is a passive, rainfall driven activity that will require consent in perpetuity. Taking into account these policies and the NRMP opposition to 35 year term for consents a 25 year term has been recommended for this water permit.

The applicant has stated that the project will take approximately 1 year to complete, therefore for those activities which are to be undertaken as a part of the DDNSIII project, a 6 year term has been recommended. Given that the applicant has indicated that they intend to start the project once consent is granted, a 6 year term will allow enough time for the project to be completed while accounting for delays, and will align with the surface water permits. Those permits which are to continue on after the mining phase of the project has been completed, a 25 year term has been recommended, as detailed in the table below.

Land Use Consent RM20.024.06 is to permanently reclaim the bed of several watercourses, and therefore as it is for reclamation an unlimited term under section 123(a) of the RMA 1991, has been recommended.

Consent Number and Type	Activity	Requested Term of consent	Recommended term of consent	Reason for recommendation
RM20.024.01: Water Permit	Take surface water and groundwater from the Deepdell North Stage III Pit for the purpose of dewatering Deepdell North stage III Pit	10 years	6 years	Policy 10.A.2.2 of Proposed Plan Change 7 requires that new resource consents for the take and use of water are granted for a duration of no more than 6 years.
RM20.024.02: Discharge Permit	To discharge rainfall run off water and associated contaminants to land in a manner that may enter groundwater from the mined pit surface within Deepdell North Stage III pit for the purpose of constructing and operating and open pit mine.	35 years	25 years	Consent is required long term, however the NRMP expresses a preference for a maximum of 25 years on discharge permits.
RM20.024.03: Land Use Consent	To disturb, deposit onto or into an approximately 480 metre length of the bed of an unnamed tributary of Camp Creek for the purpose of establishing a drainage network and stockpiles.	Unlimited	6 years	Consent is only required for when the works are being undertaken. A 6 year term would be sufficient time to allow the applicant to undertake the works.
RM20.024.04: Water Permit	To permanently divert water from an unnamed tributary of Camp Creek for the purpose of establishing a drainage network and stockpiles.	Not specified	6 years	Policy 10.A.2.2 of Proposed Plan Change 7 requires that new resource consents for the take and use of water are granted for a duration of

				no more than 6 years.
RM20.024.05: Land Use Consent	To disturb a contaminated site for the purpose of creating Deepdell North Stage III Pit.	Not specified	6 years	Consent is only required for when the works are being undertaken. A 6 year term would be sufficient time to allow the applicant to undertake the works.
RM20.024.06: Land Use Consent	To permanently reclaim the bed of an unnamed tributary of Camp Creek, and an unnamed tributary of Highlay Creek for the purpose of creating a drainage network, stockpiles and the a waste rock stack	Unlimited	Unlimited	Unlimited term under section 123(a) of the RMA 1991, as the consent is for reclamation.
RM20.024.07: Water Permit	To dam water in Deepdell North Stage III Pit for the purpose of creating the Deepdell North Pit Lake	35 years	25 years	Consent is required long term, however the NRMP expresses a preference for a maximum of 25 years on water permits.
RM20.024.08: Water Permit	To take surface water for the purpose of creating the Deepdell North Pit Lake	35 years	6 years	Policy 10.A.2.2 of Proposed Plan Change 7 requires that new resource consents for the take and use of water are granted for a duration of no more than 6 years
RM20.024.09: Discharge Permit	To discharge waste rock to land where it (and the resulting contaminants) may enter surface and groundwater and to discharge water from the	35 years	25 years	Consent is required long term, however the NRMP requires a maximum of 25 years on discharge permits.

	waste rock stack, silt ponds and pit to land in a manner that may enter water for the purposes of constructing and operating a waste rock stack and dust suppression.			
RM20.024.10: Land Use Consent	To disturb, deposit, onto or into an approximately 350 m of the ephemeral bed and approximately 130 metres of the intermittent bed of an unnamed tributary of Highlay Creek for the purposes of constructing a waste rock stack	Unlimited	6 years	Consent is only required for when the works are being undertaken. A 6 year term would be sufficient time to allow the applicant to undertake the works.
RM20.024.11: Land Use Consent	To disturb the bed, deposit into the bed and place a 51 metre long culvert and embankment structure into the bed of an unnamed tributary of Highlay Creek for the purposed of realigning Horse Flat Road	35 years	6 years	Consent is only required for when the works are being undertaken. A 6 year term would be sufficient time to allow the applicant to undertake the works.
RM20.024.12: Discharge Permit	To discharge contaminants from mining operations and post mining rehabilitation to air for the purpose of undertaking mining operations.	10 years	6 years	Consent is only required for when the works are being undertaken. A 6 year term would be sufficient time to allow the applicant to undertake the works.
RM20.024.13: Water Permit	To take surface water from silt ponds associated with the Deepdell	10 years	6 years	Policy 10.A.2.2 of Proposed Plan Change 7 requires that new

	North Stage III project for the purpose of dust suppression			resource consents for the take and use of water are granted for a duration of no more than 6 years.
RM20.024.14: Discharge Permit	To discharge contaminants and water from silt ponds to unnamed tributaries of Highlay Creek, Camp Creek and Deepdell Creek for the purpose of operating silt ponds for the Deepdell North Stage III Project.	35 years	25 years	Consent is required long term, however the NRMP requires a maximum of 25 years on discharge permits.