Decision of the Otago Regional Council (ORC) and Waitaki District Council (WDC)

through its Hearings Committee, in respect of applications made under the Resource Management Act 1991 (RMA)

Oceana Gold Limited (OGL) – for consents to develop its mine at Macraes Flat

for a project named MPIII.

55 permits required from ORC and one landuse permit for the whole site from WDC.

Hearing held at the Otago Regional Council commencing on 19 September 2011, adjourned on 28 September and closed on 13 October.

Volume 1 of 3

4 November 2011

Decision Summary

1. Having carefully considered all the relevant reports and documentation supplied with the application, submissions, the relevant statutory provisions and the evidence presented to the Panel during the course of the hearing, the Panel determines that OGL has made its case for the MPIII project and the MPIII project should be allowed to proceed as proposed, subject to the imposition of conditions.

2. In terms of S113(a) of the RMA the Panel is required to give reasons for its decisions. Throughout section 6 and 7 of this decision the Panel has considered the environmental effects that were brought to its attention. Having done so the Panel has undertaken an overall evaluation of the adverse impacts of the proposal in light of the expected positive effects.

3. The Panel concludes that there are significant benefits to the proposal and that it will promote the sustainable management of natural and physical resources providing the adverse effects that have been identified are attended to by avoiding them, remedying them or providing mitigation for them. All of these approaches have been provided for in consent conditions.

4. For the reasons given, the Panel in exercising the powers delegated to it by the Waitaki District Council and the Otago Regional Council resolves:
   (a) to grant WDC consent application 201.2011.35 sought by Oceana Gold Limited pursuant to S104 of the RMA; and
   (b) to grant ORC applications RM10.351.01-RM10.351.55 (55 permits) sought by Oceana Gold Limited pursuant to S104 of the RMA.

5. The panel grants the permits for the durations set out in volumes 2 and 3 of this decision which contains the text of the permits with conditions. The conditions are attached in accordance with s108 of the RMA. The Panel notes that many conditions were finalised between parties during the course of the hearing.

Contents

1. Introduction and Procedural Matters

A joint hearing Panel was appointed by both Councils to hear and determine the applications for the expansion of the mine site at Macraes. The consent reference numbers were ORC - RM10.351 .01 to RM10.351.55 (55 permits) and WDC – 201.2011.35.

1.2 Appearances

Hearing Panel:

Cr Louise Croot (chair)

Cr Duncan Butcher

Mr David McMahon (withdrew due to health reasons)

Applicant:

Mr Stephen Christensen, Counsel

Mr Bernard O'Leary –General Manager Macraes Mine

Mr Mike Copeland – Economist, Brown Copeland & Co

Mr Jimmy Young – Tourism Planner, Tourism Resource Consultants

Mr David McKenzie – Landscape Architect, Opus Consultants

Ms Wendy Turvey- Heritage expert, Opus Consultants

Mr Robert Bertuzzi- Geotechnical Engineer, Pells Sullivan Meynick

Mr Andrew Carr – Transport Engineer, Traffic Design Group

Dr Trevor Matuschka, Civil Engineer, Engineering Geology Ltd

Mr Brett Sinclair - Hydrogeologist, (also presenting evidence of Dr Rens Verburg- Geochemist), Golder Associates (NZ) Ltd

Dr Greg Ryder- Aquatic Ecologist, Ryder Consulting Ltd

Mr Nevil Hegley- Acoustic Engineer, Hegley Acoustic Consultants

Mr Richard Taylor- Drill and Blast Engineer, Orica Mining Services

Ms Prue Harwood, Air Quality expert, Beca Consultants

Comments from Mr John Bywater

Submitters	NZ Historic Places Trust – Ms Jane O'Dea- Heritage Advisor
	Director General of Conservation – Ms Pene Williams, Counsel, Mr Bruce Hill, Conservation Officer Resource Planning , comments from Mr Peter Ravenscroft.
	Kati Huirapa Runaka ki Puketeraki and Te Runanga o Moeraki
	Mr Tim Vial, Planner
	Mr B J Allingham, Archaeologist
	Mr Tamatea Smith, executive member Kati Huirapa Runaka ki Puketeraki
	Mr Brendan Flack, representative Kati Huirapa Runaka ki Puketeraki
	Macraes Community Inc – Mr John Harvie, Chairman
	Dogterom Family Trust - Mr Otto Dogterom, Farmer
	Mr Neil Roy, Farmer, Committee Member Macraes Community Inc, past Councillor Waitaki District Council
S42A Report Writers:	Ms Hilary Lennox- Geophysicist, Resource Officer ORC
	Mr Justin Kitto- Resource Scientist ORC
	Mr Andrew Purves, Planner Consultant for WDC, with
	Mr Ben Espie – Landscape Architect, Vivian Espie
	Mr Barry McDowell- Senior Engineering Geologist, Tonkin & Taylor Ltd
	Dr Mandy Tocher – Ecologist, Wildland Consultants Ltd.
Hearing Panel Assistants	Ms Marian Weaver (ORC)
	Mr David Campbell (WDC)

1.2 Procedural Issues

1. After two days of hearings unfortunately Mr McMahon became seriously ill and could not continue. The Councils decided that the hearing should proceed with the two

remaining commissioners. This option for continuing the hearing with only two commissioners was raised with OGL and the submitters who wished to be heard. None raised any objection to the hearing continuing, with the proviso that Mr McMahon would have no further involvement with the hearing or the decision making on the application.

2. OGL agreed to a 5 day time extension for the notification of the decision following the close of the hearing, to reflect the loss of a commissioner.

3. The Panel was advised that Mr Trevor Hay attended the hearing and wanted to be heard. Both Ms Weaver and Mr Campbell advised that no submission had been received from Mr Hay, and he or his company had been served with notice of the applications in accordance with the requirements of the RMA. Mr Hay was not heard and left the hearing venue.

1.3 Site Visit

4. The Panel accompanied by Ms Weaver, conducted a site visit on Sunday 18 September. Ms Debbie Clark and Mr Mike Dodds, employees of OGL accompanied the Panel. Neither Ms Clark nor Mr Dodds gave evidence at the hearing.

1.4 Acknowledgements

5. The Panel gratefully acknowledges the contributions and help received from the applicant, counsel, witnesses, submitters and council staff throughout the hearing process. The Panel is also grateful to the OGL staff for attending the site visit on a Sunday. The Panel thanks all participants in the hearing process for the manner in which they conducted themselves.

2. Introduction and History

6. The current mining operation at Macraes has been there since the late 1980s. Since then there have been a number of changes to the consent holder, and a number of changes and expansions of the mining footprint. The site is referred to as the Macraes Gold Project (MGP). In 1996 the Waitaki WDC District Plan introduced the Macraes Mining Project Mineral Zone. Shortly after the Plan change the mine expanded with the granting of further consents, from three million tons of ore per annum to nine million tonnes. From 2007 ore has been brought to the processing plant at Macraes from the applicant's mine at Reefton.

7. The existing operation is authorised by WDC permit LRC96/98 and LRC01/21. Under LRC96/98 pit extraction is to cease by 31 August 2012. ORC landuse, water and

discharge permits are also in place for the mining operation. Performance bonds are in place in favour of both the ORC and WDC. LRC96/98 as varied in 2001, has a comprehensive post mining rehabilitation requirement for the consent holder to put in place a Heritage and Art Park, (HAP) some of which has already been installed.

8. OGL wishes to surrender LRC 96/98 and LRC01/21 and the HAP requirements and replace those consents with new permit 201.2011.35 from the WDC that will authorise mining across the existing and proposed mining site. A $2 million trust fund is proposed for the community instead of the HAP. At the same time land use, discharge and water permits have been applied for to the ORC.

2.1 Abbreviations Used

9. A large number of abbreviations were used in the application documents and evidence, and are similarly used in this decision:

Table 1: Abbreviations

Abbreviation	Meaning	Abbreviation	Meaning
AEE	Assessment of Environmental Effects	NBWR	North Branch Waikouaiti River
BRWRS	Back Road Waste Rock Stack	NES	National Environmental Standard
CIA	Cultural Impact Assessment	NZHPT	New Zealand Historic Places Trust
dBA	Decibels	NZSOLD	New Zealand Society on Large Dams
DOC	Director General, Department of Conservation	OGL	Oceana Gold Limited
HAP	Heritage and Art Park	ORC	Otago Regional Council
ICOLD	International Commission on Large Dams	RMA	Resource Management Act
KTKO	Kai Tahu ki Otago Ltd	RTS	Reclaimed Tailings Stack
MCD Strategy	Macraes Community Development Strategy	SP10	Southern Pit original Tailings Storage Facility
mg	Milligrams	SP11	Southern Pit second Tailings Storage Facility
MGP	Macraes Gold Project	TDG	Traffic Design Group
MPIII	Macraes Phase III Project	TSF	Tailings Storage Facility
MOU	Memorandum of Understanding	TTTSF	Top Tipperary Tailings Storage Facility
Mt	Million Tonnes	WDC	Waitaki District Council
MTI	Mixed Tailings Impoundment	WRS/s	Waste Rock Stacks

3. Description of the Proposal

10. The main features of the existing mine are:
    - A series of open cast pits, some of which have been partially or completely backfilled;
    - An underground mine with the mine portal located in Frasers Pit;
    - An ore processing plant;
    - The Mixed Tailings Impoundment (MTI) and the Southern Pit Impoundment (SPI);
    - Deepdell, Northern Gully, Back Road, Frasers West and Frasers East (under construction) waste rock stacks (WRS);
    - Deepdell North, Deepdell South, Maori Tommy Gully, Battery Creek, North Gully, Frasers West and Murphys Creek silt ponds;
    - The Lone Pine water reservoir and a water supply pipeline from the Taieri River.

11. OGL has determined that the mine life of the MGP can be economically extended to at least 2020 by expanding some areas of current operations and reopening areas previously mined over the last 20 years. Expanding the mine in this manner will result in a larger footprint for open pit areas, and require new waste rock stacks and a new tailings storage facility.

12. The proposed expansion of mining operations from 2012 to around 2020 is to be called the "Macraes Phase III Project" (MPIII). A full description of the proposal is set out in the application documents. The main features of MPIII (Figure 1) will be:
    - A new tailings storage facility located in the headwaters of Tipperary Creek (called Top Tipperary Tailings Storage Facility (TTTSF));
    - Expansion of the existing Frasers Pit, and further excavation of Round Hill, Southern and Innes Mills Pits;
    - Decommissioning of SP11 (which is part of the SPI) and decommissioning of the MTI;
    - Reclamation of tailings from within SP11 and relocation of the tailings to the Reclaimed Tailings Stack (RTS), which is to be located on top of the decommissioned MTI;
    - Extensions to the existing Back Road Waste Rock Stack (BRWRS) and Frasers Waste Rock Stacks (FWRS); and
    - Continuation and expansion of Frasers Underground mine;
    - Creation of a new water storage lake in Camp Creek, a tributary of Deepdell Creek, for the purposes of augmenting flows in Deepdell Creek to maintain water quality.
    - Realignment of Macraes-Dunback Road and Golden Bar Road

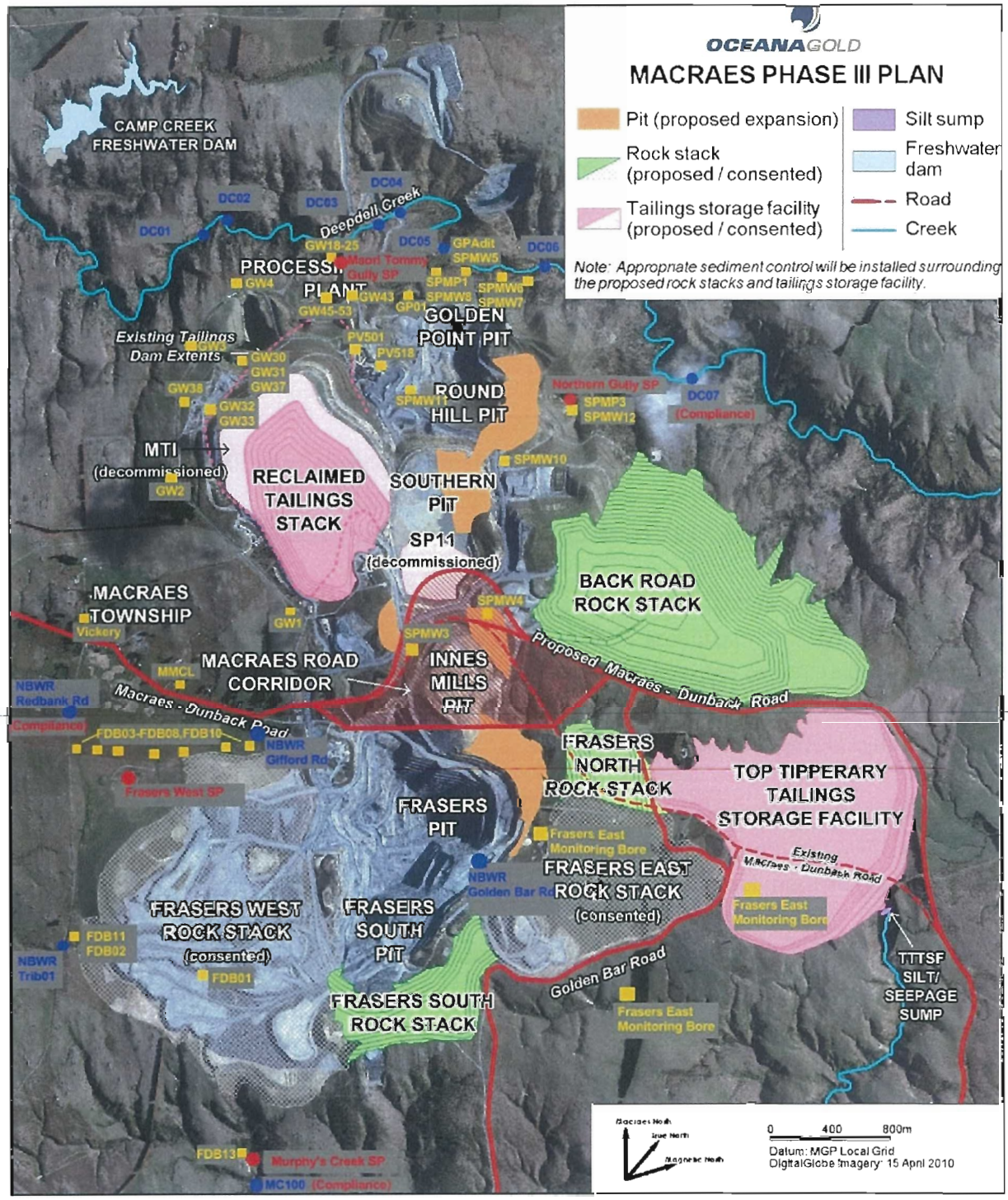

Figure 1 – MP III

13. The existing processing rate at the plant of approximately six million tonnes (Mt) per annum will remain the same, but the rate of material movement is expected to increase from 54 Mt to 66 Mt per year as the fleet of trucks will increase from 17 to 18 and some slightly larger excavators will be required.

14. The final TTTSF footprint including its embankment is 184 hectares, storing 37 million cubic metres (Mm^3) of tailings. The crest height is 70 metres above ground level which means the highest point of the TTTSF will be 560mRL.

15. The footprint of the RTS to be located on top of the MTI is 76.5 hectares, holding 13 Mm^3 of tailings. It will reach a height of 19 metres above the MTI at 551mRL.

16. The footprint of the Back Road Waste Rock Stack (BRWRS) is 234 hectares, storing 107 Mm^3 of rock. The maximum height sought is 65metres above ground level at 650mRL.

17. The footprint of the Frasers South Waste Rock Stack (FSWRS) is 26 hectares, storing 12 Mm^3 of rock. The maximum height sought is 45 m above ground level at 595mRL.

18. The footprint of the Frasers North Waste Rock Stack (FNWRS) is 26 hectares, storing 12 Mm^3. The maximum height sought is 70m above ground level at 595 mRL.

19. The maximum height of the WRSs was clarified during the hearing as there was some confusion about this due to the rounded shape of the top of them. The above maximum heights were confirmed by Mr O'Leary in his supplementary statement presented during the hearing.

20. The Camp Creek dam structure will be 29 metres high storing approximately 1.4 Mm^3 of water behind it. The dam will take between 2 and 8 years to fill according to OGL.

21. The sequencing of the work proposed is that work will commence as soon as possible to create the TTTSF while mining continues in Frasers Pit and the underground mine. The last level of tailings is yet to be deposited on the MTI. Tailings are to be removed from the SP11 and deposited on top of the MTI, forming the RTS. The dam structure from Southern Pit will be removed and backfill removed from Round Hill pit. Mining of the re-excavated pits to new depths is proposed. At the same time the expansion of Frasers Pit and the surrounding waste rock stacks will be happening.

22. Sequencing of operations at the mine change frequently therefore the above sequence is only indicative of what is likely to happen.

23. The consents required in the expansion project are a new land use permit from the Waitaki District Council to cover the whole mining site , and 55 various water, discharge and land use permits from the Otago Regional Council, a summary of which was provided in the ORC s42A report and repeated here:

Table 2- ORC Consent Application Details

Consent No	Plan	Rule	Description
BACK ROAD WASTE ROCK STACK			
RM10.351.01	RPW	13.5.3.1	To disturb, deposit and reclaim unnamed tributaries of Deepdell Creek for the purpose of extending the Back Road Waste Rock Stack.
RM10.351.02	RPW	12.13.1.1	To discharge silt and sediment to water during the extension and operation of the Back Road Waste Rock Stack.
RM10.351.03	RPW	12.3.4.1	To divert unnamed tributaries of Deepdell Creek for the purpose of extending the Back Road Waste Rock Stack.
RM10.351.04	RPWa	6.6.1	To discharge waste rock to land for the purpose of extending the Back Road Waste Rock Stack.
RM10.351.05	RPWa	6.6.1	To discharge contaminants to water from the base and toe of the Back Road Waste Rock Stack.
RM10.351.06	RPW	12.13.1.1	To discharge water from dams to unnamed tributaries of Deepdell Creek for the purpose of operating silt ponds downstream from the Back Road Waste Rock Stack.
FRASERS WASTE ROCK STACKS			
RM10.351.07	RPW	13.5.3.1	To disturb, deposit and reclaim unnamed tributaries of the North Branch Waikouaiti River for the purpose of extending the Frasers Waste Rock Stacks.
RM10.351.08	RPW	12.13.1.1	To discharge silt and sediment to water during the extension and operation of the Frasers Waste Rock Stacks.
RM10.351.09	RPWa	6.6.1	To discharge waste rock to land for the purpose of extending the Frasers Waste Rock Stacks.
RM10.351.10	RPWa	6.6.1	To discharge contaminants to water from the base and toe of the Frasers Waste Rock Stacks.
RM10.351.11	RPW	12.13.1.1	To discharge water from dams to tributaries of the North Branch Waikouaiti River for the purpose of operating silt ponds downstream from the Frasers Waste Rock Stacks.
RM10.351.12	RPW	12.3.4.1	To divert unnamed tributaries of the North Branch Waikouaiti River around the Frasers Waste Rock Stacks.
TTTSF			
RM10.351.13	RPW	12.13.1.1	To discharge silt and sediment to Tipperary Creek and its unnamed tributaries during the construction and operation of the Top Tipperary Tailings Storage

			Facility.
RM10.351.14	RPW	12.3.4.1	To dam water in Tipperary Creek and its unnamed tributaries for the purpose of operating the Top Tipperary Tailings Storage Facility.
RM10.351.15	RPW	12.3.4.1	To divert Tipperary Creek and its unnamed tributaries for the purpose of construction of the Top Tipperary Tailings Storage Facility.
RM10.351.16	RPW	12.13.1.1	To discharge tailings and tailings leachate to land for the purpose of operating the Top Tipperary Tailings Storage Facility.
RM10.351.17	RPW	12.13.1.1	To discharge tailings and tailings leachate to water for the purpose of operating the Top Tipperary Tailings Storage Facility.
RM10.351.18	RPW	12.2.4.1	To take groundwater for the purpose of dewatering the Top Tipperary Tailings Storage Facility.
RM10.351.19	RPW	12.1.4.2	To take surface water for the purpose of dewatering the Top Tipperary Tailings Storage Facility.
TTTSF SILT POND/TAILINGS SEEPAGE SUMP			
RM10.351.20	RPW	12.13.1.1	To discharge high natural flows from a dam to Tipperary Creek and unnamed tributaries of Tipperary Creek for the purpose of operating silt ponds
RM10.351.21	RPW	14.2.3.1	To drill land for the purpose of creating an injection well from the Top Tipperary Tailings Storage facility into the Frasers Underground Mine.
RM10.351.22	RPW	13.2.3.1	To place a dam structure and disturb the bed of Tipperary Creek and its unnamed tributaries for the purpose of constructing the Top Tipperary Tailings Storage Facility.
RM10.351.23	RPW	12.13.1.1	To discharge silt and sediment for the purpose of constructing a silt pond/tailings seepage sump.
RM10.351.24	RPW	12.3.4.1	To divert water in Tipperary Creek and its unamed tributaries to allow the construction of a silt pond/tailings seepage sump dam embankment.
RM10.351.25	RPW	12.3.4.1	To dam water in Tipperary Creek and its unnamed tributaries for the purpose of operating a silt pond/tailings seepage sump.
RM10.351.26	RPW	12.13.1.1	To discharge contaminated water from the TTTSF sump to underground mine workings for the purpose of draining the TTTSF
RM10.351.27	RPW	13.2.3.1	To place a structure and disturb the bed of Tipperary Creek and its unnamed tributaries for the purpose of constructing a silt pond/tailings seepage sump.

SP10 AND SP11			
RM10.351.28	RPW	12.13.1.1	To discharge silt and sediment to water as a result of the demolition of the SP11 impoundment.
RM10.351.29	RPW	12.3.4.1	To dam water in the SP10 impoundment.
RM10.351.30	RPW	13.4.2.1	To demolish a structure that is fixed on the bed of a river for the purpose of the removal of the SPII impoundment.
RM10.351.31	RPW	12.13.1.1	To discharge contaminants to land in circumstances where it may enter water for the purpose of operating the SP10 tailings storage facility.
MTI			
RM10.351.32	RPW	13.5.3.1	To reclaim unnamed tributaries of Deepdell Creek for the purpose of decommissioning the MTI.
RM10.351.33	RPW	12.13.1.1	To discharge reclaimed tailings to water for the purpose of the disposal of recalimed tailings in the MTI/RTS.
RM10.351.34	RPW	12.13.1.1	To discharge contaminants to water at the toe of the MTI embankment.
Camp Creek			
RM10.351.35	RPW	12.13.1.1	To discharge silt and sediment to Camp Creek for the purpose of constructing the Camp Creek Dam.
RM10.351.36	RPW	12.3.4.1	To divert water during the construction phase for the purpose of the construction of the Camp Creek Dam.
RM10.351.37	RPW	12.3.4.1	To dam water in Camp Creek within the Camp Creek Dam.
RM10.351.38	RPW	12.13.1.1	To discharge water from the Camp Creek Dam into Camp Creek.
RM10.351.39	RPW	13.2.3.1	To place a structure and disturb the bed of Camp Creek for the purpose of constructing the Camp Creek Dam.
Mining Operations			
RM10.351.40	RPW	12.13.1.1	To discharge 3,200 m^3/day of water that has been taken from the Frasers Underground mine.
RM10.351.41	RPW	14.1.1.1	To undertake drilling that will result in groundwater being taken for the purpose of expanding the Frasers Underground mine.
RM10.351.42	RPW	12.2.4.1	To take 3,200 m^3/day of groundwater at a maximum rate of 60 L/s for the purpose of dewatering the Frasers Underground mine.
RM10.351.44	RPW	12.3.4.1	To dam water in open pits for the purpose of creating lakes.

RM10.351.45	RPW	12.2.4.1	To take groundwater for the purpose of creating lakes.
RM10.351.46	RPW	12.1.4.2	To take surface water for the purpose of creating lakes.
RM10.351.43	RPW	12.13.1.1	To discharge water containing contaminants to water in open pits and underground mines for the purpose of disposal of water and the creation of lakes.
RM10.351.47	RPW	12.13.1.1	To discharge water containing contaminants to land in open pits and underground mines for the purpose of disposal of water and the creation of lakes.
RM10.481.48	RPW	12.1.4.2	To take surface water for the purpose of dewatering Frasers Pit, Innes Mills Pit, Southern Pit, Round Hill Pit and Golden Point Pit.
RM10.351.49	RPWa	6.6.1	To discharge waste rock to land in Frasers Pit, Innes Mills Pit, Southern Pit, Round Hill Pit and Golden Point Pit for the purpose of disposing of waste rock.
RM10.351.50	RPW	12.3.4.1	To divert water around the open pits known as Frasers Pit, Innes Mills Pit, Southern Pit, Round Hill Pit and Golden Point Pit for the purpose of preventing surface water ingress.
RM10.351.51	RPW	12.2.4.1	To take groundwater for the purpose of dewatering Frasers Pit, Innes Mills Pit, Southern Pit, Round Hill Pit and Golden Point Pit.
Air			
RM10.351.52	RPAir	16.3.5.9	To discharge dust to air for the purpose of operating a gold mine
Tailings			
RM10.531.53	RPW	13.3.2.1	To alter the MTI dam for the purpose of excavating material in the Round Hill – Southern Pit.
RM10.351.54	RPW	13.4.2.1	To reclaim unnamed tributaries of Deepdell Creek for the purpose of decommissioning the SP10 and SP11.
RM10.351.55	RPWa	5.6.1	To disturb a contaminated site for the purpose of removing the SP11 impoundment and its contents.

4. Notification and Submissions Received

24. The applications to both Councils were publicly notified on 10 August 2011 with a six week submission period. The ORC received seven submissions; one in support, one neutral and seven opposed. The WDC received eight submissions with two in support subject to conditions being imposed, two neutral and four opposed. Three of the

opposed submitters and one of the neutral submitters made submissions to both councils. Altogether there were 11 submitters.

4.1 Summary of Written Submissions

25. **Macraes Community Inc** made a submission to the WDC in support, subject to suitable conditions being imposed to address: confusion about the Macraes Community Development Strategy (MCD Strategy) and the obligations of OGL; rehabilitation of Golden Bar and Deepdell North pits; snow protection for the re-aligned Macraes-Dunback Road; a different alignment than that proposed by OGL for the road; relocation of the Glendale house to the village; provision of water to the village and a dust monitoring station located on the east side of the MTI.

26. **Neil Roy** made a submission to the WDC in support of the project subject to a range of issues being resolved, such as: that there is no abdication from obligations to provide art works; any changes to the HAP should only be made with approval from Macraes Community Inc; completion of rehabilitation of Golden Bar and Deep Dell mining sites; a different alignment than that proposed for the Macraes-Dunback Road; odour issues; dust problems; mitigation for loss of endangered fauna; protection of the Macraes-Moonlight school from dust; avoiding effects on archaeological sites; protection of heritage sites.

27. **Waitaha Taiwhenua O Waitaki Trust Board** made a neutral submission to the WDC, noting their ancestral connection with Te Wai Pounamu and asking that mining ceases in 2018.

28. **Mr Mathew O'Connell** made a submission to the WDC opposing the application and gave oral advice during the hearing that he withdrew his submission.

29. **Te Runanga o Moeraki and Kati Huirapa ki Puketeraki** made a submission opposing the consents to both Councils. The Runanga raised issues about the completion of a Cultural Impact Assessment; a requirement for a dispute resolution process; the creation of technical and Manawhenua consultative groups.

30. **The Director General of Conservation** made a submission opposing the applications to both Councils about rare indigenous species and their habitats. After agreeing on a mitigation package during the hearing time, the submission was changed to neutral.

31. **The Ministry of Education** made a neutral submission to both Councils, raising issues about the effects of dust on the Macraes-Moonlight School.

32. **The NZ Historic Places Trust** (NZHPT) made a submission to both Councils opposing the applications. They had concerns about whether adverse effects on archaeological and heritage sites could be avoided, remedied or mitigated.

33. **Nanne Otto Dogterom** made a submission to the ORC opposing the applications, raising issues about dust and noise affecting stock.

34. **Blakely Pacific Ltd** made a submission to the ORC supporting the applications.

35. **Scott Mossman** made a neutral submission to the ORC noting the economic benefits vs the adverse effects of mining.

5. Summary of Evidence Heard

5.1 Applicant's Evidence

36. **Stephen Christensen** opened the case for OGL. He gave a recent history of the mine, the reasons for extending the mine, a description of the proposal, a discussion about abandoning the HAP in favour of a community trust, and the closure strategy proposed. He described the consents required for the project and the status of the applications under the RMA and relevant Plans. He introduced his witnesses and their area of expertise. He discussed specific effects of the proposal including the positive economic and social effects. He discussed water quantity, water quality, aquatic and terrestrial ecology, heritage features, landscape, road realignment, noise, dust, vibration, seismic/stability issues, takata whenua, and the proposed avoidance, remedying, offsets or mitigation to address effects.

37. Mr Christensen discussed the statutory context, noting the Part 2 provisions of the RMA, NES Human Drinking Water, the Regional Policy Statement, the Regional Water, Air and Waste Plans, the Waitaki WDC District Plan and the Kai Tahu Ki Otago Natural Resources Management Plan 2005.

38. Mr Christensen addressed the submissions and the S42A reports with their draft conditions. He noted ongoing adjustment of proposed ORC conditions, and attached to his submission a revised set of WDC conditions showing extensive tracked changes. He discussed bond conditions and conditions requiring consultative groups.

39. **Bernard O'Leary** provided a background to OceanaGold, a brief history of the MGP, the relationship of the MGP with the Reefton mine, a description of MPIII, a discussion of alternatives, OGL environmental and social commitments, a summary of consultation undertaken and some comments on proposed consent conditions. He was concerned about the bond conditions proposed in the S42A reports, and promoted the change from the HAP to the MCD strategy proposed. He attached a copy of the OGL

Environmental Policy and a table showing what parts of the HAP would be surrendered, and those that would be completed.

40. In his supplementary evidence Mr O'Leary addressed the issue of incorporating trigger levels for ground movement into a management plan, and alert levels for ground movement into consent conditions. He said the Processing Plant had moved about 5 metres during the mine life and submitted that working with moving pit walls is a normal expectation on this site. He confirmed the proposed heights of the waste rock stacks. He attached a copy of "Safe Working Procedures" for Frasers pit wall slides and movement and a draft framework for a Ground Movement Management Plan for mining Round Hill/Southern Pit.

41. **Michael Copeland** discussed the economic impacts of the proposed mine extension. He addressed past economic studies, the key economic drivers of the Waitaki District and Otago economies, the relevance of economic effects under the RMA, the national regional and local economic benefits of the mine, economic effects of extending the mine life, and economic implications of the revised mine closure strategy. He concluded that MGP has, continues to be and will be a significant contributor to the economy of the district and Otago region. At national level it makes significant payments to Central Government and it maintains populations in the Waitaki District and employment levels. He said MPIII will not give rise to economic externality costs. Mr Copeland attached to his evidence a copy of his CV, the results of a survey of suppliers to MGP and an explanation of some of the factors he described.

42. **Jimmy Young** gave evidence about the relevance and applicability of the HAP as an appropriate strategy for the Macraes community. He said the HAP was to create a visitor destination to provide for community development options once mining ceases. He described parts of the HAP created to date. He said full implementation of the HAP will be delayed if MPIII proceeds, and in any event the HAP lacks community support.

43. Mr Young described a range of alternative tourism and recreation developments that could be developed at Macraes during and post-mining. He said the buy-in of the community is essential for any such initiatives to proceed. For this to happen he said there needs to be improved community support and commitment, capacity building for Macraes people, and a clear outline of roles and responsibilities in respect of tourism and recreation development.

44. He said tourism and recreation developments are unlikely to be successful due to lack of community support therefore the HAP would be unlikely to succeed. He said the proposed MCD Strategy is a better option that does not preclude the pursuit of tourism and recreation options and allows initiatives to be explored and implemented in advance of mine closure. He appended to his evidence a copy of the Macraes Tourism

and Recreation Options Plan Jan 2011. The Panel notes this Plan was not in the application documents, but was referred to.

45. **David McKenzie** presented evidence on the site context and landscape description, the relevant statutory documents; described the potential landscape and visual amenity issues; did an assessment of landscape and visual effects, considered cumulative landscape effects and commented on submissions in respect of landscape and visual amenity.

46. Mr McKenzie concluded that the Macraes Flat landscape is not an Outstanding Natural Feature, Landscape or Area. With the use of photo simulations of the likely landscape on completion of MPIII he said landscape effects from public viewpoints and looking toward lesser components of the site would be from nil through to moderate, depending on the view of the site and which feature of the site was being observed. He said cumulative effects would be slight to moderate.

47. He said adverse visual effects of construction of the tailings impoundment and waste rock stacks would cease on completion of construction. Longer term the rehabilitation of tailings facilities and waste rock stacks would mitigate the effects on visual amenity. He appended the relevant landscape values for the area set out in the Waitaki Landscape Study; photos of the Macraes area, his assessment of landscape under the "Pigeon Bay" factors; the existing rehabilitation conditions for tailings impoundments and waste rock stacks ; the Truescape photo simulations of landscape changes that will occur under the MPIII project; the ranking of effects for the different photo simulation views; a simulation of the future view at the O'Connell house and discussion of the landscape effects of the BRWRS.

48. **Wendy Turvey** in her evidence provided an overview of the archaeological landscape and previous archaeological work; a summary of heritage statutory and non statutory obligations; a summary of the heritage sites at Macraes and the likely impact on them of the MPIII project; a description of the mitigation for the loss of archaeological features; and consideration of the submissions about archaeological matters .

49. She concluded that the Macraes district is a complex and extensive heritage landscape. She said a number of heritage and archaeological sites will be destroyed by MPIII. She notes that several sites of importance have been excluded from the project. She noted that a separate approval from the NZ Historic Places Trust is required to modify or destroy any archaeological site. Two sites are also to be protected long term, and further archaeological work is to be done in the Macraes district away from the MPIII site. She was confident that NZHPT conditions together with the work being undertaken would mitigate any adverse effects on heritage resources.

50. Ms Turvey appended her CV, a 2009 report "Archaeological Assessment of the Impact of the Construction of a Tailings Storage Facility at Macraes Gold Project"; and conditions of consent to address heritage issues.

51. **Robert Bertuzzi** gave his evidence in two Parts. Part A addressed the predicted movement of the west wall due to the proposed mining of the Southern and Round Hill East Pits. He gave a description of the movement that has existed in the past, the magnitude of movement expected when mining recommences and the management measures proposed to address movement while mining.

52. In Part B of his evidence he discussed the general stability of waste rock stacks at the MGP.

53. He concluded that movement of the west wall along the Footwall Fault will be reactivated when mining of the Southern and Round Hill pits resumes, with the same mechanism of movement as has happened in the past. He expects the movement to be successfully managed, in the same way movement is currently managed in Frasers Pit. He said monitoring with trigger and alert levels, and management of that information is the key to avoiding progressive failure.

54. Mr Bertuzzi said if monitoring indicates that failure is predicted then the mining plan will have to be changed to section off the mining operations and /or increasing the offset such that there is maximum distance between the west wall and the Footwall Fault.

55. He said the calculated Factor of Safety of 1.2 - 3.3 for waste rock stacks is acceptable. He appended his CV.

56. **Trevor Matuschka** presented evidence on dam design and geotechnical aspects of MPIII. He included an assessment of the design and feasibility of the TTTSF including construction, operation and closure; a similar assessment of the proposed Camp Creek dam; an evaluation of stability, stormwater control and geotechnical feasibility for the mining in Southern/Round Hill pits and a description of proposed erosion and sediment control and mitigation.

57. Dr Matuschka concluded that the TTTSF design takes into account the local site geology, seismic, climatic and operational conditions. He said the embankment design for the TTTSF will contain 36.7Mm^3 and complies with New Zealand Society on Large Dams (NZSOLD) and International Commission on Large Dams (ICOLD) recommendations for embankments with a medium PIC classification, and that it will meet normally accepted standards for static and seismic conditions. He said monitoring of existing tailings storage facilities gives good information and precedent for the design of the TTTSF and this together with OGL experience in managing tailings storage will provide stable secure tailings storage.

58. Dr Matuschka said the Camp Creek dam will hold about 1.4 Mm3. Preliminary investigation shows the site is suitable for the dam which will be designed to meet static and seismic conditions and NZSOLD/ICOLD guidelines. Further geotechnical investigation of the site is required before obtaining a Building Act permit.

59. Dr Matuschka said re-mining of Southern/Roundhill pits will cause some movement of the MTI embankment which could threaten its stability, therefore care in monitoring and analysis of pit wall movement will be required. He said that the mechanisms controlling the movement of the Footwall Fault and consequences thereof must be clearly understood and investigated, and stability, dewatering and monitoring programs put in place by the designers of the pit and tailings storage facilities before the excavation of tailings commences. There must also be the ability to adjust the mining based on observation of movement and performance of the MTI.

60. Dr Matuschka produced supplementary evidence to address matters raised by the WDC in a letter dated 16/9/2011. The letter raised questions about the destination of tailings should the MTI fail when mining recommences. There was also a question about early failure of the MTI. He produced a table that showed the storage available in the mining pit for tailings as the pit is excavated to further depths. He said that a breach of the MTI could be fully contained within the pit with mining only down to 435m RL. He also concluded that the likelihood of west wall movement leading to tailings failure above 435m RL is very low based on analyses by PSM consultants. He said building permits will be required for mining that affects the MTI foundations, installation of the RTS as it applies a load to the MTI, deconstruction of SP11A and mining close to SP10 that could affect its foundations. He said that more stability analysis and investigations are required to provide safe options for excavating tailings, and consent conditions could provide for this.

61. Dr Matuschka appended to his evidence a summary of his experience, a list of reports and evidence he had referred to, the geotechnical investigations referred to, laboratory test results, several slope stability analyses, sediment control for the TTTSF, phasing of work for Round Hill-Southern Pit, deconstruction details for SP11A, the historical movement of the Footwall Fault due to mining activity, subsoil drains at the MTI, figures of dry breach of the MTI, stormwater control measures for mining Round Hill-Southern pits, recommended geotechnical investigations and monitoring for mining of Round Hill-Southern pits, objectives and principles for closure of the TSFs and RTS, and existing sediment control practice at MGP.

62. **Andrew Carr** gave in evidence a summary of the assessment of the traffic-related economic effects of MPIII report that was included as appendix 28 of the application documents. He noted that he had not been involved in the design of the road realignments. He concluded that there will be an economic disbenefit imposed on road users because of the proposed roads realignment, but the disbenefit is unlikely to

be perceived by road uses in practice. He said there are likely to be fewer road accidents as a result of the realignments.

63. **Brett Sinclair** in his evidence described, in relation to water quantity and quality, the existing environment at the MGP, the climate and evaporation data, hydrology of drainage systems, existing water quality and consent limits, surface and ground water models used to project future changes to water quantity and quality, and options available to mitigate adverse effects on water quality. He commented on the ORC S42A report, draft consent conditions including proposed monitoring, and submissions that raised water quantity and/or quality issues.

64. Mr Sinclair reached the same conclusions as Dr Verburg (set out below) in respect of sulphate, cyanide$_{WAD}$ and arsenic concentrations in receiving water bodies and pit lakes. He said a suite of mitigation measures has been proposed to address water quality, but further studies may indicate optimal mitigation measures, and therefore an adaptive management approach should be taken in respect of water quality issues. He said compliance limits should be set for water bodies in consent conditions but not the methods to achieve the limits.

65. Mr Sinclair said MPIII is not expected to have any discernable effect on flow rates in either the Shag River or the North Branch of the Waikouaiti River (NBWR) at the compliance points on those rivers. Surface flows in Tipperary Creek will be reduced due to the installation of TTTSF, but flows should return to normal once it is rehabilitated. The water reservoir in Camp Creek is not expected to reduce flows in Deepdell Creek, and residual flow released from the dam could augment creek flows.

66. He said proposed mitigation of contaminant losses largely internalises the effects of water quality to the site itself.

67. **Dr Rens Verburg.** Brett Sinclair also presented the evidence of Dr Rens Verburg, who was unable to attend the hearing. Dr Verburg's evidence was about the geochemical aspects of the effects of MPIII. He commented on water quality inputs for surface and groundwater models to predict the effects of MPIII on water quality, geochemical aspects of the projected effects on water quality, issues raised in the ORC S42a report and proposed conditions of consent.

68. Dr Verburg concluded that data from monitoring of existing tailings storage facilities gives a reasonable basis for tailings water quality predictions. He said TTTSF seepage is likely to be similar to that of the existing tailings storage facilities. He said conservative parameters had been applied to the water quality model, and the primary water quality issue is managing sulphate concentrations in receiving water bodies. He said at all except one compliance site, sulphate levels are likely to exceed compliance limits. Arsenic and cyanide$_{WAD}$ may also exceed compliance limits at some sites however due to modelling conservatism this is unlikely to occur in practice.

69. Dr Verburg said after initial poor water in pit lakes, providing historic tunnels at Golden Point are blocked off, water quality will improve such that acceptable concentrations of contaminants will occur at monitoring point DC08. With TTTSF leachate injected into underground workings, pit water quality in Frasers pit may exceed the sulphate compliance limit being imposed at monitoring site NBWRRF; however due to the likely access to Frasers pit lake it is not appropriate to apply the north branch compliance limits to the pit lake water.

70. He said water management for MPIII can be undertaken in a manner to minimise and mitigate the projected effects on downstream water quality.

71. **Greg Ryder** presented evidence about the effects of MPIII on Terrestrial Ecology and Aquatic Ecology. In respect of these he addressed the ecological status of the area, a summary of survey work carried out, potential effects of MPIII, recommendations on mitigation and monitoring, consideration of submissions and the S42A reports. He noted the input of Ms Marcia Dale, Dr Ruth Goldsmith and Mr Ben Ludgate in the ecological surveys he referred to.

72. Dr Ryder in respect of terrestrial ecology concluded that the MPIII project is in an area that has highly variable indigenous vegetation in terms of its significance. Plant communities within the existing mine site have little or no values. The areas where the TTTSF, BRWRS and Camp Creek reservoir are to be located contain higher indigenous plant diversity including rare plant species that will be destroyed. As this cannot be avoided he recommended mitigation such as restoration of tussock grassland, native bush, indigenous scrub and wetlands, weed control, fencing off populations of threatened species and propagation of threatened species.

73. Dr Ryder had no conclusions about terrestrial fauna but produced several pages of evidence about lizards geckos and birds. Habitat for these will be lost when the larger features of MPIII are built. He recommended areas that should be protected such as two wetlands in the footprint of the BRWRS, and an Ecological Management Plan for the MGP.

74. In respect of aquatic ecology Dr Ryder concluded that past surveys indication few sites in the Macraes area of significance likely to be affected by MPIII. He said some flathead galaxiids in the Camp Creek catchment would be impacted but the species is not threatened and has wide distribution in the area. He said augmentation of Deepdell Creek flow may maintain the creek's galaxiid population during drought periods. He recommended a trout barrier on a tributary of Deepdell Creek to protect a population. Dr Ryder said use of silt ponds will protect aquatic flora and fauna in the reaches of streams that retain aquatic values. He said road alignment will not affect stream habitat.

75. **Neville Hegley** gave evidence in relation to noise effects of MPIII by describing the correct noise assessment criteria, the modelling of likely noise from MPIII, the significant of likely noise effects, the WDC S42A report, and proposed noise conditions. He included noise contours around the MGP and proposed conditions that refer to the L_{eq} rather than noise percentiles.

76. He concluded that noise levels at existing houses will remain well within the current consent limits for noise by a minimum of 5dB L_{Aeq}, at the boundary of the Macraes Township Zone and the notional boundary of any dwelling in the Rural Scenic Zone. WDC District Plan noise requirements will be met at the boundary of the Macraes Mining Mineral Zone. He said the existing noise levels are low around the township, as is predicted noise. This means mining may be heard in calm low wind speed conditions. For winds above 3m/sec the noise from mining will be below the existing noise environments.

77. **Richard Taylor** gave an overview of the current blasting regime at the MGP, a model predicting blast and vibration effects and the assessment of those effects, and comment on proposed consent conditions. He concluded that modelling shows it is extremely unlikely that blasting will result in ground vibration more than 10mm/s at the consent monitoring points. He said to stay within consent limits blasting will have to be managed by varying the size of the charge and assessing distance and topography. He asked that the proposed condition prohibiting secondary blasting be removed. He appended tables from Australian Standard 2187.2-2006 and a table showing Depth of Burial of explosives for different scenarios.

78. **Prue Harwood** in her evidence in regard to air discharges described the site, the existing air quality. She gave an assessment of likely effects of MPIII, recommended mitigation and proposed monitoring, assessed the RMA and relevant Plans, discussed alternatives, commented on submissions and the S42A report and agreed with proposed consent conditions.

79. She concluded that the nature of the MPIII activities will be similar in scale and effect to that which currently occurs at the MGP. She said OGL intends to operate within the existing consent limits for dust and air discharges. She included maps showing the site and MPIII features, adjacent land holdings and dwellings, the windrose for Macraes Flat, timeline for the project, the existing and new dust monitoring locations. She appended a Dust Management Plan for the Macraes Mine, consent conditions, tables showing dust sampling results, and the relevant provisions of the Regional Policy Statement and the Regional Plan: Air.

5.2 Submitters' Evidence

80. **Jane O'Dea of the NZHPT** spoke to her written evidence. She described the Trust's interest and responsibilities in respect of heritage, and said there are many heritage sites within the MPIII footprint that will be destroyed. She noted that there had been consultation before the applications were lodged, and that the Trust and OGL had worked out an agreement where mitigation measures would be implemented to address the loss of some heritage sites. She attached draft conditions and suggested some changes to the proposed WDC conditions.

81. **The Director General of the Department of Conservation, (DOC)**

82. **Pene Williams**, counsel for DOC described the submission that had been made then the agreement that had been reached in respect of DOC concerns about the effect of the proposal on galaxiids in the Deepdell catchment. She said the DOC submission is now neutral. She commented on the relevant parts of the RMA and made submissions about the consideration of permitted activities in the WDC District Plan. She noted roles of the DOC under the Wildlife Act and Freshwater Fisheries regulations, and referred to the evidence of Bruce Hill.

83. **Bruce Hill** spoke to his written planning evidence. He described the agreement reached between the DOC and OGL and proposed a consent condition to reflect the agreement. He explained how biodiversity offsets work, described the relevant Part II matters in the RMA, the objectives of the Regional Policy Statement, the WDC District Plan, ORC Regional Plan: Water and concluded that consents should be granted. He appended suggested consent conditions for the WDC consent and ORC permit RM10.351.57 and /or 09. He appended copies of maps showing the BRWRS and the change to the eastern boundary, the outline of the area to be protected in Crankey Jim's Creek and the Highlay Creek catchment, and wetlands that are to be excluded from the BRWRS footprint. He appended a 10 point explanation of the Principles on Biodiversity Offsets. He and Peter Ravenscroft who was also present answered questions about the agreement that had been reached with OGL.

84. **Kati Huirapa Runaka ki Puketeraki and Te Runanga O Moeraki.**

85. **B J Allingham**, an archaeologist read his written evidence about the Iwi Archaeological Assessment that has been undertaken on some of the MPIII site. He explained the likely history of Maori in the area and noted that any historic sites indicating Maori transit through, or occupation of the area have likely been destroyed. Some sites are identified and documented, such as Rock and Shelter Pits 142/158 that could include some rock art, and an unrecorded site south of Tipperary Creek. He noted that assessments of the area to date have not identified any sites of significance

to Maori, but limited further research indicates that there are genuine Maori sites in the Macraes Flat area. He recommended further archaeological assessment of the MPIII area by an OGL archaeologist in partnership with an Iwi approved archaeologist.

86. **Tamatea Smith** described the relationship of Kati Huirapa Runaka ki Puketeraki with the Waikouaiti river, listing the type of food it yields and the decrease in yield from when he was a child. He described a fishing easement that dates back to 1880 at the confluence of the two branches of the river. He was concerned about activities in the headwaters of the river that would impact on the lower parts of the river, and did not want any Maori archaeological sites destroyed. He set out the runanga's objective to protect the river as a resource for present and future generations.

87. **Tim Vial** on behalf of the two runanga read his written evidence. He discussed the statutory matters relating to Tikanga Maori that must be taken into account in assessing the consent applications. He said a Cultural Impact Assessment was being undertaken, but its completion is being postponed until October 11. He expressed concern at the cumulative effects of the MGP on the headwaters of the Waikouaiti and Shag rivers. He set out Part II RMA matters for assessment, and described the Memorandum of Understanding (MOU) that is in place between the runanga and OGL. He said in practice the MOU is not working very well. He withdrew the request for a dispute resolution process within conditions, and the requirement for a Technical Liaison Group. He promoted the establishment of a Manawhenua Consultative Group, that the CIA once completed be implemented as a requirement of consent conditions, and that Mr Allingham's conditions about archaeological investigation be adopted. He appended a condition requiring the setting up and implementation of a Manawhenua Consultative Group.

88. **Brendan Flack** spoke on behalf of Kati Huirapa Runaka ki Puketeraki. He set out the Kaitahu values associated with water, and the special relationship of his runanga with the Waikouaiti River. The relationship dates back to tribes that were established before Ngai Tahu arrived. He said the water of the Waikouaiti River was used for rituals, transport, mahinga kai and sustenance. He said all parts of the river including its estuary have historical uses. He listed the shellfish, fish, birds and plants that have been harvested from the river. He said because it was such a rich resource his ancestors lived near to it, and his ancestors are buried within view of it.

89. He said the present generation is carrying on the guardianship of the river and uses it for traditional uses. The runanga has been doing riparian planting involving thousands of plants. He was shocked to observe on a mine visit the NBWR being piped around Frasers Pit, and the effect of it on the Mauri of the river. He noted the responsibility to future generations to maintain and enhance the health of the river.

90. **Otto Dogterom, of the Dogterom Famly Trust** spoke to his submission. He has a farm south of the TTTSF and was concerned about noise from the mine. He said there was no house on the farm but he might put one there. He said he was not affected by dust yet but was concerned about what might be in it once construction of the TTTSF starts. Mr Dogterom appended a copy of a map showing the layout of the mine, with his farm boundary and distances to mine features .

91. **John Harvie of Macraes Community Incorporated** (MCI) read his written evidence. He has been the chair of MCI for the last 3 years. Mr Harvie discussed concerns about the housing stock and possible effect on the school, the location and length of the proposed road realignment, lack of rehabilitation of mined areas, snow hazard on the proposed road, water quality and inconsistency of supply of water to properties in the Macraes village, and the removal of the heritage component of the HAP. He said that OGL does not want to maintain anything in the village post mining, whereas the HAP condition required OGL to operate and maintain the HAP until 2020. He noted that progress with the HAP lost momentum when the OGL person engaged to look after it left. He noted Gay Tan's house should have been upgraded by October 2005, and work has only begun on this recently.

92. Mr Harvie said the Truescape photos of landscape flatten out the landscape features and don't present the details, such as the Haast Eagle that is visible from Stanley's Hotel. He said the community would like rarer plants that are to be relocated out of the MPIII footprint to be planted in wetland areas and dry areas near the original cemetery. He said an Ecological Management Plan was a good idea but he would want it to be implemented in a timely manner. He also suggested weed control in the historic battery and the historic Golden Point township.

93. Mr Harvie said that MCI sees value in the proposed community trust providing it is set up properly. He said there are lots of ideas about how to spend the money, including upgrading Stanley's Hotel for $900,000. He said there is limited capacity in the community to run MCI and a new trust. He said the $2 million is the cost of the art work not purchased yet.

94. **Neil Roy** said he has been a long time resident of Macraes flat and an ex District Councillor. He said he is not opposed to mining in the area, and noted the economic benefits nationally and locally. Mr Roy commented on ongoing dust and light spill problems and appended a photo of a dust event in September 2008. He said the odour from tailings can be detected up to 12 km from the mine, and the village will be subject to that odour from the new TTTSF. He said despite experts in their application reports saying these effects don't occur in more than minor effects, they in fact do arise at a nuisance level.

95. Mr Roy was concerned about possible contamination of the Shag River. He was critical of lack of rehabilitation of the Deepdell area and the Golden Bar site, and was

concerned about the difficulties in obtaining information about the current status of permits and their various variations in this respect. He said he was very disillusioned about the HAP. He noted the HAP allowed the company to dodge expensive backfilling of pits, and was critical of the lack of progress in implementing the HAP. Mr Roy set out calculations of the cost of the HAP and its maintenance and concluded that OGL is buying itself out of the HAP very cheaply with its proposed $2 million trust.

96. He was opposed to the proposed stopping of Golden Point road and observed that it would be the community who would have to restore it. Mr Roy did an economic comparison of rates paid per mine or farm/property job and concluded that rates paid on each farm livelihood is 5.9 times that paid for each mine worker.

97. Mr Roy said the Ounce mine and buildings on Deepdell station should be restored and protected as other important heritage sites will be destroyed. He suggested modification of the species list for rehabilitation planting to include Douglas Fir and Larch trees. He noted his interest in birds in the area, and the assessment of these in the AEE.

98. Mr Roy discussed his concerns about the proposed road realignment and said some of the speeds predicted in the application reports were incorrect. He appended a report from a 1997 hearing by Donald Petrie traffic engineer. Mr Roy did calculations to show that the extra cost to the community of lengthening the road over 21 years ending 31 Dec 2020 is $7,692,315.

99. Mr Roy commented on the evidence of several of OGL's witnesses. He remarked that the original mining conditions 20 years ago were written to avoid a mess being left once mining finishes. He said the current proposal is to leave an enormous mess and the attitude of OGL to the environment has changed since MPG began.

5.3 S42A Report Writer Comments

Waitaki District Council

100. **Andrew Purves** presented an updated version of WDC consent conditions and spoke to them. He noted that OGL would produce updated maps to show the footprints of the MPIII features, as a result of some changes being made to the maps that were lodged with the applications.

101. Mr Purves noted that permit 96/98 was the main one being replaced, and the permits providing for Golden Bar, Deepdell north and south, and the Taieri River water permit remain separate to the permits sought for MPIII.

102. **Ben Espie** said he had reviewed landscape information, and that he and David McKenzie had agreed there are no outstanding landscapes in the MGP area. He said he disagreed with Mr McKenzie's conclusions about the effects of MPIII on amenity being slight to moderate; Mr Espie considered the amenity effect of the BRWRS to be substantial. He noted the cumulative effects of the proposed new features of MPIII combined with what exists already. He said although some features are huge they sit well with the community values expressed in the WDC District Plan, for the Mining Zone.

103. In answering questions about the effect of open pits being left Mr Espie said he hadn't considered the effect of these on people living in the area. He said the landscape will never look natural again with no evidence of mining, but this is not necessarily an adverse landscape effect as the features will be interesting for people in years to come.

104. **Mr Purves** continued his explanation of changes made to conditions. He noted various minor changes. He said the conditions do not need to specify a date for cessation of mining, and a new consent will be required to mine further than specified in the application. He accepted the economic reasons for OGL not wishing to back fill pits. In respect of covenants over land Mr Purves said they need to be in place as a warning to any future land owners.

105. Mr Purves discussed his revised conditions for community sustainability. He appended a table showing the cost of items listed to build the HAP for bonding purposes. He had based his revised Trust sum of $4.75 million on the table. His conditions also required the transfer of properties in the village with the hotel and manager's house to the Trust together with artworks already installed and covenants over land to provide access to them via a 30km multi purpose track. He said that the $4.75M does not include the value of the land and buildings, and providing the community time to do due diligence on them before owning them is appropriate.

106. Mr Purves noted revised alert levels for cessation of mining when movement occurs on the Southern/Round Hill pit, with trigger levels to be set out in the Operation Maintenance and Surveillance Management Plan. He had added conditions about factors of safety for the MTI and updated conditions relating to the realignment of the road. He noted the requirement for the preparation and implementation of an Ecological Management Plan. He had not changed the bond conditions from the first version of conditions.

107. **Mandy Tocher** of Wildlands Consultants read her written response to Dr Ryder's evidence. She discussed the proposed Ecological Management Plan and mitigation for adverse effects on: lizards, birds, wetland values, woody and tussock vegetation, loss of connectivity and ecological values of silt pond sites.

108. In respect of lizards she had concerns about the lizard assessment in the application, and said some are very difficult to find, more difficult to relocate and not suitable for grassland habitat as they like rocks and scrub. She said without predator control, providing fenced off areas such as Crankey Jims creek and Camp Creek lake shore will not improve the condition of indigenous lizards. She said the techniques suggested by OGL for mitigating effects on lizards are untested and unproven.

109. Dr Tocher partly agreed and disagreed with the mitigation proposed for birds. She promoted a predator excluded mixed land cover area of 100 hectares and all up 350-450 hectares of tussock land fenced out from grazing and rabbits. She also recommended a vegetation corridor along the line of the Macraes-Dunback realigned road to provide a passageway through the mine area for birds, plants and insects. She required a new condition for the assessment of silt pond sites before construction to identify any At Risk and Threatened species.

Otago Regional Council

110. **Hilary Lennox** responded to OGL witnesses and the submitters in turn. She requested some changes to conditions to address a water supply for the Hecklers which Mr Christensen agreed with. She agreed that a Technical liaison group condition would not be necessary, nor a dispute resolution process for Iwi. She attached a new set of bond conditions and had provided come comments about bonds from ORC lawyer Alastair Logan.

111. Ms Lennox clarified issues that appear to straddle RMA and Building Act consent issues, in respect of geotechnical issues with MPIII. She queried the trigger levels to prompt the installation of the berm that Mr Matuschka had recommended to deflect any spilt tailings back into the pit. She noted that there is no application to discharge tailings seepage into Round Hill pit and Mr Christensen remarked that none was envisaged. She recommended Mr Matuschka's geotechnical monitoring schedules be incorporated into monitoring schedules required by conditions.

112. She noted that maximum contaminant loadings on water bodies at MGP will not arise until some time in the future therefore it is important for strict monitoring schedules to be enforced and contamination of land registered on LIMs or similar.

113. Ms Lennox discussed monitoring schedules and various changes proposed to monitoring locations. She clarified the agreement about iron compliance levels of 0.2mg/l at NB03 site, and Mr Christensen agreed.

114. Ms Lennox acknowledged the agreement that had been reached between the Director General of Conservation and OGL, and said this should be expressed as a

mitigation condition in the consents. She withdrew her recommendation for a Manawhenua Consultative Group, and agreed that Iwi and MCI should be consulted when decommissioning plans are drawn up. She suggested alternative conditions to address the Iwi archaeological issues raised by Mr Allingham and Mr Vial.

115. Ms Lennox noted that the MCI concern about the effect of Frasers pit on groundwater takes in the village had not been investigated and suggested a condition to address this. She also noted that there would be no increase in dust generation as a result of MPIII. She recommended a residual flow condition for the Camp Creek dam, and some minor changes to other conditions for Camp Creek, the TTTSF and the filling of Golden Point/Round Hill pit.

116. She appended bond conditions, the Anderson Lloyd response to a request for further information, a memo from the ORC compliance unit about monitoring schedules, with associated maps showing monitoring points. Ms Lennox also provided the monitoring schedules that form part of the ORC conditions, on the last day of the hearing.

117. **Justin Kitto** read his evidence about galaxiids and trout. He noted that Dr Ryder had referred to the inability of adult trout to migrate up the streams that would have water augmentation from the Camp Creek dam. He explained that whereas augmentation of the downstream-of-dam part of Camp Creek and Deepdell Creek would enhance galaxiid habitat, this increase in flow might also allow juvenile trout to migrate further up this catchment than in previous low flow conditions and allow trout to predate on the galaxiids. For that reason Ms Lennox was not convinced that a trout screen would be appropriate and mitigation for loss of galaxiid habitat needed to be provided for.

5.4 Applicant Right of Reply

118. Mr Christensen presented two sets of written submissions in closing. In the first document he presented further details, some of which the Panel had requested, about the definitions in the WDC District Plan, permission to destroy heritage sites, protected heritage sites in the MPIII area in the WDC District Plan, existing covenants for heritage and ecological areas, the township water supply, a donation, the Reefton project, the footprint of the BRWRS, timeframe for the CIA, Manawhenua Consultative Group, road realignment, and foreshadowed a further response to the S42a writer's comments. He appended an NZHPT authority to destroy archaeological sites, an example of a heritage covenant with NZHPT, a 2005 agreement between OGL and MCI concerning the village water supply, a 2006 letter from OGL to MCI about progress with mitigation matters in the consent, a redrawn map of the footprint of the BRWRS, and a set of revised roading conditions.

119. Mr Christensen presented his closing remarks in submissions about the Community Development Strategy, ecology and management of mining. For the Community Development Strategy he summarised what OGL proposes to do, discussed the new conditions proposed by Andrew Purves, summarised the physical effects of MPIII, gave a summary of the social and economic effects of the mine extension, and described the financial contributions that OGL makes to local communities.

120. Addressing ecology Mr Christenson rejected all of the mitigation measures proposed by Dr Tocher, except the avoidance of wetlands on the boundary of the BRWRS. He said despite disagreement between Dr Ryder and ORC staff concerning galaxiids and trout, the mitigation for galaxiids would be set out in the Ecology Management Plan.

121. Finally Mr Christensen requested some tidying up of conditions about mining Round Hill/Southern Pit, and some changes to other conditions which he set out. He appended and article about the effectiveness of predator fences.

122. On 29 September OGL provided a concept map of the proposed walk/cycle way that will be installed to link the village with various art works and heritage sites.

6. Principal Issues and Effects

123. The following issues have been identified for consideration and are addressed in turn.

Effect on Maori values

Economic effects

Macraes community

Heritage issues

Landscape effects

Road realignment

Noise and blasting effects

Hazardous substances

Lighting spill

Terrestrial ecology

Air Quality

Stability of Mixed Tailings Impoundment and

Adaptive management of pit wall movement

Groundwater quality

Surface water quality

Aquatic ecology

Mine closure and rehabilitation of mined areas

Bonds

6.1 Effects on Maori values

124. OGL said it met with Kati Huirapa ki Puketeraki representatives on several occasions to brief them on the MPIII Project. OGL stated that the Runaka initially indicated a Cultural Impact Assessment ("CIA") would not be necessary but has since changed its mind. According to the AEE, it has been agreed that a formal CIA could be completed while the MPIII Project applications were being processed, so as to prevent any delays. A review condition (WDC condition 1.7) was offered which enables the Council to initiate a review of the land use consent conditions if the CIA shows a need to address cultural concerns. The Panel agreed that this was appropriate in the circumstances.

125. Kāti Huirapa ki Puketeraki and Te Rūnanga o Moeraki submitted on the application and confirmed the statement in the AEE. A review condition is appropriate to recognise that the conditions may be reviewed to avoid or remedy any adverse effects, in addition to mitigating effects.

126. The Runaka also sought in their submission to introduce a review condition that requires a dispute resolution process to be followed in the event of disagreement. They also sought to introduce a Manawhenua Consultative Group and a Technical Group. At the hearing, the Runaka subsequently withdrew the requests for a dispute resolution process and a Technical Group, but still wished for a Manawhenua Consultative Group. Ms Lennox had the requirement for a Manawhenua Consultative Group in her draft conditions, but requested they are removed, when she spoke to her s42A report.

127. Mr Christensen in his right of reply said that a Memorandum of Understanding (MOU) between the Runaka and OGL was already in place (refer Appendix 36 of the AEE). Mr Christensen, through Mr Bywater, also noted that the regularity of meetings under the MOU was sporadic and meetings were not always necessary.

128. The Panel concludes that the MOU is the most appropriate forum for Runaka to raise issues with OGL, and this will be assisted by the provision of the Annual Work and Rehabilitation Plan to each of the two Runaka. The Panel amends condition of consent (WDC 3.2) to include this. The Panel encourages OGL and the Runaka to make efforts to ensure the implementation of the MOU satisfies the interests of both parties, rather than setting up a new group that would have the same objectives as those in the MOU. The Panel also notes that the proposed Macraes Community Development Trust has the ability to appoint an independent trustee, which may include a member of the Runaka.

129. The Runaka, through their consultant archaeologist Mr B.J. Allingham noted that there was a cave/shelter site of potential significance to Maori in the vicinity of the TTTSF. If rock art was present in this shelter, Mr Allingham said that it could be compromised by dust from the TTTSF and that some form of investigation should be carried out prior to the TTSF being constructed and if Maori rock art was found, then some sort of protective screening should be erected over the cave entrance. The Panel took note of this potential effect and accepted that a condition of consent should address it.

130. Further evidence was also produced by Mr Allingham that identified two pits in the vicinity of Tipperary Creek as well as unrecorded pits nearby. While his investigation of the pits was limited and inconclusive, he recommended that conditions of consent be imposed to clarify the nature of the pits through partnership with an Iwi approved archaeologist. The Panel were mindful of the potential effect of the TTTSF on these pits and accordingly agrees that conditions should be imposed to address the issues raised by the Runaka.

6.2 Economic effects

131. OGL commissioned an economic assessment, which was prepared by Brown Copeland (April 2011). It concluded that the Macraes Gold Project has been, and continues to be, a significant contributor to levels of employment, incomes and expenditure for north-east Otago and the Otago region, and is a considerable contributor nationally.

132. A peer review was undertaken for the WDC by Market Economics. It agreed with Brown Copeland's conclusions that the proposed mine extension will enhance the economic wellbeing of north-east Otago, by continuing to be a significant employer in the area, by contributing a large amount of output to the local and regional economies, and by creating flow-on effects that support (at least in part) a wide range of other businesses and community facilities. There were no submissions specifically on economic matters.

133. Mike Copeland's evidence elaborated on these matters, in particular that the MPIII Project would:

- Maintain significant levels of local and regional employment, incomes and expenditure beyond 2012;
- Maintain population levels in north-east Otago, thereby maintaining the quality of some central government provided services;
- Provide the local economy with greater diversity and resilience;
- Contribute to ongoing economic activity at Macraes Flat after mine closure;
- Provide greater employment choices for local residents;
- Broadening the rating base of the Waitaki District Council;
- Contribute to local community activities and socioeconomic benefits;
- Not give rise to economic externality costs.

134. No further evidence was presented by Market Economics on behalf of the Council on these matters. Accordingly the Panel accepts both assessments.

6.3 Heritage issues

135. OGL commissioned an archaeological survey, which was prepared by Opus International Consultants ("Opus"). Although the report was called an archaeological survey it provides an assessment of both the archaeological and heritage values of the area subject to the MPIII Project. The Report was not peer reviewed by the WDC, rather the WDC relied on the advice and feedback from the New Zealand Historic Places Trust ("HPT").

136. The survey and associated report identified the various archaeological and heritage sites that may be modified or destroyed as a result of the MPIII Project. These are mainly archaeological or heritage sites associated with early mining. The Opus Report did not identify any heritage sites associated with early Maori occupation.

137. Several of the identified sites are considered to be highly significant and worthy of long-term protection. A summary of the key recommendations is contained in Table 1 on page 57 of the report. The Opus report went on to recommend that the existing Heritage Management Plan 2005 for the mine site be updated so that it includes policies identifying the need for appropriate long-term management and for protection of some sites. This is needed, according to Opus, to ensure that sites of high priority are excluded from any areas of proposed mine development. It states that failure to do this will result in the progressive loss of historic sites in the Macraes area over time.

138. Mr O'Leary (OGL) also presented in Appendix B of his evidence, a list of items from the existing Heritage Management Plan 2005 that had been completed would be completed, and those that would not be completed as part of this consent. The Panel understands that this list had been formed by the advice from Opus.

139. The report states that one option to assist with the long-term protection and preservation of a representative example of significant historic mining features and landscapes would be to identify an area within the wider Macraes District with a similar range of mining features (quartz and alluvial operations, a range of early European and Chinese operations; mining and farming habitation etc), from a similar time period range (1860s – 1940s). Any such area should be located away from the mining operations to reduce or eliminate any future threat from mining.

140. Opus goes on to state that in order for such a proposal to be effective, the identification and establishment of any such area must include an outline for active long-term management of such features, funding, and formal protection mechanisms such as legal covenants or gazettal.

141. The HPT submitted in opposition to the application, stating that the cumulative loss of heritage values is unacceptable and reiterated that mitigation considerations must include long-term protection of affected sites or other comparable heritage values.

142. At the hearing, both Ms Turvey (Opus) for OGL and Miss Jane O'Dea (HPT) outlined that the issues raised in their report (and subsequent evidence) and submissions respectively had been satisfactorily mitigated through a suite of conditions that both parties agreed to. Miss O'Dea noted in her evidence that "*...the effects of the proposal on historic heritage can be adequately avoided, remedied or mitigated through a combination of the proposed resource consent conditions and other measures as proposed/agreed to by OGL ...*". The WDC brought no further heritage advice to the hearing, other than the matters relating to the Heritage and Art Park, which is discussed later, therefore the Panel accepts the agreed conditions.

6.4 Landscape effects

143. OGL commissioned a landscape and visual assessment report, which was prepared by Mr David McKenzie of Opus. Mr McKenzie concluded that the mine area was not an Outstanding Natural Feature Landscape. He considered that the visual effects from common public viewpoints would be nil through to moderate, and, in terms of the overall cumulative effect of the MPIII Project, the visual effects would be slight to moderate.

144. The WDC appointed Mr Ben Espie of Vivian + Espie Ltd to Peer Review the landscape and visual assessment. Mr Espie considered that Mr McKenzie's assessment had understated the visual effects of the Top Tipperary Tailings Storage Facility and the Back Road Waste Rock State from some viewpoints, however the overall conclusions were similar.

145. Mr Espie concluded that landscape character will be altered in a sometimes very substantial way through intensifying and expanding an instance of industrial/mining character that sits within an otherwise pastoral landscape but acknowledges this is still confined to the central part of the Macraes Flat Mining Project Mineral Zone. He considers that the alteration to landscape character will be mitigated as much as is practicable and will be remedied to a reasonably high degree in the long term.

146. Mr Espie had also examined the submission of Mr O'Connell who considered that the proposed reclaimed tailing stack was inappropriate because it will completely obscure views from Kakanui range from their house. Mr Espie had not visited Mr O'Connell's property but did evaluate the effects of the RTS from Hyde Street generally, and concluded that there would be a slight to moderate effect in terms of landscape appreciation. Mr Espie noted that the existence of the Macraes Mining Project Mineral Zone would suggest a considerable degree of landscape change can occur within the zone, and therefore not all views from township can be preserved in their current state.

147. Earlier in the hearing, Mr Christensen and Mr O'Leary presented an amendment to the height of the Frasers North and South Waste Rock Stacks that involved adding a further five metres to the maximum height (590m to 595m) "*...to allow for shaping and establishment of natural drainage.*" (Footnote 1 to O'Leary evidence). This was assessed by Mr McKenzie, who noted that there would be no additional adverse visual effect of the five metre increase in WRS height. The Panel considered whether this fell within the scope of the consent application, did not change the activity type of the consent (section 88A RMA) and reached the conclusion that it did fall within scope as it was part of the WRSs applied for and within a tolerance that was barely perceivable from a landscape perspective.

148. Mr McKenzie produced further evidence and photosimulations produced by Truescape at the hearing, particularly in response to Mr Espie's previous comments on viewpoints, including from Mr O'Connell's property. The Panel noted these additional viewpoint photosimulations and asked Mr McKenzie if he had been involved with the siting and design of the waste rock stacks and tailings storage facilities. Mr McKenzie said that he had not been involved, other than to assess the effects of the proposed waste rock stacks and tailings storage facilities.

149. Mr Espie appeared for the WDC at the hearing to provide further verbal advice on the material presented by Mr McKenzie. He generally concurred with Mr McKenzie's findings. The Panel asked Mr Espie about his opinion of the overall mine site and its effect on landscape character. Mr Espie noted that there currently are, and will be in future, substantial landscape character effects in some locations (e.g. BRWRS), but these will change over time as the various elements are rehabilitated. He was careful to note that the landscape values would not be compromised as the WDC District Plan zone provides for mining.

150. The Panel also sought from Mr Espie his opinion on the ability to naturalise the waste rock stacks and Mr Espie stated that this was unobtainable at this scale, however the resulting artificial features were not necessarily an adverse effect and could well become a landscape feature in their own right if rehabilitated well. He cited examples of historically mined areas in Central Otago where these were now considered of some landscape merit.

151. The Panel queried both Mr Espie and Mr Purves on the issue of cumulative effect, which elicited a consistent response that the WDC District Plan zone allowed for such effects, however Mr Espie went on to say that if the project extended beyond what was currently proposed, then there may be a wider landscape impact that could be 'more than minor'. The Panel notes this, but is constrained in its assessment of the current MPIII Project before it.

152. Mr O'Connell withdrew his submission after the hearing of landscape evidence, therefore the Panel did not place as much weight on the visual effects from his property.

153. Accordingly, the rehabilitation conditions recommended by Mr Purves in his section 42A report, and endorsed by both landscape architects, are supported by the Panel.

6.5 Road Realignment.

154. OGL commissioned Traffic Design Group ("TDG") to prepare an assessment of the economic effects of the proposed roading realignments, and commissioned Primecorp to prepare a preliminary design report and drawings for the Macraes-Dunback Road realignment.

155. TDG concluded that the travel times along the realigned section of the Macraes-Dunback Road will be more or less the same because the traffic-speeds will be higher. Their report also considered that the vehicle operating costs are expected to increase around 3% with the realignment of Macraes-Dunback Road. A maintenance allowance of $11,000 per annum has been allowed for the realignment, up $1,000 from the estimate of the existing alignment maintenance costs.

156. TDG assessed the dis-benefit of the proposed road realignments are estimated to be in the order of $132,800 and $32,400 for the Macraes-Dunback and Golden Bar Roads respectively. TDG concludes that economic dis-benefit is slight and the effects upon drivers using the road will be negligible and imperceptible.

157. The WDC appointed Mr Paul Durdin of Abley Consultants to peer review OGL's traffic-related reports. Mr Durdin concluded that the proposal can be supported from a transport perspective, but noted that:

- Maintenance costs arising from the proposed realignment of Macraes Road and extension of Golden Bar Road are greater than that suggested by TDG; and
- The draft design drawings by Primecorp for the Macraes Dunback-Road and Golden Bar Road raised a number of design issues which would need to be addressed.

158. Mr Durdin recommended a suite of conditions to address the above issues. He also updated many of the other roading conditions that had been rolled-over from LRC 96/98.

159. The submissions from MCI and Mr Roy were concerned about the proposed realignment to the Macraes-Dunback Roads. Firstly, they want to be assured that sufficient mitigation against additional snow accumulation on the new alignment is provided. Secondly, and more importantly, they want OGL to construct a permanent Macraes-Dunback Road that is no longer than the pre-mining road. They suggest there is an alternative option that runs between Frasers West Rock Stack and Frasers Pit before turning towards McCormacks Creek and descending and crossing the gully and linking again with Sailors Cutting.

160. Mr Andy Carr of TDG suggested mitigation measures to alleviate the potential for additional snow accumulation on the new alignment, which included measures such as snow fencing or a higher pavement above ground level. The Panel heard evidence from Mr Roy and also questioned Mr Harvie (MCI) on this issue and Mr Harvie noted that snowfalls varied considerably depending on climatic conditions at the time and that snow could accumulate on the road from wind-blown snow as well as falling snow.

161. The Panel were left with a complex issue in that it is extremely difficult to craft conditions of consent around this that would be practical, monitorable and enforceable. Furthermore, they note that many district roads were impacted on by snowfall and generally this is for short durations and does not warrant specific design measures to address. They are left with limited options, other than to impose a condition of consent that requires a higher standard of road edge delineation than would otherwise be provided for the realigned section of road.

162. Andy Carr also responded to the issue of an alternative realignment, noting that there is no economically feasible alternative to the proposed alignment.

163. Mr Roy, through his evidence to the Panel then challenged Mr Carr's calculations on the basis that previous figures used by Mr Petrie of TDG that were presented for earlier resource consent applications (he later tabled a brief of evidence from Mr Petrie) showed a cost to road users of $239 per metre versus Mr Carr's figure of $82 per metre. Mr Roy then went on to explain the accumulated costs using both sets of figures, with Mr Petrie's cost factor resulting in costs of far greater order of magnitude.

164. Unfortunately Mr Petrie was not present as an expert for the Panel to question, however Mr Carr outlined the difference in assumptions made between himself and Mr Petrie that would explain the higher numbers Mr Petrie reached.

165. The Panel is satisfied with this explanation and also had the peer review material from WDC's consultant traffic engineer, Mr Durdin, who had reviewed Mr Carr's evidence and found no discrepancies or issues with his figures relating to costs to road users. The Panel acknowledges the effort Mr Roy has gone to, however they prefer to accept the calculations of both traffic experts.

166. Mr Roy stated that he would only accept a longer road deviation during mining operations and that a potential shorter route should be constructed for use once mining operations cease. Mr Carr had investigated this option (his Appendix 2) and noted that due to the topography that the proposed shorter route would need to traverse, this option would present too many issues for road users to be viable. He also noted that a bridge to span the length of the route with difficult topography would be extremely expensive to construct. Mr Carr noted that both options involve land that OGL does not own.

167. The assumptions used by Mr Carr for the realigned Golden Bar Road were questioned by Mr Roy, particularly around the assumed traffic speed of 90kph. Mr Carr, in his evidence, accepted that the 90kph assumption may be too high, however his recalculations showed a slight improvement in the benefit-cost ratio from a reduced speed.

168. Issues relating to road deformation were also raised by Mr Roy and the Panel noted these concerns and the potential conditions available to address this issue, should consent be granted.

6.6 Noise and blasting effects

169. OGL commissioned a noise assessment study, which was prepared by Hegley Acoustics (April, 2011). The noise assessment predicted noise for five stages of the MPIII Project based on field measurements of the plant to be used during the mining. The report concluded that during busy mining periods of each stage, the noise level at all of the closer houses will remain well within the existing mine consent night-time limits by at least 5dBA L_{10}, as measured at:

- The boundary of the Township Zone of Macraes; and
- The notional boundary of any dwelling in the Rural Scenic Zone where no written approval has been given.

170. It is noted that a reduction of 5dBA is a clearly noticeable reduction to the noise level. As the same activities occur during the daytime, compliance with the night-time noise criteria will ensure the daytime levels are also complied with by a minimum of a 15dBA L_{10}.

171. The report concluded that although the existing noise environment is relatively low around the Macraes Township the predicted noise level is also low. Thus, while the mining may be heard in calm weather conditions and with wind speeds of up to 1–2 metres per second (m/s) even under these conditions there will be little to no noise impact for the neighbours. For the majority of the time with winds above approximately 3 m/s, mine noise will be below the existing noise environment.

172. Neville Hegley in his evidence stated that he had also taken into account the peer review undertaken by Mr Malcolm Hunt for theWDC. Initially there had been some disagreement between Mr Hunt and Mr Hegley in terms of proposed conditions around construction noise. These matters had since been resolved and agreement reached between Messers Hegley and Hunt on appropriate noise monitoring.

173. Mr Hegley reached the conclusion that the noise effects would be no more than minor, which Mr Hunt also concurred with. The submitters Mr Roy and Mr Dogterom noted that noise would be an issue as mining noise could be heard and the difficulty of determining if this noise complied or not.

174. The Panel notes these concerns, but with two sets of expert evidence in front of it, along with proposed conditions of consent, including an updated Noise, Airblast and Vibration Monitoring Plan, the Panel is satisfied that adverse effects can be satisfactorily minimised.

175. OGL also commissioned an assessment on the effects of vibration caused by blasting. This was prepared by Orica Mining Services and further evidence was presented at the hearing by Mr Richard Taylor.

176. Mr Taylor concluded that the monitoring of existing blasts is in line with previous reports, and states that it is extremely unlikely that a ground vibration of 10 mm/s would ever be exceeded at the existing consented monitoring points, using the current blasting methods. He noted that with blast-overpressure there have previously been some instances where the limits have been reached. Careful blast design is required to reduce this occurrence.

177. The WDC appointed Mr Malcolm Hunt to Peer Review the vibration reports. Mr Hunt considered that the methods and procedures adopted in the assessment reports are best practice and in terms of potential vibration and air blast effects there are no major short-comings. The WDC s42A report recommended a condition that prevented unconfined or secondary blasting, which Mr Taylor did not agree with. Through

questioning by the Panel, he explained that the effects of this were similar to normal blasting and would be only occurring in pits, rather than on top of waste rock stacks. The Panel are satisfied that this condition is essentially redundant given the low level of effect.

178. No specific vibration or blasting issues were raised in written submissions, however Mr Roy noted that sheepdogs did react to blasting with a "queer look", however he did not produce any further evidence from a veterinarian to qualify this effect.

6.7 Hazardous Substances

179. The processing plant uses a variety of hazardous substances to process the ore and extract the gold. Large quantities of fuel are also stored at the mine site. In the application OGL provided an assessment of the hazardous substances against those assessment matters contained in the District Plan. The main points are as follows:

- People using hazardous substances need to be certified under the Hazardous Substances and New Organisms Act, 1996 ("HSNO Act");
- OGL holds relevant location certificates and stationary containment certificates for hazardous substances at the site under the HSNO Act;
- Material safety data sheets (MSDS) are held and the electronic database "ChemAlert" is used;
- Bunding exists for all bulk hazardous substances with the exception of pressure vessels. The majority of bunds also have sump pumps fitted to recover spillages;
- The processing plant does not use any significant quantities of oil and any oil would be cleaned up using spill sorbent material;
- The processing plant is tar-sealed and drains to a main collection sump that recirculates stormwater back to the main process water tank at the plant;
- Spill kits, fire extinguishers, and other safety equipment are available and signage has been put in place;
- A trained emergency response team is in place in case of accidents and fires;
- The site is well away from sensitive activities and is about one kilometre away from Deepdell Creek; and
- No major spillage of any hazardous substances has reached the "Environment Sump" or overtopped into the Maori Tommy Silt Pond, which then discharges to Deepdell Creek.

180. There were no submissions on hazardous substances and the Panel is satisfied that current practices are adequate to deal with any potential effects and no conditions of consent are required for an existing practice to continue.

6.8 Lighting spill

181. While no expert evidence was produced on this matter and no additional lighting was proposed by OGL, other than what could be expected from vehicles travelling on

different parts of the MPIII Project site, Mr Roy did express concerns about lightspill from the existing machinery maintenance depot having an adverse effect on amenity at his residence. The Panel notes that this can be dealt with under existing consents or provisions of the RMA, and believe it is appropriate to impose a condition of consent from the LRC 96/98 consent to address this issue.

6.9 Terrestrial Ecology

182. OGL commissioned three ecological assessments, which were prepared by Ryder Consulting:
- Botanical Assessment;
- Avifauna and Herpetofauna Assessment; and
- Aquatic Ecology Assessment.

183. The Botanical Assessment concluded that the MPIII Project is located within an area that contains highly variable levels of significance with regard to intact indigenous vegetation. The larger sites, including the BRWRS, TTTSF and Camp Creek, are considered to retain higher indigenous diversity, particularly tussock grassland. Rare plant species found within these sites include Hookers mountain daisy, coral broom, sprawling turpentine, Gingidia grisea and Aciphylla subflabellata.

184. The Botanical Assessment stated that if the project goes ahead as planned it will have more than minor adverse effects on several rare or threatened species and plant communities and if avoidance is not feasible for the bulk of the area affected, then mitigation is considered appropriate to reduce the adverse effects of the project. Recommended mitigation includes restoration of tussock grassland, fencing off populations of threatened species and artificial enhancement (propagation) of threatened species.

185. The Avifauna and Herpetofauna Assessment had a similar conclusion. It stated that the proposed MPIII Project area is located within the Macraes Ecological District, which contains high reptile diversity and is a stronghold for the 'Threatened – Nationally Vulnerable' New Zealand falcon. If the project goes ahead as planned it will have significant adverse effects on several threatened species and/or the habitats that support them. These effects include flooding or infill from waste rocks of the habitat of threatened lizards, flooding of the hunting grounds of NZ falcon, removal of mature trees resulting in loss of nesting and roosting habitat and removal of tussock grassland pipit habitat.

186. It states as avoidance is not feasible for the bulk of the area affected, then mitigation is considered appropriate to offset the adverse effects of the project. Recommended mitigation includes restoration of tussock grassland and wetlands, predator control, replanting of trees and translocation of lizards.

187. The Aquatic Ecology Assessment concluded that there are very few sites with significant aquatic values likely to be affected by proposed mine developments. It states some flathead galaxias populations, which are found throughout the Macraes area, particularly in the Camp Creek catchment, could be impacted but the potential loss of individuals from these relatively small localised areas will not greatly impact on the status of the wider population. It recommended to fence off some galaxiid habitat.

188. The WDC appointed Wildlands Consultants Ltd to Peer Review the above reports, and in particular the Botanical Assessment and the Avifauna and Herpetofauna Assessment. Wildlands concluded that the MPIII Project will have significant adverse effects on ecological features and values including indigenous vegetation, wetlands, lizards, and avifauna. The ecological effects are considered to be most significant in the proposed BRWRS and the Camp Creek storage area. Wildlands considered that some of the vegetation and habitat proposed to be modified is likely to be significant under Section 6 (c) of the RMA.

189. Wildlands also considered that the avoidance of adverse effects on wetlands should be reconsidered by OGL, given their national and local scarcity and importance as habitat for indigenous flora and fauna. They concluded that while the mitigation proposals involving protection of indigenous vegetation and habitat are useful, they are not presently sufficient to address the residual adverse effects of the project.

190. Wildlands recommended that further work needs to be completed to assess the mitigation proposals, and to develop robust management plans that can be referred to in potential consent conditions. They concluded that if the application was implemented as proposed, it would cause a substantial net loss of indigenous biodiversity in the Macraes locality.

191. The DOC submission states that there are a number of rare species in the areas to be modified but have not been detailed, and hence have not been accounted for. The Department also considered that the proposed mitigation is insufficient and would amount to a net loss of biodiversity. It seeks that all adverse effects on significant indigenous vegetation and habitats of significant indigenous fauna be mitigated in perpetuity.

192. OGL took into account the above matters and, through the evidence of Mr Greg Ryder, presented a range of mitigation measures, most of which were covered by the conditions contained in Appendix 3 of his evidence. Also included in the mitigation proposed was a separate agreement with the DOC that provided for a payment of $100,000 from OGL which the Department would use to offset aquatic effects in another catchment.

193. DOC's legal submissions (through Ms Pene Williams) and planning evidence (through Mr Bruce Hill) explained how they had reached this settlement, as well as the conditions of consent they supported, linking these to the sections of the RMA that they felt they addressed. Mr Tim Vial of KTKO Ltd mentioned that the values of indigenous vegetation and habitats of indigenous fauna were of importance to Maori also.

194. Ms Williams provided an alternative interpretation to the Panel on the permitted baseline as it applied to vegetation clearance in both the Macraes Mining Project Mineral Zone and Rural Scenic Zone (insofar as it related to the Camp Creek dam and reservoir). While the Panel finds this informative, it notes that the MPIII Project requires consent within the Macraes Mining Project Mineral Zone and furthermore, one of the matters of discretion relates to the effects on nature conservation values. The Panel also feels that comparing the proposed activity to a permitted farming activity was not particularly useful given the vast differences between the two.

195. Dr Mandy Tocher of Wildlands was engaged by the WDC to assess the evidence of Dr Ryder and the submissions of the DOC. She set out the areas of concern, being:

- The proposed Ecological Management Plan;
- The provisions for the mitigation of adverse effects on lizards and birds;
- The provisions for mitigation of adverse effects on wetland values;
- The provisions for mitigation of adverse effects on woody and tussock grassland vegetation;
- Mitigation for loss of connectivity;
- Assessment of ecological values of silt pond sites.

196. OGL responded to Dr Tocher's concerns in their right of reply, accepting the effects on wetland values by re-siting the Back Road Waste Rock Stack to avoid existing wetlands. OGL did not accept any of the other additional mitigation that Dr Tocher proposed and argued that the agreement reached with the Director General of Conservation on both conditions and a biodiversity offset payment were appropriate so far as terrestrial ecology is concerned.

197. The Panel asked OGL whether the silt ponds could be moved if an ecological assessment of the area they were to be located found high ecological values present. OGL responded that most silt ponds could be moved, but the larger ones may be more difficult to relocate. The Panel is concerned about the lack of ecological assessment for the silt pond sites and considered that a condition of consent should be crafted around this issue to address potential ecological effects.

198. The three ecological areas (Cranky Jims Creek, Highlay Creek and 100 hectare tussock grassland) proposed by OGL are accepted by the Panel as suitable ecological

mitigation measures. However, the Panel has concerns about the details of these, which are discussed further below.

199. The Panel questioned OGL about the location of the 100 hectare tussock grassland, which OGL stated could be provided within their large land holding. The Panel were satisfied with the intent of this and that the detail of the location could be worked through with OGL and DOC.

200. Enhancement planting for the Highlay Creek area proposed by Dr Ryder in his evidence (paragraph 130) and promoted through his condition 1.4 (i) is commended by the Panel and supported by Dr Tocher. The Panel feels that additional specificity is required in the conditions proposed so that OGL will know the extent of enhancement planting required and so that the WDC can actually monitor this.

201. The Panel also feels that enhancement planting in the Cranky Jim Creek area would be beneficial to the bird and lizard population and accepts the proposed condition 1.4 (ii) of Dr Ryder and further evidence of Dr Tocher on this matter. They feel that further specificity is required for the condition proposed for the same reasons as outlined above.

202. Protection of the ecological areas to be set aside was discussed by the Panel and they are of a mind to specify that a QE II covenant be suggested, but realise that an alternative form of covenant might be required if for whatever reason the QE II covenant is not suitable.

203. Fencing of the three areas is also a matter that the Panel wants to clarify in terms of the type of predators the fences are to exclude. The Panel notes that the tussock grassland is more prone to grazing by stock and rabbits and that a fence to exclude these will be appropriate. The two areas containing woody vegetation are also prone to stock grazing, but less susceptible to rabbits and more susceptible to deer. The Panel therefore prefers conditions specifying different fencing for each area.

204. In terms of the Ecological Management Plan proposed in the draft conditions, the Panel are mindful of the issues raised by Dr Tocher in relation to this and therefore believe it appropriate to tighten up the requirements around the Plan. They feel that these are not significantly more onerous to OGL , but will provide greater certainty to the WDC and other parties.

6.10 Aquatic Ecology

205. A summary of the effects on instream values was summarised in the ORC S42A report:

- The creation of the Camp Creek freshwater lake will result in the inundation of approximately 1.8 km of Camp Creek. This will provide a habitat for brown trout and eels, but will result in the removal of flathead galaxiids from the reach.
- Augmentation of flows in Camp Creek and Deepdell Creek downstream from the Camp Creek dam will provide a refuge for trout, but could result in the extinction of flathead galaxiids in these reaches (this was refuted by Dr Ryder).
- OGL has proposed that the loss of flathead galaxias may be mitigated by off-site management of other, non-migratory galaxias e.g. the roundhead galaxias in the Upper Kyeburn.
- The loss of populations of migratory eels due to the construction of the Camp Creek dam will be no more than minor from an overall eel population perspective.
- A floating decant system is required to ensure that only water from the upper, warmer, oxic layer of the Camp Creek lake is discharged from the dam.
- During the construction and filling of the Camp Creek dam, OGL will be required to release flushing flows periodically to prevent a build-up of algae and fine sediments in Camp Creek.
- The effects on instream values from the construction of the WRSs and TTTSF will be no more than minor as local conditions and existing mining activities have resulted in relatively poor quality habitats and communities in the footprints of these structures.

206. Dr Ryder said that past and existing farming and mining practices have extensively modified many areas in the vicinity of the proposed development. This, combined with small catchments providing minimal surface water features contributes to the limited aquatic values except for the middle and lower reaches of affected catchments.

207. The Panel accepts that the effect on aquatic ecology from the TTTSF and various waste rock stacks is minimal, as they are situated in the headwaters of the relevant catchments. The most significant effect on instream values will be in Camp Creek and Deepdell Creek. To improve water quality the dam of water is being created in Camp Creek so that water can be released into Deepdell creek to provide sufficient flow to dilute sulphates. Dr Ryder said in summer this could be between 10 and 16 litres per second. Low flows in Deepdell creek will be augmented, and this will have an effect on the fish that live in there. ORC report writers and Dr Ryder disagreed on the extent of these effects – Dr Ryder did not think that trout would make their way up Deepdell and Camp Creeks and ORC staff thought that they would, eating the flathead galaxiids on the way. Both agreed that galaxiid habitat in the reach of Camp Creek that would be inundated would disappear as the fish prefer streams to lakes. Dr Ryder noted that the galaxiids living upstream of the new lake in Camp Creek would be isolated from predating eels and trout.

208. DOC also had concerns about the loss of galaxiid habitat and during the course of the hearing they reached agreement with OGL about a mitigation package. The details of

the agreement have not been made available to the Panel however the draft condition offered to reflect the agreement stated the sum of $100,000 was to be paid to DOC for the purposes of doing protection and enhancement measures for the endangered Central Otago Round Head galaxiid which is found in the Kyeburn catchment. Dr Ryder also referred to a fish barrier that would be placed on a tributary of Deepdell creek downstream from Camp Creek. Its purpose will be to protect galaxiids upstream of the barrier.

209. Both Mr Christenson and Ms Lennox wanted the DOC mitigation to be reflected in a condition of consent. Dr Ryder in his evidence recommended an Ecological Management Plan, and it was suggested that the galaxiids mitigation could be included in that plan. The Panel agrees that effects on the galaxiids should be addressed in the Ecological Management Plan. As the Plan will cover terrestrial ecology, birds, lizards and aquatic ecology it is appropriate for the condition to appear on the WDC consents, and a copy of the Plan to be provided to the ORC.

210. Dr Ryder and ORC Staff also disagreed about the method that should be undertaken for fish surveys that are an existing condition of consent. ORC staff wanted the method to be in accordance with the "*Standardised fish sampling protocols for New Zealand Wadeable streams*", modified by B. David based on US Environmental Protection Agency *Environmental Monitoring and Assessment Program – Field Operation Manual for Wadeable Streams* (2006).

211. Dr Ryder disagreed with this and said that changing the method would mean that sampling would take longer and the 20 years of monitoring recorded to date would not be comparable with the new monitoring carried out under a different method.

212. The Panel has some sympathy with that view and cannot see the point in changing the monitoring method if it will mean that results will not be comparable into the future, especially when flow regimes in the subject streams are likely to change. However a review of past biological monitoring by ORC staff concluded that it is not necessary to carry out fish surveys at the number of sites that have been surveyed in the past. ORC staff proposed a shorter list of sites to be monitored in what they considered to be optimum locations, and there are some new sites also included to reflect the new features of MPIII. That being the case there will be a change in the monitoring regime and in the interests of adopting standardised methods the Panel concludes that it is appropriate for the method to be agreed between the OGL ecologist and ORC staff before monitoring commences under the new consents if granted.

6.11 Air Quality.

213. OGL presently holds several consents to discharge to air and there is a new consent required for the discharges from the MPIII activities. With topsoil, rock and tailings

being moved around in large quantities on unsealed roads the potential for dust generation is high. Prue Harwood was the only expert on air quality to give evidence or write a report for the consent applications. She explained that the MPIII activities that could affect air quality are the same as have been happening on the site to date. She notes there has been an increase in deposited dust levels compared with background levels because of the mine, but these increases have generally been within consent limits with some exceptions where there have been high dust levels recorded, but not necessarily from mining. She said emissions that could be harmful to humans or animals are very low.

214. Mrs Harwood noted the prevailing wind is from the south and the west. She said effects of dust deposition can be subjective, and in rural land it may not be a nuisance even at high levels. Despite this she said OGL will undertake rigorous dust management procedures in order to minimise nuisance.

215. Both Mr Roy and Mr Harvie referred to dust nuisance arising at times and Mr Roy had photos attached to his submissions that illustrated this. Mr Roy also said he could smell tailings at times. Mr Dogterom was also concerned about potential dust from the MPIII features and a loss in the value of his farm, which is adjacent to the site for the TTTSF.

216. The Panel believes that the control of dust is purely dependent on the dust suppression practices that OGL puts in place. Given the low rainfall and nature of the material being moved about it is extremely important that dust is continuously suppressed. Once the RTS and MTI have been rehabilitated with vegetation there will be no more generation of dust from them. MPIII involves the construction of a new road, tailings storage facility and waste rock stacks, plus the operation of the mine. Dust will need to be managed while those activities are being carried out.

217. Dust suppression actions include wetting of roads, limiting speed of vehicles on and off roads, minimising drop heights for materials, providing ground cover as soon as possible on waste rock stacks and tailings dams and evaluating weather forecasts to enable adjustment to practices to avoid excessive discharge to air. These actions must be implemented.

218. As part of this application the monitoring sites for dust that are required by existing consents were reviewed in light of the proposed expansion of the mine. OGL with agreement from ORC staff have proposed an adjustment to the monitoring such that there will now be a real time monitor placed at Macraes village and the existing high volume monitors that take a daily sample once every 6 days will be discontinued. This means that trigger levels and alarms can be used to anticipate dust problems, which had not been the case in the past.

219. Mr Roy mentioned in his submissions that there is little point in complaining about adverse conditions arising at the mine, such as dust. The Panel encourages Mr Roy and other local residents to call the Councils should they encounter adverse conditions that are not expected to arise. Mrs Harwood said there has been a low level of complaints about air issues at the mine; however this is only in respect of complaints that have been reported to the Councils. Consent conditions can impose compliance limits for dust but it is an operational matter for OGL to ensure they are complied with.

6.12 Stability of Mixed Tailings Impoundment and Adaptive Management of Pit Wall Movement

220. OGL commissioned a number of geo-technical assessments and internal peer reviews associated with the project. One issue, which has been discussed in detail in the s42A report prepared by ORC, is the potential movement of the Footwall Fault associated with the mining of the Southern/ Round Hill Pit areas. Essentially, the removal of rock could release the Footwall Fault and result in movement along the slip plane. Such movement has occurred previously when the Golden Point pit was being mined. Mr Roy noted the issue in his submission, and how the experts were not entirely certain about what would happen at the gold processing plant site.

221. The various geo-technical and engineering experts appointed by OGL consider that the issue of movement, should it arise, can be addressed through an adaptive management regime. Tonkin and Taylor, who were engaged by the Councils to peer review the geotechnical and dam engineering aspects of the application, agreed with this approach.

222. Mr Trevor Matuschka and Mr Robert Bertuzzi on behalf of OGL elaborated further on the above matters in their evidence and recommended changes to the conditions proposed by Mr Purves as assisted by Tonkin and Taylor. A potential solution to divert tailings should these escape from the Mixed Tailings Impoundment ("MTI") is an earth berm downslope of the MTI. While this did not form part of the application, the Panel notes that it might be a suitable option, but it could have practical limitations in terms of how quickly it could be built in the event of uncontrolled movement happening.

223. Mr Barry McDowell said the proposed mining of the Southern/Round Hill Pit was almost unique in terms of geological feature, and under a peculiar set of circumstances. He said OGL were going into a new realm and mining in conditions not previously encountered. He answered questions from the Panel. He noted that if the MTI wall failed there would be little chance of material entering Deepdell Creek. Mr McDowell also noted that mining will induce ground movement in this area, but the main aim is to avoid uncontrolled movement. He said that OGL was best placed to monitor small

changes in ground movement (i.e. trigger levels), but that greater movement over several days would prompt further action to rectify the situation and that the Councils should be notified of this. Mr Christensen in his right-of-reply also sought to clarify the alert level threshold, which the Panel appreciated. Mr McDowell elaborated that it may well transpire that mining may need to cease if the rate of movement is too great and that backfilling may be needed as a method to rectify the situation, which has been done in the past. The Panel are also concerned about the recommencement of mining and Mr McDowell noted that a certification procedure by engineers familiar with the site would not be difficult, time consuming or cause delays as the likes of Mr Bertuzzi would likely be involved in the MPIII project on a regular basis.

224. Taking into account the extensive evidence on this matter, the Panel is satisfied that an adaptive management regime could allow mining in this area to occur, subject to a range of conditions to provide appropriate thresholds for dealing with adverse geotechnical effects. They also note general agreement between the geotechnical experts on these matters.

225. Tonkin and Taylor also considered that an additional condition needed to be placed on the landuse consent so as to ensure that the waste rock stacks are designed to take into account any seismic events in accordance with best practice.

226. Tonkin and Taylor also peer reviewed the geotechnical engineering aspects of the proposed roading realignments (Refer Annexure H of Mr Purves' s42A report). They concluded that the long-term stability and safety of the proposed roads had been adequately considered and suitably demonstrated, and that the investigations and design assumptions were appropriate for the current design stage. However, they recommended that detailed geotechnical investigations should be undertaken prior to confirming a final design for the proposed road realignments. No submitters raised any specific issues on this matter and the Panel are in agreement with Tonkin and Taylor.

6.13 Rehabilitation of mined areas

227. MCI and Mr Roy were concerned that the rehabilitation of the Golden Bar Pit and Deepdell North WRS has not been completed despite active mining ceasing for 5 and 8 years in these areas respectively. Mr Roy considered that conditions must ensure that rehabilitation and revegetation of all exposed surfaces is satisfactorily completed before consents expire.

228. The areas mentioned are parts of the mine site that are outside the scope of the MPIII Project and any specific non-compliances are a matter to be addressed under Land Use Consents LRC 99/54 (Deepdell North) and LRC 99/55 (Deepdell South) or LRC 02/68 (Golden Bar).

229. Mr Purves noted that when he reviewed the 2010 Annual Work and Rehabilitation Programme, he had commented to OGL about what had appeared to be the very limited rehabilitation carried out in 2009 and reasons as to why this was the case. He observed improvement in 2010 with some 40 hectares being carried out on the waste rock stacks and 20 hectares on Southern Pit Impoundment.

230. However, the Panel notes that there needs to be flexibility built into the rehabilitation programme for the waste rock stacks, in particular, because their construction is determined by which pit, or part thereof, is being excavated at any one time. Notwithstanding, it is appropriate to tighten the reporting requirements in the Project Overview and Annual Work and Rehabilitation Plan should consent be granted. The Panel also believes that it is important for the Councils to enforce the conditions of consents.

6.14 Groundwater and Surface Water Quality

231. The Macraes mining operations are based in the headwaters of the Shag River and Waikouaiti River catchments. The first part of the mine in the Round Hill/Golden Point area was entirely within the Deepdell Creek area, it being a tributary of the Shag River. When Frasers pit was developed mining effects began on the North Branch of the Waikouaiti River (NBWR), and MPIII will have impacts similarly in both catchments. Both catchments have had waste rock stacks deposited in them and now the TTTSF will be in the NBWR whereas the BRWRS, MTI and RTS are in Deepdell catchment.

232. Mr Sinclair said that existing groundwater quality is good, but since 1992 the mine operations have generated trends in water quality that show

- increasing sulphate, major element and iron concentrations in Maori Tommy Gully because of seepage from the MTI.
- increasing sulphate, major element and iron concentrations in receiving waters downstream of waste rock stacks.
- a small increase in sulphate in Deepdell creek because of the waste rock stacks in its catchment, with an event in 2006 where poor water management lead to compliance levels being exceeded.

Frasers Pit and Frasers Underground Mine

233. The intention is to enlarge Frasers Pit and continue with underground mining at the same time. Frasers Underground mine is currently being dewatered. Once mined, the panels will ultimately collapse into the mined void if left empty. This has the effect of

enhancing seepage pathways. OGL stated that the underground workings clearly change the deep groundwater catchment divide. This shift has been utilised in the proposed mitigation measures for Tipperary Creek.

234. OGL proposes to install a sump in the bed of the truncated Tipperary Creek near the downstream foot of the TTTSF impoundment wall. The intention is that the sump will attract the flow of groundwater from beneath the tailings deposited onto the land surface and capture this groundwater seepage for re-circulation. Approximately 30% of seepage within groundwater might be intercepted at the TTTSF Sump and the remainder will pass into the prevailing groundwater system. Mr Sinclair said that maximum discharge from the TTTSF as modelled will be 1,800m^3 per day, reducing to 260m^3 per day once it is closed. After closure drainage of the TTTSF is expected to continue for 20 years.

235. Mr Sinclair said it is difficult to predict when the groundwater within the TTTSF will reach a steady state as it depends on the composition and drainage properties of the tailings. Water collected from the TTTSF drainage systems and at the Tipperary sump is to be injected to the underground workings under gravity flow using an injection well between the sump and closest part of the underground workings.

236. Groundwater and rain will also seep into Frasers Pit and modelling shows over a period of 150 years the pit is not likely to fill up as evaporation will prevent this. Dr Verburg wrote that following initial poor water quality in the pit, as the pit fills and contaminants are diluted, pit water quality will improve. He noted that pit lake water will exceed the proposed sulphate limit that is to be imposed on the DC08 NBWR monitoring site downstream, however the lake is not likely to be used for stockwater therefore it is not an issue.

MTI and Roundhill/ Golden Point Pit Lake

237. OGL proposes that the MTI and SP11 will be decommissioned by draining the tailings leachate. Primarily, the leachate drained will be deposited/re-used elsewhere in the MGP, but when the levels of contaminants leached are suitably low, the leachate will be allowed to discharge directly into downstream watercourses.

238. Simulated MTI and SPI drain discharge rates indicate a decrease in flows of approximately 50% within a period of 10 years following closure. OGL stated that it is likely that the simulated rate of decrease in seepage and drain discharges following closure is understated. An assessment of the rates at which MTI and SPI drain discharges have declined during inactive periods in the past, indicates discharges are likely to decline at faster rates of between 50% and 90% within two years following closure.

239. It is expected that much of the storage tailings mass would become unsaturated during the 20 years following the decommissioning of the TSFs. Mr Sinclair said there is uncertainty about the length of time required for the overall groundwater system to reach a steady state flow pattern. This uncertainty is partly due to the inherent variability of the hydro geological characteristics of the tailings mass and the underlying soils.

240. Once the groundwater systems within the tailings storage facilities have reached a steady state following closure, the contaminant loads in water subsequently lost from the tailings will be residual moisture content and ongoing recharge from rainfall. Further transport of contaminants from the tailings would mainly occur in response to significant rainfall events resulting in pulses of seepage water travelling downward through the unsaturated tailings to the groundwater table.

241. As part of mine rehabilitation, OGL proposes to leave open pits to fill with water to create lakes. OGL has identified that Golden Point Pit lake water may leak into the historic Golden Point underground workings and discharge into Deepdell Creek. Mr Sinclair said the modelling did not assume any leakage of pit water through the historic mine adits, and concluded that the adits must be sealed off. Ms Lennox identified this issue in her report and Mr Christensen confirmed that no consent has been, or will be sought for the discharge of Golden Point Pit water into Deepdell Creek.

Modelling Projections of Water Quality

242. A groundwater model simulating the groundwater system at the MGP site through 2010 to 150 years in the future (post-closure) was used by Golder in the assessment of effects of MPIII. Input parameters used in this model were based on the water quality data from the site environmental monitoring program (including leachate water quality representing TSF decant ponds, TSF drain discharges and WRS seepage) as required for existing consents, and a previous model that was developed in 2005. Contaminant transport modelling for each of the contaminants, with the exception of Arsenic, assumed no attenuation prior to entering surface water bodies i.e they were considered to be transported conservatively. OGL considers this a conservative assumption in terms of protecting water quality, as it is known that many contaminants, including Arsenic and Iron, do attenuate or change composition during transport.

243. Mr Sinclair said that groundwater movement in the MGP is very slow. The Panel notes that mining in Deepdell catchment has been ongoing for around 20 years and it is only in recent years that contaminant levels in the groundwater bores in Maori Tommy Gully have begun to increase.

244. The surface water model used by Golder for the assessment of potential effects from MPIII simulated water flows across the MGP site and in downstream catchments. Water quality data inputs were based on the site environmental monitoring programme data. From this, representative water quality characteristics for TSF leachate, WRS drainage water and runoff water, runoff from rehabilitated surfaces and runoff from undisturbed surfaces were produced. Groundwater seepage water quality inputs into the model were from the groundwater model described above.

245. The model showed that levels of Arsenic, Cyanide, Iron and Sulphate will be elevated beyond compliance limits at various compliance monitoring points around the MGP. Because of the conservative nature of the model both Dr Verburg and Mr Sinclair concluded that breaches of limits for Arsenic and Cyanide are unlikely to occur; breaches of Iron limits is unlikely at all except site CJ01 (Crankey Jims Creek) , and Sulphate is likely to breach consent limits at all monitoring sites except CJ01. Dr Verburg set out the projected levels of the contaminants at each of the monitoring sites in table 2 of this evidence.

246. Contaminants will enter groundwater across the site and ultimately they will enter connected surface water bodies or pit lakes. Deepdell Creek is the recipient of the majority of WRS drainage and MTI drainage. It is expected to have elevated Sulphate levels and the only remedy for this is to dilute the receiving water so that acceptable Sulphate concentrations are achieved. The water for dilution is to come from the new Camp Creek dam, such that water will be released into Deepdell Creek from it.

247. The Ministry of Education raised concerns that MPIII activities may result in adverse effects on the Macraes School water supply, which is sourced from a bore on the school grounds. Mr Harvie also expressed concern about the expansion of the mine affecting bores in the village.

248. OGL witnesses and ORC officers were the only parties at the hearing with any expertise in water quality. Mr Sinclair said that MPIII activities were unlikely to adversely affect water quality in the village, as the MTI will be closed and drained, and the new tailings facility is in another catchment.

249. Ms Lennox produced monitoring schedules for the various consents and included in those is the requirement for OGL to monitor the Vickery and MMCL bores that are in the village. Any changes in water quality will be detected through this monitoring.

Conclusions – Water Quality

250. The Panel notes that ground and surface water quality is, and will continue to be affected by the existing mine and MPIII. There are numerous sources of the

contaminants, including runoff from construction activities, drainage and seepage from WRS, TSF, roads, and leaching from cut rock surfaces in pits. Monitoring and modelling indicates increasing contamination of water as mining continues, however it is not contamination at a level, taking into account natural processes, that is likely to breach various water quality standards except for Sulphate.

251. The headwaters of the NBWR should retain acceptable water quality as the leachate from the TTTSF will be diverted underground. Modelling indicates that the seepage from WRS in this catchment is not likely to contribute contaminants in quantities that will adversely affect water quality. A monitoring point on the NBWR will ensure that water quality is maintained in this catchment. Sulphate levels in Frasers Pit Lake will exceed stock drinking water standards until the lake is of sufficient volume to provide dilution. Frasers Pit Lake is not likely to be used for stock drinking water. The Panel agrees with Dr Verburg in that the NBWR should be the compliance point for water quality in this catchment and not the Frasers Pit Lake.

252. Deepdell Creek on the other hand has had the MTI in its catchment since the mine was developed. Seepage pathways under the impoundment have been affected by the movement of part of the dam wall due to the Footwall Fault movement. Despite the grout curtain and sump in Maori Tommy Gully, contaminants are being detected at the compliance points downstream in this gully. Over time with the construction of the very large BRWRS and the decommissioning of the TSFs in this catchment, modelling shows that sulphate levels in Deepdell Creek will not comply with standards. Dilution as a solution for most discharges of contaminants in Otago is not seen as a favourable option; treatment is preferred. In this case because contaminants are moving very slowly through rock, it is not practical to treat the groundwater and when it surfaces into Deepdell Creek in a diffuse manner it is then too late to treat it. The Panel understands that this contamination is likely to happen in the future whether or not MPIII is carried out, because of the seepage coming from existing features in the catchment. The Panel accepts in this situation dilution is the only practical solution and agrees that water should be supplied to Deepdell Creek to provide dilution of contaminants to a suitable level during times of low flow.

6.15 Water Quantity

253. Mr Sinclair said measured rainfall at the MGP is on average 659 mm per year. Evaporation average is 988 mm per year. The only time evaporation does not exceed rainfall is in winter months. Recharge of groundwater averages at 32mm per year. As mentioned above the MGP straddles the headwaters of two catchments; the Shag and Waikouaiti rivers. Because there is a net shortfall of water, OGL brings water into the MGP from the Taieri River, and uses this in the processing plant. Water from the

various pits, TSF and silt ponds is also returned to the processing plant or used in dust suppression about the mine.

254. Golders estimated the likely water flows associated with mining activities and building/ operation/ decommissioning of TSFs. Mr Sinclair said that surface water modelling indicates the proposed MPIII would have no discernable effect on water availability in either the Shag River or the NBWR. Ms Lennox in her report stated that diversion of water around WRS in the NBWR headwaters could mean a further $3m^2$ of catchment is removed from the NBWR. The Waikouaiti Catchment is presently not over allocated therefore the loss of a minor part of the catchment is not likely to show any adverse effects or affect downstream users.

255. Tipperary Creek is a tributary of McCormicks Creek and the Shag River and according to OGL and Ms Lennox's report, is likely to be ephemeral at times. The construction of the TTTSF will take up some of its catchment and reduce the mean flow in the creek from 4.4 l/sec to 2.6 l/sec. This could have an impact on the Hecklers who take water from the creek. Ms Lennox said in her report that the taking of water has to be considered as supplementary allocation under the Regional Plan: Water. Under the relevant policy[1] the taking of supplementary water must not have any effect on any other lawful take of water; therefore OGL proposes to augment the Heckler's water supply by installing a dam or some other means of achieving a secure supply. Once the TTTSF is decommissioned and rehabilitated, normal flows will return to Tipperary Creek.

256. A positive effect on Deepdell Creek will be the supply of extra water from the Camp Creek dam. This water will stop Deepdell Creek from drying up into pools in hot summer conditions, and will enhance habitat. There is a minor loss of water from the Shag catchment due to the MGP. This may be made up with the augmentation of Deepdell Creek in summer, although this is not likely to happen for some time, and until water quality results indicate dilution is necessary.

257. Groundwater at Macraes is not considered to be a valuable resource according to the Resource Science Unit (RSU) of the ORC, as explained in the ORC S42a report, because the yield from the schist rock is not high. There are several shallow groundwater bores in the village and on nearby farms. The RSU stated that the pits behave as large groundwater abstractions, but the extent of groundwater decline from digging pits is expected to be localised and restricted to land owned by OGL. The RSU also reported that the connection of groundwater with the ephemeral Tipperary, Cranky Jims and NBWR is weak and pit dewatering is not expected to result in significant depletion of surface water bodies.

[1] Policy 6.4.9 RP Water

258. The Ministry of Education and Mr Harvie were concerned about any likely effects on bores at the school and in the village. The RSU had not assessed the effect on water supply from these bores when they reviewed the application for input into the ORC s42A report. Ms Lennox reported in her submissions that there had been no evidence on this issue brought to the hearing, and the RSU when asked by Ms Lennox, commented that it is possible that bores in Macraes Township are being affected by the dewatering in Frasers Pit. Ms Lennox has recommended a condition that "there shall be no adverse effect on any existing lawful groundwater take as a result of exercising the consent" that provides for dewatering Frasers Pit. OGL did not object to this specific condition in their final statements, but Mr Christensen appended to his closing submissions a copy of an agreement with the MCI about the town water supply. Mr Christensen said OGL has met all its obligations concerning water supply to the township. The Panel accepts that view in terms of the OGL compliance with LRC96/98, but as MPIII will be expanding Frasers Pit it is appropriate to include Ms Lennox's condition on the dewatering permit, if granted.

259. The Panel concludes that the effect of MPIII on water quantity will be little different to the existing mine, with two exceptions, these being the effect on flows in Tipperary Creek from the installation of the TTTSF, and the beneficial effect on flows in Deepdell Creek with the augmentation of water from the Camp Creek dam. Both of these effects are acceptable, as in the first instance the flow in Tipperary Creek will return to normal once the TTTSF is decommissioned, and in the second instance the effect is beneficial to water quality and aquatic fauna in Deepdell Creek.

6.16 Macraes community

260. The Panel notes that the end-of-mine-life rehabilitation and community strategy is an important issue. The previous commitments of OGL are therefore particularly relevant and the Panel notes the history provided by Mr Purves and Mr Roy on this. The Panel is concerned about the shifting expectations for the community, particularly when OGL had sought to vary LRC 96/98 in order to remove the requirements to partially backfill the northern portion of Frasers Pit in 2001. It instead proposed to establish the HAP because it would better promote the sustainable use of the natural and physical resources because of the long-term economic and employment benefits that the HAP would accrue to the community. The value to the community of lakes created by the filling of Frasers and Innes Mills pits with water is now compromised by the use of tailings water from the TTTSF, (for Frasers Pit) which will reduce the water quality of these lakes.

261. OGL, through Mr O'Leary, proposed the MCD Strategy to replace the HAP. The letter attached with the revised application from Anderson Lloyd Lawyers dated 31 May 2011, contained in the Addendum, stated in part, the following:

"The existing HAP strategy envisaged a mine life until August 2012 with the Park being opened to the public at this point. While OceanaGold has already completed some aspects of LRC 01/21, other obligations will not be able to be completed for some time if the life of the mine is extended to 2020 (completion of waste rock stacks is necessary to create the remaining large artworks and cessation of mining is required to allow access).

For this reason OceanaGold has undertaken a review of the existing HAP mine closure plan. Following the review (including feedback from the local Macraes community) it is OceanaGold's view that HAP is not a sustainable proposition to provide future economic growth and development options for the community, as it was intended. Therefore OceanaGold propose HAP is replaced by a revised strategy, called the Macraes Community Development (MCD) Strategy.

The MCD Strategy would involve redirecting funds that are currently committed to completing HAP obligations into funding of a Community Trust instead. Stanleys Hotel and the Manager's House would also be vested into the Trust."

262. OGL also stated that a contribution of $2 million would be paid to the Trust, and that the Stanleys Historic Hotel land and buildings and the associated manager's property would be transferred to the Trust, when the consents become operative. A set of draft conditions dealing with the establishment of the Trust, the Trust's composition and so on were proposed.

263. MCI and Mr Roy submitted on this matter. They sought that the Council clears up the confusion about what the MDC Strategy is and the obligations that are to remain with OGL.

264. The Panel notes the history of the HAP as discussed by Mr Purves in his s42A report, a summary of which follows. The HAP required a minimum amount of money to be set for the creation of the art works. This was included for bonding purposes in case of early mine closure. The first art work requirements under LRC 01/21 were in 2003 and 2004 and there was slippage in terms of getting art works completed early on. Nevertheless, three small art works and two medium art works have been completed, although no public access is allowed to the medium art works. Each art work was a component of a greater park, and individually it is likely they would be less valuable from a tourism perspective than if the HAP had been completed as an integrated park. Other completed works, include the visitor centre in the Township, and car-parking and viewing areas.

265. Mr Purves also noted that extensive indigenous vegetation plantings were proposed for the HAP. These included extensive areas of indigenous grasslands, areas of native shrubs, and scree/wetland plantings in the pits. While some small trials were completed early on and some further tussock trials had been completed in 2009, no systematic attempt to undertake the planting required under conditions 57 to 59 of

LRC 01/21 has been completed. The ecological review in 2006 pointed out that the establishment of the indigenous grassland plantings alone would have been of a scale never been undertaken in New Zealand. A total amount of $60,000 was bonded for the plantings.

266. The HAP had a heritage component to it and condition 61 of LRC 01/21 set out the various heritage requirements. The condition should be read together with condition 15 of LRC 96/98. The conditions set out the specific heritage items that require protection, and in the case of Gay Tan's cottage, restoration to lock-up stage. Discussion of this is also contained in the Heritage section below.

267. Notwithstanding the previous obligations, OGL now stated that the MDC Trust could carry out works, such as improving the community's water scheme, upgrading Stanleys Hotel and investing in tourism enterprises to create employment opportunities, but the Macraes Community is in the best position to decide what investments would best help the community achieve economic self-determination, post-mining. The submission by MCI also made mention of various housing options.

268. When questioned by the Panel, Mr Harvie (MCI chairman) expressed some uncertainty about the value of the Trust and whether the $2 million and associated assets were appropriate. The Panel also had further evidence from Mr Purves relating to the bonded amount of works under the HAP for both the HAP period (i.e. up to 31 December 2012) as well as for a further ten year maintenance period (i.e. up to 31 December 2022). Mr Purves suggested, through proposed conditions of consent, that the MCD Trust should have the option of being gifted the assets proposed by OGL and the artworks, but if so, should also have commensurate funds in order to maintain them.

269. OGL, in their right-of-reply, did not agree with Mr Purves' proposed conditions and sought refinement of the conditions around gifting of land and buildings to the MCD Trust to restrict this to a 12 month period so as to allow time for due diligence to be carried out by the Trust.

270. The Panel were left with a difficult proposition. Firstly, the existing consents and obligations should not be dismissed lightly. The WDC has not enforced many of the obligations because of active mining over areas where these obligations applied. The Panel are mindful that requiring many of these obligations would be pointless when mining interferes with the completion of works and would not provide a significant benefit to the community, despite previous recommendations on the HAP. However, because a lot of work has been completed under the HAP, then this should be wrapped up in a revised HAP Management Plan along with the completion of a medium artwork and ancillary works. This would at least ensure that the existing HAP projects are accessible, available to be enjoyed and provide some positive community effect.

271. The Panel also notes the maintenance period obligations under the HAP consent (LRC 01/21) through until 2022 (i.e. 10 years post mine closure) and feels that this should also be applicable to this consent should it be granted as it will not represent a departure from what was expected by both OGL and the community.

272. The Macraes Village Concept Development Plan 2000 (as referred to in LRC 96/98) is over ten years old and also contains matters that relate to the other two management plans (Heritage and HAP) referred to. It is appropriate, that in order to ensure consistency and relevancy, this plan should also be updated. This will also provide a common baseline for all community related matters that are reflected in all three plans and be reference documents for the MCD Trust for consideration of the potential future transfer of OGL assets to the Trust. The Panel are satisfied in part that the existing obligations will be dealt with to a level that reflects the community's aspirations for the HAP proposal and OGL's existing consent requirements.

273. The second matter the Panel were confronted with is the effect on the community of the MPIII Project extending the mine life for another eight years. The Panel feel that the $2 million offered by OGL to the MCD Trust was sufficient in terms of providing a seed fund (and inflation proofed from the date of the consent) for future community initiatives.

274. The Panel is aware that a significant portion of this fund represents uncompleted HAP obligations; however the default position is to require OGL to complete these obligations at a future date, but with little perceived additional benefit to the community. Without any specialist advice on this matter, other than the Macraes Tourism and Recreation Options Plan prepared by Tourism Resource Consultants for OGL, as well as submissions from MCI and Mr Roy, the most practical option available to the Panel is to accept the general intent of the MCD Trust. This is qualified by the need to modify how the Trust might operate, be funded, and be gifted various assets owned by OGL. The Panel also feels that the on-going obligations through to 2030 for HAP items goes some way in relieving concerns of the community about funding the cost of this through the MCD Trust.

275. In OGL's right-of-reply, OGL also brought to the attention of the Panel a record of discussions between members of the Waihemo Community Board and the WDC's Chief Executive Officer. This record was tabled and it outlined various 'community good' support that OGL proposes to undertake in the wider area beyond Macraes Flat. It was proposed that this be dealt with through a side agreement, which the Panel supports and considers appropriate to include as a condition of consent.

6.17 Bonds

276. At any given time the MPG while operational includes many features that require rehabilitation and monitoring. Should OGL for any reason default on its consent conditions the Councils will be left to carry out the rehabilitation and continue the monitoring. For that reason it is essential that bonds are in place to provide for that situation.

277. The Panel notes there is no disagreement between OGL and the Councils about the need to have bonds in place. In the past the Annual Work and Rehabilitation Plan has provided the basis on which to calculate the quantum of the bonds, as the quantum changes over time as features of the mine come and go.

278. Mr Christensen and Mr O'Leary expressed concern at the term of some bonds that are already in place for the existing mine. They said the agencies that provide bonds are reluctant to provide medium to long term bonds and as a result it is costing more than necessary to secure the bonds. The Councils officers had recommended bond conditions in their S42A reports and Mr Christensen offered a different version.

279. The Panel was advised that during a break in the hearing the officers met with Alastair Logan who is legal adviser on OGL matters to both Councils. Ms Lennox provided the Panel with a copy of the advice that Mr Logan had provided. The officers presented a revised version of their bond conditions. The conditions are identical for both Councils.

280. The Panel is aware that the financial environment changes from time to time and this affects the way that bonds are written and underwritten. Therefore it is appropriate for a bond condition to require that bonds are in place at all times. The details of the bonds can be negotiated from time to time depending on the financial climate. The duration of each bond could be for 3 years on a rolling basis as Mr Christensen suggests, but could be on a different basis as well. It is appropriate to leave this detail to the Councils and OGL to work through as bonds are formulated.

281. The Panel was asked by Mr Christensen to consider his version of the bond condition with a mindset of identifying any risks that the wording presents to the Councils. The Panel notes that there is little reference to adverse effects beyond the duration of the consents in the OGL bond condition, whereas the officers' version has this well documented throughout. The Panel prefers the revised condition produced by the officers in consultation with Mr Logan. This version provides sufficient flexibility to accommodate the changes in financial institutions while safeguarding the Councils' interests.

282. Meanwhile the concern expressed by Mr O'Leary is about some bonds that are already in place. This consent application process does not affect those bonds and if there is a difficulty then that is an issue between the Council and OGL and not this Panel.

7. Main Findings Of Fact

283. Throughout the preceding section 6 the Panel has examined the effects of the MPIII proposal in light of the existing mine, and the range of matters that were brought before the Panel in evidence and submissions. The Panel's findings are summarised in respect of each issue:

Table 3: Main Finding of Fact: Summary

Effect of Proposal On	Panels Findings	RMA
Maori Values	There is some limited evidence of historic maori presence at the site. The CIA will provide more information about this. The mahika kai in the downstream catchments will not be affected	S8
Economic effects	Significant positive effects locally, regionally and to a lesser extent nationally	S5
Heritage issues	Overall negative effects with loss of sites and items. Mitigation required through preservation of targeted site and Community projects	S6
Landscape effects	Changes in landscape from minor to moderate and changes permanent.	S7
Road Realignment	Economic disbenefit minor; effects negligible	
Noise and Blasting effects	Minor effects if controlled as they have been in the past	S7
Hazardous Substances	Nil to minor effects if existing practices on site continued	
Lighting Spill	Potential for effects on local houses and must be managed by adjusting floodlights	S7
Terrestrial Ecology	Moderate effects that must be mitigated by providing protected sites elsewhere	S6

Aquatic Ecology	Moderate effects on native fish and positive effects on trout. Mitigation for natives required by enhancement of other sites	S6, 7
Air Quality	Potential for moderate adverse effects. On site controls necessary; new real time monitoring will improve ability to predict likely dusty events	S7
Stability of MTI and Adaptive Management of Pit Wall Movement	There is a risk of failure of the MTI if uncontrolled movement of the faultline fault occurs. Strict adherence to a management plan to manage mining in Round Hill/Golden Point Pit required. Mining in area may have to be abandoned if movement excessive.	S7
Rehabilitation of Mined Areas	Progressive rehabilitation required. Councils must enforce consent conditions	S7
Water Quality	Overall negative effect on groundwater quality from cumulative effects of past and existing mining that ultimately surfaces in streams. Intensive monitoring required and dilution of Deepdell creek.	S5, 7
Water Quantity	Minor effects that endure only while mining occurs. Mitigation for reduction in flow in Tipperary Creek required. Monitoring required to detect reduction or loss of groundwater yield in village bores.	S5, 7
Macraes Community	Community must have benefits while mining is ongoing and after mine closure. HAP must not be completely abandoned and existing features maintained. Community Trust appropriate.	S5, 7
Bonds	Bonds required in favour of both Councils. Form and quantum to be negotiated according to financial climate and Annual Work Programme forecasts.	

8. Statutory Considerations

8.1 Part II of the Act

284. The purpose of the RMA through Section 5 is to promote the sustainable management of natural and physical resources. Section 5 defines "sustainable management" as:

"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 wellbeing and for their health and safety 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."

285. The MPIII Project must achieve the purpose of the Act which is to promote the sustainable management of natural and physical resources. In considering the narrative of Section 5, there was unopposed evidence about the significant positive economic and social impact of the existing MGP at a local, regional and to a lesser extent national level. The effect on employment, business, goods and services in local towns, Dunedin and the population in schools is well documented. Clearly the mine is not expected to last forever, but in the time that it is operational, the positive economic and social effects will endure. In consideration of subsections (a), (b) and (c) of Section 5 a significant part of this decision is to consider the state of the air, land and water resources while mining is happening and once mining ceases, and the impact of that on the community.

286. Putting aside the likely economic benefits to North Otago and Otago, the WDC District Plan is a significant consideration under Section 5. The WDC District Plan recognises and provides for mining within the Macraes Mining Project Mineral Zone.

287. The WDC District Plan has purposely retained discretion over the development of the pits and other mining related structures in the Zone, and the Panel needs to determine whether the actual or potential adverse effects of this proposal can be appropriately avoided, remedied or mitigated and the end-of-mine-life rehabilitation and community strategy is appropriate to the area. Similarly the Regional Plans: Air, Waste and Water require the avoidance, mitigation or remedying of effects on the resources they regulate. None of the Regional Plans specifically address mining as an activity, but the effects of mining are regulated.

288. Through the various submissions, evidence and S42A reports presented to the Panel, the effects were thoroughly traversed and in several cases avoidance was a technique that resulted. For many other effects avoidance and remedying is not possible (for example the loss of upper catchments and endangered fauna; contamination of water, leaving open pits). In cases where significant areas or water bodies will be affected by mining, including open pits, waste rock stacks and tailings storage facilities, the preference was for the effects to be remedied elsewhere or mitigated through operational or other means such as offsets. Mitigation and offsets are therefore significant considerations for the determination of these consents. All of these

techniques were reflected in the draft conditions of consent, which were presented by the S42a report writers.

289. Section 6 states that in achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance i.e.:

"*(a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:*

(b) The protection of outstanding natural features and landscapes from inappropriate subdivision, 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 to and along the coastal marine area, lakes, and rivers:

(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, 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."

290. Section 6 (a) and (c) are relevant and the loss of habitat associated with a number of wetlands as well as Camp Creek habitat was an issue that evolved during the hearing and the Panel heard evidence on this issue. It is unknown at this time whether Section 6 (e) is relevant because a CIA has not been completed, nevertheless it has been accepted that this can be examined at a later date.

291. Section 6 (f) is also relevant. There will be a loss of historic heritage and the Panel noted that the proposed mitigation package was generally acceptable to the various parties.

292. Section 7 states that in achieving the purpose of the RMA, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to a range of matters, i.e

"*(a) kaitiakitanga:*

(aa) the ethic of stewardship:

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

(ba) the efficiency of the end use of energy:

(c) the maintenance and enhancement of amenity values:

(d) intrinsic values of ecosystems:

(e) repealed.

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

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

(h) the protection of the habitat of trout and salmon:

(i) the effects of climate change:

(j) the benefits to be derived from the use and development of renewable energy."

293. OGL has had regard to these matters when preparing the AEE and the above matters have been addressed in one form or another in the s42A reports, the evidence presented at the hearing and the submitters' views.

294. In respect of 7(a) and (aa), the Iwi submissions were opposed to all of the consent applications and at the same time inferred that should consents be granted then several conditions are imposed to address Iwi concerns. The Panel acknowledges the importance of the Shag and Waikouaiti catchments to the Runaka, and understands they must be sustained for future generations to meet the concerns of Iwi. The Panel also notes the Cultural Impact Assessment (CIA) is being undertaken as one means to address Iwi concerns.

295. The Panel concludes that the proposal represents an efficient use of resources under Section (7) (b) because the WDC District Plan has recognised and provided for the proposed mining through a relevant Zone.

296. With respect to Section 7 (c) the definition of amenity values "*means those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes*". As noted, the amenity in the Macraes area has been significantly changed with the mining operation. The visual changes have been dramatic over the years and in particular the Panel's experience with previous consents for the mine and recent site visit confirmed this. Notwithstanding, the MPIII Project is seen as a continuation on what has gone on previously.

297. In considering Section 7(d)(f)(g) and (h) the intrinsic values of the ecosystems including the flora and fauna that form part of them at and downstream of Macraes Flat must be protected, remedied or mitigated when considering the mining activities, and the conditions in the ecosystems that will endure once mining ceases.

298. Section 7(f) focuses on the quality of natural or physical resources, rather than people's appreciation of them. In this regard, the proposed end-of-mine-life rehabilitation and community strategy is important given the scale of the operation.

299. Section 8 requires all persons acting under the Act to take into account the principles of the Treaty of Waitangi. The Panel has considered the submissions of Iwi in coming to its decision and notes the CIA is yet to be produced.

300. S 104 of the RMA requires the Panel to have regard to a number of matters which are addressed in turn. As there was no disagreement with the assessment of these matters as discussed in the s42A reports, the Panel has used the Council officers' assessment as the basis of the following:

8.2 National Environmental Standards for Sources of Human Drinking Water

301. The National Environmental Standards for Sources of Human Drinking Water (Ministry for the Environment, 2007) (referred to hereon in "NES Human Drinking Water") state that the ORC must not grant a water or discharge permit if the activity is likely to increase the concentrations of "determinands" by more than a minor amount, or introduce or increase "aesthetic determinands" exceeding the existing guidelines.

302. The Macraes schist rock groundwater, Shag River and Waikouaiti River catchment have the following community water supplies drawn from them:

Table 4: Drinking Water Supplies

Nearby Community Drinking Water Supplies		
Community	**Population**	**Source of Groundwater**
Goodwood	400	Goodwood Bore, Shag River
Macraes Flat, Stanley's Hotel	40	Stanley's Hotel Bore, Macraes
Palmerston	800	Palmerston Bore, Shag River
Waikouaiti	1,600	Waikouatiti River

303. In terms of OGL demonstrating effects identification, mitigation and monitoring of health significance or aesthetic contaminants entering these water supplies, OGL has set out a systematic approach that would make transgression of the NES Human Drinking Water unlikely. The most problematic determinand is sulphate, so maintaining surface water sulphate concentrations below the drinking water limit of

250 milligrams per litre (mg/l) is the compliance objective consistent with the NES Human Drinking Water. OGL has proposed groundwater monitoring with the intention of implementing a multi-purpose monitoring approach:

- Observation of proximal groundwater quality effects, i.e. immediate effects at tailings impoundment perimeters;
- Observation of intermediate distance groundwater quality effects, i.e. groundwater monitoring of down-gradient schist rock groundwater beyond the impoundment perimeter but up-gradient of the main seepage zones;
- Observation of groundwater quality effects at compliance levels; and
- Compliance concentrations should be integrated as conditions of the relevant consent(s).

304. The proposed monitoring and mitigation regime was considered by ORC's RSU to be adequate for the purpose of meeting water quality objectives and the requirements of the NES Human Drinking Water and the Panel agrees.

8.3 National Policy Statement for Freshwater Management

305. The NPS for Freshwater Management took effect on 1 July 2011 and provides overarching objectives and policies for managing the quality and quantity of freshwater resources in New Zealand. As the application was received before 1 July 2011, the NPS does not apply. Even if it did apply, granting the consents to take water would not be in conflict with the NPS.

8.4 Environmental Effects

306. The actual and potential effects of the proposed activity have been considered in turn in sections 6 and 7 of this decision.

8.5 Regional Policy Statement for Otago (RPS)

307. The provisions of Chapter 5 (Land), Chapter 6 (Water), Chapter 7 (Air), Chapter 9 (Built Environment), Chapter 10 (Biota), Chapter 11 (Natural Hazards), Chapter 13 (Wastes and Hazardous Substances), Chapter 14 (Monitoring and Review) of the RPS are relevant to this application.

Land

308. In the land chapter 5, The RPS seeks diversification of the use of land resources in Otago[2] and one form of land use is mining. The RPS recognises that mineral deposits are a finite resource and consideration needs to be given to preserve access to such deposits.[3] Following on from this, the WDC District Plan also acknowledges the importance of known mineral deposits and seeks to discourage activities or development that are likely to compromise such resources.[4]

309. Other land chapter policies require the recognition of the relationship of Kai Tahu[5] with the land resource and the need to maintain/enhance the land resource[6] and minimise effects on water resources[7] from land use.

310. The development of the CIA and potential review of conditions depending on what is found provides for the relationship Te Rūnanga o Moeraki and Kāti Huirapa ki Puketeraki have with the MGP site.

311. Modelling has indicated that MPIII will impact on water quality but provided that adequate mitigation is imposed, water quality should remain within guideline limits for the likely use. The Panel finds that MPIII does not conflict with the policies in chapter 5 of the RPS.

Water

312. Chapter 6 has a policy to recognise and provide for the relationship Kai Tahu have with the water resource in Otago.[8] The completion of the CIA will reveal any issues that have not been addressed to date. The MPIII activities are highly unlikely to impact on the food and recreational resources in the Waikouaiti and Shag rivers that were described by the Runaka witnesses.

313. OGL recycles water around the MGP site both to reduce the impact on water resources in terms of the volume of water that is taken, and to reduce the volume of contaminated water that is discharged, directly or indirectly, into surrounding water bodies and groundwater. This is consistent with policies requiring the efficient consumptive use of water[9], and the desire to reduce the adverse effects of contaminant discharges into water bodies.[10] The likelihood of increasing contamination is not consistent with the latter policy, however given the existing environment with TSF and WRS already in place the mitigation measures proposed are appropriate. Overall, the

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[2] Policy 5.5.4, page 55 RPS
[3] Policy 5.5.8, page 58 RPS
[4] Policy 16.7.2, page 133 WDC District Plan
[5] Policy 5.5.1 page 52 RPS
[6] Policy 5.5.3 page 54 RPS
[7] Policy 5.5.5 page 55 RPS
[8] Policy 6.5.1 page 76 RPS
[9] Policy 6.5.3 page 77 RPS
[10] Polciy 6.5.5 page 77 RPS

applications are considered to be consistent with the purpose and principles of Chapter 6 of the RPS.

Air

314. The ongoing mining has the potential to be in conflict with the relevant policy of the RPS that seeks to avoid remedy or mitigate adverse effects on air[11]. In the discussion about air quality it is noted that the effect on air quality is an operational issue for OGL and it is important for dust suppression measures to be implemented fully.

Built Environment

315. Chapter 9 of the RPS includes a policy about enhancing the quality of life for people and communities, and avoiding effects on health.[12] The erection of waste rock stacks and tailings facilities are not "buildings" in the usual sense, but they are nonetheless structures that will permanently alter the landscape and the community's appreciation of it. Policy 9.5.6 also seeks to recognise and protect regionally significant heritage sites. It is appropriate in light of these policies for the residual parts of the HAP to be maintained and provision made for the community's future via the trust that is to be set up.

Biota

316. Policies seek to protect Mahika Kai[13] and to maintain or enhance the diversity of significant indigenous vegetation and significant habitat of indigenous fauna, trout and salmon[14] which have certain qualities. Effects on Mahika Kai are not expected at all from MPIII activities. Effects on indigenous fauna have been discussed in this decision and appropriate mitigation measures are to be devised to compensate for loss of some habitats. Effects on trout populations are likely to be positive.

317. Overall, the applications are considered to be consistent with the purpose and principles of Chapters 7, 9 and 10 of the RPS.

Natural Hazards

318. There are numerous policies in the RPS that address natural hazards. The general theme of them is to identify hazards[15], restrict development in areas where they occur[16], take action to minimise their effects and work out with communities how to live with them. It has been identified that several fault lines run through the MGP site, resulting in a risk of failure of certain structures due to seismic activity. Fault movement can be reactivated by mining and other works if adequate control is not exercised. Although OGL has undertaken numerous investigations to identify these

[11] Policy 7.5.2 page 93 RPS
[12] Policy 9.5.5 page 128 RPS
[13] Policy 10.5.1 page 141 RPS
[14] Policy 10.5.2 page 141 RPS
[15] Policies 11.5.1, 11.5.4 page158/ 159 RPS
[16] Policy 11.5.3 page 159 RPS

natural hazards, it has not stopped development in these areas being proposed. The approach therefore is to mitigate the effects of these potential hazards. The effects of failure of significant dams across the site have been assessed. Emergency Action Plans must be devised for these structures and mining in areas that could activate fault movement. .

319. Overall, the applications are considered to be consistent with the purpose and principles of Chapter 11 of the RPS, despite the scale of proposed development in potentially seismic areas.

Wastes and Hazardous Substances

320. There are several policies in chapter 13 that seek to avoid/remedy/mitigate the effects of disposing of solid waste[17], liquid waste[18], hazardous substances[19] and to minimise waste[20]. The potential adverse effects from the disposal of waste rock and tailings have been assessed and mitigation measures proposed. The assessment of effects on the receiving environment took into account the cumulative effect of discharges from existing TSFs and WRSs. Waste rock will be used as back fill in open pits where possible to reduce the volume of waste rock that requires disposal in stacks.

321. Overall, the applications are considered to be consistent with the purpose and principles of Chapter 13 of the RPS providing consent conditions will be adhered to.

Monitoring

322. A specific policy in chapter 14 requires the effects of resource consents to be monitored[21]. Monitoring of the potential effects of activities at MGP requires the collection of data over a large area, with specific attention required to detect the effects of individual sources of contaminants on potential receptors. OGL has undertaken monitoring of the effects of activities at MGP over the past 20 years. These monitoring programmes shall be revised and extended to take into account those additional areas that may be affected by MPIII activities.

323. Overall, the applications are considered to be consistent with the purpose and principles of Chapter 14 of the RPS.

324. Ms Lennox completed a comprehensive analysis of the Regional Plans which the Panel adopts. In the interests of efficiency her analysis is set out below, largely unchanged.

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[17] Policy 13.5.2 page 186 RPS
[18] Policy 13.5.3 page 187 RPS
[19] Policy 13.5.4 page 187/8 RPS
[20] Policy 13.5.9 page 190 RPS
[21] Policy 14.5.5 page 204 RPS

325. The Panel notes that in several chapters of the RPW, RPWaste and RP Air there are policies[22] for identifying and recognising historic places, spiritual and cultural beliefs, values and uses of resources that are significant to Kai Tahu.

326. Te Rūnanga o Moeraki and Kāti Huirapa ki Puketeraki are currently undertaking a CIA of the MGP site to determine potential effects of MPIII on Iwi values of significance to Kai Tahu. Once it is completed review conditions on the consents can provide for any issues that need to be addressed. To avoid repetition those policies are acknowledged but not quoted in the assessment of the Regional Plans below.

8.6 Regional Plan: Water for Otago (RPW)

327. While the RPW became operative on 1 January 2004, two proposed plan changes to the RPW were notified on 20 December 2008: Proposed Plan Change 1B (Minimum Flows) and Proposed Plan Change 1C (Water Allocation). Plan Change 1B became operative on 1 March 2010 and a decision on Plan Change 1C was released on 10 April 2010. Sections of this decision have been appealed are currently being resolved through the Environment Court process. Proposed additions to the RPW are shown as underlined, whereas proposed deletions are shown with ~~strikethrough~~. The following policies from Chapter 5 (Natural and Human Use Values), Chapter 6 (Water Quantity), Chapter 7 (Water Quality), Chapter 8 (The Beds and Margins of Lakes and Rivers) and Chapter 9 (Groundwater) of the RPW are relevant to these applications.

Policy 5.4.3 *To give priority to avoiding adverse effects on existing lawful users and existing lawful priorities for the use.*

Policy 5.4.8 *To have particular regard to the following features of lake 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 (e) above.

[22] Policy 5.4.1, 5.4.2, 5.4.4, 6.5.5 (c) RPW; 5.4.1, 6.4.12 RPWaste; 7.1.1 RPAir

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.

Policy 5.4.10 *In the management of any activity involving surface water or the bed or margin of any lake or river, particular regard will be given to the heritage value of any site, building, place or area.*

328. Effects on water allocation and other users, have been assessed and addressed. Effects on indigenous fauna have been assessed and appropriate mitigation measures are to be devised. Effects on trout populations are likely to be positive. The majority of the watercourses that are likely to be affected by MPIII have little natural, aesthetic or recreational values. Changes on the flow regime of water courses in and around the MGP site have been assessed. Modelling has indicated that MPIII will impact on water quality but provided that adequate mitigation is imposed, water quality should remain within guideline limits for the likely use. Different water quality mitigation options were assessed but the chosen methods were deemed to be the most effective for the associated costs.

329. Overall, the applications are considered to be consistent with Chapter 5 of the RPW. The proposed activities will have an effect on surface and groundwater values, but recommended conditions of consent shall ensure that these are avoided and mitigated as far as practicably possible.

Policy 6.4.0 *To recognise the hydrological characteristics of Otago's water resources, including behaviour and trends in levels, flows, volumes and interrelationships between adjoining bodies of water when managing the taking of water.*

Policy 6.4.0A *To ensure that the quantity of water granted to take is no more than that required for the purpose of use.*

Policy 6.4.0C *To promote and give preference to the use of water within the area it is taken from, over its use elsewhere.*

Policy 6.4.9 *To provide for supplementary allocation for the taking of water, in blocks of allocation where that is appropriate:*

(b) On an alternative basis provided:

(i) The take has no measurable effect on the flow at any Schedule 2 monitoring site, or any site established in terms of Policy 6.4.4, at flows at or below any minimum flow applying to primary allocation; and

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

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

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.

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

(a) The duration and the purpose of use:

(b) The presence of a catchment minimum flow or aquifer restriction level;

(c) Climatic variability and consequent changes on 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;

(g) Use of industry best practice.

Policy 6.5.5 In considering resource consents for flow augmentation proposals involving any transfer of water between catchments that was not lawfully established before 28 February 1998, regard will be had to avoiding:

(a) The introduction of flora or fauna which are not already present;

(b) The reduction of water quality in the receiving catchment; and

Policy 6.5.6 Financial contributions, or works or services may be required to offset, remedy or mitigate any unavoidable adverse effect of the diversion of water on:

(a) Any natural or human use value identified in Schedule 1;

(b) The natural character of the water body;
(c) Any amenity value supported by the water body; or
(d) Any heritage value associated with any affected water body.

330. The proposed water takes are required for the management of water that collects in open pits, the underground mine and the TTTSF as opposed to takes that are directly from water courses. There are no instream values that will be affected by the takes, and taking water when dewatering will have no impact on stream flows during the irrigation season, therefore the takes should be considered as supplementary allocation under Policy 6.4.9 (b) of the RPW. Minimum flow restrictions will not therefore, apply. The volume of water taken may only be measured by the rate at which the pits/underground mine/TTTSF are dewatered. The duration of consents to take water will be determined based on the expected lifetime of the mine. There is a chance that water may be used in a different catchment from which it was taken. OGL will be required to provide bonds to secure the performance and completion of rehabilitation obligations, and the performance of monitoring obligations.

331. Overall, the applications are considered to be largely consistent with the purpose and principles of Chapter 6 of the RPW, despite the chance of water being used in a different catchment from which it was taken.

Policy 7.7.2 When considering the discharge of any contaminant to land, to have regard to:
(a) The ability of the land to assimilate the contaminant;
(b) Any potential for soil contamination; and
(c) Any potential for land instability.

Policy 7.7.4 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.

Policy 7.7.5 When considering applications for resource consents, to have regard to the cumulative effects of discharges of contaminants and the assimilative capacity of the water body.

Policy 7.7.6 *Where a mixing zone is required for the discharge of contaminants to water, to ensure that it is limited to the extent necessary to take account of:*

(a) The sensitivity of the receiving environment;

(b) The natural and human use values identified in Schedule 1;

(c) The natural character of the water body;

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

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

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

Policy 7.7.7 *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.*

Policy 7.7.8 *To require, as appropriate, that provision be made for review of the conditions of any resource consent for discharging a contaminant.*

Policy 7.7.9 *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.

Policy 7.8.1 *To promote the avoidance, remediation or mitigation of the adverse effects of the increased runoff of sediments caused by:*

(d) Roading and tracking; and

(e) *Any other activity that may generate increased runoff of sediment or nutrients.*

Policy 7.8.6 *To require the holder of any consent for a dam constructed for the storage of contaminants to completely remedy any adverse effect of the failure or overtopping of the dam structure, either during or after its construction.*

332. OGL undertook modelling to determine the likely extent of adverse effects of MPIII in and around the MGP site. This modelling did not provide for attenuation of most of the contaminants modelled, and so the results are considered to be conservative. The cumulative effects of existing discharges around the MGP site were taken into account in the site-wide modelling. In order to be able to provide an adequate mixing zone to ensure that consent limits for key contaminants in Deepdell Creek are not exceeded, OGL has proposed to construct the Camp Creek Dam to supplement flows in Deepdell Creek. Compliance limits for contaminants in water have been selected based on national standards/guidelines for the intended use of that water. A review clause incorporated into each discharge consent will enable a review of consent conditions where adverse effects result from the exercise of the consent, or to ensure the consent is consistent with any NES.

333. OGL has assessed the potential effects from the failure of the TTTSF. OGL will be required to provide bonds to secure the performance and completion of rehabilitation obligations, and the performance of monitoring obligations. The bond amount will be determined taking into account the costs associated with remedying any adverse effect of the failure or overtopping of the dam. It is proposed that the run-off of silt and sediment from the proposed activities will be managed under Erosion and Sediment Control Plans.

334. Overall, the applications are considered to be not inconsistent with the purpose and principles of Chapter 7 of the RPW.

Policy 8.5.1 *To require, where necessary, desirable and practicable, any structure in or on the bed of any lake or river to provide for fish migration through or past it, or alternative remedial measures where fish migration is not practicable.*

Policy 8.5.3 *To require the holder of any resource consent for a dam on the bed of a lake or river to remedy any adverse effect attributable to the failure or overtopping of the dam structure, either during or after its construction.*

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.*

335. OGL has assessed the potential effects on fish passage from the proposed in-stream structures. Where populations are likely to be affected, appropriate mitigation is to be devised. Recommended conditions of consent will require the consent holder to provide adequate bond(s) to with remedy any adverse effects of the failure or overtopping of the instream structures. Erosion and Sediment Control Plans will ensure the effects of activities adjacent to watercourses are controlled. There are no practical alternatives to the proposed reclamation of watercourses if the WRSs and TSFs are to be constructed. Waste rock, rather than cleanfill, will be used in the reclamation.

336. 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 9.4.14 *To require appropriate siting, construction and operation of new groundwater bores, to prevent:*

(a) Contaminants from entering an aquifer; and

(b) The contamination of groundwater in any aquifer from the groundwater in another aquifer; and

to promote such management for existing bores.

Policy 9.4.18 To identify land of high risk in terms of the vulnerability of underyling 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.

337. The extension of the Frasers Underground mine, which is technically a bore, will be managed as it has been in the past and should not result an increase of contaminant infiltration into groundwater. The proposed activities will result in the excavation of confining areas and the exposure of groundwater to contamination. Local geological conditions mean that infiltration of contaminants into unexposed groundwater resources and migration of contaminated groundwater through the subsurface is relatively limited. Whereas there are generally no direct discharges to surface water from activities at MGP, there is little control over leachate into groundwater. Natural attenuation is the treatment method replied upon to ensure groundwater quality compliance limits are not exceeded at downstream compliance monitoring bores.

338. It is not possible to state that the application is overly consistent with the principles and policies of Chapter 9 of the RPW.

8.7 Regional Plan: Waste for Otago (RPWaste)

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

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 5.4.4 *To apply the Australia and New Zealand Conservation Council (ANZECC) "Guidelines for the Assessment and Management of Contaminated Sites" (January 1992) as a guide to determine the most appropriate course of action for a particular contaminated site.*

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 disposal of hazardous substances and hazardous wastes in such a manner that avoids adverse environmental effects.*

Policy 6.4.4 *To encourage and facilitate the reuse, recycling and recovery of hazardous substances.*

340. MGP is a highly modified mine site. Contaminated sites are created through the deposition of waste rock and tailings. Once fully remediated, these sites will be suitable for the proposed end land use, being pasture. Although OGL may not adopt the ANZECC guidelines when removing material from the decommissioned SP11 impoundment, the works will be subject to Operations Maintenance and Surveillance manuals and other management plans that will identify the potential hazard and determine adequate control measures to be adopted. Council staff are in the process of identifying potentially contaminated areas of the MGP site and adding those contaminated areas to Council's register of contaminated sites. The submission of Project Overview and Annual Work and Rehabilitation Plans should enable the Council to become aware of how the extents of contaminated sites at MGP are changing. The potential effects from waste rock and tailings have been identified and control measures have been devised as a result. Waste rock will be used as backfill in open pits where possible to minimise the volume of rock that needs to be disposed of in the WRSs.

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

8.8 Regional Plan: Air for Otago (RPA)

The following policies from The RPA are relevant to these applications:

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 15.1.1 *To support and promote, as appropriate, central government initiatives to control and minimise emissions of greenhouse gases and ozone layer depleting substances.*

342. The potential effects on human health from the proposed discharge of dust to air are considered to be low risk due to the size of the particulate matter discharged and the control measures to be implemented. The closest potential receptor is Macraes

Township. A real-time monitor is to be installed in the Township as part of an upgrade of the dust monitoring regime across the site. Real-time monitoring will enable potential effects to be detected and remedied sooner.

343. Although there is no requirement for the Panel to consider generation of Green House gases, the Panel notes that the application identified that the proposed sequencing of works is likely to result in a lower rate of Green House Gas emissions than less efficient work sequences. This is because the shortest routes and distances from rock extraction sites to waste rock stacks is being used.

344. Overall, the applications are considered to be consistent with the principles and policies of the RPA.

8.9 Waitaki District Plan

Zoning

345. The WDC District Plan provides for gold mining at Macraes Flat in recognition of the scale and intensity of the operation while ensuring that adverse effects are avoided, remedied or mitigated. [23] There is also a policy applying to all extractive industries which seeks to ensure that after mining, sites are rehabilitated sufficiently to enable the establishment of activities appropriate to the area.[24]

346. The fact that the WDC District Plan has identified the Macraes Mining Project Mineral Zone means that the WDC District Plan has already considered the site as being inherently suitable for the activity of mining providing any adverse effects can be appropriately avoided, remedied or mitigated and the site is appropriately rehabilitated after mining ceases.

Nature Conservation Values

347. The majority of policies for the Rural Areas apply to the Rural Scenic Zone or the Rural General Zone and are not relevant to the proposal. However, those policies relating to the management of conservation values under Issue 8[25] of the WDC District Plan apply. It is noted that the general upland area is zoned Rural Scenic and without the Macraes Mining Project Mineral Zone there would have been a policy tension given the scale of the mining operation and the management of the landscapes. In summary, the first objective seeks to maintain biological diversity, nature conservation

[23] Policy 16.7.2 (3), page 133 WDC District Plan
[24] Policy 17.6.2 (4), page 133 WDC District Plan
[25] 16.9 Issue 8 Nature Conservation Values page 138 WDC District Plan

values and ecosystem functioning by protecting Section 6 (c) areas and maintaining other areas with particular nature conservation values.[26] The second objective focuses on the maintenance or enhancement of the quality of water, wetlands, and rivers and their margins and the protection of them from inappropriate development.[27]

348. OGL, through Ryder Consulting, did not do an evaluation of whether the MPIII Project sites were considered to be significant in terms of Section 6 (c) of the RMA. likely to be some Section 6 (c) areas that will be modified or destroyed but also noted that the forest in Cranky Jims Creek, a suggested area that could offset loss, would also be a Section 6 (c) area. The Panel considered that the objective and policy[28] concerned with the protection of the values associated with the loss of Section 6 (c) areas will not be significantly contravened by the MPIII project given the three areas to be set aside for biodiversity protection and enhancement.

349. Notwithstanding the above, another policy in the WDC District Plan is also relevant because it recognises that areas, other than Section 6(c) areas, may have conservation values in terms of maintaining connectivity and providing important habitat for species reliant on patchworks of indigenous vegetation (e.g. birds and lizards). [29] There are also other policies relevant to the proposal including those seeking to manage the effects of use and development on the natural character of wetlands, rivers, and lakes and their margins, and noting that the WDC takes the opportunity to promote the retention of indigenous vegetation and habitat when the considering resource consent application.[30]

350. The agreed mitigation package between OGL and DOC and associated conditions went some way towards meeting the intent of the objectives and policies. However, the Panel notes the concerns of WDC's consultant ecologist Dr Tocher, and the recommendations she had put forward. On balance, the Panel feels that the proposed mine expansion is anticipated in the zone and that irreversible changes will occur, but there are also opportunities to enhance nature conservation values that will meet the intent of the objectives and policies.

Takata Whenua and Heritage

351. The RPS, Regional Plans and WDC District Plan recognise that Kāi Tahu Whanui has manawhenua of all land within the district, and recognises that Te Rūnanga o Moeraki Te Runanga exercises this manawhenua from the Waitaki River down to the Waihemo (Shag) River while Te Rūnanga o Kāti Huirapa ki Puketeraki exercises manawhenua

[26] Objective 16.9.3 (1), page 141 WDC District Plan
[27] Objective 16.9.2 (2), page 141 WDC District Plan
[28] Policy 16.8.3 (1), page 141. WDC District Plan
[29] Policy 16.9.3 (4), page 142. WDC District Plan
[30] Policy 16.9.3 (7), (9) and (10), page 143. WDC District Plan

south of the Waihemo River which includes the Macraes area.[31] Objectives and the associated policies of the Plans seek to recognise and protect the values attached to waahi tapu, waahi taoka and the cultural property of iwi, and recognises that Kai Tahu manages waahi tapu and waahi taoka in a manner consistent with traditional practices.[32] These policies together with the policies contained in Kāi Tahu ki Otago Natural Resource Management Plan may be relevant after the completion of the Cultural Impact Assessment. Given the submission of Te Rūnanga o Moeraki Te Runanga and Te Rūnanga o Kāti Huirapa ki Puketeraki and conditions proposed to address their values, the Panel has not reached a point where the proposed MPIII Project would necessarily offend the objectives and policies described above.

352. Under the WDC District Plan district-wide policies on heritage, the first objective is also relevant to the takata whenau because it seeks the conservation and enhancement of the heritage values of the District, including historic places, waahi tapu sites, and archaeological sites, in order that the character and history of the District can be preserved and managed.[33] This objective is also relevant to the loss of European archaeological and heritage sites. The associated policies are however narrower in scope and focus mainly on identifying and protecting important heritage items in the District Plan. There are no heritage items listed in Appendix B of the WDC District Plan that are proposed to be modified.

353. The second policy seeks to ensure that through the implementation of appropriate procedures within the Council's administration, all development and building proposals in the vicinity of recorded waahi tapu and archaeological sites are notified to the takata whenua and to the N.Z. Historic Places Trust, in accordance with the Historic Places Act 1993, in order to enable the implementation of the archaeological provisions of that Act. This policy is not entirely clear but suggests that where the Council understands that a development may be in the vicinity of recorded archaeological sites then both the takata whenua and the NZ Historic Places Trust should be notified. OGL has consulted with these stakeholders [34] and satisfied the intent of this policy.

Open Space and Recreation

354. There are no policies in Part II, Section 3 of the WDC District Plan that are particularly relevant to the proposal. Contributions for open space and recreation have been taken previously; and because the proposal does not result in any further demand on the Council's open space and recreation facilities, no additional contribution is deemed necessary.

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[31] Refer to 1.3.1 Objective A and Policy 1.3.2 (2), page 13. WDC District Plan
[32] Objective 1.3.1 (B) and Policies 1.3.5 (1), (2) and (3), page 14. WDC District Plan
[33] Objective 2.3.1 (A), page 19. WDC District Plan
[34] Policy 2.3.2 (2), page 19. WDC District Plan

Natural Hazards

355. The issue of seismic risk was thoroughly discussed and according to the experts can be addressed through conditions of consent. Therefore the Panel was satisfied that the proposal is consistent with the policies in Part II, Section 4 of the District Plan.

Transport

356. The first objective in the transportation section promotes the efficient use of the District's existing and future transportation resource and of fossil fuel usage associated with transportation and the maintenance and improvement of access, ease and safety of all vehicular, cycle and pedestrian movements.[35]

357. The Macraes-Dunback Road is designated a Secondary (District) Arterial road in the WDC District Plan (Appendix G2). The appendix states that these roads:

i. Serve as links of strategic district importance within or between districts;
ii. Are a significant element in the local economy; and
iii. Often serve as local roads.

358. However the policies are not relevant to proposed roading realignments. For example, the first policy is concerned with restricting additional access points off arterial roads and managing high traffic generating activities onto these roads.[36] The other policies are not relevant either.

The Panel noted that because a community dis-benefit has been calculated with the proposed re-alignment, it may transpire that the proposed re-alignment would not achieve the objective. However, they also observed that the degree of dis-benefit is considered slight and it would appear not significant enough to warrant rejection of the re-alignment on traffic efficiency and fuel usage grounds alone.

Hazardous Substances

The objective is to avoid or mitigate adverse environmental effects arising from storage, manufacture, transportation and disposal of hazardous substances.[37] The second policy is the most relevant. It seeks to avoid, remedy or mitigate evidence while recognising that the quantities of hazardous substances which are acceptable in different areas of the District will vary depending on the proximity of residential use, on community expectation and on the sensitivity of the surrounding environment.[38]

[35] Objective 6.2.2 (1), page 51. WDC District Plan
[36] Policy 6.2.3 (1), page 51. WDC District Plan
[37] Objective 12.2.2, page 81. WDC District Plan
[38] Policy 12.2.3 (2), page 82. WDC District Plan

The gold processing plant is not a sensitive receiving environment. Further, the gold processing plant has been established for twenty years and the Panel was not made aware of any significant issues over the use or storage of hazardous substances on the site. The HSNO Act already requires a range of safety and environmental standards to be met at the site. Consequently the Panel is satisfied that the proposal does not contravene the objective and associated policies.

8.10 Kai Tahu ki Otago Natural Resource Management Plan 2005

359. The Kai Tahu ki Otago Natural Resource Management Plan 2005 (NRMP) contains several policies of relevance to these applications:

- To require an assessment of instream values for all activities affecting water.
- To oppose any further cross mixing of waters.
- To encourage identification of non-point source pollution and mitigate, avoid or remedy adverse effects on Kai Tahu ki Otago.
- To encourage Kai Tahu ki Otago input into the development of monitoring programmes.
- To require monitoring of all discharge to be undertaken on a regular basis and all information, including an independent analysis, be made available to Kai Tahu ki Otago.
- To encourage management plans for all discharge activities.
- To require all discharge systems be well maintained and regularly serviced.
- To require re-vegetation with locally sourced indigenous plants for all disturbed areas.
- To require groundwater monitoring for all discharges to land.
- To require a CIA for all proposals to land.
- To identify the location of all existing dams, new dams and water storage in the region, together with the level of river flow intercepted.
- To oppose the granting of water take consents for 35 years.
- To provide that fish passage is provided for at all times.
- To require that any visual impacts are minimal.
- To require that sedimentation or discharge of sediment is minimised.
- To minimise the risk of contamination to the waterway.
- To require that work is done when flows are naturally low.
- To require that machinery enters the bed of the waterway only to the extent necessary.
- To discourage machinery operating in flowing water.
- To require that machinery is clean and well maintained before entering the site of the instream works.
- To require that a Kai Tahu ki Otago mandated archaeologist survey an area before any earth disturbance work commences.
- To promote the use of Accidental Discovery Protocols.

- To require consultation with Kai Tahu ki Otago for activities that have the potential to affect wahi tapu.
- To identify and protect the full range of landscape features of significance to Kai Tahu ki Otago.
- To discourage mining in activities within landscapes of cultural significance.
- To require all applications for mining or quarrying to include site remediation plans, prevention of dust and prevention of contamination of soil and water.
- To require all earthworks to avoid adverse effects on significant natural landforms, to avoid, remedy or mitigate soil instability and accelerate erosion, and to mititgate all adverse effects of earthworks.
- To discourage the erection of structures in culturally significant landscapes or rivers.
- To require earthworks and discharges to air to consider the impact of dust.
- To require CIAs for any discharges to air.

360. An assessment on cultural values is provided in various parts of this decision. Other policies of the NRMP may also be applicable to MPIII, but the CIA will be able to identify which polices are applicable and identify any effects on cultural values. Conditions of consent will allow for a review of consent conditions accordingly. In this sense, Kai Tahu ki Otago will have the opportunity to provide input into the management of MPIII.

361. Overall, the applications are considered to be generally consistent with the policies of the NRMP.

8.11 Section 105 of the Act

362. 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.

363. These matters have been discussed in various places in this decision. In summary OGL is locked into the MGP site because that is where the gold is and it is economically sensible to minimise the distance that rock and tailings must be carried. This explains the siting of the various waste rock stacks and tailings facilities. The discharges from them are unavoidable and it is for OGL to manage those discharges into the ultimate sensitive receiving environments, being the groundwater and two rivers, in a manner that will not give rise to anything other than minor effects.

8.12 Section 107 of the Act

364. 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.

365. OGL has undertaken site-wide modelling to determine the likely effects of discharges associated with MPIII along with existing discharges. The assessment indicated that providing proposed mitigation measures are implemented, the discharges should not give rise to any of the effects listed above.

9 Decision

366. Having carefully considered all the relevant reports and documentation supplied with the application, submissions, the relevant statutory provisions and the evidence presented to the Panel during the course of the hearing, the Panel determines that OGL has made its case for the MPIII project and the MPIII project should be allowed to proceed as proposed and as modified during the hearing, subject to the imposition of conditions.

367. In terms of S113(a) of the RMA the Panel is required to give reasons for its decisions. Throughout section 6 and 7 of this decision the Panel has considered the environmental effects that were brought to its attention and it has drawn its own conclusions as to how each of those issues impacts on its decision. Having done so the Panel has undertaken an overall evaluation of the adverse impacts of the proposal in light of the expected positive effects. This is discussed further below.

368. The Panel concludes that there are significant benefits to the proposal and that it will promote the sustainable management of natural and physical resources providing the adverse effects that have been identified are attended to by avoiding them, remedying them or providing mitigation for them. All of these approaches have been provided for in consent conditions.

369. For the reasons given, the Panel in exercising the powers delegated to it by the Waitaki District Council and the Otago Regional Council resolves:
(a) to grant WDC consent application 201.2011.35 sought by Oceana Gold Limited pursuant to S104 of the RMA; and
(b) to grant ORC applications RM10.351.01-RM10.351.55 (55 permits) sought by Oceana Gold Limited pursuant to S104 of the RMA.

370. The panel grants the permits for the durations set out in volumes 2 and 3 of this decision which contain the text of the permits with conditions. Volume 2 is the Waitaki District Council consent and Volume 3 is the 55 ORC consents. The conditions are attached in accordance with s108 of the RMA. The Panel notes that many conditions were finalised between parties during the course of the hearing.

10. Reasons for Decision

371. In exercising its discretion, the Panel has been very mindful of the requirements of Part 2 of the RMA and in particular the purpose set out in section 5. Mining at a particular site is inherently unsustainable from a long term perspective as the activity is solely focussed on removing the mineral. Once it is no longer economic to remove the mineral, mining will cease. This is the case with many mines around the world and no different for the Macraes site. The Macraes mine has been active now for around 20 years and another 8 is predicted with the MPIII project. The focus of the Panel has been on the effects while mining is undertaken and equally important, what remains once mining ceases.

372. There is no doubt that while the mine exists it contributes significantly to the socio-economic wellbeing of the district, region and to a lesser extent the nation. In this respect these are very positive effects.

373. The Panel is also aware, through a newspaper article that was published after the hearing closed that OGL has presented at a conference plans for a "superpit" at Macraes. Members of the Panel have been commissioners on hearing panels for previous mine expansion projects and are aware that end of life mine predictions have yet to be seen in practice. In this context it is therefore very important for the community at Macraes to have some benefits coming from the serious disruption of their locality, while mining continues as well as when mining ceases, as the latter is unpredictable. For that reason the community benefit conditions have been carefully drafted.

374. MPIII has had to be considered in the context of the existing mine, which is a fully consented activity and forms part of the existing environment. The effects of MPIII

are in addition to the existing mine and need to be considered in addition to that which is already consented. Some of the issues that have arisen are being generated from the existing mine and will be added to by the MPIII project (for example effects on water quality and landscape) therefore the cumulative effects have to be considered.

375. The Panel has addressed all of the effects of issues before it and after considering expert and lay opinion, concluded that the effects can be tolerated, avoided, remedied or mitigated. A mix of all of these options has been proposed by OGL, submitters and Councils' staff, and the outcome is reflected in the conditions of consent that are appended to, and form part of this decision.

376. In addition to an analysis of Part II of the RMA the Panel has also considered the proposal against the objectives and policies of the relevant statutory documents. In particular the WDC District Plan provides for a mining zone at Macraes. The proposal is not inconsistent with the Regional Policy Statement, the Regional Plans; Water, Waste and Air, the Drinking Water NES nor the Kai Tahu ki Otago Natural Resources Management Plan. The exception to this is in respect of water quality, where a mitigation proposal to install a dam and provide dilution flows to Deepdell Creek is accepted as the only practical option available, but would not be entertained for a greenfields proposal.

377. The Panel also noted that despite several submissions being opposed to the MPIII proposal, none of the submitters appeared and opposed the proposal. Those who were neutral or in support also aired many issues that have been addressed in this decision.

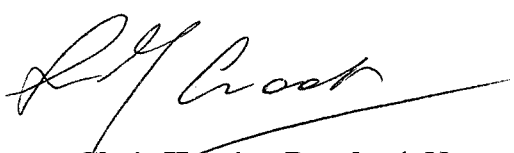
11 Jurisdiction

The ORC is the consent authority for consents RM10.351.01- RM10.351.55.

The WDC is the consent authority for land use consent 201.2011.35.

Attachment (Volumes 2 and 3) Consents with conditions

Cr Louise Croot



Chair Hearing Panel, 4 November 2011.