

IN THE MATTER OF the Resource Management Act
1991

AND

IN THE MATTER OF resource consent applications
CRC041002 by WN Cameron for
a water permit to take ground
water, CRC41003 by WN
Cameron for a water permit to
take surface water and
CRC0512795 for a water permit
to divert and discharge surface
water.

Statement of Supplemental Evidence of Ian McIndoe

SCOPE OF EVIDENCE

1. This supplemental evidence addresses concerns or questions raised by the Commissioners regarding evidence I presented on behalf of WN Cameron (Wainui Station Ltd and Papamoa Enterprises) and evidence presented by Keri Johnston and others that relates to the WN Cameron evidence.
2. I have also made comments on the supplemental evidence prepared by Ms Lynn Torgerson regarding nutrient balance calculations in the Hakataramea Valley.

WN CAMERON - CRC041002

3. There were no specific issues raised with me about this take. Proposed conditions have been provided, based on the MRNAG condition set.

WN CAMERON - CRC041003

4. The two significant issues with this proposed take related firstly to the proposal to take water for irrigation from two water sources (Wainui Stream or the Waitaki River) using a portable pump, and secondly to use the water at times on an area covered by an existing consent CRC020744.
5. With respect to the first issue, I described in my main evidence the desire to have the flexibility to be able to take water from the two sources concurrently, where no more than 30 l/s would be pumped at any one time.
6. The original consent WTK875191, which CRC041003 replaces, did not restrict taking from the two sources concurrently, as long as the maximum rate did not exceed 38 l/s. At no time during the processing of CRC041003 did CRC suggest

that two applications would be required. However, the applicant now agrees to take water from either Wainui Stream or the Waitaki River, but not at the same time. A condition requiring non-concurrent use has been proposed.

7. With respect to the second issue, the proposal was to irrigate up to a maximum of 60 ha within an area along the Waitaki River, along the low terraces at the foot of the hills and/or some paddocks covered under CRC020744. The primary purpose of including area under CRC020744 was to be able to use a different method of irrigation for germinating and growing crops not suited to K Line irrigation.
8. The applicant proposes at the beginning of each irrigation season to provide to CRC a map identifying the specific areas that will be irrigated that year, limiting the irrigated area to 60 ha. Conditions have been proposed accordingly.
9. A third issue related to fish screening on the intake of the pump. The applicant proposes to use a commercially available revolving, self cleaning intake screen with a mesh size of 3 mm. These screens are commonly used on pump intakes on many rivers and streams in NZ. Proposed conditions have been modified accordingly.
10. Some discussion arose regarding the effect of the proposed take from Wainui Stream or its tributaries on Mr McIlraith's diversion, which is below the flow monitoring site on Wainui Stream.
11. Although Wainui Station's application is a renewal that did not have a minimum flow, they have proposed to cease pumping at a flow of 200 l/s. Mr McIlraith diverts 91 l/s with a minimum flow of 100 l/s, so the divert will not be affected in that regard.
12. Wainui Station has also agreed to permanent and temporary fencing of Wainui Stream and its tributaries. (See attachments to proposed conditions for CRC041002, CRC041003). Many of the existing permanent waterways have been already fenced on one side, some both sides. Permanent electric fencing (one hot wire) will be installed on the other side to keep cattle out of streams but allow sheep grazing to keep waterways clean. Temporary electric fencing (one hot wire) will be used in intermittently flowing areas. Bridget Pringle of Fish & Game has had discussions with Mrs Cameron and has supported this approach.
13. Proposed conditions have been provided, based on the MRNAG condition set.

WN CAMERON - CRC051795

14. As before, I have been engaged to represent Papamoa Enterprises (Wainui Station) with respect to CRC051795. I am not representing Station Peak.
15. I recommend that the annual divert volume for Papamoa Enterprises under CRC051795 be 2,065,140 m³/y, as explained below.

16. The main issue arising from this application related to an apparent inconsistency between the proposed divert volume and the divert and take allowed under the existing consent CRC960030.1. I have looked into this (see below) and agree that there is an inconsistency between what CRC (W. Pascoe, S42a) is suggesting for the additional divert volume for the 150 l/s (the approach I adopted in evidence) and what can actually be taken and used for irrigation under CRC960030.1.
17. CRC's figures were based on diverting water for 206 days, while the existing divert and take volumes allow for the equivalent of 107 days (74 days for Station Peak and 33 days for Papamoa).
18. CRC960030.1 allows 5,263,500 m³/y of water to be diverted and taken from the Waitaki River of which 1,624,500 m³/y goes to Papamoa (Condition 1(b)). The assumption is that what is diverted is taken. There is no separate divert volume specified at the main intake.
19. Because CRC had used 206 days for the extra, their extra volume using 150 l/s over 206 days for both Station Peak and Papamoa was 2,669,760 m³/y. Papamoa's 3 days and 2 hours out of 10 for 206 days (equivalent to about 64 days) of that volume came to 823,087 m³/y, as shown in my evidence.
20. If the full extra volume (for both Station Peak and Papamoa) was granted, 206 days of extra water at 150 l/s could be diverted, but only 107 days can currently be diverted at 570 l/s. It would mean that for about 100 days each season, 150 l/s could be diverted but not actually taken for use. It would have to be discharged back to the river.
21. The 823,087 m³/y only applied to the top up as the balance is already included in CRC960030.1. The total divert for Papamoa under this arrangement would be 1,624,500 plus 823,087, ie 2,447,587 m³/y.
22. The alternative is to reduce the extra divert volume back to 440,640 m³/y, which is 34 days (the 3 days and 2 hours out of 10 days of water at 150 l/s from the 107 available). This makes the total divert volume for Papamoa 1,624,500 plus 440,640, ie 2,065,140 m³/y. This gives consistency between the existing divert and take and the top up. The appropriate volume has been proposed in conditions.
23. For operational reasons, the most desirable outcome would be for the race system to be able to operate at the full flow of 720 l/s rather than at different flows for Papamoa Enterprises and Station Peak. For that reason, Papamoa supports the granting of the additional top-up flow rate and volume for Station Peak.
24. I understand there has been some discussion about whether the divert volume for Papamoa and Station Peak should be included in the Table 5 allocations in the Waitaki Plan. In my view, it should not.

25. Water not taken for irrigation will be diverted back to the Waitaki River as described in my evidence and is not consumptive. Some water will leak from the race into groundwater. Groundwater in this area is connected to the Waitaki River and water leaking from the race to groundwater will end up back in the Waitaki River.
26. The groundwater response to changing Waitaki River flows is rapid – see para 102 in my main evidence, which shows the groundwater fed Wainui Stream response to river flows. As Table 5 allocations are annual volumes and not related to Waitaki River flows, timing for groundwater to reach the River is not an issue.

COMMENTS ON TORGERSON SUPPLEMENTAL EVIDENCE

27. I have read Ms Torgerson’s supplemental evidence and generally agree with what she says about the nutrient modelling.
28. OVERSEER is a steady state farm nutrient budget model that compares user-specified nutrient inputs and outputs, (e.g. fertiliser, effluent, supplements or transfer by animals) and carries out a nutrient balance to determine a nutrient surplus or deficit situation and trends over time. It is not a predictive model.
29. Where inputs or outputs are not known, industry averages are used. Excess balances are assumed to be stored in the soil or lost via leaching or runoff. Nitrate nitrogen concentrations in drainage water are estimated by the model. The model does not specify where the losses actually go. It doesn’t account for other nutrient inputs and outputs to and from waterways.
30. The model results are very dependent on accurate inputs of the farming system. For this reason, farm inputs for OVERSEER are often derived using stock management software such as FARMAX (an updated version of STOCKPOL). I don’t know whether the modelling carried out for the Hakataramea Valley went to this detail.
31. OVERSEER is not a catchment model as the results are very much farm-specific. Although it is a very useful farm management tool, it was not designed to be a catchment model. I agree with Ms Torgerson that it should only be used as an indicator of the magnitude of change and direction of nutrient inputs on farms and cannot be relied upon for actual assessments of effects. Actual water quality measurements are much more significant in my view.
32. SPASMO is a transient model (rather than steady state) but has, as Ms Torgerson says, primarily been developed for horticulture. It doesn’t have the wide use of OVERSEER, but I understand that the model code is available and has been peer reviewed.