

TABLED AT HEARING

Date10/11/2009.....

IN THE MATTER OF The Resource Management Act 1991

AND

IN THE MATTER OF applications for Resource Consents to Abstract water from

Manuka Creek (CRC063564)

BY Applicants

Twin Peaks Station Limited

TO Canterbury Regional Council

**SUPPLEMENTARY EVIDENCE OF DAVID JOHN BORAMAN IN SUPPORT OF TWIN PEAKS
STATION LIMITED**

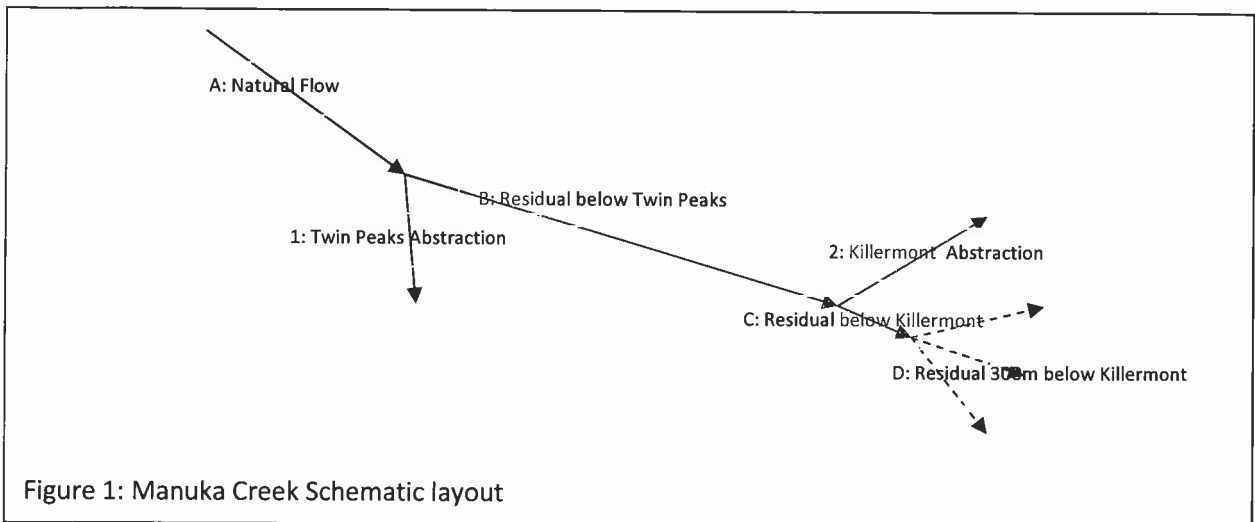
INTRODUCTION

- 1.1. My Name is David John Boraman. I am a hydrological Consultant and a Director of Boraman Consultants Limited (BCL). I am a current member of the New Zealand Hydrological Society.
- 1.2. I hold a New Zealand Certificate in Engineering (Civil Option) I have been working in the field of Hydrology since 1986. I was employed by the South Canterbury Catchment Board, and by the Canterbury Regional Council (ECan) as a Hydrological Officer. I was later employed as the Hydrological Team Leader of the Southern (Timaru) Office, reporting directly to the Hydrologist.
- 1.3. In 1997 I was employed as the Field Hydrologist for Environmental Consultancy Services. (ECS) My work at ECS generally involved monitoring of irrigation abstractions and monitoring of flows for investigations for resource consent applications.
- 1.4. I am currently a Managing Director of Boraman Consultants Limited (formed in 2005). BCL monitor a proportion of South and Mid-Canterbury's irrigation takes and related minimum flow sites. BCL are currently involved in many investigations relating to resource investigations.
- 1.5. I am familiar with the hydrology and have been involved with monitoring flows in the Upper Waitaki Basin since the amalgamation of the Waitaki Catchment Commission and the South Canterbury Catchment Board into the Canterbury Regional Council in 1989.
- 1.6. Although this is a Regional Council hearing, I have prepared my evidence in compliance with the Code of Conduct for Expert Witnesses set out in the Environment Court's consolidated Practice Note dates 31 July 2006. I confirm that my evidence is within my area of expertise.

1. The attached evidence is in relation to concerns raised by Commissioner Bowden to Mrs Haidee McCabe relating to an existing consent (CRC000002.1), and how the application (CRC) may affect this existing consent.
2. Existing Take is consent number CRC000002.1, this allows for 23l/s to be abstracted from Manuka Creek. This consent has a minimum flow relating to the Omarama Stream at both Tarahills Recorder and Omarama Station Recorder.
3. All new applications must fall under the WCWARP therefore are affected by a local minimum flow unless specifically excluded by the plan. The plan states that all new applications must allow for a minimum flow as set out Rule 2 Table 3 (Category xxii), however Manuka Creek has the situation where the lower reaches are ephemeral and do not flow in all but extreme flood events. It has also been noted by Mr Dan Thomas of Killermont station and Mr David Pierce of Boraman Consultants that the point that Manuka Creek goes dry does not vary in different flows. I have also discussed the matter with Mr David Stewart, and we are both in agreement that in all but extreme flood events the Manuka Creek does not exist from 300m below the Killermont Station Intake. Below this point the flow in Manuka Creek is 0 litres per second
4. It is not clear which direction the water takes and time of travel once it is subsurface, a piezometric survey would have to be carried out to clarify this.

Managing under the current situation:

5. I believe by adding the existing abstraction to minimum flow will not enhance Manuka Stream flows as it will still go dry at the same point 300m below the Killermont intake. Therefore if the reasoning behind restricting the flow is to provide protection to the Omarama Stream, this is provided for under the current conditions imposed on CRC000002.1
6. If the existing take (CRC000002.1, controlled by the minimum flow on the Omarama Stream) was placed on restriction, consideration must be given to CRC063564 Twin Peaks, and CRC041798 Killermont. The annexed graph in section 42 report 2A would have to be adjusted from 88 L/s to 65 L/s. The new consents under the WCWARP would also be governed by three minimum flow sites, two on Omarama Stream and one on Manuka Creek. This would require two minimum flow thresholds on the Manuka Creek, making the management of irrigation complex and impractical.



7. Table 1, indicates the various flow scenarios in Manuka Stream. Indications are that the benefit of including the existing take into the Manuka Creek flow sharing and management regime, is only to the 300 metres of Manuka Creek below Killermont Intake. At low flows it may be less than this. Table 1 demonstrates there is plenty of variation in section B, however the section of the river that does not meet the requirements of the plan is C, the 300 metres that flows below Killermont.

A: Natural Flow (l/s)	1: Twin Peaks Abstraction (l/s)	B: Residual below Twin Peaks (l/s)	2: Killermont Abstraction (l/s)	C: Residual below Killermont (l/s)	D: Residual 300m below killermont (l/s)
>162	60	>102	37+23	>42	0
144	42	102	37+23	42	0
125	31.9	93.1	28.1+23	42	0
105	21.3	83.7	18.7+23	42	0
85	10.6	74.4	9.4+23	42	0
65	0	65	0	42* (65)	0

Table 1: Flow scenarios Manuka Creek. *at low flows it is possible the Omarama may be on restriction therefore CRC000002.1 may be restricted.

Looking forward

8. Consent CRC000002.1 expires in 2034 and is governed the Ahuriri Water Conservation order as no research had been carried out on Manuka Creek at the time. When this is reapplied for, it will fall under WCWARP therefore should be governed by the same WCWARP rule 2 table 3. Prior to this, Consent CRC041798 has only sought a fifteen year term and will have to be re-addressed in 2025 if granted, this is prior to the existing consent (CRC000002.1) expiring.

Therefore the potential scenarios would be as in table 2

A: Natural Flow (l/s)	1: Twin Peaks Abstraction (l/s)	B: Residual below Twin Peaks (l/s)	2: Killermont Abstraction (l/s)	C: Residual below Killermont (l/s)	D: Residual 300m below killermont (l/s)
>185	60	>125	37+23	>65	0
167	42	125	37+23	65	0
147	34	113	29.6+18.4 (48)	65	0
126	25	101	22.2+13.8 (36)	65	0
106	17	89	14.8+9.2 (24)	65	0
85	8	77	7.4+4.6 (12)	65	0
65	0	65	0	65	0

Table 2: Flow Scenarios Manuka Creek, after CRC000002.1 expires in 2034.

9. Although Table 2 specifies the flow as set out in the WCWARP there is limited benefit to Manuka Creek as the situation 300m below the Killermont intake is the same with no flow experienced under these restrictions.