

Frederick

FILE

9 Thornely Place,  
Woodend, 7610,  
January 7, 2010.

Attention:

Ms Charlotte Blakely,  
Customer Services Section,  
Canterbury Regional Council,  
P O Box 345,  
Christchurch.

FILE REF:	24179
DOCUMENT No.	1711
- 8 JAN 2010	
Christchurch	

Dear Ms Blakely,

When I was in at the Ecan offices this morning seeking copies of the applications relevant to the McKenzie dairying applications (they having disappeared from the website) I became aware that perhaps I should have given you more information than I did. I hope that this additional information will make it possible for whoever is responsible for allocating time to the different witnesses, to see that I have a number of technical matters to raise that are unlikely to be raised by many other folk. I am concerned that the Commissioner be as well informed as is practical, in this matter, where ignorance, or silence, on the relevant issues that should be of public concern, seems the paramount feature of the applications I have seen. I am not attacking the Commissioners, for as far as I know they have not yet been selected. I am sure that their decisions be as soundly based as is possible, in a situation where facts are few, and hyperbole will probably lie thickly upon the ground. They have my sympathy.

I have modified the initial part of my draft submission as an hopefully convenient way of getting my message across using material that had already been typed up.

Thank you for your consideration.



Walter C Clark

**IN THE MATTER of the Resource Management Act  
1991**

ONLY  
DRAFT

**AND**

**IN THE MATTERS of Applications listed hereunder:**

Five Rivers Limited - CRC100787,  
CRC100788, CRC100824, CRC100827  
& CRC101540, and

Southdown Holdings Limited -  
CRC100224, CRC100480, CRC100481,  
CRC100482 & CRC101542, and

Williamson Holdings Limited -  
CRC100227, CRC100475, CRC100478,  
CRC100479 & CRC101541

modified for special  
purposes from 13  
on.

**Statement of evidence from Walter Clive Clark**

PERSONAL BACKGROUND

1. My name is Walter Clive Clark. I live at 9 Thornley Place, Woodend.
2. I am an Emeritus Professor of Zoology in the University of Canterbury where I was previously Professor and Head of the Department of Zoology.
3. (a.) I have been admitted to the degree of Bachelor of Science in the University of New Zealand (majoring in Zoology and Geology), and to the degree of Master of Science with First Class Honours in Zoology, also in the University of New Zealand (thesis in marine biology).  
  
(b) I have also been admitted to the Diploma of Membership of the Imperial College of Science and Technology (D. I. C. ) in the University of London.[This is a postgraduate qualification involving course work and the preparation of a thesis. My practical work in this course involved the use, and recovery and identification of pesticides used in plant protection. My thesis research involved studies on the practicality of controlling seed borne infections of stem eelworm (*Ditylenchus dipsaci*) in the seed of lucern (*Medicago sativa*) by fumigation with the tear gas, chloropicrin.]  
  
(c.) I have also been admitted to the degree of Doctor of Philosophy in the University

of London. (Thesis on some soil dwelling Enoplid nematodes from New Zealand.)

4. I am, or have been admitted to the membership of a number of learned societies, including for example Fellowship of the Zoological Society of London; the Fellowship of the Linnean Society of London, the Royal New Zealand Institute of Horticulture (for services to horticulture); to the Life Membership of the Marine Biological Society of Great Britain; Honorary Life Membership of the New Zealand Society for Parasitology, (and to a variety of other "Worm Clubs") as well as to the memberships of many New Zealand scientific societies e.g. for marine sciences, soil science, ornithology, etc.. These activities indicate that my scientific interests and activities have been diverse. I have published refereed papers in those areas.
5. I have served in variety of roles in New Zealand science. I was employed by the government's Department of Scientific and Industrial Research (DSIR) for many years and founded the Nematology Section of their Entomology Division where I carried out research into the biology of nematodes parasitic in plants and insects, and others that lived free in the soil. I was professor and head of the Department of Zoology at Massey University for several years. I served on the Council of the North Canterbury Acclimatisation Society, and as their Vice President for about a decade, and later on worked with its successor the Fish and Game Council and a variety of national, government, and society committees concerned with the management of water resources, freshwater fisheries, and wildlife.
6. Professionally, I have spent a great many hours at the microscope, and so feel I may claim a greater than average awareness of the importance and roles of minute organisms in human affairs. As a parasitologist I know that one must be constantly aware of all three: the parasite, the host, and the environment, for the environment is the stage upon which they enact their dramas.
7. In this matter I appear on my own behalf.

#### **Expert Witness - Code of Practice**

8. I have been informed that I am considered to be an expert witness. I have read the "Expert Witnesses - Code of Conduct" on the Justice website and I have no reservations about agreeing to comply with the provisions of the code as downloaded.

#### **CONCERNS ABOUT THIS APPLICATION**

9. My concerns about these applications are essentially those of a scientist with an understanding of a fairly wide range of environmental matters, especially those concerned with biology, and geology, and soils and the life in soils and their associated waters.
10. Stated very briefly, I am concerned about the consequences that may stem from the consequences of changes to the waters of the regions affected by the proposed changes in the use and management of the areas affected by the operations proposed by the

applicants, and the diverse changes that stem from those new activities..

11. From the materials I have read that were filed with these applications, I am greatly concerned that the administrative authority, the Canterbury Regional Council is being required to accept responsibilities for matters on which they have totally inadequate information. My essential contention is that one cannot responsibly administer or manage that which is not understood, and about which there is inadequate reliable information available..
11. Those who have read the information supplied with these applications cannot have failed to recognise the sketchy nature of the accounts provided of the groundwater resources of the affected regions. In this connection it is most important for the Commissioners to consider not only the regions that the water comes from, or in which it occurs, but also the regions into which it will be discharged, or into which it will eventually find its way..
12. It is also most important that those considering these applications be fully and reliably informed of the details concerning all and any existing resource consents that currently operate in the regions likely to be affected by the present applications. It is most important that the Commissioners realise that the areas of concern are much greater in extent than the applicant's properties. Without that information, which has not as yet been supplied, the possible/probable consequences of the proposed activities cannot be predicted, and therefore the consequences of these proposals are not assessable.
13. I note that the applications seek very substantial periods of currency. Unless there is a provision that will specifically allow the consent authority to withdraw the consent at any time in the future without there being any requirement to pay any compensation, it appears extremely unwise to grant any of the consents sought. The sequelae of allowing these activities to be put into effect simply cannot be foreseen with any reliability.....

As far as my submission is concerned it should be understood that I wish to spend most of my time explaining the nature and significance of the sytygofauna [ = the diverse, but poorly understood, fauna of darkness that exists in the groundwater, and which most commonly serves to devour the microorganisms that come to infest our groundwaters. As dairying has increase in area, intensity and extent in Canterbury the human infections of several diarrhoea-producing microorganisms have increased in frequency. This vast increase in deposition of animal faeces onto land that is irrigated has changed, and threatens to increase the intensity of the threat to human health that arises from this source.

I saw nothing in any of the applications that shows that the applicants or their advisers have any concern for public health and the potential for degrading public water supplies that are drawn from the groundwaters beneath these (and other similar undertakings. At the same time I would wish to raise the matter of the effects of discharge of animal remedies along with animal excreta. The materials that block the transmission of nerve impulses in non-chordate animals and the biological effects of these is another matter that needs to be

considered.

Because I have not completed the compilation of my submission on these applications I cannot at this stage be reliably definitive about the matters to be covered, or the time it will take, but I believe the officials who predetermine that amount of time available to witnesses should be aware that the normal taken time allocation would be insufficient for my purposes. I am not in love with the sound of my own voice, but I sincerely believe I will serve the public interest by raising matters that few witnesses will be qualified to address.