IN THE MATTER OF the Resource management Act 1991

AND

IN THE MATTER OF resource consent application CRC 060253 by Falconer, Macassey and Cook Allan Gibson Trustee Co. Limited for a water permit to take and use surface water in the Upper Waitaki Catchments

QUALIFICATIONS AND EXPERIENCE

1. My name is David Power and I am a farmer/consultant and part owner of the property. I hold a Bachelor of Commerce in Farm Management conferred by Lincoln University, a Masters of Applied Science in Pasture Agronomy conferred by Lincoln University.

2. I have been involved with agriculture all my working life. From 2002 I had 3 years planning/resource management consulting experience within the Queenstown, Central Otago and Westland District Councils with C. Hughes and Associates. I have served a term as a member of the Wanaka Community Board.

Property Description

Peak Valley is a small hard dry Pastoral Lease (Otago University Endowment) of 4228.9 hectares running approximately 1600 stock units (80% sheep 20%). The property is located at the end of Falstone Road approximately 30 kilometers east from the township of Twizel. Access for the last 10 kilometers is often heavy vehicle or 4WD only. The trip to Twizel generally takes 50 minutes. The property occupies the eastern end of the Benmore Range and runs from the Ahuriri Arm to the Northern Arm of Lake Benmore. Totara Peak a significant mountain and the eastern end of the mountain range is within the property. The property has 30 kilometers of lake frontage and several creeks.

The property ranges from 370-1822m ASL; rainfall is typically less than 450mm per annum

3. Contour: less than 5% of the property is flat to easy rolling situated largely on the homestead area between Shepherds creek and Coal creek catchment's.

4. Shelter is generally from contour, native shrublands and briar.

5. Reversion/Erosion; the higher lands and dryer sunny faces are susceptible to wind and sheet erosion particularly once the vegetative cover becomes depleted. These areas are now hieracium dominant with moderate exposure to increased erosion. There is an element of reversion to tussock and heavy mixed scrub including sweet briar.

6. Naturally free draining

7. Subdivision; 14 hill blocks plus paddocks at the homestead.

8. Access; the run is well tracked with 4WD tracks of which there are approximately 42kms.

1. Proposal

9. The applicants are seeking a renewal of surface water takes from Shepherds Creek and Coal Creek, which are tributaries to the Northern Arm of Lake Benmore. Irrigation has changed from contour flooding and wild flooding to small spray irrigators supplied by a gravity system from the creeks (**Plate 1**). Minimum flow levels are proposed for the creeks. An area of 80 hectares can be reached by the scheme but variables of water supply, topography, visual mitigation and soil type may limit this on an annual basis. Shepherds creek has the larger irrigation area and is localized around homestead and woolshed (**Plate 2**). Coal creek irrigation area is more limited in scope (**Plate 3**).

10. The source of the water comes from within the property (**Plate 4**). They are steep creeks with large steep hill catchments. This makes the creeks volatile in extreme rain events and no permanent structures are being sort in the creek (Exhibit A).

11. One property share in the McKenzie Irrigation Company is held by the applicant. The applicant has funded Mackenzie Water Research Limited for Science (Water Quality Study), Cumulative effects (Economic Impact Assessment, Cultural Impact Assessment and Social Impact Assessment and Combined evidence (Planning Assessment)

12. Derogation approval from Meridian Energy Limited for the proposal was received on 17 March 2009.

2. Comments on Submissions

13. The application was notified in August 2007 and common concerns to all applications within the Waitaki catchment including this application are those on

minimum flows and the efficient use of water, effects on the landscape values and cumulative water quality impacts. Specific to this application were submissions from Fish and Game New Zealand (minimum flows and hydrology data) and Meridian Energy Ltd. (water quality and metering).

14. With respect to the Meridian Energy Ltd submission, Meridian Energy has provided derogation approval. The water takes will be metered and water quality maintained through implementation and mitigation through the Farm Environmental Management Plan (FEMP). The applicant acknowledges the Transpower transmission lines on the property are near the irrigation area. The applicant has received safe operation practices from Transpower for operating near Transpower transmission assets.

15. With respect to the Fish and Game submission interim minimum flows have been set and agreed to by Fish and Game of 60 L/s for Shepherds Creek and 30 L/s for Coal creek.

3. Assessment of Environmental Effects

3.1 Effects on other water users

16. There are no other water abstractors either above or downstream of the proposed points of take. The applicant owns the land through which the creeks flow. Given this the take from the creeks will not impact on any other water user or person who relies upon these creeks for other purposes such as stock and domestic water.

17. These proposed takes sit within the area defined as upstream of the Waitaki dam but not upstream of the outlets of Glacial Lakes in Table 5 of the Waitaki Catchment Water Allocation Regional Plan (WCWARP). This Table sets a cumulative allocation of 275 million m^3/year for this area. Ms Bartlett's in her Report 3- *Annual Allocations to Activities (Rule 6 table 5)* acknowledges that the granting of the applications subject to this hearing will not result in the cumulative allocation limit of 275 million cubic meters per year will not be exceeded.

18. Further the applicant has gained derogation approval from Meridian Energy Ltd, granting of the proposed takes will not impact upon its existing consents to take and use water within the catchment for power generation.

3.2 Effects on in stream values

A minimum flow of 30 L/s for Coal Creek and 60 L/s for Shepherds Creek as measured below the point of take from Shepherds Creek (**Plate 5**).

19. As outlined in Mr Boraman's evidence a monitoring point is proposed.

20. No permanent structure is proposed in the streambed a 150 mm/5mm slotted PVC pipe and flexi hose are laid in the creek bed.

21. The 5mm slot in the fish screen is acceptable given the volatile nature of the creeks combined with organic matter from willow trees, shrublands, briar and gravel that invade the creek. A smaller slot is more susceptible to blockage. E Can and Fish and Game have not identified Coal and Shepherds Creek as having any specific fishery values or habitat.

22. The pipe will not obstruct fish passage or the natural flow of the creek.

3.3 Effects of inefficient water use

23. The change from wild flooding to spray irrigation maximizes irrigation efficiency. The variables of supply and topography and soil type make for a mix of arable and intensive irrigation.

24. Soils are variable within the irrigation area ranging from heavy to medium to light. I note Ms Rodrigo has questioned some of the land-use categories with the proposal being more representative of an "intensive" rather than an "arable". I agree with this mix than purely an arable land-use.

25. Policy 21 of the WCWARP requires all water takes to be metered. To ensure that this application is consistent with this policy, the applicant proposes to meter their take.

3.4 Effects of the use of water on water quality

The ECan reporting officer for this application is not currently satisfied those effects of the proposal on water quality are minor.
Mackenzie Water Resources Limited has addressed cumulative effects on water quality through their Water Quality Study (WQS).

26. The WQS has identified the Peak Valley surface catchments as the Northern Arm of Lake Benmore with no N and P mitigation required.

27. OVERSEER has been applied to the farm by Melissa Robson of Ryder consulting to model outputs from the proposed farming system

28. The Water Quality Study (WQS) levels of N and P set for Peak Valley are largely organic with the existing farm losses as modeled by OVERSEER are within the thresholds. The WQS threshold was **15400kg/N** and **350kg/P**, OVERSEER modeled losses of **9000kg/N** and **230kg/P**

29. The applicant is committed to implementing the "Mandatory Good Agricultural Practices" set out within the Farm Environmental Management Plan (Appendix B).

30. The FEMP identified several environmental risks at Peak Valley

    Specific on farm risks to Peak Valley are

- Runoff from winter-feed crops to creeks or lake
- Laybacks from waterways from fertilizer application
- Fencing off creeks and lake
- Wind erosion
- Supplement management

31. Run off from winter feed crops can be controlled by there being a buffer of land between crop and waterway the topography of Peak Valley irrigation area assists with this as the areas within 50-100m of the waterways is very rough with large boulders and many willow and matagouri. The creeks are fast flowing with large catchments and the land within the irrigable area falls away from the creeks of more risk would be the lake. However mitigation of runoff to the lake is mitigated by a large buffer zone of 150 meters and more.

32. Laybacks from waterways from fertilizer application is also achieved by topography and trees and shrub-lands prevent trucks getting near waterways. 60 meters from waterways can be offered as a condition to mitigate any potential of fertilizer runoff and application to waterways.

33. Fencing off creeks is identified as a risk but in the context of the scale of the property with 35 kilometers of lakefront and 15 kilometers of creeks makes fencing impractical and unnecessary within the whole property. However fencing off waterways and dams within the irrigation areas is an achievable mitigation tool and is offered as a condition to mitigate any contamination of the waterways by stock within the irrigable area.

34. Wind erosion with these light soils is of concern. Minimum tillage is practiced through spraying and direct drilling by recognised contractors.

35. No supplements are made on the property with sheep nuts being brought in for ewe feeding. The N and P content of the brought in supplements has been factored into the OVERSEER model.

36. FEMP stage 1 are those management tools identified as mandatory good agricultural practices, FEMP stage 2 is for changes required to mitigate and Water Quality Study requirements and FEMP stage 3 are mitigation measures to ameliorate site specific environmental risks.

3.5 Monitoring and Auditing

37. Soil nutrient testing of the 6 paddocks within the irrigation area will be done I in 3 years with a standard set of soil nutrients, pH, C, N and organic matter being measured.

On-going monitoring

38. On going monitoring and auditing of the FEMP are as important as the FEMP itself and will be undertaken by the farmer under the direction of best practice and good science.

Auditing

39. The Auditing process allows the farm operator to illustrate, and other interested parties to have confidence that the management practices and mitigations planned for the farm are being implemented.
    An annual audit is proposed and submitted with direction to CRC by end of July each year.

Summary

40. The FEMP has identified site-specific risks of fertilizer application and irrigation at Peak Valley and mitigation measures for those risks are outlined. Mitigation of N and P losses are not required. The existing irrigation and faming system leaching of N and P is well below the thresholds set by the Water Quality Study for N and P.
    The monitoring and auditing of this plan allows monitoring of identified on farm risks on an annual basis and allows for further management should non performance arise.

41. Given that the N and P thresholds from the MWRL study can be met and the applicant's commitment to best practice with the implementation of the FEMP. The effects of the use of water on water quality for both the local receiving environment and cumulative effects are considered to be minor.

3.5 Effects on landscape values

42. Peak Valley has a long history of irrigation and this proposal is irrigating within those historic areas. It is acknowledged with Ms Rodrigo that the present area of irrigation is not a baseline activity it does however present an existing visual use within an area defined as significant landscape. Ecan landscape Architect Chris Glasson suggests a buffer zone between the lake and irrigation area to mitigate any adverse effects of irrigation on landscape values. The applicant proposes a buffer zone of 300m between the lake and irrigation areas, which has been confirmed by Mr Glasson as being an appropriate distance to mitigate landscape effects arising from irrigation.

3.6 Effects on Tangata Whenua

43. The Cultural Impact Assessment (MWRL) produced by Buddy Mikare, Gail Tipa and Kyle Nelson provides clear direction for applicants. This application gives protection to values and resources by fencing waterways and creating buffer zones next to creeks (60m, fertilizer)) and the lake (300m, visual/landscape). Minimum flow conditions and management of water quality (FEMP) ensure effects on the environment are minor. The applicant recognizes the protocols of accidental discovery as a condition of consent and the intentions of Mana Kaitiaki

3.7 Effects on Community and Amenity Values.

44. The irrigation area and Coal and Shepherds creek are within the property and private. The Public uses the entire lake frontage and the 300m buffer zone allows for continued amenity use and protection of the lakeside amenity. No constraints to recreational access are created by the application. Water quality is enhanced and efficiency of water use from flood to spray protects and monitors (meters, FEMP) local resources, the effects on people and communities will be minor.

4.0 Conclusions

We request that consent authority grant consent to the application as the proposal has a minor effect and enhances not only the property but improves the environment through efficiencies of water use, monitoring and through mitigation methods. The applicant seeks conditions for the minimum flows to be set at 60 L/s for Shepherds Creek and 30 L/s for Coal Creek. The combined volume of water taken from Shepherds Creek and Coal Creek in terms of this consent shall not exceed 356,000 cubic metres between 1st July and the following 30th June.

Peak Valley Appendix A

Plate 1. Gravity fed spray irrigator (east side Shepherds Creek)

Plate 2. Shepherds Creek irrigation area west side above woolshed.

Plate 3. Coal Creek irrigation area

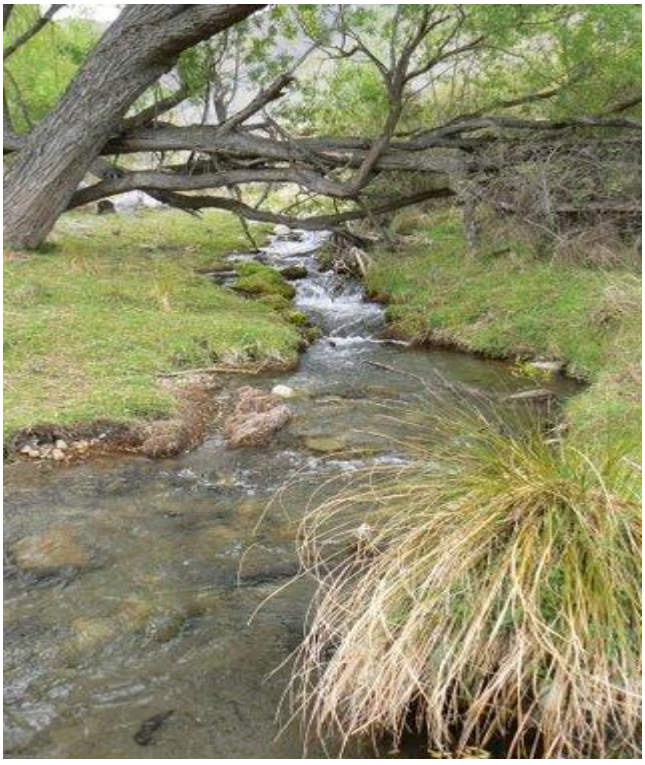

Plate 4. Shepherds Creek

Plate 5. Shepherds Creek flow monitoring site

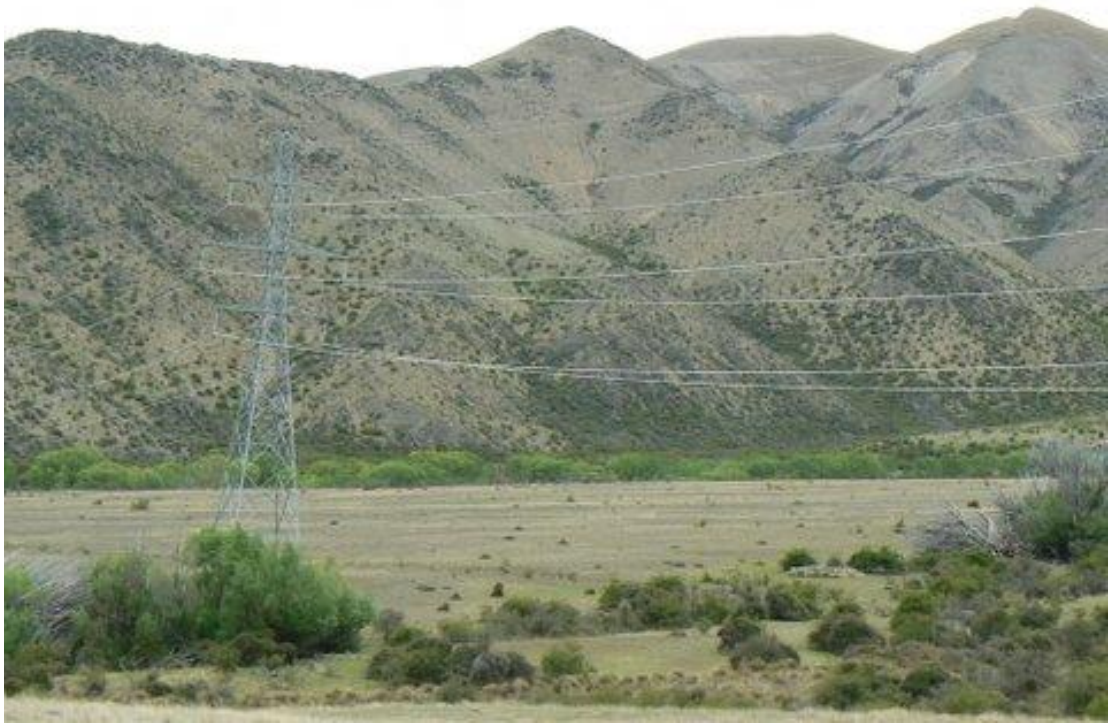

Plate 6. Transpower transmission lines and Shepherds creek flats.