

BEFORE INDEPENDENT HEARING COMMISSIONERS

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of the hearing of submissions on Proposed Variation 2 (Hinds Plain) to the Proposed Canterbury Land and Water Regional Plan

BRIEF OF EVIDENCE OF MARK FRANCIS SLEE

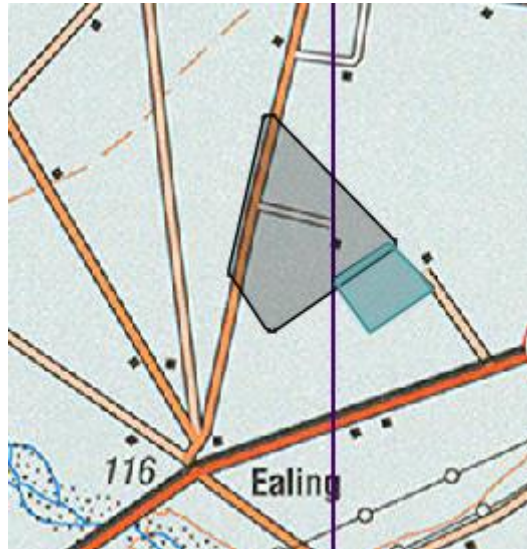
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BRIEF OF EVIDENCE OF MARK FRANCIS SLEE

Introduction

- 1 I am a director of Melrose Dairy Limited (*MDL*). MDL owns and operates an approximately 918 hectare farm at 346 Maronan Ealing Road, RD 3, Ashburton, 7773. The approximate location of our farm is shown below.



- 2 The farm is used for a mix of dairy and dairy support blocks. Approximately 660ha is used as dairy platforms, with a milking shed for each 220ha. 258ha is used as dairy support.
- 3 We currently milk 2,640 cows through the three rotary milking sheds, one shed has 50 bales the other two sheds have 60 bales. At the peak of the season 880 cows are milked in each shed. Meal feeding in each dairy shed was introduced in March 2008, along with automatic cup removers and Protrack, an 'in bale identification system'. The dairy support portion of the farm, comprising 258ha, is run as a semi self-contained unit, wintering cows and young stock.

General farm management

- 4 We have adopted a 'system based approach', measuring and monitoring the elements on the farm to influence decision making and responding with the necessary management requirements needed (i.e. soil moisture levels, pasture growth, milk production) on farm. This is focused on achieving a balance of environmental, social and economic management.
- 5 I believe our farm is currently operating at or above Good Management Practice levels for all farm procedures as a result of this approach. A belief which is confirmed when procedures are compared against industry standards. In addition, in 2014, our farm was the national winner of the Ballance Farm Environment Award for, as the judges commented, 'balancing high productivity and excellent environmental management'.

People

- 6 The farm employs 13 full time and 2 part time staff. We schedule individual biannual catch-ups with all staff members and distribute weekly and monthly newsletters to keep everyone up to date with happenings on the farm. All staff have contracts which require them to abide by our Health & Safety Manual. We are classified as a Primary ITO (Primary Industry Training Organisation).
- 7 On an annual basis the long and short term goals for the farm are reviewed and set in consultation with staff. The process includes identifying the KPI's for each farm and staff alike. We choose to use local suppliers and contractors wherever possible and have relationships with a number of agribusiness entities who provide valuable technical advice and support for example, Fonterra, Ashburton Trading Society, Lincoln University, Dairy NZ, Livestock Improvement and Brent Jones Contracting.

Production

- 8 I set out some stock numbers below by way of illustration of the level of production on the farm. We have chosen to have a crossbred herd (Friesian / Jersey) because they are best suited to a pastoral grazing system due to their smaller size, hybrid vigour from cross breeding, survivability, ease of calving and mobility.
 - 8.1 Stock numbers for 2013/2014 season:
 - (a) 2,634 Mixed Agent (MA) cows, 120 Breeding Worth (BW) cows and 149 Production Worth (PW) cows.
 - (b) 710 Heifers (Rising 2 year old cows).
 - (c) 650 Heifer calves (Rising 1 year old cows).
 - 8.2 We produced 1,210,990 kg Milk Solids (MS) for the 2012/2013 season, or 475 kg MS per cow. This was down from 1,214,000 for the 2011/2012 season.
 - 8.3 For the 2011/12 season our 6 week in calf rate was 79%, compared to an industry target of 78%, in the 2012/2013 season it was 77%.
- 9 We use barley or wheat and straw bought in from local cropping farms, and fodder beet, kale and silage grown on farm as supplementary feed for our cows.
- 10 We are a benchmark farm for the Lincoln University Dairy Farm. Each year we submit our financials and Lincoln compares these with their own and three other farms. This is used as a benchmark across the wider Canterbury district to provide a benchmark to other farmers. Our results are usually in the top 3 of the 5 farms surveyed.

Crop management

- 11 Fodder beet has been used on the farm since 2006 and yields 20 to 26 tonne kg Dry Matter (DM) / Ha. Kale is also grown on farm, with yields of 17 tonne DM / Ha. We chose fodder beet for its high yield, high utilisation and high digestibility and it's low protein content, which provides potential for fewer nitrates to be leached. We plant kale on land that is not suitable for fodder beet.

Vegetation management

- 12 In 2009 we planted 10,000 natives for shelter and shade at a cost of \$100,000, to replace the trees that were removed due to changing to a centre pivot irrigation system. We chose natives to increase the biodiversity of our farming enterprise. Riverside Horticulture advised on the types of plants based on hardiness, size, shape, suitability and also undertook the planting of the chosen varieties.

Irrigation

- 13 I am currently on the board of Irrigation New Zealand and I have previously been a Director of both Mayfield Hinds Irrigation Limited and Rangitata Diversion Race Management Limited.
- 14 The farm is classed as containing Lismore stony silt loam, which typically holds between 50 to 60mm of water. Recent tests indicate that current farming practises resulting in higher organic matter in the soil have increased the holding capacity in some areas to up to 100mm of water. The farm typically receives around 650mm of rain a year, evenly spread across the farm. This level of rainfall means that without irrigation dairying would not be viable.
- 15 We run 10 centre pivot spray irrigators, covering 90% of the farm. 10% is irrigated with k-lines and 6ha uses borderdyke irrigation. We are currently investigating converting k-line irrigation to small centre pivots.
- 16 Originally the farm was 35% borderdyke irrigation. Since 2001 both the dry and border dyke land on the farm has been continuously converted to centre pivot spray irrigation. The conversion to centre pivot spray irrigation has been funded through increasing debt and reinvestment of farm profits. Our debt servicing levels on the farm are now at \$1 /kg of milk solids produced or approximately \$1,200/ha. This is around 20% lower than the average in Canterbury.
- 17 The farm draws the standard MHIL supply rate from the Mayfield-Hinds Irrigation Scheme (*Scheme*) between 10 September and 10 May every year. We have five on-farm storage ponds ranging in size from 0.5 to 3.2ha in size, holding approximately 110,000 m³ storage. Our storage ponds provide us with the ability to only use the water when required whereas previously when using border dyke you kept irrigating even when it rained.

18 There are no natural waterways on the farm and any stockwater races are fenced off. We supply water to stock from groundwater pumped into troughs. Groundwater is also used for dairy shed wash down. Although I do not have any future plans that will be affected by the Mayfield Hinds groundwater allocation cap, I am dubious about the allocation limit being changed without a good scientific basis.

Nutrient Management

19 We already follow Good Management Practice protocol, which means that soil temperature and moisture levels are monitored to determine the optimal timing to apply nutrients. In addition, we measure soil nutrients to tailor nutrient applications to specific on-farm requirements.

20 We carry out a strict soil management regime on farm. Soil testing is carried out on every paddock and a nutrient budget is prepared from the results. This is used to ensure a higher accuracy in nutrient application. The additional soil testing costs are more than offset by the savings in reduced fertiliser costs.

21 We re-grass at the optimal industry rate of 10% of the farm annually to maintain production levels. The type of pasture that is re-sown is one of the nutrient mitigation options available to us, but there is limited science available on it to date.

22 Other measures we have implemented to minimise nutrient losses are Proof of Placement (*POP*) Fertiliser, which measures and records where fertiliser has been placed via the GPS system on the fertiliser trucks during application. We also use the AgHub software application, which records farm inputs / outputs and fertiliser placement and supports the POP system.

23 Centre pivot irrigation allows us to use our water more efficiently and not exceed the moisture holding capacity of the soil, this is further refined by the use of Aquaflex monitors and TracMap software. Tracmap allows GPS positioning of the sprinklers managing the corner spaces beyond the reach of the centre pivot.

24 We have 21 days effluent holding capacity for each dairy shed using a twin pond system. Greenwater is applied to the farm through the pivots and its application is monitored by AgHub to ensure it is applied evenly over the distribution area.

25 Despite the above measures, our OVERSEER figure for last season was 58kgN/ha. Our farm faces nutrient reductions under Variation 2.

Variation 2

26 We support that all farms should be operating at "Good Management Practice" by 2017 but we feel that the goals set beyond this, in particular 45% reduction by 2035, are not financially

viable. For this goal to be achieved more information from research and development is required.

- 27 A longer timeframe would allow science and technology to catch up with the reductions required. Decisions should be based on at least 2-3 years information so more time will allow better cost/benefit analysis to be carried out, so the best return for mitigation dollar can be achieved. This will maintain resilience so farms will not just be surviving from year to year.
- 28 Achieving the proposed nutrient reductions on our property will require all or some of the below measures:
- 28.1 ongoing reduction in stocking rates;
 - 28.2 ongoing reduction in nitrogen application;
 - 28.3 ongoing reduction in fertiliser;
 - 28.4 establishing wintering barns for cows; and
 - 28.5 shorter milking seasons.
- 29 Income will drop as a result of these actions and all of the actions are likely to require labour reductions and other cost saving activities to offset lost income.
- 30 Based on Dairy NZ analysis, profitability would drop as a result of any nutrient reductions, culminating in an approximately \$1,600/Ha drop when reaching the 45% reduction in 2035. We face costs of \$1,200/Ha to service interest, in addition to approximately \$560/Ha on depreciating assets. Any reduction in profitability will erode the amount left for drawings, tax and affect our resilience.
- 31 I feel it is important to point out that profit is not just drawings, it is necessary to generate a return on our investment as this creates a buffer so we can weather bad years, it helps service capital debt and it allows us to invest in farm improvements.
- 32 I believe that good financial decisions and careful, efficient management of resources typically result in better environmental results. Losing nitrogen does not benefit our farm in any way. I am concerned that being forced into premature, unconsidered adoption of untested mitigation, our resilience could suffer.

33 I believe in most cases there is always some scope for improvement in nutrient management. However, I do not believe there is a lot of scope and the proposed reductions outstrip what can be done while still remaining economically viable.



M F Slee