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Oral Submission by Robert Hugh Williams
In support of the
Application for Resource Consents and Designations
By the
Central Plains Water Trust, and Company.

Gentlemen

I stand before you today with 28 years of practical experience of irrigating from ground water beneath the Northern Central Plains, coupled with over 40 years of promoting irrigation locally, regionally and nationally. (See Appendix 1 of my original submission).

I believe irrigation from groundwater, and associated with it, the economic survival of agricultural production in the Central Plains is in jeopardy, unless an alternative source for irrigation water is developed.

Based on my experience and regular testing of the static water levels of bores L35/0190 (1979 to 2001) and L35/0729 (since 2002) I submit that the ground water resource is being used faster than it is being replenished.

The accompanying map of the Kirwee/Darfield area shows the location of wells within a 5km radius of our well. Most wells east of our well are tapping the aquifer at 115 to 120 metres, with various degrees of specific capacity (litres pumped per 1 metre drawdown).

Our well, L35/0729, is 125m deep, 250mm in diameter, screened between 117 and 123m. and is sited on the 191.3m contour. We have tapped an excellent aquifer conduit enabling us to pump our desired rate of 18ltrs/sec (30ha at 0.6ltr/sec/ha) with 1m of drawdown giving a specific capacity of 18. Compare this with our original well (L35 /0190) with a specific capacity of only 6. A neighboring well L35/0216 sited on the 195m contour only has a specific capacity of 2.

The attached bore log graph for L35/0729 shows the Static Water Level Log for our bore from its inception to the 22nd May 2008.

On a study of the graph, I make the following observations: -

- a) Since May 2005 the SWL has been trending downwards, being drawdown during the irrigation/summer season and partially recovering in the autumn/winter period.
- b) That significant recharge/recovery does not take place unless there is a significant snowfall or prolonged rainfall event.
- c) That a high rainfall year does not necessarily equate to good aquifer recharge.

- d) That without a significant snow fall or prolonged rainfall event the prospects for irrigating in the 2008/09 season looks grim, not only for our property but also for those further east.

Further a study of the trend lines for an ECan monitoring well on Courtenay Road (L35/0092) shows a decline in the SWL's, which become steeper over the past 20 years (see attached graph). The net effect of this will be: -

- a) A reduction in the flow rate of existing well.
- b) Wells on the western edge becoming unreliable, and,
- c) Further depletion in the flows of the spring fed streams in the east.

You might be wondering what this has to do with the applications for Resource consents and the designations of land by the Central Plains Water Trust, and Company.

In my opinion, doing nothing is not an option.

The opinions expressed in my original submissions (in particular Clauses 8 to 14) in August 2006 have only been strengthened by the information I have gained since that time.

I submit that the proposed scheme will: -

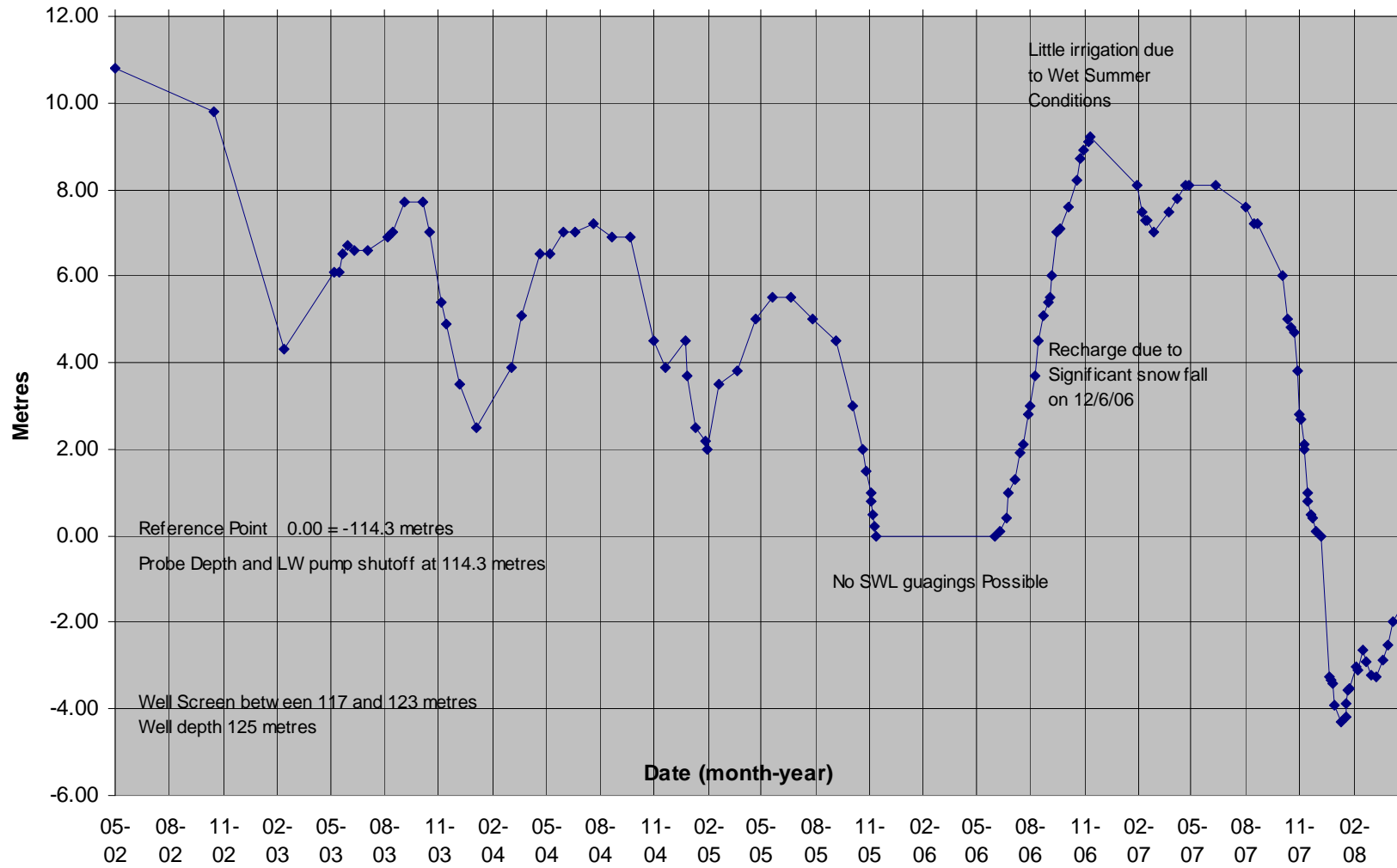
- a) help reverse the current trend of aquifer depletion in favour of recharge because: -
 - i) Irrigators using scheme supplied water rather than pumping from the aquifer,
 - ii) Seepage from the storage dam and the main head races, and,
 - iii) The opportunities to establish dedicated aquifer recharge sites along the western edge of the plains.
- b) enable a greater area of the Central Plains to be irrigated.
- c) Enable the land resource to reach its potential.
- d) Slow down the conversion of good agricultural land to life-style and urban use.

In my opinion the Central Plains Water Enhancement Scheme must proceed because it will have a major role in balancing the supply and availability of water with its demand by all users, as well as enabling the true productive capacity of the land to be realised.

Despite my advancing years, I turn 72 today, I still have a deep concern for the community, the environment, the wise and efficient uses of the resources, and the economic and social welfare of the region I live in.

R. Hugh Williams
5 June 2008

Bore Log - L35/0729



Bore L35/0092

