

November 9, 2006.

Dear Commissioners:

Re: Pembina Valley Water Cooperative Water Request From The Sandilands Glacio-Fluvial Complex

There are some points about the PVWC Sandilands ground water request that I wish to stress.

- 1) No one knows the real ground water recharge rate for that area or of the aquifer proposed for pumping. This certainly seemed to come out of the questioning on November 7, 2006. No one really knows the exact physical structure of the aquifer proposed for pumping. Definitive studies need to be undertaken.
- 2) The recharge rate that I suspect is in the vicinity of a future study determined rate – is in the order of 64 mm per annum, this is much less than the value of 174mm per annum chosen by the proponents in their 2006 report. Therefore the percentage of the aquifer water that will be taken by continuous pumping is likely to be much larger than stated.
- 3) If this supply was simply for emergency stand-by only (which it evidently now is not) the costs would be about \$16,000/ acre foot where as desalinization plant would likely be in the order of \$4000/acre foot. I am still not so sure, considering everything, that desalinization, as is done in California, is not a viable alternative. The waste brine can either be passed to a salt plant and/or recharged at a distance back into the saline aquifer.
- 4) The City of Winnipeg apparently looked at using the Sandilands Aquifer and decided not to for various reasons (I do not have their report) but I understand one was the impact on the natural phenomena of the area; another being that they could obtain the same result by water conservation.