Mike Thompson

From: John Thorburn [jthorburn@tribasinnrd.org]

Sent: Thursday, April 13, 2006 4:16 PM

To: ableed@dnr.ne.gov; 'Tom Riley'; 'Paul Koester'; 'Pam Andersen'; 'Mike Thompson'; 'Mike McDonald'; 'Michael Clements'; 'Marc Groff'; 'Justin Lavene'; 'Jennifer Schellpeper'; 'Jasper Fanning'; 'David Cookson'; 'Dan Smith'; 'Chuck Spalding'; 'Brian Dunnigan'; 'Ann Diers'; 'Larry Land'

Subject: RE: Privilege and Confidential Attorney Client Privilege

Ann
Thank you for sharing the model research proposals with us. I'm pleased to see that DNR is reviewing the RRCA model and inputs in a systematic way. I have a couple comments in relation to those proposals for you to consider.

1) The proposed review of the imported water supply credit doesn't examine the issue of use of imported water supply within the Republican Basin in Nebraska. It may not, in fact, be necessary to study this aspect of the imported water supply. I would simply like to know whether Nebraska accounts for the fact that irrigators in parts of Tri-Basin, Middle Republican and Lower Republican NRDs derive at least a portion of their irrigated water supply from imported Platte River water that has recharged groundwater aquifers. As I have pointed out in the past, the KS v NE settlement specifically states (Vol. 1, p. 25, IV F.) that "Beneficial consumptive use of imported water supply shall not count as computed beneficial consumptive use or virgin water supply." It seems to me that, as long as groundwater levels in a portion of the basin that is influenced by imported water remain above historic levels, we can discount or entirely write off consumptive use in those areas. Does the model, and/or compact accounting do that? If not, shouldn't we make adjustments to account for that use of imported water? I also hope that it is possible to break down the sub-basins and stream reaches for purposes of this imported water study more precisely than "Swanson to Harlan" even though that is a sub-reach for compact accounting purposes.
2) The conservation practices study proposal makes no mention of range management as a conservation practice affecting runoff and recharge. I suspect (I don't have data to back it up) that range conditions throughout most of the Republican Basin are, on average, much better than they were 20 or 30 years ago, in spite of the drought. Healthy rangeland ahs less runoff and consumes more water than overgrazed grassland. There are a lot more acres of rangeland than there are of terraced cropland in the Republican Basin. The effects of this conservation practice deserve review in some fashion.
3) What does the map .jpeg labeled "neb_WaterTable_plots_final_100.jpg" show? Are these actual water table elevations in 2005, or are they model assumptions? The data values shown for my district don't seem to match our measurements, although I may not be correctly correlating the selected wells with our observation wells.

I look forward to working with DNR and your consultants on these studies.

John Thorburn

From: Ann Bleed [mailto:ableed@dnr.ne.gov]
Sent: Thursday, April 13, 2006 12:54
To: Tom Riley; Paul Koester; Pam Andersen; Mike Thompson; Mike McDonald; Michael Clements; Marc Groff; Justin Lavene; John Thorburn; Jennifer Schellpeper; Jasper Fanning; David Cookson; Dan Smith; Chuck Spalding; Brian Dunnigan; Ann Diers; Larry Land
Subject: Privilege and Confidential Attorney Client Privilege

Mike Thompson

From: John Thorburn [jthorburn@tribasinnrd.org]
Sent: Wednesday, April 12, 2006 3:27 PM
To: david.cookson@ago.ne.gov; ableed@dnr.ne.gov; 'Tom Riley'; 'Paul Koester'; 'Pam Andersen'; 'Michael T. Thompson'; 'Gndwater'; 'Marc Groff'; justin.lavene@ago.ne.gov; 'Jennifer J. Schellpeper'; 'Mmacps'; 'Brian Dunnigan'; 'Ann Diers'; 'Dan Smith'; 'Jasper Fanning'; 'Mike Clement'; Don Blankenau; Mike Clements
Subject: RE: Confidential Attorney Client Privilege Final copy of model review study

Ann

Since DNR commissioned this model review report, it is your decision when and whether you wish to release it. Given the limited time that I have had to review the report, there may be some things that I don't understand about it. I would like to see a copy of the GWLevels.mdb database developed by Jennifer Schellpepper, so that I can compare the hydrographs in the report to our hydrographs. Without that database, it is difficult for me to correlate the wells selected for inclusion in the model with our own records.

I also need to understand what criteria were used to select wells for inclusion in the model. There seems to be a bias toward using alluvial wells, but there may be valid reasons for that bias, or it may be misperception on my part.

Having said that, my preliminary review leads me to have questions and concerns about the groundwater level hydrographs and the conclusions drawn from them by the consultants in their report. I would hope that DNR would want to address my concerns before the model analysis is released as a final report. (surely you wouldn't release a draft report to the public?)

First, the report (P.7 "Results", fourth and fifth paragraphs) states that "(s)ome of the hydrographs in Appendix C show what appears to be big differences between reported and calculated water levels." The measurement differences for wells in and around my NRD are indeed "big", in several instances they exceed 30 feet. The report goes on to assert that these differences may be due, in part, to assumed measurement elevations for the well measuring points. While that conclusion may be valid for measurements in some parts of the basin, our observation well measuring points were all surveyed by DNR staff in the 1990s. These measuring points should be accurate to tenths of a centimeter.

The report goes on to state that "(a)lthough individual target water levels may be in error, the error is expected to be regular. Therefore, trends should be consistent." This statement is difficult to decipher, but it seems to imply that the measuring point error will be consistently high or low. I doubt that is the case. If it is intended to state that measurements at individual wells should be consistently high or low because the initial measuring point was erroneously estimated, I can accept that as a reasonable conclusion. Regardless, it should be stated more clearly and terms such as "target water levels" should be used more consistently.

The results section (P.7, paragraph 6) acknowledges that the elevational differences could be due to imprecision in the model. It states that "...input specifications are estimates." I would be interested to know which input specifications are estimates and how we can improve the accuracy of those estimates. This would seem to me to be a high priority for improvement of the model and supporting datasets. This report provides no additional detail about that potential problem.

The results section (P. 7, Para. 6) refers to the mound area as "portions of Kearney, Phelps, Harlan and Franklin counties." Hopefully, this is simply an unintentional omission. I would remind the modelers that the Tri-Basin mound includes most of Gosper County and that there is also a large "mound" area in Lincoln and Frontier counties. Failing to acknowledge this fact would raise questions among knowledgeable readers.

Finally, the results section asserts that "model- calculated water levels (in the mound area) are consistently too high." I reviewed 28 hydrographs of wells within and near my NRD, which are all likely "mound influenced" wells. Sixteen of these wells have calculated water levels that are consistently higher than measured water levels. Six have calculated water levels that are consistently lower than measured water levels. Another six show no trend in calculated versus measured water levels. Therefore, while a majority of Tri-Basin mound area wells do have calculated water levels that are higher than measured water levels, I think it is oversimplifying the results to say that amounts to a "consistent" trend.

I hope that your staff and the consultants will review my comments and criticisms in

the cooperative spirit in which they are intended, and that any necessary revisions will be made before the final report is released. My staff and I will be happy to review individual hydrographs of wells in Tri-Basin NRD and provide you with the results of that analysis, as soon as we receive Jennifer's database.

John Thorburn

-----Original Message-----
From: david.cookson@ago.ne.gov [mailto:david.cookson@ago.ne.gov]
Sent: Wednesday, April 12, 2006 19:06
To: ableed@dnr.ne.gov; Tom Riley; Paul Koester; Pam Andersen; Michael T. Thompson; Gndwater; Marc Groff; justin.lavene@ago.ne.gov; Jennifer J. Schellpeper; Mmacps; Brian Dunnigan; Ann Diers; Dan Smith; Jasper Fanning; John Thorburn; Mike Clement
Subject: Re: Confidential Attorney Client Privilege Final copy of model review study

I can't open pdf files on my crackberry but if this is the McDonald report my email yesterday indicated iut was okay to release.

----- Original Message -----
From: "Ann Bleed" [ableed@dnr.ne.gov]
Sent: 04/12/2006 01:58 PM
To: "Tom Riley" <triley@flatwatergroup.com>
Subject: Confidential Attorney Client Privilege Final copy of model review study

Dave - Is this document ready for public dissemination? Ann