

**DWR EXHIBIT N**  
DWR Comment Letter  
October 30, 2003



DEPARTMENT OF AGRICULTURE  
ADRIAN J. POLANSKY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

GERALD T BLAIN PE  
WATER SUPPLY PROJECTS ADMINISTRATOR  
CITY OF WICHITA  
455 N MAIN  
WICHITA KS 67202

October 30, 2003

RE: Application File Nos.  
45,567 through 45,576

Dear Mr. Blain:

The referenced applications have been submitted to appropriate source water from the Little Arkansas River for recharge of the Equus Beds aquifer; the recharged water will then be available to be recovered from the aquifer. Because these applications relate to an aquifer storage and recovery system, they are subject to the provisions of K.A.R. 5-12-1 through 5-12-4. In order to properly evaluate whether the proposed source water wells comply with these regulations, additional information is needed. The information required is described in the paragraphs below.

In your cover letter included with the referenced applications, on page 4 you offered to submit to DWR a copy of the aquifer model that has been developed for the aquifer for the ASR project. Please submit a copy of the model, along with supporting information on the modeling technique, assumptions made in setting up the model, how the model was calibrated, data on any sensitivity analyses run on the model. The computer code for the model does not need to be submitted at this time.

Along with the model, please submit worked-out examples of how the proposed accounting method will track the quantity and location of recharge credit water stored in the model cells through time, as it moves through the aquifer system. The examples should clearly show how the recharge credits assigned to each cell are determined, and tracked from cell to cell, such that it is known at all times how much recharge credit is available for diversion from each cell.

In your cover letter on page 3, reference is made to the results of the Recharge Demonstration Project, stating that the project has "proved that bank storage wells will capture bank storage water and will induce water from the Little Arkansas River". Please provide a copy of the final report documenting the findings of the project.

If not already included in the final report on the Recharge Demonstration Project, the following information is required regarding the proposed bank storage wells:

- Data, such as water quality analyses and constituent balance computations, supporting the fact that the water pumped from bank storage wells will be derived from the Little Arkansas River and not from water stored in the Equus Beds aquifer.



- Data to show that the proposed bank storage wells, which are proposed to be screened below a clay zone, are able to induce flow from the stream through the clay zone to the well screen, at rates sufficient to support the rate of diversion requested for the bank storage wells. Supporting information should be in the form of computer modeling or engineering calculations. Data on the transmissivity of the confining layer should be provided to show that water may be induced to migrate from bank storage to the lower zone of the aquifer at a sufficient rate to satisfy the rate of diversion requested for the wells.
- A map or other data must be provided showing the areal extent of the difference in head required to be developed by pumping the bank storage well in order to induce flow through the confining layer to the well screen. Include information on whether or not the drawdown caused by pumping the bank storage wells extends far enough into the aquifer to affect existing wells.
- Information on the location and the elevation of the bed of the Little Arkansas River as it relates to the well log provided for each proposed bank storage well.
- Provide calculations determining the point in time when equilibrium conditions are reached, wherein the water induced from the river equals the pumping rate of the bank storage well. What is the time lag from commencement of pumping to the time this equilibrium is reached?
- Until equilibrium is reached, what is the extent of the cone of depression out into the aquifer, and what is its effect on surrounding wells?
- What is the time frame in which the aquifer will recover to normal conditions after pumping the bank storage well has ceased?
- To what extent, if any, will the proposed reactivation of the Bentley Reserve Field wells have on the ASR project? Has this pumping been incorporated into the aquifer model?

Your cover letter on page 2 indicates that two maps, referred to as Figures VII-24 and VII-25, were to be enclosed with the package of applications. These two maps were not received along with the applications. Please provide copies of the referenced maps.

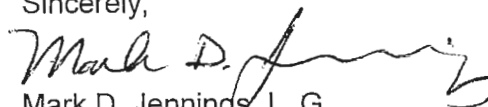
In page 6 of your cover letter, reference is made to the city's commitment to compliance with applicable water quality standards regarding water used for artificial recharge. Please provide detailed information on how the city plans to monitor the quality of water used for recharge, and what treatment methods, if any, will be used to ensure recharge water meets quality standards.

Your applications are being returned to you in order that you may submit the required information. The applications, along with the requested additional information, must be returned to this office by December 30, 2003, or any authorized extension thereof. Failure to return the applications by the deadline will result in dismissal of the applications and forfeiture of the priority date, as provided by K.S.A. 82a-710.

Gerald T. Blain  
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If you have any questions, please contact our office. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,



Mark D. Jennings, L. G.  
Environmental Scientist  
Water Appropriation Program

MDJ

pc: Stafford Field Office  
Groundwater Management District No. 2