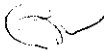


MEMORANDUM

October 8, 2003

To: Pam Skaggs
From: Shane Bendixsen
Reviewed by: Garth Newton 
Subject: **Transfer 70506 Simplot**

It is our understanding the applicant has proposed to transfer 0.14 cfs from a surface water right to a ground water approximately 680 feet from the current point of diversion. The applicant had previously submitted findings showing that surface and ground water were hydraulically connected, but did not demonstrate if 50 percent would be depleted from the river in the first day as required by IDWR policy. This is a brief review of their resubmitted findings showing stream depletion.

The applicant used the 'Jenkins Method', which uses the image wells to approximate stream depletion from a pumping well. It is considered an acceptable method as long as there is a close proximity between the stream and the pumping well (i.e. less than a couple of thousand feet). This criteria is meant

The values used for storativity (0.017) and transmissivity (135,000 gpd/ft²) are based on previous aquifer tests associated with other work completed in the area. They correlate well with other published values for the same lithology.

The closest perpendicular distance to the river is 97 feet. Using charts presented by Jenkins (1970). These values suggest a 90 percent depletion in the first 24 hours. As a further check another chart presented by Todd (1980) using the same method produced the same result. As a further check, values for transmissivity could be as low as 59,900 gpm/ft² as presented by the applicant. This suggests depletion would be 60 percent in the first 24 hours, which is still more than the 50 percent required.

The applicant also used the distance from the current point of diversion to the proposed point of diversion (the pumping well). The distance to the stream for use in the analysis is the closest perpendicular distance. Why the distance to the current point of diversion was used is not known, but has no bearing on the final outcome.

In closing, the requirement for 50 percent depletion in the first 24 hours is meant.

References

Jenkins, C.T., Computation of Rate and Volume of Stream Depletion by Wells,
Techniques of Water Resources Investigations of the United States
Geological Survey, 1970.

Todd, David Keith, Ground Water Hydrology, Jon Wiley and Sons, 1980.