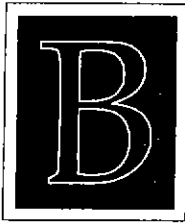


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Department of Water Resources  
Boise, Idaho



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Water Resources

May 2, 2003

Mr. Corey Skinner  
Idaho Department of Water Resources  
1341 Fillmore Street, Suite 200  
Twin Falls, ID 83301

Re: Jentzsch / Kearl / Baker applications

Dear Corey:

I am responding to your letter dated April 28, 2003 regarding the above-referenced applications.

Harris Farm

My impression was that the Harris Farm water rights were limited to 6.0 cfs in combination. Per your indication that the combined limit is 6.76 cfs, the application has been modified as such and an additional \$40 is being submitted for the extra fee. The flow rate on the Application for Permit was correspondingly reduced to 1.19 cfs.

I believe the Application for Permit on the Harris property can be processed under the current Snake River Basin Moratorium provided the usage will be non-consumptive. The Amended Moratorium Order dated April 30, 1993 applies to "all applications proposing a consumptive use of water filed after the date of the order...". Further, the moratorium "does not apply to any application proposing a non-consumptive use of water as the term is used in Section 42-605A, Idaho Code." With respect to an irrigation water use, additional diversion rate will not increase the consumptive use if the historic diversion rate has been sufficient to meet the peak crop water requirement, accounting for available soil water storage. If this condition holds, additional flow will simply decrease the seasonal application efficiency slightly and make it easier to irrigate the land without stressing the crop.

An analysis was made of the actual daily crop ET on the Harris Farm compared to the peak application rate for the years 1997 through 2002. For these years, daily crop ET was obtained from the Agrimet station at Rupert, and the crop history for the north pivots in Section 33 and the south linear in Section 1 were provided by Rod Jentzsch. The peak diversion rates for 1999

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through 2002 were taken from water measurement reports prepared by Brian Higgs and submitted to IDWR, and from IDWR measurements for 1997 and 1998. The center pivots and linear were installed in 1991 and have been operated by Jentzsch-Kearl farms since then in the same manner as they are today. Crop history is available from 1984 through 2003, but no diversion rate measurements are available prior to 1997.

For this analysis, the period of interest typically occurs in late June through early August when the daily crop ET is frequently greater than the net irrigation application depth. During this period, soil water storage is being depleted and the crop could eventually become stressed, causing a reduction in ET. Stress would occur when the soil water content drops below a threshold of approximately 50% to 65% of available water holding capacity, depending on the crop type.

Based on the SCS soils data for the site, the average soil depth is estimated to be 2.5 feet and the available water holding capacity is estimated to be 0.20 inches/foot or 6.0 inches total (see attached sheets from the SCS soil survey). Based on this value, the soil water content could decrease to between 3.0 and 3.9 inches before crop stress occurs. In a typical year, the soil profile will be nearly full prior to the beginning of the peak ET period since the application rate will have exceeded the crop ET up to that point. Assuming this is the case, the cumulative application deficit during the peak period would have to be 2.1 to 3.0 inches before the soil moisture would be depleted enough to cause a reduction in ET.

Please refer to the attached data and plots for the analysis of actual conditions from 1997 through 2002. This analysis shows that the maximum cumulative application deficit occurred in 1998, when the applied water was 0.82 inches less than ET during the peak period. The average deficit was 0.34 inches, and the minimum was 0.12 inches. These deficits were not large enough to cause crop stress or a reduction in ET because soil storage was more than adequate to cover the deficit. Therefore, providing additional flow rate for this land will not increase the crop consumptive use compared to the historical condition.

#### Section 26 Farm

With regard to your questions about the wells on the "Section 26" farm: The center pivot in the SW1/4 Section 26 is served only by the well in SE1/4

SW1/4 Section 26. The center pivot in the SE1/4 Section 26 is served only by the well in SE1/4 NE1/4 Section 35 but may in the future be connected to the well in NW1/4 SE1/4 Section 26, which is now unused. Because 36-2122A covers all of the SW1/4 Section 26 pivot and part of the SE1/4 Section 26 pivot, I believe the three wells noted above are the correct wells to list on this transfer. The two wells in the SW1/4 and SE1/4 of Section 35 are not connected to this system. I am enclosing a revised map and a revised Part 1 of this application to correct the water right number.

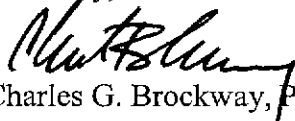
The Section 26 transfer should list Rodney A. Jentzsch, Shirley A. Jentzsch, Joseph Kearl, and Melynda Kearl as applicants as per the recorded water right, the warranty deeds, and the signature pages which were submitted with the application.

#### Section 3 Farm

The Section 3 well is at the location you described. I believe it is slightly to the west of the 40 line. The map has been modified to reflect this.

Thanks for your quick review of these applications. Please let me know if I can be of further assistance.

Cordially,

  
Charles G. Brockway, P.E.

Enc.

cc: Rod Jentzsch

