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*Attorneys for IGWA, North Snake Ground Water District, and Magic Valley Ground Water District*

**IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE  
 THE STATE OF IDAHO, IN AND FOR THE COUNTY OF GOODING**

IDAHO GROUND WATER  
 APPROPRIATORS,  
 INC., NORTH SNAKE GROUND WATER  
 DISTRICT, and MAGIC VALLEY GROUND  
 WATER DISTRICT,

Petitioners,

vs.

GARY SPACKMAN, in his capacity as  
 Interim Director of the Idaho Department of  
 Water Resources; and the IDAHO  
 DEPARTMENT OF WATER RESOURCES,  
 Respondents.

vs.

CLÉAR SPRINGS FOODS, INC.

IN THE MATTER OF DISTRIBUTION OF  
 WATER TO WATER RIGHT NOS. 36-  
 04103A, 36-04013B AND 36-7148 (Snake  
 River Farm)

(Water District Nos. 130 and 140)

Case No.

**AFFIDAVIT OF  
 CHARLES M. BRENDECKE**

**North Snake Ground Water District, and  
 Magic Valley Ground Water District**

STATE OF COLORADO            )  
   : ss  
 County of Boulder            )

**Affidavit of Charles M. Brendecke - 1**

Charles M. Brendecke, being first duly sworn under oath deposes and states as follows:

1. I am employed by AMEC, 1002 Walnut, Suite 200, Boulder, Colorado 80302. I am a Licensed Professional Engineer in Idaho, Colorado, Wyoming and Oklahoma. I have a Bachelor of Science degree in Civil Engineering from the University of Colorado, and Master of Science and Doctor of Philosophy Degrees and Civil Engineer from Stanford University. My educational and professional experience is set forth in greater detail in the *Affidavit of Charles M. Brendecke* filed with the Department in the Matter of the Surface Water Coalition Delivery Call and is included in my prefiled direct testimony filed both in the Surface Water Coalition and the Blue Lakes and Clear Springs delivery call matters. I have been for the past several years and continue to be the lead engineer and technical consultant to IGWA and its Ground Water District members.

2. The Director's Amended Curtailment Order dated August 7, 2009, models the benefit to the Buhl Gage to Thousand Springs reach derived from existing conversions, new conversions, and CREP resulting in a 2.41 cfs shortfall to the reach, or 0.17 cfs directly to Clear Springs. FF 7, 9; CL 4. Based on this 0.17 cfs shortfall to Clear Springs, the Director then ordered curtailment of "approximately 153 ground water rights that irrigate approximately 4,154 acres . . .". The Director did not consider or include in the calculations the Ground Water Districts' proposed 10,000 AF of late season recharge through the North Side Canal Company system. The purpose of this Affidavit is to set forth information regarding the effects of recharging 10,000 AF via the North Side Canal Company system and the resulting benefit to the Buhl to Thousand Springs reach and Clear Springs.

3. In the Director's July 5, 2007 *Order Approving Dairymen's and IGWA's 2007 Replacement Water Plans, Rescinding 2007 Curtailment, and Setting Hearing and Prehearing Affidavit of Charles M. Brendecke* - 2

*Schedule (Clear Springs, Snake River Farm)* ("2007 Order") (Exhibit 21 to the Affidavit of Randall C. Budge), the Director entered Finding of Fact 5 addressing the gains to the Buhl Gage to Thousand Springs reach of the Snake River based on IGWA's Plan which devoted 10,000 AF of water to recharge stating as follows:

"5. In its Replacement Plan, IGWA devoted 10,000 AF to recharge to be run through the North Side Canal and associated laterals for purposes of recharge after irrigation of lands serviced by the North Side Canal Company is complete. As stated in the June 2007 Order, the amount of water credited to IGWA for purposes of recharge was 0.9 cfs."

This 0.9 cfs is transient number and represents only the first-year contribution to reach gain from one-time recharge of 10,000 AF. Based on the rest of the data in Finding of Fact 9 of the 2007 Order, the total accrual to the reach from one-time recharge of 10,000 AF will be about 1,400 AF. So about 14% of the one-time recharge eventually becomes reach gain. This percentage will hold for a steady state analysis, meaning that if 10,000 AF were recharged every year, the benefit to the reach would be about 1400 AF per year, or about 1.93 cfs. Using the 6.9% allocation, Clear Springs would get about 0.13 cfs of this reach gain increase at steady state. From this I conclude that 10,000 AF of recharge, if applied at the same locations used in the Department's 2007 analysis, will address approximately 0.13 cfs of the 0.17 cfs remaining (steady-state) shortage to Clear Springs. The remaining shortfall of approximately 0.04 cfs to Clear Springs is roughly 0.04% of the total Clear Springs diversion for Snake River Farm. The accuracy of the most precise flow measurement techniques commonly applied to spring discharge is in the range of 2-5%. Thus the remaining 0.04 cfs shortage is so small it could not be detected by Clear Springs' measurement.

4. In Conclusion of Law 15 of the 2007 Order, the Director concluded:

“15. The predicted difference of 0.2 cfs in gains to Clear Springs’ discrete points of diversion is insignificant given the uncertainty surrounding the hydraulic relationship between the gain to the Buhl Gage to Thousand Springs reach of the Snake River, as determined by the ESPA ground water model, and actual gains to the springs.”

Thus, the Director found that 0.2 cfs of modeled spring flow increase (or 0.2% of Clear Springs diversion) is “insignificant” given uncertainty in the model and aquifer hydrogeology.

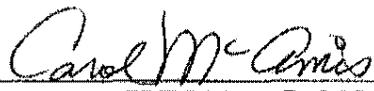
5. It is my understanding that the 10,000 AF of recharge could and would be targeted to the area of the rim immediately above Clear Springs. By so doing it is my opinion that this recharge would substantially reduce, if not fully eliminate, the remaining 0.04 cfs shortfall to Clear Springs.

FURTHER YOUR AFFIANT SAYETH NAUGHT.

DATED this 11<sup>th</sup> day of August, 2009.

  
CHARLES M. BREDECKE

SUBSCRIBED AND SWORN TO before me this 11th day of August, 2009.

  
NOTARY PUBLIC FOR COLORADO,  
Residing at: 7988 Marshall Street  
Arvada, Colorado 80003  
My Commission Expires 12/2/09 2012

