

**AFFIDAVIT OF CHARLES M. BRENDECKE**

District Court - SRBA  
 Fifth Judicial District  
 In Re: Administrative Appeals  
 County of Twin Falls - State of Idaho

**JAN 20 2015**

By \_\_\_\_\_ Clerk  
 \_\_\_\_\_ Deputy Clerk

STATE OF COLORADO )  
 ) : ss  
 County of Boulder )

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 and Wyoming. 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.

2. I am a member of the Eastern Snake Hydrologic Modelling Committee, which I refer to herein simply as the Committee. In that capacity I have been involved with the development of the Eastern Snake Plain Aquifer Model (ESPAM) used by the Idaho Department of Water Resources (IDWR) for more than 14 years.

3. I am familiar with the Rangen delivery call and the use of ESPA to predict the effects of groundwater use on the discharge of water from the Martin-Curren Tunnel. I testified in the hearing on the Rangen delivery call.

4. I am aware of the January 19, 2015, curtailment date imposed by the Director of IDWR in the Rangen delivery call case, and that on Saturday, January 17, 2015, the Director denied IGWA's request to stay curtailment until IGWA completes its Magic Springs mitigation project.

5. IGWA asked me to calculate how much water ESPAM predicts will accrue to Rangen by February 7, 2015, due to implementation of curtailment from January 20, 2015, through February 7, 2015.

6. Non-irrigation water uses are not represented in ESPAM. Early in the ESPAM development process, the Committee chose to exclude representation of non-irrigation water uses because those uses are very small relative to irrigation uses. Because this curtailment will be limited to the non-irrigation season, ESPAM is unable to calculate its effect on flow at the Curren Tunnel.

7. The smallest unit of time that the model can simulate is one month. The model cannot reliably simulate the effects of curtailment for shorter periods than this. The duration of curtailment between January 20, 2015, and February 7, 2015, is 18 days. Therefore, even if non-irrigation uses were represented in the model, it would not be possible to simulate the effects of the curtailment.

8. Based on calibrated model parameters, the time of propagation for stress changes in the model ranges from months to decades. Stress changes, such as curtailment, will not propagate significantly in shorter time periods because the initial effect of the change will be to aquifer storage and not aquifer flux.

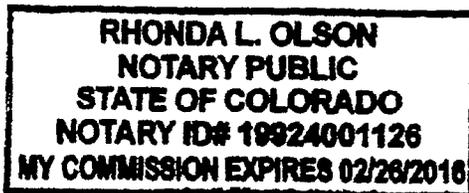
9. Since ESPAM is unable to calculate the effect of curtailment on Rangem during this period, I cannot say definitively how much water Rangem may receive, if any, by February 7, 2015. However, based on the foregoing, it is my opinion curtailment will produce no measurable increase in flow to the Curren Tunnel by February 7, 2015.

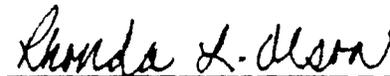
FURTHER YOUR AFFIANT SAYETH NAUGHT.

DATED this 20th day of January, 2015.

  
CHARLES M. BREDECKE

SUBSCRIBED AND SWORN TO before me this 20th day of January, 2015.

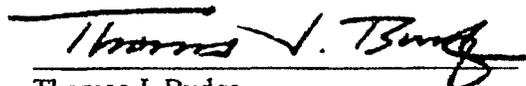


  
NOTARY PUBLIC FOR \_\_\_\_\_  
Residing at: 1002 Walnut, Boulder, CO 80302  
My Commission Expires: \_\_\_\_\_

**Certificate of Service**

I certify that on this the 20th day of January, 2015, the foregoing motion was served on the following persons in the manner indicated.

<b>Original to:</b> Clerk of the Court SRBA Deputy Clerk 253 3 <sup>rd</sup> Ave. North PO Box 2707 Twin Falls, ID 83303-2707	<input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile – 208-736-2121 <input type="checkbox"/> Overnight Mail <input checked="" type="checkbox"/> Hand Delivery <input type="checkbox"/> Email
Deputy Attorney General Garrick L. Baxter Emmi Blades Idaho Dept. of Water Resources P.O. Box 83720 Boise, Idaho 83720-0098 Fax: 208-287-6700 <a href="mailto:garrick.baxter@idwr.idaho.gov">garrick.baxter@idwr.idaho.gov</a> <a href="mailto:emmi.blades@idwr.idaho.gov">emmi.blades@idwr.idaho.gov</a> <a href="mailto:kimi.white@idwr.idaho.gov">kimi.white@idwr.idaho.gov</a>	<input checked="" type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Overnight Mail <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> Email
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Fritz X. Haemmerle Haemmerle & Haemmerle, PLLC P.O. Box 1800 Hailey, ID 83333 <a href="mailto:fxh@haemlaw.com">fxh@haemlaw.com</a>	<input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Overnight Mail <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> Email
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Thomas J. Budge