

U.S. Geothermal Inc.

CLEAN GREEN RENEWABLE ENERGY

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**DEPARTMENT OF
WATER RESOURCES**

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WATER RESOURCES**

August 15, 2006

Mr. Jeff Peppersack
Manager
Water Rights Permit Section
322 East Front Street
Boise, ID 83720-0098

Re: Application for Transfer No. 72440 – Expansion Right 43-10069

Dear Mr. Peppersack,

In response to your letter dated August 2, 2006, prior to the expansion of water rights 43-2381 and 43-2534B, crops grown on this farm included alfalfa and grain. The system consisted of hand lines for sprinkler irrigation.

Per our discussions with Bill Wilcock, the former property owner, historic crops on the property included alfalfa and grain (wheat). Mr. Wilcock installed the only center pivot on the farm, operating on ½ of the circle (approximately 83 acres out of 928 acres under irrigation) 4 years ago and irrigated the remainder of the property with hand lines. It was also Mr. Wilcock's understanding that prior to his ownership, the property was sprinkled with hand- and/or wheel-lines. Another former owner, Reid Steward (verbal communication on August 9, 2006), has advised us that when he acquired the ranch in 1975, all of the irrigation was by hand lines and the crops were a mix of alfalfa and grain.

Per IDWR's *Report Regarding Evaluation of Irrigation Diversion Rates*, January 1999, the University of Idaho reported typical ranges of application efficiency for stationary laterals (wheel or hand move) at 60 to 75% (page 38). The report further states that average values can be used for normal conditions, but lower values may be warranted for windy areas (page 39).

Lower application efficiency values may therefore be warranted for this particular farm. Windy conditions are prevalent in the Bridge area. For the 2005 growing season, May 1 - September 30, 2005, we have 3,381 hours of wind data from a weather station located within 1 mile of the farm that shows an average wind speed of 9.18mph with peaks up to greater than 22mph. Calm conditions were only recorded

for an average of 2.98% of the time, so it is clear that this farm has a steady wind that will increase evaporation losses.

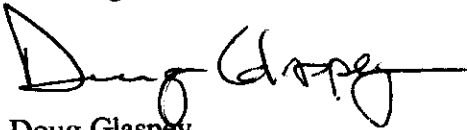
In addition, the farm is nearly surrounded by miles of non-irrigated, dry, sagebrush range ground. In fact, 88% of the farm boundary (5.75 miles) borders dry range. Relative humidity is therefore expected to be consistently low and the resulting sprinkler spray and surface evaporation losses to be much higher than average.

Based on an average of the Malta and Strevell stations in Appendix E of the Allen-Brockway report (1983) for the crops historically grown, consumptive crop use is approximately 743 mm (2.44 ft) per year. This amount is 61% of the total authorized diversion volume (100 x 2.44 ft / 4 ft). Provided that sprinkler application efficiency ranges from 60 to 75%, typical losses will therefore range from 25 to 40%. Given the local dry and windy conditions, it is reasonable to expect that at least 15% of the gross application, or about half of the total anticipated losses, succumbs to consumptive spray and surface evaporation losses.

Therefore, it is reasonable to conclude that total consumptive use, prior to expansion, totaled at least 3 afa/acre, which is 75% of the total authorized diversion volume for water rights 43-2381 and 43-2534B.

Thank you for the opportunity to present this information for inclusion in your decision on our transfer request.

Best Regards,

A handwritten signature in black ink, appearing to read "Doug Glaspey", with a long horizontal flourish extending to the right.

Doug Glaspey
Chief Operating Officer