

MEMORANDUM

Date: July 16, 2009
To: Water Right File 22-7698 and 22-7790 City of Driggs
From: Michele Edl
Re: System Capacity and Additional Incremental Use

In the field examiners notes for the above water rights, the City of Driggs water system is described as four wells which are brought online as needed to compensate for seasonal reductions in the flow from the spring source. Although decree 22-626 is for 3.2 cfs, (~1436 gpm) and the IDEQ understands the Wyoming spring source varying from 100-1500 gpm, Jason Linford, of Sunrise Engineering, the citys engineering design consultant has designed for a spring source flowing at 1122 gpm.

I understand that the diversion point for the spring is actually from the Grand Teton Canal near the tank well.

A properly functioning water supply system would handle flows from the various combinations of ground and surface water sources equally. If the system is sized to accommodate an expected spring flow of 1122 gpm, it would be sized to accept equivalent flow from groundwater sources when the spring flow rate drops in the late summer or is otherwise unavailable to meet the demand. A replacement system of wells should supply the same design flow rate as the spring. Therefore the total of the rates for the surrogate wells should sum to the spring source. A system comprising the three earliest wells does that. The sum of the licensed rates for the earliest 3 wells is 3.22 cfs. (That sum is: Tank well at 0.77 cfs + the Dalley well at 1.11 cfs + the Lions Park Well at 1.34 cfs = 3.22).

The fourth well mentioned in the field exam, is the High School well. The PumpTech pump curve document dated March 26, 1998 indicates that a conservative value for additional rate attributable to this well, at the time proof was submitted would have been 1.84 cfs. The public works director was able to prove that the current well-replacement pump pair could deliver 1120 gpm under special conditions and for a short time frame.

Although the typical flow out of that well was probably less than the instantaneous max measured January 12, 2009, there is sufficient information to establish that an additional 1.84 cfs capacity was developed. Therefore I added the confirmed historical production from High School well to the running total of incremental beneficial use. Adding 1.84 cfs to the previous system total brings the four-well-system to 5.06 cfs capacity.

According to the Driggs Culinary Water Facility Plan Update 2008 prepared by Sunrise Engineering, the period-of-record, peak demand on the water system was ~1813 gpm (~4.0 cfs) and that peak occurred in August 2007. The City of Driggs has sufficient system rate to meet the peak demand of record.

The city has annexed additional property with wells and in 2005 built an additional one million gallon storage tank to supplement the existing 300,000 gallon tank.

[illegible]