

MEMORANDUM

Date: December 5, 2008
To: Water Right File 22-7790
From: medl
Re: license review

Applicant

Rocky Mountain Environmental has been hired by the City of Driggs to assist them with their water rights. The City of Driggs has an Application for Transfer that cannot be processed until this permit and a sibling permit for appropriation through the Lions Park well (#22-7698), are processed. Kristin Moore, Water Rights Analyst for Rocky Mountain Environmental Associates, Inc., requested that the two permits be licensed. I added Rocky Mountain Environmental as a consultant and to receive correspondence for this permit.

Source and POD

The High School well was drilled in 1998. I used a spatial data point collected by DEQ for the POD shape.

On October 2, 2008, I received an email from IDWRs Eastern Region office. They had received an Application for Amendment of a Permit for sibling permit 22-7698 and forwarded an electronic copy of it to me.

In a 12/5/2008 email and follow-up phone conversations with Rocky Mountain Environmental Associates, I learned that they had intended to request the same amendment to permit 22-7790 but through some oversight, had failed to do so. I explained that I would amend the license to add acceptable points of diversion which I would take from those submitted in the permit amendment request for 22-7698.

The permit amendment sought to add several points of diversion representing wells that were either on the distribution system or soon will be. Based on the summary of the City of Driggs water supply system that DEQ had provided to me in September 9, 2008, two of the 5 additional diversion points sought were not yet on the system. The Teton Creek well and the Huntsman well have been drilled but can not be added as diversions for this water right because those two wells were not yet online. I was able to add points of diversion representing the Lions Park well, (#22-7698) which is in concurrent processing, the Dalley well, the Tank well and the Valley Center well. I used spatial data points which were GPSd by DEQ for the first three and created a POD for the Valley Center well based on the water system drawings in the file for 22-7814.

Water Use

The High School well and/or pump is not delivering the amount appropriated by the permit. The initial well log shows the well producing 1100 gpm or 2.45 cfs but my review of this diversion does not support that rate.

The field examiners report from 2001 lists a 75-hp pump of unknown make and model as being in place. Unfortunately, the field report is very sketchy and has little information supporting beneficial use of water through this well. The High School well is the second water source in the series that city brings online as needed. No measurement was taken during the exam. The permit required measuring devices be installed and the proof form states that a measuring device is in place but no record of flow or volume were included in the exam report.

The City of Driggs has stated that the High School well has the capacity to deliver 1100 gpm. Refer to Table 11.1-a: Water Sources – Rights and Capacity (City of Driggs Comprehensive Plan 2007-2020, p 68) which is available in the water rights file. IDWR eastern region personnel emailed me a complete copy of the plan, which is dated November 8, 2007. Unfortunately, the plan document doesn't have

authorship or compiler information and has not cited the time frame of the source interview for the water data. Without confirmation that the plan's water data was valid in the time period before the field exam, it is of questionable value to this water right. The Department needs data from the time frame immediately preceding June 11, 1998, which is the date that the Proof Beneficial Use form was submitted for this permit.

The City of Driggs has PWS# ID7410004. I emailed Greg Eager IDEQ Eastern Region on 9/4/2008 and informally requested City of Driggs well capacity information from him. On 9/9/2008, I received an email response from him which summarized the city's well capacities. DEQ's understanding of the High School well capacity appears to be in conflict with the capacity that the city claims for that well.

On 9/9/2008 I called Jared Gunderson (City of Driggs drinking water system operator) and asked for more information on this well and the Lions Park well (#22-7698). In a follow-up email, I detailed what information I needed in order to keep from voiding the permits due to lack of proof of beneficial use.

On October 10, 2008 I received a package from the City of Driggs which contained documentation supporting beneficial use through both the Lions Park well (22-7698) and the High School well (22-7790). The power records confirm use was established by the proof due dates of both permits. Permits for municipal use do not need volume determination so I did not verify the demand multipliers. I only needed an operational start date.

I reviewed the older City of Driggs water rights 22-2132, 22-7529, and 22-7530 looking for unlicensed capacity, but did not find any. The capacity of these senior rights has been established by theoretical methods rather than by flow measurements.

Place of Use

Although the City of Driggs is within the Snake River Moratorium area, municipal permits can be licensed.

The large POU shape in department files was significantly different than the shape provided by Rocky Mountain Environmental Associates with the amendment to permit 22-7698. I requested a copy of the shape and projection files from Rocky Mountain Associates and received them on 12/5/2008. The POU shape needed a small adjustment to the projection before I was able to import it into the database.

Calculations

Without measurement or flow records I used a theoretical calculation to determine the flow rate for this well. The equation is:

$$\text{Theoretical } Q = \frac{8.8 \times \text{pump efficiency} \times \text{pump horsepower}}{\text{depth to water} + (2.31 \times \text{pressure in psi}) + \text{friction}}$$

I used the following parameters:

assumed pump efficiency = 70%

assumed total friction is negligible

pump horsepower = 75-hp (from field exam and proof of beneficial use form)

depth to water = 105 ft (from proof of beneficial use form)

pressure = 60 psi (from proof of beneficial use form)

$$\text{High School } Q = \frac{8.8 \times 0.7 \times 75}{105 + (2.31 \times 60) + 0}$$

Therefore, the flow rate from the High School well is approximately equal to 1.9 cfs or 853 gpm.