

MEMORANDUM

Date: March 19, 2012
To: Water Right File 29-7936
From: medl
Re: license review

Applicant

The application requested municipal use. However, this permit was issued for heating use within the city limits of the City of Lava Hot Springs. Unique conditions on the permit resolve objections to the application which were received from the Department of Lands.

The permit holder is not in compliance with the measuring device and controlling works condition of permit. The examiner stated in his report that he found no measuring device. There was no evidence in the file that the permit holder discussed these requirements with the field examiner or requested a waiver. The city must take action to address that condition before a license can be issued.

Source & POD

The source of water is one or more geothermal springs locally known as Chicken Soup Springs. Two concrete spring boxes develop the springs where they daylight. An overflow pipe directs collected but unneeded water to the Portneuf River near that location.

The spring boxes were found to be an attractive nuisance and have been filled with river gravel to prevent unauthorized recreation. The gravel slows but does not prevent gravity flow of this water into the city's distribution system piping.

The application for permit was internally inconsistent in describing the POD. The map of the spring location did not match the PLS address of that location. The permit was issued with the POD location in Lot 6 (SWSWSW) Sec 22, Township **8S**, Range 38E. The springs were found to be located in Township **9S**. An amendment to correct the POD location is required.

Water Use

The City of Lava Hot Springs diverts this water and distributes it within the city limits. During the development period of this permit, the Lava Spa Motel held a lease for the use of this water. The Lava Spa Motel still exists and is located within the boundary of the City of Lava Hot Springs. In the Agreement to Supply Water dated July 7, 1993, the city agrees to deliver 40 gpm (~0.08 cfs) to the motel.

Approximately 900 ft of buried pipeline conveys the water from the spring boxes to a connection point. The connection point is located where the pipeline bends in the direction of the Portneuf River and is where the city authorized the motel to construct a lateral pipeline.

On June 29, 2001, the examiner measured the system discharge where it exited the piping and entered the Portneuf River. His measurement was 0.08 cfs. That measurement would not have represented the diversion rate unless only the Chicken Soup springs were feeding the pipeline and, if all of the spring water was returned to the pipeline above the discharge point. Because the measurement was taken in the non-heating season, I believe it does represent the flow from the springs.

The measurement does not represent the rate of water beneficially used for heating. It only represents the rate of flow through the system. Heating is the only authorized use but the beneficial use field report does not record water temperatures or provide other evidence that the heat value of this water was being

used at the time of the exam. The manager of the Lava Spa Motel self-reported that they were not using the water from the spring.

Although heating use was not confirmed by the examiner during his field exam, beneficial heating use could have occurred during the development period. The permit holder is a municipality and the permit conditions are reminiscent of those applied to municipal water rights. The City of Lava Hot Springs has met the requirements which are consistent with Department thinking from the 1990s for applying municipal permits to beneficial use.

Place of Use

The place of use is the city limits for the City of Lava Hot Springs. I created the POU shape and map of the city limits based on water rights for municipal use which had been decreed to the city prior to this review.

Several water rights overlap this place of use. However, only this right is restricted to heating use in a gravity flow system.

Point of Discharge

The point where the distribution system discharges to the Portneuf River is located some distance from approximately 900 ft Northeast of the POD. I believe that the discharge point is located in SESE Sec 21, Township 9S, Range 38E just south of the Main Street bridge over the Portneuf River.

There is no evidence that any water conditioning agents have been added to the water.

Status

The examiner recommended a heating use rate and volume based on a flow measurement not a heat transfer. The day multiplier in the volume calculation is undocumented. I cannot confirm either the rate or the volume from the contents of the examiner's report or other file evidence. Lacking file documentation, I cannot recommend higher quality rate or volume numbers.

This right is conditioned to limit the impact to other local geothermal uses and is non-consumptive.