

Cefalo, James

From: Cefalo, James
Sent: Tuesday, January 17, 2017 3:24 PM
To: 'Kristin'
Cc: 'Roger Warner'; Jordan, Blake
Subject: Driggs Analysis

Kristin,

We have just completed our review of the data from the City of Driggs and wanted to provide you a summary of our conclusions before issuing the licenses. The city water manager stated that 2016 represents the peak year for water deliveries by the city. According to historical temperature data for Idaho Falls, late July 2016 was the hottest time period of the summer and should accurately represent the peak instantaneous demand. Fortunately, you provided data for late July. Based on the data provided, the City diverted water from the spring and four of the city's wells (Tank, Huntsman, High School, Lions) between July 22 and July 30. The spring water diverted by the City in late July was less than the total flow from the spring. Based on the SCADA graphical data, the City diverted approximately 675 gpm (1.50 cfs) from the spring in late July. This amount combined with the diversion from the four wells operating in late July equates to a total diversion rate of 8.28 cfs:

Spring:	675 gpm
Huntsman:	930 gpm
High School:	840 gpm
Lions:	670 gpm
<u>Tank Well:</u>	<u>600 gpm</u>
Total:	3,715 gpm = 8.28 cfs

Although Keith Wilson measured higher diversion rates for the High School and Huntsman wells when he performed his field exam in June 2016, according to the city's data (SCADA graphical report), these wells did not yield as much water during the peak demand period in late July. This could be the result of ground water levels changing between early June and late July. Lower aquifer levels would result in less water pumped in late July. It could also be a result of different operating conditions at the time of the field exam. For example, Keith may have had the city manager open nearby hydrants during his measurement, maximizing the single measurement, but not reflecting actual day to day operating conditions for the city. We agree that the data for the Tank Well is not accurate (purple line on the graphical data). Given the depth of the well and the pump horsepower, 200 gpm is not a reasonable diversion rate for the Tank Well. Therefore, we used the measured value obtained in the June 2016 field exam.

To calculate the amount of water diverted under Permits 22-13589 and 22-13979, we took the total diversion rate (8.28 cfs) and subtracted the city's existing ground water rights from the total. We did not subtract water right 22-7786 from the total because that right is only associated with the Teton Creek Well, which did not operate during late July. We calculate that there was 1.22 cfs developed under water rights 22-13589 and 22-13979:

Total Instantaneous Demand =	8.28 cfs
-	1.11 (22-2132)
-	0.77 (22-7529)
-	1.34 (22-7698)
-	1.84 (22-7790)
-	<u>2.00 (22-7814)</u>
	1.22 cfs

Permit 22-13589 (priority date 9/19/2006) will be licensed for the full permitted diversion rate (1.10 cfs). Based on the data available, Permit 22-13979 (priority date 9/1/2010) can only be licensed for 0.12 cfs rather than the full permitted rate (0.61 cfs).

As we discussed in our meeting, because the city's spring rights carry junior priority dates, there is a chance they may be curtailed in the future. The ground water permits we are licensing were, in part, intended to provide a backup supply of water if the city's spring rights are ever curtailed. I am willing to treat these two licensed ground water rights as a replacement source to the spring water rights. For this reason, we included the spring diversion in the total instantaneous demand calculations above. This requires, however, that the new licenses include conditions limiting the spring rights and all of the city's ground water rights to 8.28 cfs.

Please contact me or Blake if you would like to discuss. We anticipate issuing the licenses sometime next week.

James Cefalo
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