

## Music, Vicky

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**From:** Neely, Ken  
**Sent:** Friday, March 02, 2012 8:38 AM  
**To:** Honsinger Charlie ; Ed Squires; Music, Vicky  
**Subject:** Whitehead annual usage calculation

Hi Everyone,

I went back and looked at the Whitehead field data, and thought I should qualify my calculations a little bit.

First of all, I don't visit the well on every field trip to the District. In 2010, I visited it on Sept 22 and Oct 8, which allows for a pretty confident estimate for the end of the water year on Sept 30. However, in 2011, I did field visits on July 15 and Oct 13. So my Sept 30<sup>th</sup> estimate of the totalizer reading has less confidence. Based on the calculations for the Sept 30 dates in 2010 and 2011, my estimate for their usage in water year 2011 is 5,053,293 gallons (13,844 daily average) (I rounded it to 5.1 million gallons for the report).

But it may not be quite that much because I don't know when the Johnsons start taking water. They don't take water in the summer as indicated by the 0 discharge on July 15, and through a conversation I had with Mr. Johnson a number of years ago. I played with the numbers a little bit, using the flow rates observed on July 15 and Oct 13. Bottom line is that I think the Whitehead well withdrawal for WY11 was in the range of 4.87 mgal to 5.05 mgal (average daily amounts of 13,350 gal to 13,845 gal).

Another aspect of this is that the daily usage in the heating months may be considerably higher than 13,000 gallons. If the average daily usage over a year is over 13,000, and we assume that the summer daily usage is maybe 4,000-5,000 gallons, then the daily winter usage must be considerably higher than 13,000 in order to attain the average of 13,350-13,845 over a year. The combined flow rates for the two meters on Feb 4, 2011, Oct 13, 2011, and Jan 7, 2012 were 12.2 gpm, 13 gpm, and 12.4 gpm. If the well discharges at those rates the whole day, the withdrawals on those days would be 17,568 gal, 18,720 gal, and 17,856. Of course, we don't know for sure if those rates were constant throughout the entire 24 hour time period.

*Ken*

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Statewide Program Website:

<http://www.idwr.idaho.gov/WaterInformation/GWQuality/default.htm>

Geothermal Website:

[http://www.idwr.idaho.gov/WaterInformation/GeothermalResources/geo\\_default.htm](http://www.idwr.idaho.gov/WaterInformation/GeothermalResources/geo_default.htm)