

Gibson, Deborah

From: Cathy Thornton [cjthornton6@msn.com]
Sent: Friday, April 03, 2009 6:14 AM
To: Spackman, Gary; Cathy Thornton
Cc: Norman Edwards; jcf; Gibson, Deborah
Subject: Re: DR Ralston's review report of the IDWR Staff Report regarding water right no. 63-32573
Attachments: Ralstons 3-31-09 letter on IDWR 3-2-09 report.doc

To Gary Spackman, Deborah Gibson, Jeff Fereday, Norm Edwards, Bill Lawton, and Alan Smith,

The attached document is a report from Dr Dale Ralston regarding IDWRs staff review report regarding water right no. 63-32573 that is due today, April 3, 2009.

I certify that today I am hand delivering copies to Norm Young and Alan Smith as I do not have their email addresses.

Sincerely,

/s/
John L. Thornton

SCANNED
APR 03 2009

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March 31, 2009

NACFA
C/O David Head
855 Stillwell Drive
Eagle, ID 83616

Dear David:

The purpose of this letter is to provide you with my review comments relative to IDWR memo prepared on March 2, 2009 by Dennis Owsley and Sean Vincent. The subject of the memo is **Application for Water Right 63-32573.**

The following is a summary of key points from the Owsley and Vincent memo.

- Owsley and Vincent make two important conclusions in their overview section on page 1. First, they conclude that the hydrologic boundaries and recharge mechanisms are not well defined for the target aquifer. Second, they conclude that the long-term sustainability of the aquifer beneath the M3 property is difficult to assess; some lines of evidence suggest that it may be limited.
- On pages 4 and 6, Owsley and Vincent raise questions relative to the simplified interpretation of the hydrogeology as depicted by HLI. They note on page 6 that *"... it is unclear ... whether the PGS is a distinct, laterally continuous layer ... or if it possibly merges with overlying undifferentiated sediments basinward and/or is a hydrologically compartmentalized by faults."*
- Owsley and Vincent on page 8 state the following relative to the interpretation of water-level data. *"In summary, available water level data clearly indicate a west ground water flow direction in the PGSA beneath of M3 property. The determination that the regional flow direction in northwest toward the Payette River is less convincing, however, because of the scarcity of surveyed control points and an incomplete hydrogeologic conceptual model."*
- Owsley and Vincent on pages 8 and 9 provide an analysis of water-level data that allows separation of wells in the area into two different groups. They suggest that the different water-level patterns may reflect the influence of a normal fault that acts to compartmentalize the aquifer.
- Owsley and Vincent, in their analysis of the data collected by HLI during several aquifer tests (pages 9-12), raise questions whether hydraulic boundaries formed by faults may be identified by the test data. They conclude this section with the following statement. *"HLI concludes that other vicinity aquifers have limited*

long-term sustainability owing to hydraulic isolation and limited on-site recharge. In our opinion, the possibility of limited long-term sustainability for the PGSA also cannot be discounted based on currently available data."

- Relative to the ground-water flow model, Owsley and Vincent on page 14 state the following. *"In conclusion, a ground-water flow model based on HLI's hydrogeologic conceptual model has been developed for prediction of hydrogeologic impacts. As described elsewhere, the basis for several important elements of the HLI conceptual model has not been provided. A potentially significant hydrogeologic feature (i.e. a fault) has not been incorporated into the model."*
- Owsley and Vincent did an independent analysis of recharge sources. They note that there are problems with the recharge amounts used in the model from both the Boise River and the New York Canal. They note the following on page 19. *"HCI has not presented geologic data to support the existence of the PGSA beneath the Boise River or provided an explanation of how the canal and river losses end up recharging the PGSA instead of the shallow alluvial aquifer."*
- Owsley and Vincent concluded the following from an independent analysis of historic water level data (page 20). *"In summary, our review of available water level data indicates that water levels in the PGSA near M3 are declining and suggest that current aquifer discharge rates exceed current recharge rates."*
- The final section of the Owsley and Vincent memo deals with potential impacts to other water users and aquifers from the pumping of ground water. The authors present the results of alternative analyses but do not reach a conclusion relative to the amount of decline that will occur at various locations. They present the following conclusions relative to impacts on well owners and the Boise River from the project pumping (page 24). *"Based on the existence of a delayed hydraulic connection between the PGSA and overlying aquifers, pumping in the PGSA is likely to eventually impact the majority of area well owners... Based on the above finding, pumping in the PGSA at M3 would cause a reduction in ground water discharge to the (Boise) river. The magnitude and location of these impacts has not been determined."*

In my opinion, the conclusions within the IDWR memo are closely aligned with my comments. The summary statement in my November 6, 2008 memo is as follows (page 5). *"I conclude that the characterization of the target aquifer system, including a pre-development water balance, has not been complete enough to support an analysis of impacts from full project development."* The IDWR memo provides additional detail relative to the hydrogeologic conceptual model, the prediction of ground-water flow, development and operation of the numerical and prediction of water-level responses. In each case, Owsley and Vincent raised questions relative to the completeness and accuracy of the M3 Eagle information provided in various HLI reports.

Please contact me if you have any questions. Thank you.