



Oregon

John A. Kitzhaber, M.D., Governor

Water Resources Department

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INTEROFFICE MEMO

TO: TRANSFER SECTION

DATE: 6-14-06

FROM: _____ WATERMASTER, DISTRICT # _____
X _____ GROUNDWATER SECTION

(SIGNATURE) [Signature] date signed 1-29-2007

SUBJECT: PERMIT AMENDMENT # 10167

A change in: POU POD (A POA) of water.

In the name(s) of John Rutkai

In my opinion (assuming the right is valid), the proposed change

MAY BE MADE WITHOUT INJURY* WOULD RESULT IN INJURY* to an existing water right.

** as long as proposed well 3 is not included on the transfer. See attached memo.*

*The approval of this transfer application would result in injury to other water rights because _____

The existing right may not be valid because _____

Headgate notices HAVE HAVE NOT Been issued for diversion from the source(s) which serve(s) this right.

If for change in point of diversion, is there any intervening point(s) for diversion between the authorized and proposed points of diversion? (Yes or No) _____

In my opinion, the order approving the subject transfer application should include the following in regard to the appropriator installing suitable measuring devices in the diversion works:

_____ (1) PRIOR to the diverting of water at the new point of diversion . . .

_____ (2) WHEN IN the judgement of the watermaster it becomes necessary . . .

The enclosed copy of the transfer application and map(s) is for your records.



State of Oregon
Water Resources Department

Interoffice Memorandum

January 29, 2007

To: Water Rights
From: Karl Wozniak
Subject: T-10169

Findings

The proposed wells will likely produce water from the same aquifer if their construction is similar to the existing wells on permit G-15845 and if they only produce from water-bearing zones in Columbia River Basalt Group lavas.

The transfer will likely result in injury to an existing right because of the high potential for hydraulic interference between proposed well 3 and MARI 53068 (POA 1 on permit G- 13440).

The transfer will likely not result in injury to existing rights if proposed well 3 is excluded from the final order.

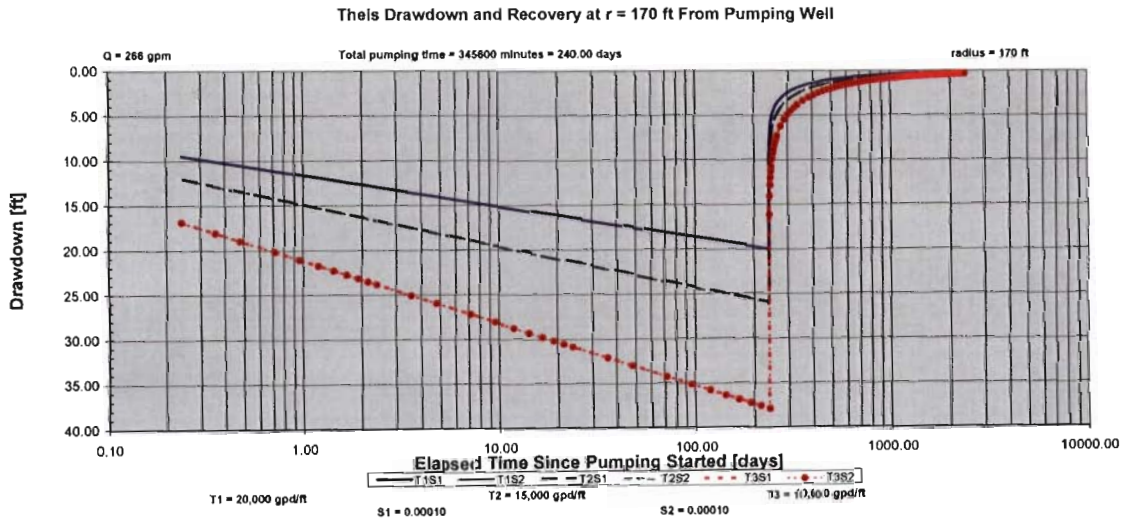
Discussion

The applicant is requesting a transfer in 7S/1W-19 in order to add three new wells to Permit G-15845. The existing permitted wells (MARI 59175 & MARI 59176) are completed in water-bearing zones in the Columbia River Basalt Group, which extends to a depth of roughly 350 feet below land surface in the area. Low-yield fine-grained marine sediments occur beneath the basalts. If the proposed wells are completed in the basalts in a manner similar to the two existing wells, they will likely produce water from the same aquifer.

A nearby permitted well, MARI 53068 (permit G- 13440), is located about 170 feet to the east of the applicant's proposed well 3 and about 700 to 900 feet south of proposed wells 4 and 5. The close proximity between proposed well 3 and MARI 53068 suggests that hydraulic interference may be excessive. Therefore, interference at MARI 53068 was estimated using the Theis equation. To determine the maximum potential impact, pumping from proposed well 3 was simulated for 240 days (the length of the irrigation season) using the maximum pumping rate allowed on the permit. An effective transmissivity of 15,000 gpd/ft was estimated using late-time pump test data from a 4-hour test conducted in September 1998 for MARI 53068. Storativity was assumed to be 0.0001, a typical value for confined Columbia River Basalt aquifers. To account for uncertainties, transmissivity was varied by 33% to determine the sensitivity of drawdown to this parameter. Under these conditions, hydraulic interference at MARI 53068 is estimated to be 20 to 38 feet. Interference after 100 days of continuous pumping is estimated to be 18 to 35 feet. Interference would be less if pumping was discontinuous over time or if pumping was distributed between all three proposed wells. These estimates suggest a high probability that pumping from

proposed well 3 will result in greater than 15 feet of hydraulic interference with MARI 53068 over the length of the irrigation season if proposed well 3 is capable of high yields and is used as the primary source on the permit. A condition on the applicant's permit (G-15845) allows only 15 feet of hydraulic interference with a neighboring well. Therefore, it is likely that the transfer will result in injury to an existing right. However, the transfer likely will not result in injury if proposed well 3 is not included in the final order.

Estimated Hydraulic Interference at MARI 53068 From Proposed Well 3



Well Location Map

