

TO: Water Rights Section

April 29, 2002

FROM: Groundwater/Hydrology Section

Michael Zwart

Reviewer's Name

SUBJECT: Application G-15518

Supersedes review form dated July 10, 2001

GROUNDWATER/SURFACE WATER CONSIDERATIONS

1. PER THE _____ Basin rules, one or more of the proposed POA's is/is not within _____ feet/mile of a surface water source (_____) and taps a groundwater source hydraulically connected to the surface water.
2. BASED UPON OAR 690-09 currently in effect, I have determined that the proposed groundwater use
 - a. ___ will, or _____ have the potential for substantial interference with the nearest
 - b. ___ will not _____ surface water source, namely _____; or
 - c. will if properly conditioned, adequately protect the surface water from interference:
 - i. The permit should contain condition #(s) 7B;
 - ii. ___ The permit should contain special condition(s) as indicated in "Remarks" below;
 - iii. ___ The permit should be conditioned as indicated in item 4 below; or
 - d. ___ will, with well reconstruction, adequately protect the surface from substantial interference.

GROUNDWATER AVAILABILITY CONSIDERATIONS

3. BASED UPON available data, I have determined that groundwater for the proposed use
 - a. ___ will, or _____ likely be available in the amounts requested without injury to prior rights
 - * b. will not _____ and/or within the capacity of the resource; or
 - c. will if properly conditioned, avoid injury to existing rights or to the groundwater resource:
 - i. The permit should contain condition #(s) 7B;
 - ii. ___ The permit should contain special condition(s) as indicated in "Remarks" below;
 - iii. ___ The permit should be conditioned as indicated in item 4 below; or
4.
 - a. ___ THE PERMIT should allow groundwater production from no deeper than _____ ft. below land surface;
 - b. ___ The permit should allow groundwater production from no shallower than _____ ft. below land surface;
 - c. ___ The permit should allow groundwater production only from the _____ groundwater reservoir between approximately _____ ft. and _____ ft. below land surface;
 - d. ___ Well reconstruction is necessary to accomplish one or more of the above conditions.
 - e. ___ One or more POA's commingle 2 or more sources of water. The applicant must select one source of water per POA and specify the proportion of water to be produced from each source.

REMARKS: * 3b. applies to Columbia River Basalt aquifers.
 3c. applies to the Dalles Formation aquifer.

(Well Construction Considerations on Reverse Side)

TO: Water Rights Section July 10, 2001
FROM: Groundwater/Hydrology Section Michael Zwart
SUBJECT: Application G- 15518
Reviewer's Name

GROUNDWATER/SURFACE WATER CONSIDERATIONS

- 1. PER THE _____ Basin rules, one or more of the proposed POA's is/is not within _____ feet/mile of a surface water source (_____) and taps a groundwater source hydraulically connected to the surface water.

- 2. BASED UPON OAR 690-09 currently in effect, I have determined that the proposed groundwater use
 - a. ___ will, or _____ have the potential for substantial interference with the nearest
 - b. ___ will not _____ surface water source, namely _____; or
 - c. will if properly conditioned, adequately protect the surface water from interference:
 - i. The permit should contain condition #(s) 7 B;
 - ii. ___ The permit should contain special condition(s) as indicated in "Remarks" below;
 - iii. ___ The permit should be conditioned as indicated in item 4 below; or
 - d. ___ will, with well reconstruction, adequately protect the surface from substantial interference.

GROUNDWATER AVAILABILITY CONSIDERATIONS

- 3. BASED UPON available data, I have determined that groundwater for the proposed use
 - a. ___ will, or _____ likely be available in the amounts requested without injury to prior rights
 - b. ___ will not _____ and/or within the capacity of the resource; or
 - c. will if properly conditioned, avoid injury to existing rights or to the groundwater resource:
 - i. ___ The permit should contain condition #(s) _____;
 - ii. ___ The permit should contain special condition(s) as indicated in "Remarks" below;
 - iii. The permit should be conditioned as indicated in item 4 below; or

- 4.
 - a. ___ THE PERMIT should allow groundwater production from no deeper than _____ ft. below land surface;
 - b. ___ The permit should allow groundwater production from no shallower than _____ ft. below land surface;
 - c. The permit should allow groundwater production only from the Dalles Formation groundwater reservoir between approximately 0 ft. and 149-165 ft. below land surface;
 - d. Well reconstruction is necessary to accomplish one or more of the above conditions.
 - e. ___ One or more POA's commingle 2 or more sources of water. The applicant must select one source of water per POA and specify the proportion of water to be produced from each source.

REMARKS: See memo to file

(Well Construction Considerations on Reverse Side)

**OREGON WATER RESOURCES DEPARTMENT
INTEROFFICE MEMO**

To: Ground Water files Date: July 10, 2001

From: Michael J. Zwart

Subject: Application Review: G-15518, City of The Dalles, Brian Stahl,
Public Works Director

This application proposes to use about 180 gpm from three wells (#9: WASC 2504, #1: WASC 2502 (deepening), #5: WASC 2503) for primary irrigation of 7.5 acres and commercial use (heating/cooling). The wells produce water from a weakly semiconfined to confined aquifer developed in the Dalles Formation, primarily sandstone and siltstone, and from underlying basalt of the Columbia River Basalt Group. Based on the provided well logs, the water-bearing zones may be hydraulically connected, since no head changes were reported upon penetrating water-bearing zones in the basalt. However, the wells reportedly produce the majority of the water from the basalt. The application indicates that these wells are dewatering wells designed to stabilize an active landslide.

The wells are about 4400 to 4600 feet from the Columbia River and about 600 to 1900 feet from Dry Hollow, an intermittent creek. The aquifer is not likely in hydraulic connection with the nearby reach of these surface water sources. There is no potential for substantial interference with surface water, based on the confined to semiconfined nature of the aquifer, the head relationship, and the distance, in the case of the Columbia River.

The wells are within the Dalles Critical Ground Water Area. The controlling order for the critical area, under section 5, states: "Wells developing water from the Dalles formation shall not penetrate into the Columbia River basalt formation." Based on this language, it does not appear possible to issue a permit for these wells, as presently constructed. A permit could be issued if the wells were reconstructed so as to produce water only from the Dalles Formation. This could be done if the bottom portions of the boreholes were sealed up to the top of the basalt.

I recommend permit condition 7B, if a permit is issued.