

Groundwater Transfer Review Summary Form

Transfer/PA # T- 13541

GW Reviewer D. Boschmann Date Review Completed: 01/05/2021

Summary of Same Source Review:

☐ The proposed change in point of appropriation is not within the same aquifer as per OAR 690-380-2110(2).

Summary of Injury Review:

☐ The proposed transfer will result in another, existing water right not receiving previously available water to which it is legally entitled or result in significant interference with a surface water source as per 690-380-0100(3).

Summary of GW-SW Transfer Similarity Review:

☐ The proposed SW-GW transfer doesn't meet the definition of "similarly" as per OAR 690-380-2130.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations.



☐ **Water Right Transfer**
☒ **Permit Amendment**
☐ **GR Modification**
☐ **Other**

Applicant Name: Thomas

Proposed Changes: ☒ POA ☒ APOA ☐ SW→GW ☒ RA
 ☐ USE ☒ POU ☐ OTHER

Date of Review: 01/05/2021

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 2/26/21

☐ The water well reports provided with the application do not correspond to the water rights affected by the transfer.

☐ The application does not include water well reports or a description of the well construction details sufficient to establish the ground water body developed or proposed to be developed.

☐ Other _____

1. Basic description of the changes proposed in this transfer: _____

This application is related to permit G-16852 which authorizes groundwater pumping from 6 wells (POD 1 = not constructed; POD 2 = not constructed; POD 3 = HARN 52907; POD 4 = not constructed; POD 5 = not constructed; POD 6 = not constructed) for primary irrigation of 754.0 acres in the Malheur Lake Basin. The following changes are sought:

1. Add one APOA (HARN 51825).
2. Eliminate POD's 2, 6, and 5.
3. Rearrange the POU.

*Note: Water use has been reported under this permit for unauthorized well HARN 51285 since 2017.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
☒ Yes ☐ No Comments: Available data indicates a predominantly volcanic/tuffaceous sedimentary rock unit occurs beneath a predominantly basin fill sediment unit. Reports for the Malheur Lake Basin indicate groundwater occurs in both the basin fill and underlying rocks. The groundwater is hydraulically connected, making a single groundwater system occurring in different geologic units. Leonard (1970) found that near the edges of the valley there is likely good interconnection between individual water-bearing beds in the valley fill and those in the adjacent and underlying tertiary rocks.

In general, groundwater in the Harney Basin flows from several upland recharge areas to a common discharge area near Malheur and Harney Lakes, with some apparent discharge to the Malheur Basin through one or more areas along the eastern margin. While the rocks and sediments making up the aquifer system in the Harney Basin do constitute a single groundwater flow system, sub-watersheds within the basin contribute recharge to different parts of the system depending on groundwater flow-paths from recharge to discharge areas. In general, within these sub-watersheds water within the aquifer system is sourced from a common recharge area, and can therefore be considered a single source.

3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
☐ Yes ☒ No _____
- b) If yes, estimate the portion of the right supplied by each of the sources and describe any limitations that will need to be placed on the proposed change (rate, duty, etc.): _____
4. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another ground water right**?
☒ Yes ☐ No Comments: _____

The proposed APOA (HARN 51285) is located ~2,000 - ~6,000 feet from the currently authorized wells. This will result in an incremental increase in interference with wells near the proposed APOA.

b) If yes, would this proposed change, at its maximum allowed rate of use, likely result in another groundwater right not receiving the water to which it is legally entitled?

☐ Yes ☒ No If yes, explain: _____

Proposed APOA HARN 51825 is located ~400 feet from POD 1 under permit G-17363 (not constructed).

The potential increase in drawdown was calculated using the Theis equation (see attachments). The values used for the calculation are conservative and appropriate until better values become available. The calculation used an intermediate storage coefficient (0.001). The transmissivity used in the calculation (977 ft²/day) is derived from specific capacity data from pump tests in adjacent sections. At the pro-rated pumping rate of the full duty over the full irrigation season (4.65 cfs), the calculation shows a drawdown in excess of 250 feet. Even with an order of magnitude increase in estimated transmissivity, significant drawdown is predicted (see attachments).

Permit G-16852 and permit G-17363 both include hydraulic interference and decline conditions. The overall year-to-year decline rate or magnitude is not expected to change significantly at these wells as a result of the proposed change, as all authorized and proposed wells are within the same general footprint. There will however, be a significant increase in seasonal well-to-well interference between the proposed APOA and POD 1 under permit G-17363.

Taking into account the content and results of a recent contested case (OAH Reference No. 2019-OWRD-00027, hearing on 05/28/2020), the proposed transfer will not result in injury to the nearby wells if the nearby wells are not reasonably efficient and/or do not fully penetrate the aquifer.

It is not known the extent to which the wells under consideration fully penetrate the aquifer. Additionally, permit G-17363 has a 5/14/2020 C-date with no apparent progress on development at this time.

5. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another surface water source**?

☐ Yes ☒ No Comments: There are no perennial surface water sources in the vicinity of the authorized or proposed wells.

b) If yes, at its maximum allowed rate of use, what is the expected change in degree of interference with any **surface water sources** resulting from the proposed change?

Stream: _____ ☐ Minimal ☐ Significant

Stream: _____ ☐ Minimal ☐ Significant

Provide context for minimal/significant impact: _____

6. For SW-GW transfers, will the proposed change in point of diversion affect the surface water source similarly (as per OAR 690-380-2130) to the authorized point of diversion specified in the water use subject to transfer?

☐ Yes ☐ No Comments: _____

7. What conditions or other changes in the application are necessary to address any potential issues identified above: none.

8. Any additional comments: none.

Theis Time-Drawdown Worksheet v.3.00

Calculates Theis nonequilibrium drawdown and recovery at any arbitrary radial distance, r , from a pumping well for 3 different T values and radial distance, r , from a pumping well for 3 different T values and 2 different S values.
Written by Karl C. Wozniak September 1992. Last modified December 30, 2014

Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units
Total pumping time	t		245		d
Radial distance from pumped well	r		400.00		ft
Pumping rate	Q		4.7		cfs
Hydraulic conductivity	K	100	1,000	1,000	ft/day
Aquifer thickness	b		10		ft
Storativity	S_1		0.00100		
	S_2		0.00100		
Transmissivity Conversions	T_{ft2pd}	977	9,770	9,770	ft ² /day
	T_{ft2pm}	0.6785	6.7847	6.7847	ft ² /min
	T_{gpdft}	7,308	73,080	73,080	gpd/ft

Recalculate manual Use the Recalculate button if recalculation is set to manual



