# **Groundwater Transfer Review Summary Form**

## Transfer/PA # T- <u>13960</u>

GW Reviewer <u>Darrick E. Boschmann</u> Date Review Completed: <u>06/17/2022</u>

#### 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.

OREGON WATER RESOURCES DEPARTMENT	<b>Oregon Water Resources Department</b> 725 Summer Street NE, Suite A Salem, Oregon 97301-1271 (503) 986-0900 www.wrd.state.or.us		Ground Wate Water Righ Permit Ame GR Modifie Other	er Review Form: at <u>Temporary</u> Transfer endment cation			
Application: T- <u>13960</u>			Applicant Name: <u>B</u>	auer Ag Enterprises LLC			
Proposed Change	es: ⊠ POA □ USE	⊠ APOA ⊠ POU	$\Box SW \rightarrow GW$ $\Box OTHER$	$\Box$ RA			
Reviewer(s): Darrick E. Boschmann			Da	te of Review: <u>06/17/2022</u>			
		Date Reviewed	by GW Mgr. and R	eturned to WRSD: _jti 2/16/23			
The information provided in the application is insufficient to evaluate whether the proposed transfer may be approved because:							
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 the following 7 certificates:
47401
75603
91672
93563*
94071
94329
96099

<u>Certificate 47401 authorizes groundwater pumping from 1 well (POD 1 = HARN 770)</u> for primary irrigation of 50 acres in the Malheur Lake Basin. The following changes are proposed:

<u>1. Add 5 APOA (HARN 53011\*\*; HARN 776; HARN 778; HARN 51977; HARN 51335).</u>

2. Move the POU.

Certificate 75603 authorizes groundwater pumping from 1 well (POD 1 = HARN 53011\*\*) for primary irrigation of 61.1 acres in the Malheur Lake Basin. The following changes are proposed:

1. Add 5 APOA (HARN 770; HARN 776; HARN 778; HARN 51977; HARN 51335). 2. Move the POU.

Certificate 91672 authorizes groundwater pumping from 1 well (POD 1 = HARN 53011\*\*) for primary irrigation of 26.4 acres in the Malheur Lake Basin. The following changes are proposed:

1. Add 5 APOA (HARN 770; HARN 776; HARN 778; HARN 51977; HARN 51335).

\*Certificate 93563 is a surface water right and is not considered in this review.

<u>Certificate 94071 authorizes groundwater pumping from 1 well (POD 1 = HARN 51335)</u> for primary irrigation of 33.3 acres in the Malheur Lake Basin. The following changes are proposed:

1. Add 5 APOA (HARN 770; HARN 53011\*\*; HARN 776; HARN 778; HARN 51977). 2. Move the POU.

Certificate 94329 authorizes groundwater pumping from 2 wells (POD 1 = HARN 776; POD 2 = HARN 778) for primary irrigation of 172.8 acres in the Malheur Lake Basin. The following changes are proposed:

1. Add 4 APOA (HARN 770; HARN 53011\*\*; HARN 51977; HARN 51335). 2. Move the POU.

Certificate 96099 authorizes groundwater pumping from 1 well (POD 1 = HARN 52492) for primary irrigation of 26.0 acres in the Malheur Lake Basin. The following changes are proposed:

<u>1. Ad 6 APOA (HARN 770; HARN 53011\*\*; HARN 776; HARN 778; HARN 51977;</u> HARN 51335).

2. Move the POU.

\*\*There is no original driller's well log for this well. Upon review of this application a data collection sheet was compiled from information available in the water right files for this well and assigned well log ID HARN 53011. Subsequent deepening of this well is documented under well log ID HARN 3.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA? ⊠ Yes □ No Comments:

In this area the Older Basin Fill hydrostratigraphic unit occurs beneath the Younger Basin Fill hydrostratigraphic unit. Other hydrostratigraphic units may be present in this area as well. Groundwater occurs in multiple hydrostratigraphic units, and groundwater within these units is hydraulically connected, making a single groundwater system composed of multiple hydrostratigraphic units (Gingerich and others, 2022).

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.): \_\_\_\_\_

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

 $\boxtimes$  Yes  $\square$  No Comments:

The proposed APOA are located to the up to ~1.5 miles from the currently authorized wells in several directions. This will result in an incremental increase in interference with existing wells in those areas. See below for anticipated certificate-specific changes in interference.

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?

## $\Box$ Yes $\boxtimes$ No If yes, explain:

## •47401

The proposed APOA are located up to ~1.2 miles to the southeast of the currently authorized well. The nearest existing POA to the proposed APOA is POD 2 under certificate 89676 which is located a distance of approximately 1,400 feet from proposed APOA HARN 53011. The potential drawdown from pumping under this scenario was calculated using the Theis equation (see attachments). The range of values used for the calculation are conservative and appropriate until better values become available. The calculation used a range of storage coefficient values from 0.01 - 0.0001. The transmissivity range used in the calculation (556 - 3636 ft<sup>2</sup>/day) is the transmissivity range derived from specific capacity from nearby wells. At the full authorized pumping rate, the results indicate a median calculated drawdown of 10.17 feet. Nearly all calculated scenario results are less than 40 feet of drawdown, which would not meet the standard for substantial or undue interference.

## •75603

The proposed APOA are located up to ~0.5 miles south and up to ~1-mile northwest of the currently authorized well. The nearest existing POA to the proposed APOA is POD 3 under certificate 95037 which is located a distance of approximately 2,800 feet from proposed APOA HARN 778. Based on the Theis calculation scenarios above, at this distance any increase in interference would not meet the standard for substantial or undue interference.

## •91672

The proposed APOA are located up to ~0.5 miles south and up to ~1-mile northwest of the currently authorized well. The nearest existing POA to the proposed APOA is POD 3 under certificate 95037 which is located a distance of approximately 2,800 feet from proposed APOA HARN 778. Based on the Theis calculation scenarios above, at this distance any increase in interference would not meet the standard for substantial or undue interference.

### •94071

The proposed APOA are located ~0.4 miles northwest and up to ~0.9 miles southeast of the currently authorized well. The nearest existing POA to the proposed APOA is POD 2 under certificate 89676 which is located a distance of approximately 1,400 feet from proposed APOA HARN 53011. Based on the Theis calculation scenarios above, at this distance any increase in interference would not meet the standard for substantial or undue interference.

### •94329

The proposed APOA are located up to ~0.5 miles north and up to ~1.2 miles northwest of the currently authorized wells. The nearest existing POA to the proposed APOA is POD 2 under certificate 89676 which is located a distance of approximately 1,400 feet from proposed APOA HARN 53011. Based on the Theis calculation scenarios above, at this distance any increase in interference would not meet the standard for substantial or undue interference.

•96099

The proposed APOA are located up to ~1.5 miles southwest of the currently authorized well. The nearest existing POA to the proposed APOA is POD 2 under certificate 89676 which is located a distance of approximately 1,400 feet from proposed APOA HARN 53011. Based on the Theis calculation scenarios above, at this distance any increase in interference would not meet the standard for substantial or undue interference.

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

 $\Box$  Yes  $\boxtimes$  No Comments: <u>There are no perennial surface water sources in the vicinity</u> 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:

5. 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:	

- 6. What conditions or other changes in the application are necessary to address any potential issues identified above: <u>none.</u>
- 7. Any additional comments: none.

## References Cited:

Gingerich, S.B., Johnson, H.M., Boschmann, D.E., Grondin, G.H., and Garcia, C.A., 2022, Groundwater resources of the Harney Basin, Oregon: U.S. Geological Survey Scientific Investigations Report 2021-5103.

Theis, C.V., 1935. The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage, Am. Geophys. Union Trans., vol. 16, pp. 519-524.













