

# Groundwater Transfer Review Summary Form

Transfer/PA # T- 13381

GW Reviewer D. Boschmann Date Review Completed: 09/02/2020

## 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.*



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## Ground Water Review Form:

- Water Right Transfer
- Permit Amendment
- GR Modification
- Other

Application: T-13381

Applicant Name: Bowen

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

Reviewer(s): Darrick E. Boschmann

Date of Review: 09/02/2020

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 9/11/2020

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 permit amendment application is related to permit G-15816 which authorizes groundwater pumping from six wells (POD 1 = HARN 1913; POD 2 = HARN 1867; POD 3 = HARN 2072; POD 4 = HARN 51154; POD 5 = HARN 50236; POD 6 = HARN 51075) for primary irrigation of 405.4 acres in the Malheur Lake Basin. The following changes are proposed:

1. Add two APOAs (HARN 51837; HARN 51443)

2. Rearrange the POU locally.

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 likely 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: \_\_\_\_\_

Proposed APOA HARN 51837 is located farther away from any nearby groundwater rights than the currently authorized POAs, and therefore will not result in any increase in interference.

Proposed APOA HARN 51443 is located ~0.25 miles northwest of the northwesternmost authorized POA and therefore will result in an incremental increase in interference with existing groundwater rights to the northwest.

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: \_\_\_\_\_

The nearest authorized POA to proposed APOA HARN 51443 is HARN 1294 (authorized under certificate 91652; certificate 91569; and T-11706), which is located about 2,215 feet to the east-northeast.

The potential increase in drawdown for these two wells 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 (4,140 ft<sup>2</sup>/day) is the average transmissivity estimated from well log pump tests in the area. At the pro-rated pumping rate of the full duty over the full irrigation season (2.5 cfs), the results show an increase in drawdown of about 3 feet, which should be within the capacity of the nearby well.

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.

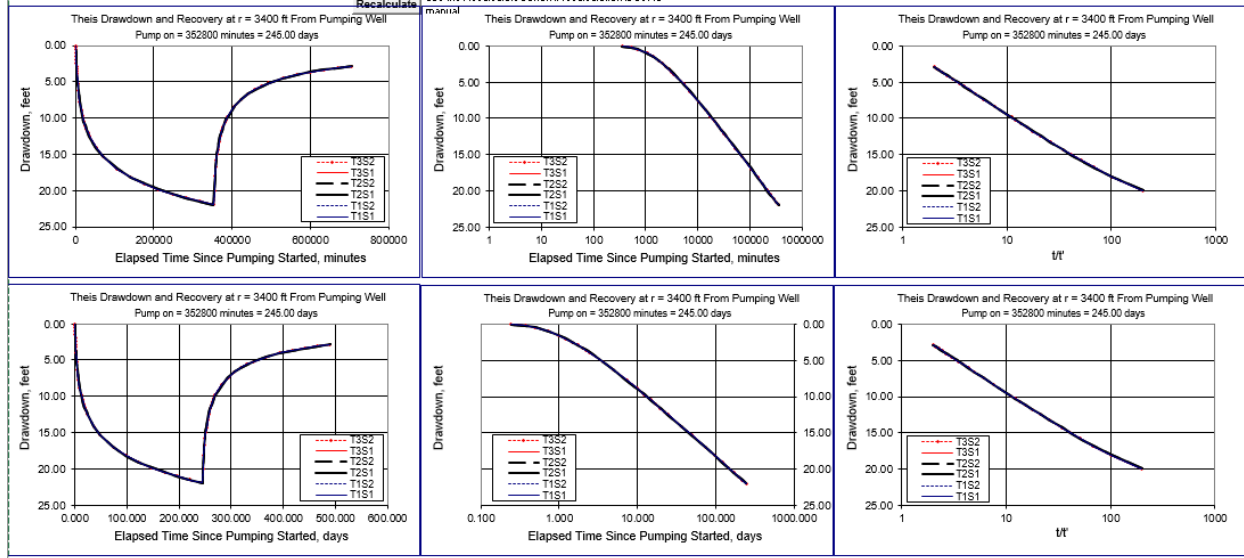
8. Any additional comments: \_\_\_\_\_

The static water level measurements required under G-15816 have not been consistently reported for all six wells authorized under this permit.

**This Time-Drawdown Worksheet** v.3.00  
 Calculates This 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		3400.00		ft
Pumping rate	Q		2.5		cfs
					1,122.00 gpm
					<b>Q conversions</b>
Hydraulic conductivity	K	41	41	41	ft/day
Aquifer thickness	b		100		ft
Storativity	S_1		0.00100		
	S_2		0.00100		
					216,000.00 cfd
					4.96 af/d
<b>Transmissivity Conversions</b>	T_ftpd	4,140	4,140	4,140	ft <sup>2</sup> /day
	T_ft2pm	2.8750	2.8750	2.8750	ft <sup>2</sup> /min
	T_gpdpt	30.967	30.967	30.967	gpd/ft

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



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Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units
Total pumping time	t		245		d
Radial distance from pumped well:	r		2215.00		ft
Pumping rate	Q		2.5		cfs
					1,122.00 gpm
					<b>Q conversions</b>
Hydraulic conductivity	K	41	41	41	ft/day
Aquifer thickness	b		100		ft
Storativity	S_1		0.00100		
	S_2		0.00100		
					216,000.00 cfd
					4.96 af/d
<b>Transmissivity Conversions</b>	T_ftpd	4,140	4,140	4,140	ft <sup>2</sup> /day
	T_ft2pm	2.8750	2.8750	2.8750	ft <sup>2</sup> /min
	T_gpdpt	30.967	30.967	30.967	gpd/ft

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

