

Groundwater Transfer Review Summary Form

Transfer/PA # T- 14354

GW Reviewer Grayson Fish Date Review Completed: 11/1/2024

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 Water Level Decline Condition Review:

Water levels at the original point(s) of appropriation have exceeded the allowed decline threshold defined by conditions in the originating water right.

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-14354 Applicant Name: Randy Kruse/ Kruse Family Development Company, LLC

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

Reviewer(s): Grayson Fish

Date of Review: 11/1/2024

Date Returned to WRSD: 11/1/2024

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: The applicant proposes to change the place of use on Certificate 80626 of 121.01 acres and the POA for those acres to a new proposed well located approximately 4.5 miles to the northwest of the currently authorized POU/POA. The currently authorized POA are Well #1 (LAKE 340), Well #3 (LAKE 341) and Well #4 (LAKE 309/310*).

*Note: There appears to be a mis-checked box in table 1 of the application. Well #4 is marked as a "Proposed well" in table 1, when it is listed as an authorized well in table 2. Certificate 80626 lists well #4 as an authorized POA. This GW review assumes that Well #4 should be listed as an authorized well in table 1.

Additionally, no original construction log exists for Well #4, LAKE 309 and LAKE 310 appear to be well deepening reports for the same well.

Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
 Yes No Comments: Groundwater in the Fort Rock Valley-Christmas Valley area (Fort Rock Classified Area) is identified as a single groundwater system. Groundwater is found in both a shallower predominantly basin-fill sediment unit and a deeper predominantly volcanic rocks and sediments unit below. The predominantly basin fill sediment unit and the predominantly volcanic rocks and sediment unit both readily yield groundwater, and the two units are hydraulically connected.

Miller (1986) describes the groundwater source as the main groundwater reservoir. That reservoir includes groundwater in different geologic units. The reservoir has three characteristics. First, the “natural” groundwater level changes less than 1.5 feet annually, indicating the system is highly modulated. Second, the 1980s potentiometric surface was approximately 4292 feet elevation amsl basin-wide with Silver Lake an exception. Third, the reservoir consists of numerous water producing zones in several formations, all having an essentially common potentiometric level, and all being very transmissive in general.

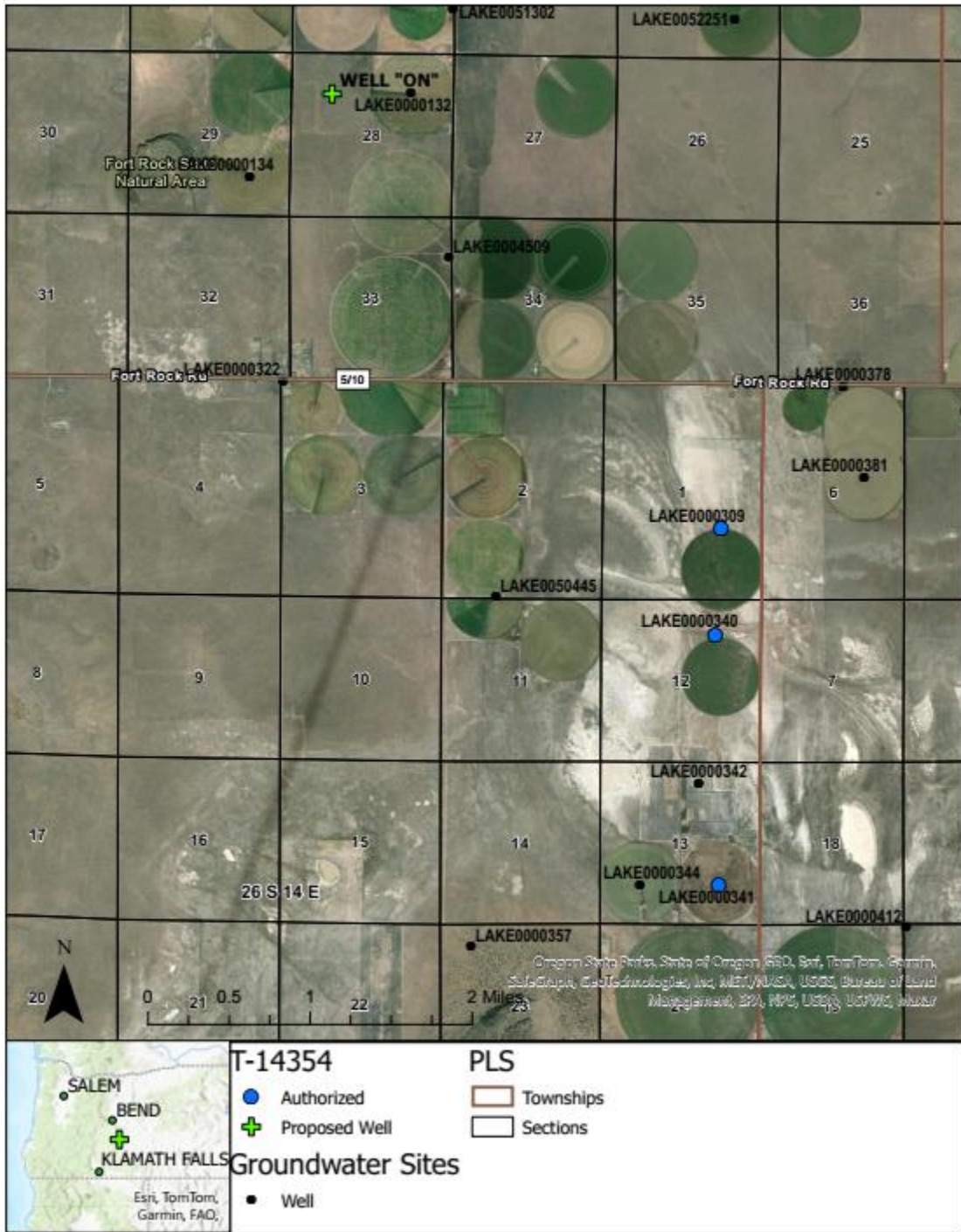
The authorized wells produce groundwater from water bearing zones within the predominantly basin-fill sediment and/or the underlying predominantly volcanic rocks and sediment unit of the main groundwater reservoir. The proposed well (WELL “ON”) will also produce groundwater from water bearing zones within the main groundwater reservoir.

2. a) Is the existing authorized POA subject to a water level decline condition?
 Yes No Comments: No decline conditions exist on Certificate 80626.
- b) If yes, for each POA identify the reference level, most recent spring-high water level, and whether an applicable permit decline condition has been exceeded: N/A
3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
 Yes No Comments: _____
- 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.): N/A
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 POA “WELL ON” will be located closer to existing wells on other groundwater rights than authorized POAs and is likely to result in an increase in interference with those wells.
- 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 POA “WELL ON” is LAKE 4369 on certificate 57563 which is located ~2,600 feet to the west. The Theis equation was used to calculate the potential increase in drawdown (see attachment) that may result from this transfer. 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 (15,000 ft²/day) is from Morgan (1988) and McFarland and Ryals (1991). At the maximum allowed pumping rate (1.51 cfs), the results predict a drawdown of ~5 feet after a 245-day pumping period, which would not meet the standard of “substantial or undue interference”.

The long-term impact on the groundwater system should be the same. That impact is to continue contributing to the ongoing annual Fort Rock Classified area groundwater level decline.

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: The POA change moves the net pumping further away from Paulina Marsh and Silver Lake. The proposed change is not expected to result in an increase in interference with another surface water source.
- 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: N/A
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: N/A
7. What conditions or other changes in the application are necessary to address any potential issues identified above: _____
8. Any additional comments: _____

T-14354



This Time-Drawdown Worksheet v.5.00

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 17, 2019

Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units	
Total pumping time	t		245		d	
Radial distance from pumped well:	r		2600		ft	
Pumping rate	Q		1.51		cfs	Q conversions 677.69 gpm
Hydraulic conductivity	K	150	150	150	ft/day	1.51 cfs
Aquifer thickness	b		100		ft	90.60 cfm
Storativity	S_1		0.001			130,464.00 cfd
	S_2		0.001			3.00 af/d
Transmissivity Conversions	T_ftpd	15000	15000	15000	ft ² /day	
	T_ft2pm	10.416667	10.416667	10.416667	ft ² /min	
	T_gpdft	112200	112200	112200	gpd/ft	
						<input type="button" value="Recalculate"/>

Use the Recalculate button if recalculation is set to manual

