Groundwater Transfer Review Summary Form

Transfer/PA # T- _14415_

GW Reviewer _Grayson Fish_ Date Review Completed: _11/7/2024_

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-14415 Applicant Name: Donald K. McCord & Karla K. McCord

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

Reviewer(s): Grayson Fish Date of Review: 11/7/2024

Date Returned to WRSD: 11/7/2024

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 _____

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1. Basic description of the changes proposed in this transfer: The applicant proposes to transfer 39 acres of POU associated with Certificate 65699 to a new POU and POA located 4.6 miles to the west-northwest. Both the authorized POA (LAKE 966) and the proposed POA (LAKE 51703) are located within the boundary of the Fort Rock Classified Area.

   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 wells 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: Certificate 65699 does not contain decline conditions.

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: One source developed

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 POA LAKE 51703 will move pumping closer to existing well LAKE 53393 on Certificate 88908. The reduced distance between LAKE 53393 and the proposed POA Lake 51703 is likely to result in an increase in interference when compared to what would be occurring due to pumping at the original POA LAKE 966

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 LAKE 51703 is LAKE 53393 under Certificate 88908 which is located ~2,700 feet to the north. 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 (15,000 ft^2/day) is from Morgan (1988) and McFarland and Ryals (1991). At the maximum allowed pumping rate (0.25 cfs), the results indicate a drawdown of less than 1 foot, 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 proposed POA LAKE 51703 is closer to both Paulina Marsh and Silver Lake than the authorized POA 966. The reduced intervening distance between the proposed POA and the above listed surface water sources would likely result in an increase in interference with those surface water sources.

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: Paulina Marsh ☒ Minimal ☐ Significant

Stream: Silver Lake ☒ Minimal ☐ Significant

Provide context for minimal/significant impact: Proposed POA LAKE 51703 is located 12.5 miles from Paulina Marsh and 12 miles from Silver lake. While this is a reduction of distance when compared to authorized POA Lake 966 (16 miles and 13.5 miles respectively), any increase in interference is expected to minimal at those distances.

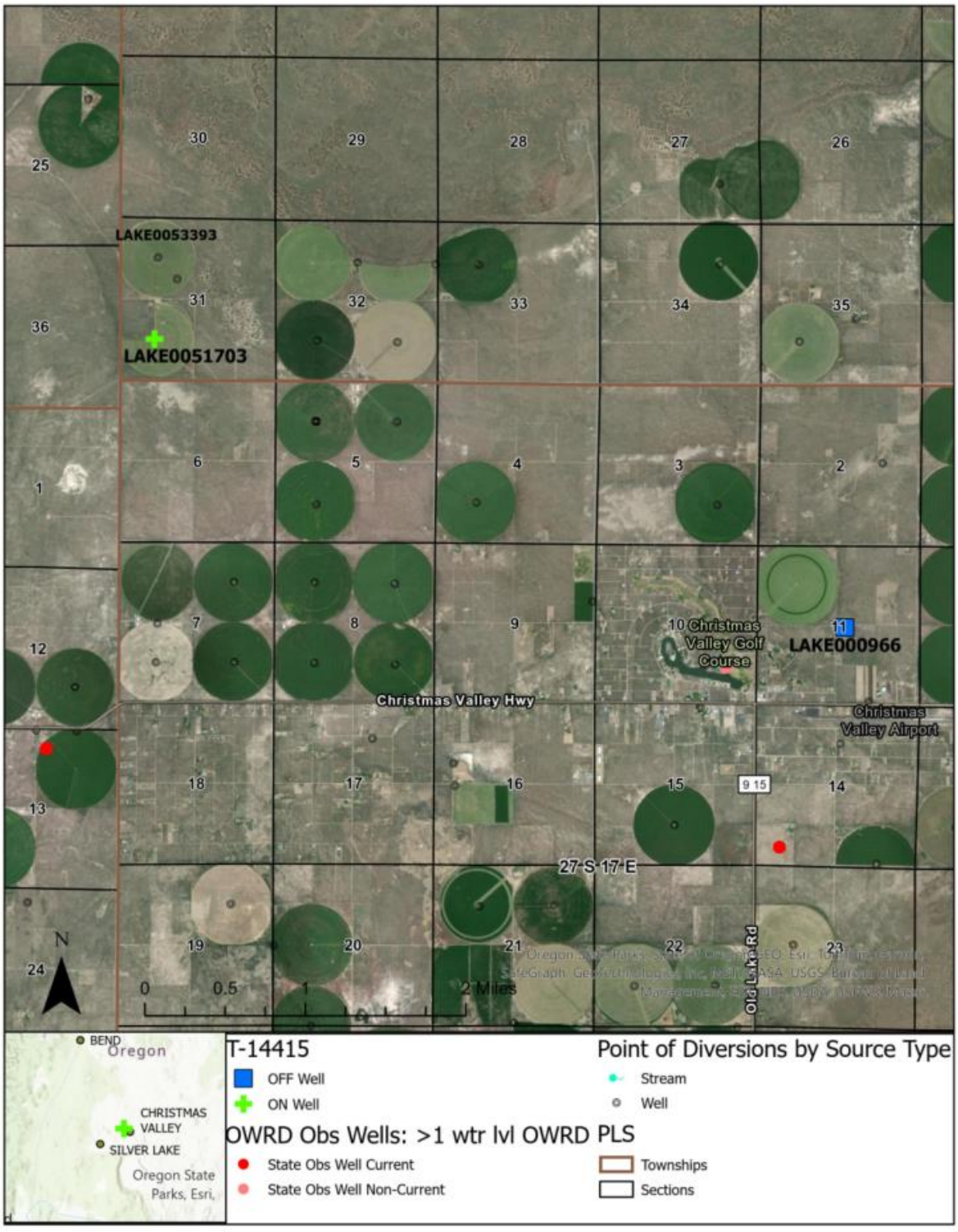
6. For SW-GW transfers, will the proposed change in point of diversion affect the surface water source similarly (as per OAR 690-380-2130) to the authorized point of diversion specified in the water use subject to transfer?

   ☐ Yes ☒ No Comments: N/A

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

8. Any additional comments: None.

T-14415


LAKE0053393
LAKE0051703
LAKE000966
10 Christmas Valley Golf Course
Christmas Valley Hwy
Christmas Valley Airport
27-S 17-E
Old L.K. Rd
0 0.5 1 2 Miles
N
BEND
Oregon
CHRISTMAS VALLEY
SILVER LAKE
Oregon State Parks, Esri,
T-14415
OFF Well
ON Well
OWRD Obs Wells: >1 wtr lvl
State Obs Well Current
State Obs Well Non-Current
OWRD PLS
Townships
Sections
Point of Diversions by Source Type
Stream
Well

Theis 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		2700		ft	**Q conversions**
Pumping rate	Q		0.25		cfs	112.20 gpm
Hydraulic conductivity	K	150	150	150	ft/day	0.25 cfs
Aquifer thickness	b		100		ft	15.00 cfm
Storativity	S_1		0.001			21,600.00 cfd
	S_2		0.001			0.50 af/d
Transmissivity Conversions	T_f2pd	15000	15000	15000	ft2/day	
	T_ft2pm	10.416667	10.416667	10.416667	ft2/min	Recalculate
	T_gpdpft	112200	112200	112200	gpd/ft	

Use the Recalculate button if recalculation is set to manual