

Groundwater Transfer Review Summary Form

Transfer/PA # T- 14660

GW Reviewer Byron Ebner and Grayson Fish Date Review Completed: 8/12/25

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-14660 Applicant Name: Antelope Springs Hay Farm LLC/Golden Rule Farms

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

Reviewer(s): Byron Ebner and Grayson Fish

Date of Review: 8/12/2025

Date Reviewed by Basin Hydrogeologist and Returned to WRSD: 8/18/2025

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: **Applicant Summary:** Changing the irrigation pattern from wheel line to ½ pivot and moving corner areas to same ½ pivot.

T-14660 requests changes in POU and POA for Certificates 97802 & 97806. LAKE 1032 and LAKE 1029 are authorized POAs for Certificate No. 97806 and LAKE 1016 is the authorized POA for Certificate No. 97802. Applicant is requesting that LAKE 1016 be added as an APOA for Certificate No. 97806. It should be noted that the applicant appears to be requesting a POA change and not an APOA as they are shifting use from wells on Certificate 97806 to a well currently authorized on Cert 97802.

POU changes pertaining to Certificate No. 97802: 5 acres of land on T27S-16E-S16-NESW and 4.5 acres of land on T27-16E-S16-NWSW will be transferred to 9.5 acres on T27S-16E-S16-NWSE. POU changes pertaining to Certificate No. 97806: 3.8 acres of land on T27S-R17E-S27-NENE and 8.6 acres on T27S-R17E-S27-NWNE to 12.4 acres on T27S-R17E-S16-NWSE. This will result in LAKE 1016 pumping roughly 0.05 CFS more. Ex: 12.4 acres *3 af/acre = 37.2 af/year / 365 = 0.1019 AF/day / 1.9835 AF/CFS = 0.0513 CFS. Multiplying the new acreage times the Rate/acre = 0.155 CFS.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
☒ Yes ☐ No Comments: All proposed and authorized POAs are located in the Fort Rock Basin and are completed in either unconsolidated alluvial sediments, sedimentary rock of the Fort Rock Formation or the underlying basalt, which are viewed as separate formations, but a single flow system. (McFarland and Ryals, 1991). According to Miller (1986), "Groundwater in the Fort Rock Basin occurs under confined, unconfined and perched conditions. A dominant confined and unconfined groundwater system can be viewed as a single flow system, reflecting local variations in permeability of overlying rocks."
3. a) Is the existing authorized POA subject to a water level decline condition?
☐ Yes ☒ No Comments: _____
- 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: _____
4. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
☐ Yes ☒ No Comments: According to McFarland & Ryals (1991), in general, wells in the basin are completed in multiple formations and all formations have similar potentiometric levels.
- 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.): _____
5. 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 nearest GW POA to the proposed POA LAKE 1016 is LAKE 1031 authorized under Certificate 51591 at a distance of 4070 ft. The addition of 12.4 acres to this pivot and the corresponding water demand will likely increase interference with nearby 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: Using the most conservative aquifer parameters and assuming year-round use along with max rate, peak drawdown could increase by nearly 4.3 ft in LAKE 1031. This estimation represents a low transmissivity and storage coefficient for the area, which is unlikely due to the well information provided in this application in addition to the groundwater trends of a nearby observation well. All other estimates show that peak drawdown would increase from 0.07 – 0.21 ft. Additionally, LAKE 1031 is a deeper well drilled to 500 ft and considering the SWLs in the immediate area are around 25-40 ft BLS, there should be a minimal impact on this POA from the increase in interference.
- LAKE 1003 (attached) is a nearby well (11,300 ft SE of LAKE 1016) with an excellent hydrographic record and a similar depth to LAKE 1016. The main difference being that LAKE 1003 encounters basalt while LAKE 1016 may be completed in basin fill sediments/sedimentary rock. LAKE 1003 seems to be a good observation well to show the cumulative drawdown of nearby irrigation wells. Feb – Aug 2024 measurements show a drawdown of 7.24 ft. It seems that this area recovers well from seasonal drawdown as a comparison of spring measurements from 2004 to 2024 indicates 2.03 ft decline.

6. 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 nearest SW source likely to be affected is Paulina Marsh. The proposed POA is moving use 1 mile closer to Paulina Marsh. The closest authorized POA is 14 miles away, while the proposed POA is 13 miles away.

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: _____

☐ Minimal ☐ Significant

Provide context for minimal/significant impact: Due to the transmissive nature of the sediments in this basin and the large distance from the surface water source, the change in POA will not result in a significant increase in interference with Paulina Marsh.

7. 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: _____

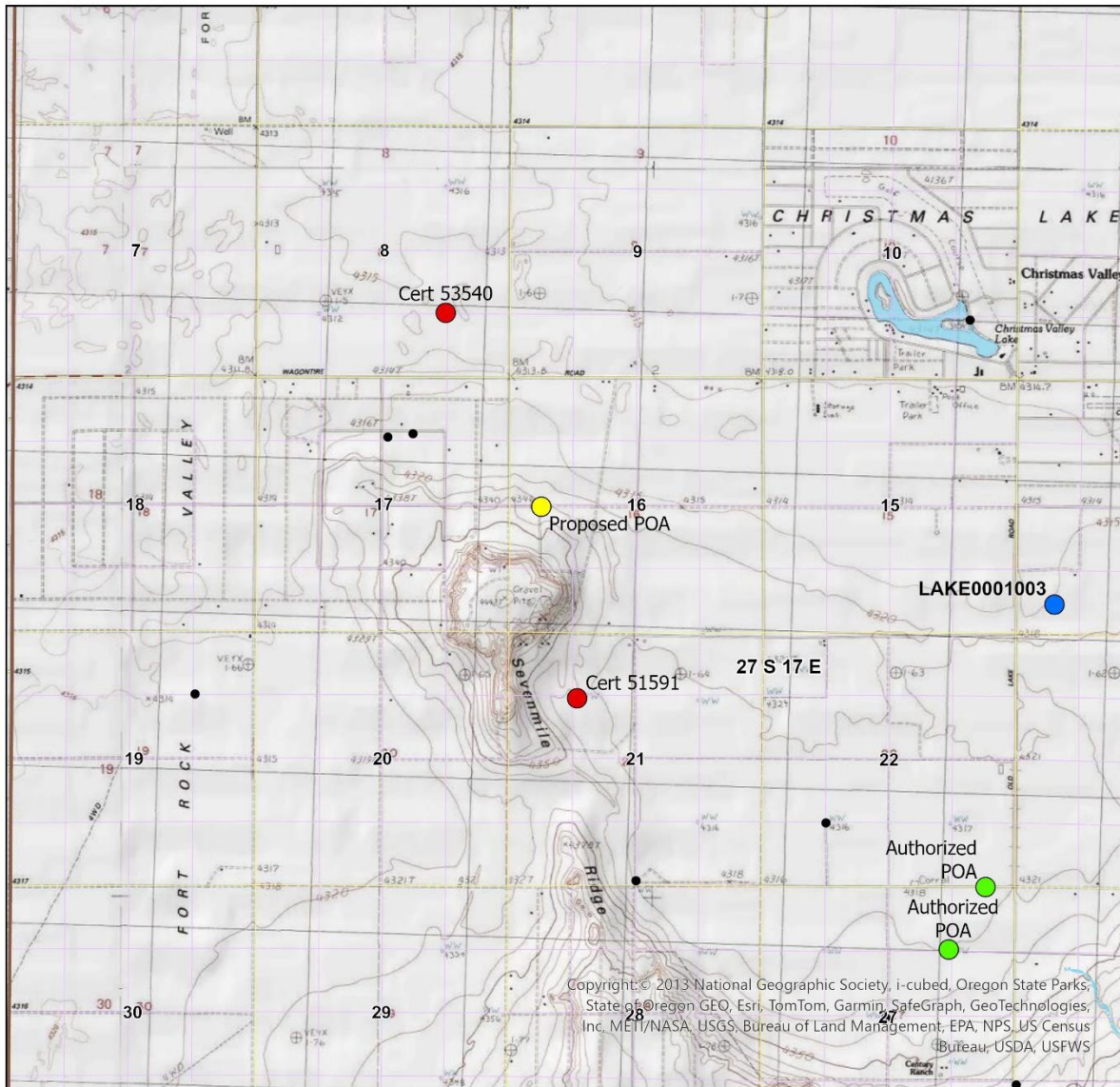
8. What conditions or other changes in the application are necessary to address any potential issues identified above: _____

9. Any additional comments: _____

References:

- Application T-14660 File
- Well Reports LAKE 1016, LAKE 1032, LAKE 1029, LAKE 1003, LAKE 1031
- Hydrograph for LAKE 1003
- Walker, G.W., (1977). Geologic Map of Oregon East of the 121st Meridian. In *Miscellaneous Investigations Series Map I-902*. U.S. Geological Survey
- McFarland, W. D., & Ryals, G. N. (1991). Adequacy of available hydrogeologic data for evaluation of declining ground-water levels in the Fort Rock Basin, south-central Oregon. In *Water-Resources Investigations Report (B4; USGS Numbered Series Nos. 89-4057; Water-Resources Investigations Report, p. 47)*. U.S. Geological Survey ; Books and Open-File Reports Section [distributor],; GW Library. <https://doi.org/10.3133/wri894057>
- Miller, D. W. (1986). *Ground Water Conditions in the Fort Rock Basin, Northern Lake County, Oregon* (A3; No. 31; Ground Water Report, p. 196). Oregon Water Resources Department; GW Library.

Application T-14660 (T27S-R17E, Sections 16 & 27)



- Hydrograph Well
- T-14660 Authorized POAs
- T-14660 Proposed POA
- Nearby POAs
- Well
- Townships
- Sections
- Quarter quarters
- Lake
- Stream, intermittent

0 2,000 4,000 8,000
Feet



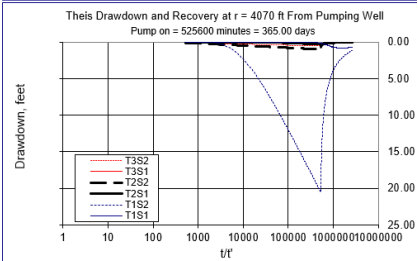
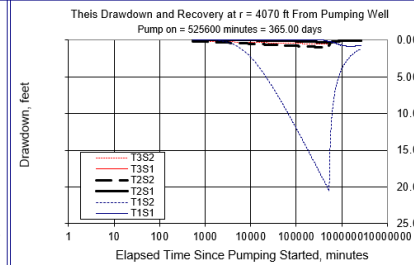
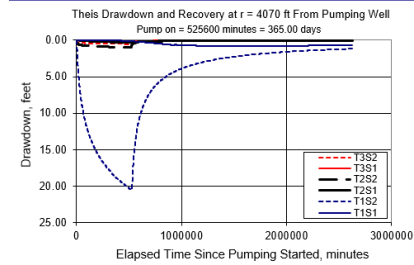
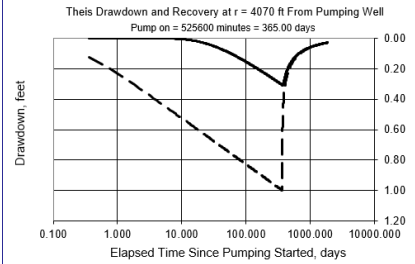
Theis Time-Drawdown Worksheet v 5.00

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		365		d	
Radial distance from pumped well:	r		4070		ft	
Pumping rate	Q		0.745		cfs	334.36 gpm
Hydraulic conductivity	K	1	40	80	ft/day	0.75 cfs
Aquifer thickness	b		970		ft	44.70 cfm
Storativity	S_1		0.2			64,368.00 cfd
	S_2		0.001			1.48 af/d
Transmissivity Conversions						
	T_t2pd	970	38800	77600	ft ² /day	
	T_ft2pm	0.6736111	26.944444	53.888889	ft ² /min	
	T_gdpft	7255.6	290224	580448	gpd/ft	
						Recalculate

Use the Recalculate button if recalculation is set to manual



Drawdown S on LAKE 1031	T1S1	T1S2	T2S1	T2S2	T3S1	T3S2
Pre T14660	0.65	16.25	0.24	0.79	0.16	0.43
Post T14660	0.82	20.52	0.31	1	0.2	0.54
Difference	-0.17	-4.27	-0.07	-0.21	-0.04	-0.11

Estimation of Drawdown effects
on LAKE 1031

