

Groundwater Transfer Review Summary Form

Transfer/PA # T- 14332

GW Reviewer Aaron Orr/ Travis Brown Date Review Completed: 3/18/2024

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 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
725 Summer Street NE, Suite A
Salem, Oregon 97301-1271
(503) 986-0900
www.wrd.state.or.us

Ground Water Review Form:

- ☒ **Water Right Transfer**
☐ **Permit Amendment**
☐ **GR Modification**
☐ **Other**

Application: T-14332

Applicant Name: David R. & Suzanne J. Whitehead

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

Reviewer(s): Aaron Orr / Travis Brown

Date of Review: 3/18/2024

Date Returned to WRSD: 3/28/2024

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: Applicant proposes to transfer 64.8 acres of use under Certificate 54436 from authorized POA LINN 4253 to a proposed well that is not yet constructed on tax lot 400. Certificate 54436 authorizes a maximum rate of 1.1 cfs. The prorated maximum rate of the proposed APOA would be 0.32 cfs based on the subject acreage.
 2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
☒ Yes ☐ No Comments: The proposed POA will source water from the same aquifer as the authorized POA (Willamette Aquifer).
 3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
☐ Yes ☒ No Comments: Bedrock appears to be tapped on the original well log for the authorized POA, but it is likely the formation collapsed and filled the open borehole based on well construction.
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: The closest water well (LINN 64070) is 550 ft from the proposed POA. Modeling with conservative hydraulic parameters indicates drawdown at LINN 64070 would likely be less than 5 feet when pumping the proposed To-POA at the maximum prorated rate of 0.32 cfs. Simultaneous pumping of LINN 4253 at the remaining maximum combined rate of 1.91 cfs from Certificate 54436 and Certificate 37315 and the proposed APOA at its maximum prorated rate of 0.32 cfs would likely produce less than 19 feet of total drawdown at LINN 64070. This would be approximately 2 feet more drawdown than produced by the authorized POA at its current maximum rate.

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: LINN 64070 has a static water level of 30 feet and is completed to a depth of 108 feet. This well is exempt use and should still be able to receive the full amount of water to which it is legally entitled based on interference calculations from the authorized and proposed POAs pumping simultaneously at their maximum rates.

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: Potential for increased interference with Crabtree Creek

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: Thomas Creek

☒ Minimal ☐ Significant

Stream: Crabtree Creek

☒ Minimal ☐ Significant

Provide context for minimal/significant impact: The proposed POA does not cross the water availability basin boundary from Thomas Creek to Crabtree Creek, nor is it within ¼ mile of Thomas or Crabtree creek. The proposed POA is also approximately the same distance from Thomas Creek as the authorized POA, and therefore does not impact Thomas Creek with any additional stream depletion. The proposed POA does move the water right to within 1-mile of Crabtree Creek, but (1) it is still located within the Thomas Creek water availability basin, and (2) stream depletion modeling overestimates the amount of stream depletion that would occur due to the pumping of the proposed POA because there are two streams involved. Thus, any additional interference with Crabtree Creek is determined to be minimal.

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: _____

8. Any additional comments: _____

References Used:

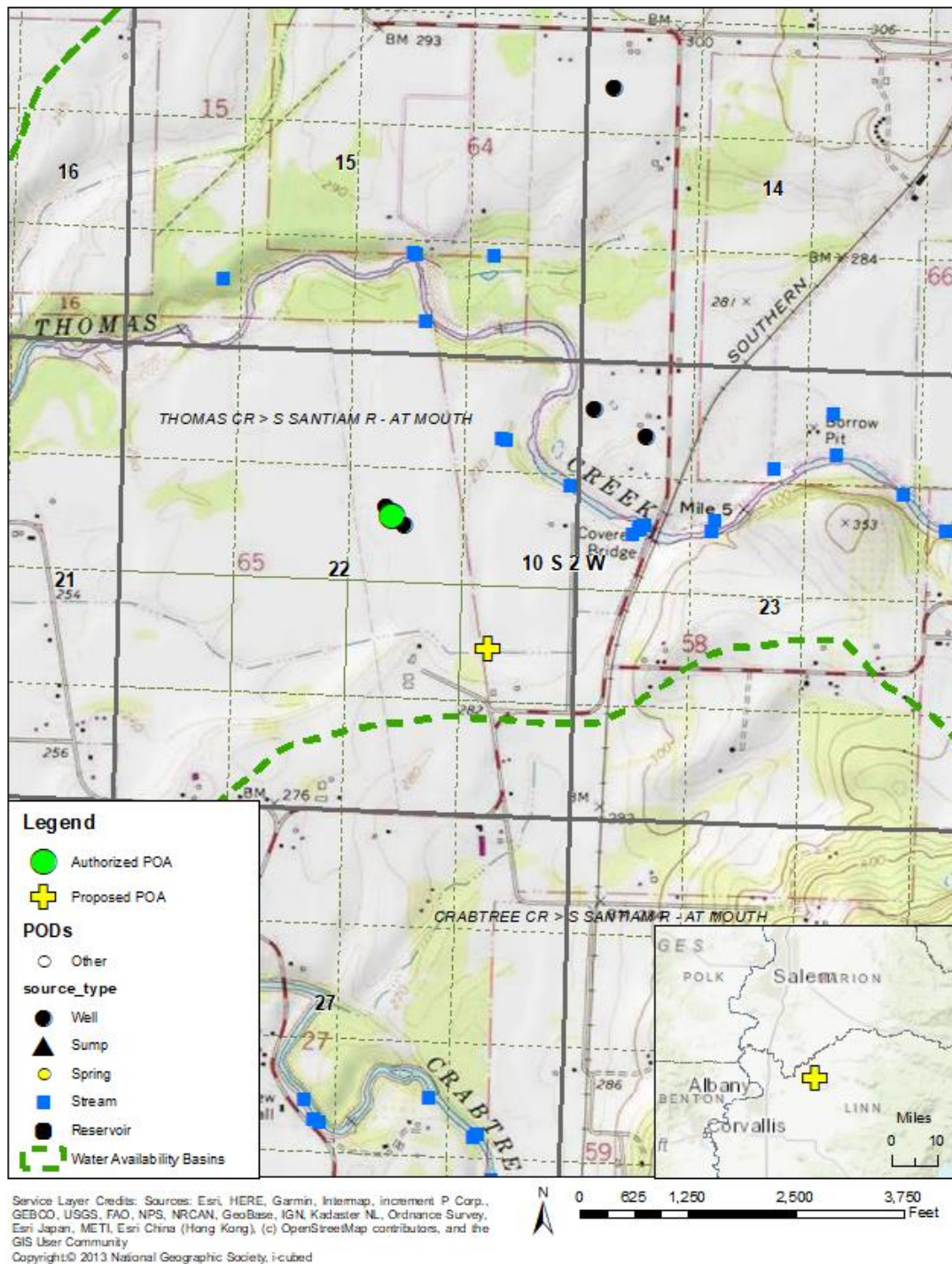
Conlon et al., 2005, Ground-Water Hydrology of the Willamette Basin, Oregon, Scientific Report 2005-5168, USGS.

Woodward et al., 1998, Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washinton, USGS Professional Paper 1424-B.

Mcfarland, W.D., Morgan, D.S., 1996 Description of the ground-water flow system in the Portland Basin, Oregon and Washington, USGS Water Supply Paper 2470-A.

Well Location Map

T-14332



Theis Interference Analysis

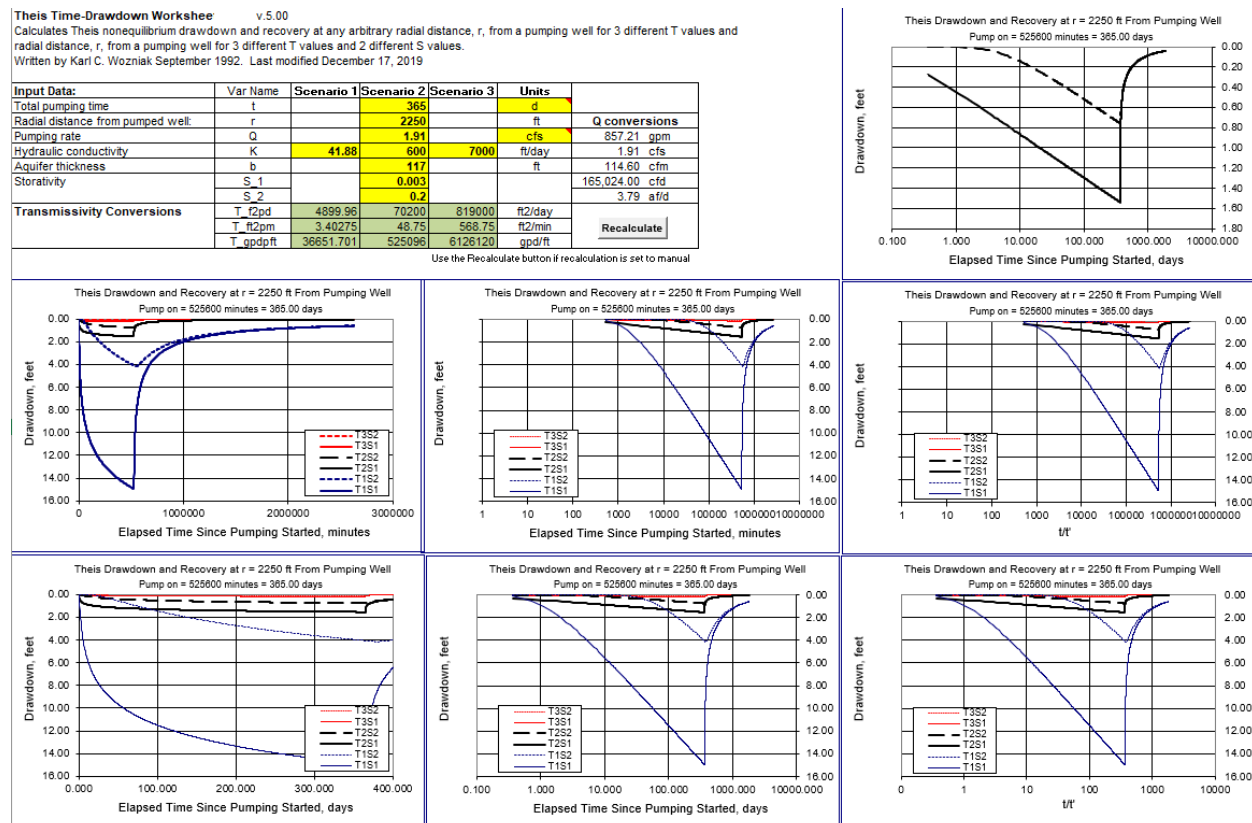
Hydraulic Conductivity: Values ranged from 41.88 ft/day (LINN 4404 pump test, assuming 117-foot aquifer thickness) to 7,000 ft/day (McFarland and Morgan, 1996). The final estimate of 600 ft/day for model calibration in Woodward et al., 1998 was used for scenario 2.

Storativity: 0.003 to 0.2 (McFarland and Morgan, 1996; Conlon et al., 2005, Table 1).

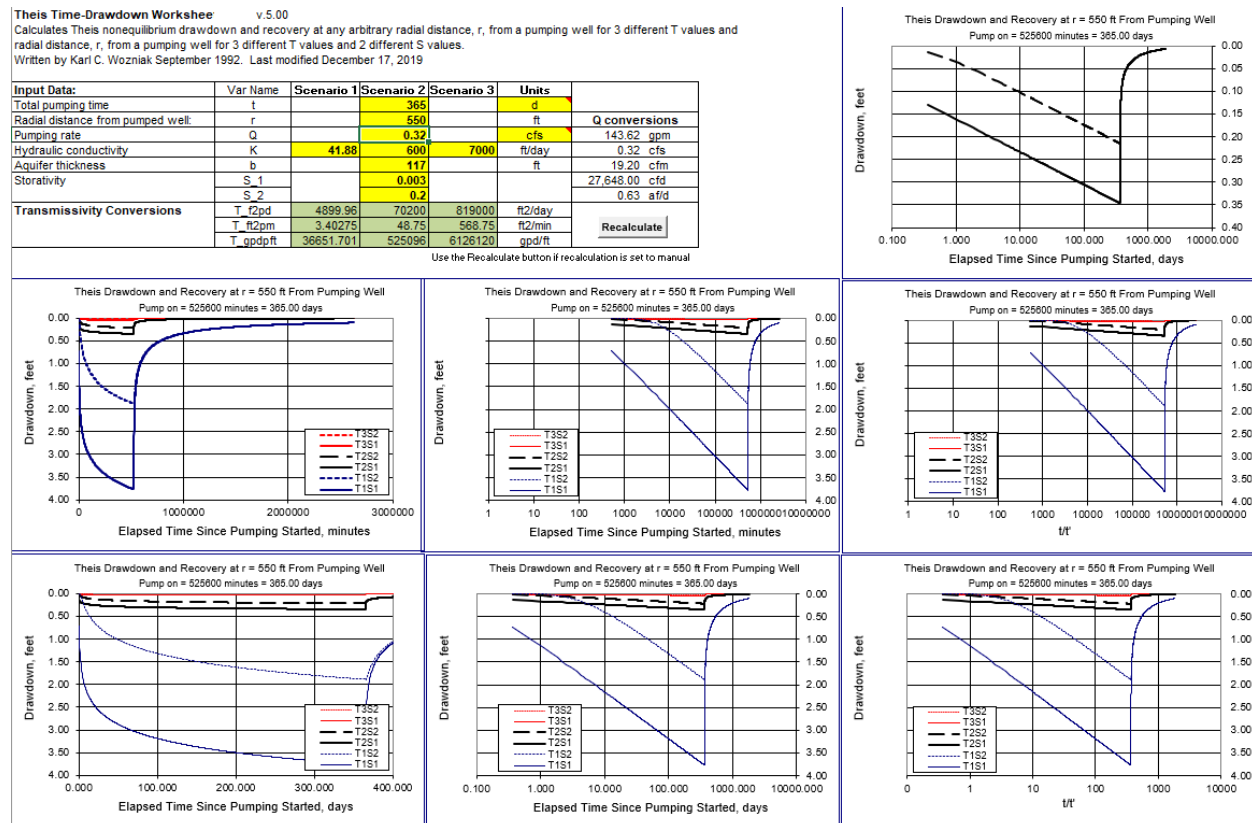
Time: 365 days.

Rate: 0.32 cfs (ratio of rate based on acreage transferred) for the To-POA and 1.91 cfs (0.78 cfs remaining from Certificate 54436 + 1.13 cfs covered by Certificate 37315) for the From-POA

Distance: 550 feet from the To-POA to LINN 64070, 2250 feet from the From-POA to LINN 64070.

From-POA Maximum Remaining Rate (Certificate 54436 and Certificate 37315)

To-POA Transferred Rate



From-POA original maximum rate

