

Groundwater Transfer Review Summary Form

Transfer/PA # T- 14557 (RA)

GW Reviewer Aaron Orr Date Review Completed: 1/9/2024

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-14557

Applicant Name: Joseph Cox & Hilary Rich

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

Reviewer(s): Aaron Orr

Date of Review: 1/9/2024

Date Returned to WRSD: 1/9/2024

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 wells under the current water right are located on neighbor's property with a temporary access agreement. Applicant seeks to install new wells on their own property to access their portion of the water right. The authorized POAs are MARI 3959 and MARI 69450. Of the 306.1 acres authorized for irrigation, the applicant seeks to move 18 acres to the proposed Hilary/Thomas Well, and 9.2 acres to the new Joseph Cox Well. As per Certificate 97087, irrigation is rate-limited to 1/80th of one CFS per acre, and a total volume of 2.5 acre-feet per acre irrigated. Under the proposed changes to Certificate 97087, the maximum rates and duties for the proposed POAs are as follows:

Hilary/Thomas Well: 0.225 CFS and 45 acre-feet

Joseph Cox Well: 0.115 CFS and 23 acre-feet

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
 Yes No Comments: _____
3. a) Is the existing authorized POA subject to a water level decline condition?
 Yes No Comments: Certificate 97087, Measurement Conditions (B)
- 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:

MARI 3959 (Well 1) Reference level: 141.50 feet amsl (3/8/2008); most recent water level: 140.43 feet amsl (3/1/2011)

MARI 69450 (Well 2) Reference level: 137.66 feet amsl (3/11/2022); most recent water level: 137.66 feet amsl (3/11/2022)

No applicable permit decline condition has been exceeded.

The reference level for the proposed Hilary/Thomas Well is 139.81 feet amsl.

The reference level for the proposed Joseph Cox well is 140.20 feet amsl.

4. 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

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 proposed Hilary/Thomas well is ~1,100 feet from MARI 50132, and the proposed Joseph Cox well is ~1,650 feet from MARI 3232. These distances are 1,600 and 2,100 feet closer than the authorized POA Well 2 (MARI 69450) is to each of these existing wells, respectively. The closer proximity of the proposed POAs will likely increase interference with MARI 50132 and MARI 3232.

- 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: Under the proposed changes, the combined drawdown resulting from pumping at the maximum allowable rate from both proposed POAs would be less than 3 feet at either of the existing wells (MARI 50132 and MARI 3232). Given the thickness and high transmissivity of the Willamette aquifer in this area, the anticipated interference is not likely to cause injury to MARI 50132 or MARI 3232, or similarly-located neighboring water rights. 3 feet of drawdown is the maximum interference calculated using the most conservative hydraulic parameters. More details are listed in the **Theis Interference Analysis** section.

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 source aquifer is confined; no significant increase with another surface water source is expected.

- 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: _____

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: N/A

8. What conditions or other changes in the application are necessary to address any potential issues identified above: N/A
9. Any additional comments: N/A

References

Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and Hinkle, S.R., 2005, Ground-water hydrology of the Willamette Basin, Oregon, Scientific Investigations Report 2005-5168: U. S. Geological Survey, Reston, VA.

Well Location Map

Application T-14557



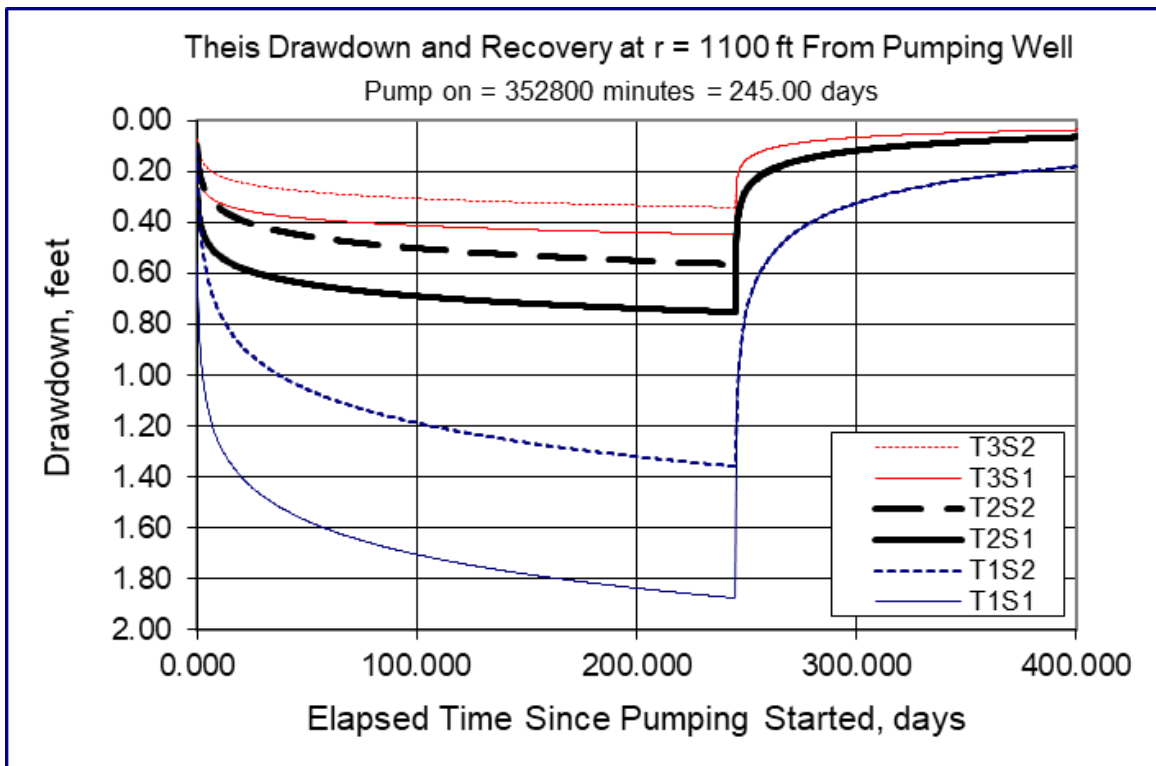
This Interference Analysis

Hydraulic Conductivity: Values ranged from 36 ft/day (MARI 50132 aquifer test) to 175 ft/day (MARI 3061 aquifer test), which are within the range of hydraulic conductivities for the Middle and Lower Sedimentary Units of the Willamette Aquifer (Conlon et al., 2005). The final transmissivity estimates were calculated by multiplying the lower, average, and upper values for hydraulic conductivity by the estimated saturated aquifer thickness of the proposed wells (225 feet).

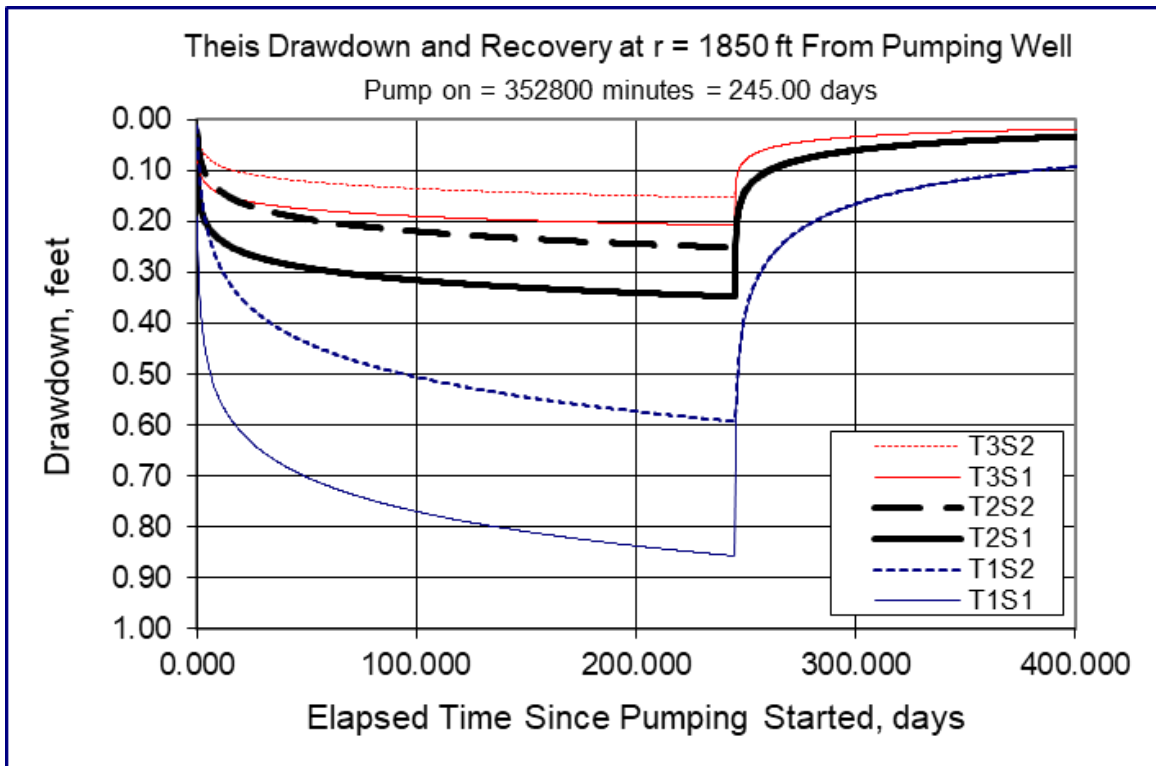
Storativity: 0.0002 to 0.003 (Conlon et al., 2005, Table 1).

Rate: (1) 0.225 cfs (Hilary/Thomas Well); (2) 0.115 cfs (Joseph Cox Well)

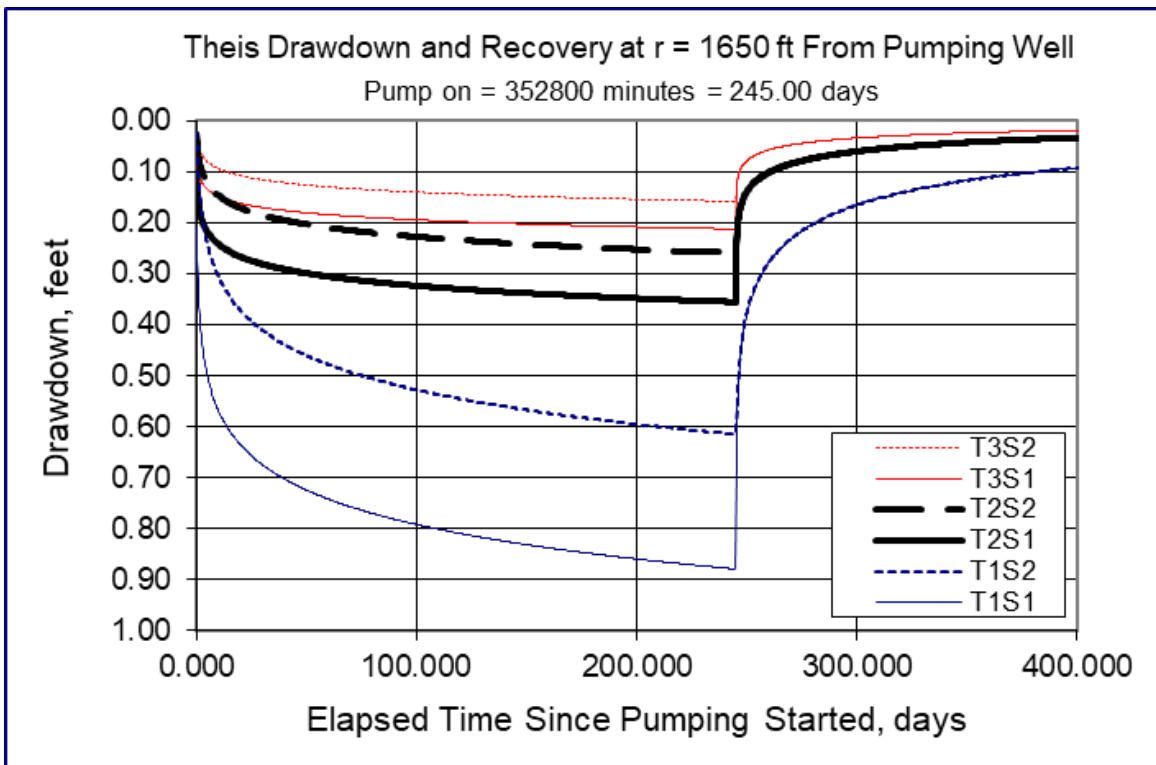
Distance: Distances between the proposed POAs and nearest wells with a water right are listed in each graph below.



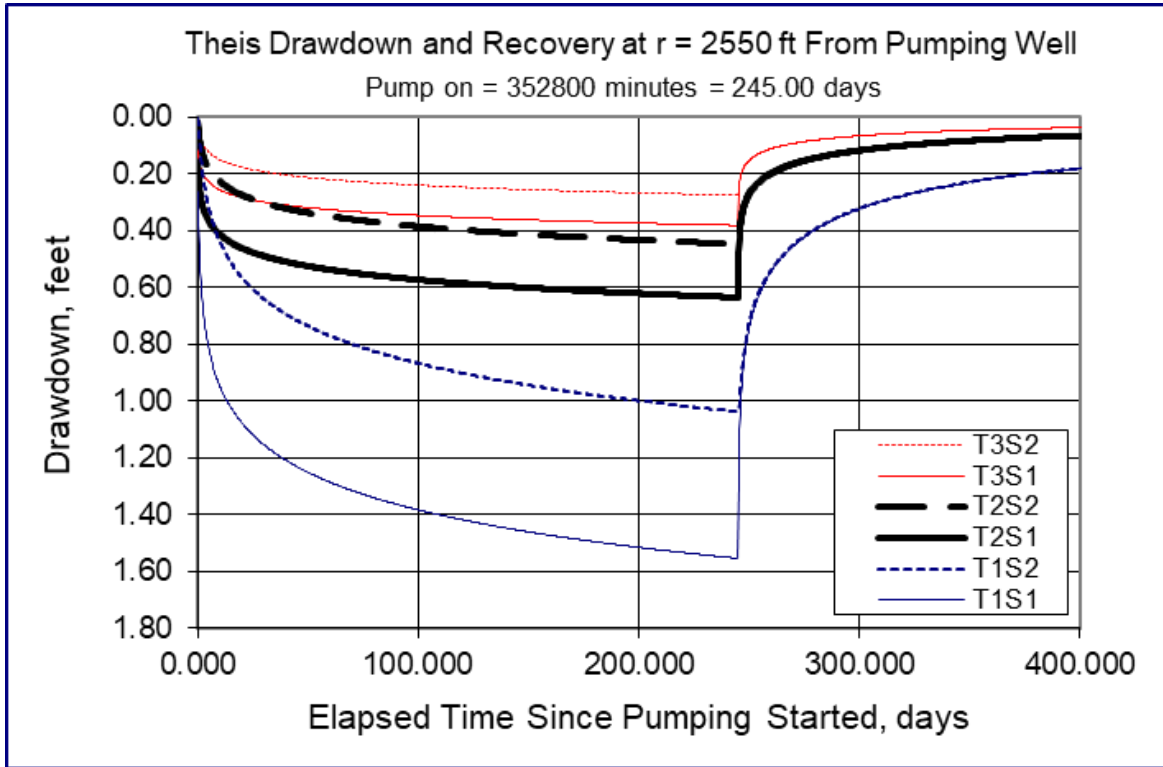
Estimated time-drawdown at MARI 50132 when pumping Hilary/Thomas Well at 0.225 CFS



Estimated time-drawdown at MARI 50132 when pumping Joseph Cox Well at 0.115 CFS



Estimated time-drawdown at MARI 3232 when pumping Joseph Cox Well at 0.115 CFS



Estimated time-drawdown at MARI 3232 when pumping Hilary/Thomas Well at 0.225 CFS