

# Groundwater Transfer Review Summary Form

Transfer/PA # T- 14676

GW Reviewer Steve Ahlquist Date Review Completed: 9/24/2025

## 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-14676

Applicant Name: Jeffrey and Beth Kreder Trust

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

Reviewer(s): Steve Ahlquist

Date of Review: 9/24/2025

Date Returned to WRSD: 9/30/2025

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: The applicant proposes to add an APOA to claim GR-851 which currently authorizes primary irrigation of 12.3 acres at a maximum rate of 0.557 cfs from one POA (LINN 4329/Well 3).
2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?  
 Yes     No    Comments: The authorized POA and proposed APOA will obtain water from sands and gravels of the Willamette alluvial aquifer system.
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:  
       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 APOA is closer than the authorized POA to LINN 4337 which is an authorized POA for claim GR-437. LINN 4337 is approximately 1,685 feet from the authorized POA (LINN 4329) and approximately 1,260 feet from the proposed APOA. The reduced intervening distance will likely result in an increase in interference.
- 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: To assess potential injury at LINN 4337 due to the proposed change, drawdown was estimated using the Theis (1935) solution (see attached Theis drawdown analysis). Results indicate that the proposed use would likely result in less than 1 foot of drawdown at LINN 4337 which would not result in substantial or undue interference.
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 proposed APOA is approximately 275 feet from Mill Creek whereas the authorized POA is approximately 740 feet from Mill Creek. The reduced distance from the creek will likely result in an increase in streamflow depletion.
- 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: Mill Creek    Minimal    Significant  
Stream: \_\_\_\_\_    Minimal    Significant  
Provide context for minimal/significant impact: The Hunt (1999) analytical model for stream depletion from pumping in an unconfined aquifer was used to estimate and compare potential impacts to Mill Creek from the currently authorized use at LINN 4329 and the proposed use at Well A. Model results indicate that, after 245 days of continuous pumping, streamflow depletion would increase by approximately 5% of the average pumping rate due to the proposed change.  
Assuming the full water duty authorized under GR-851 (30.75 acre-feet) is pumped over a 245-day irrigation season, the average withdrawal rate would be 0.064 cfs. Therefore, the proposed change would result in an additional depletion of only 0.0032 cfs to Mill Creek by the end of the irrigation season. This indicates that the proposed change would cause only a minimal increase in streamflow depletion to Mill Creek.
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: NA
8. What conditions or other changes in the application are necessary to address any potential issues identified above: NA
9. Any additional comments: \_\_\_\_\_

**References:**

Application File: T-14676

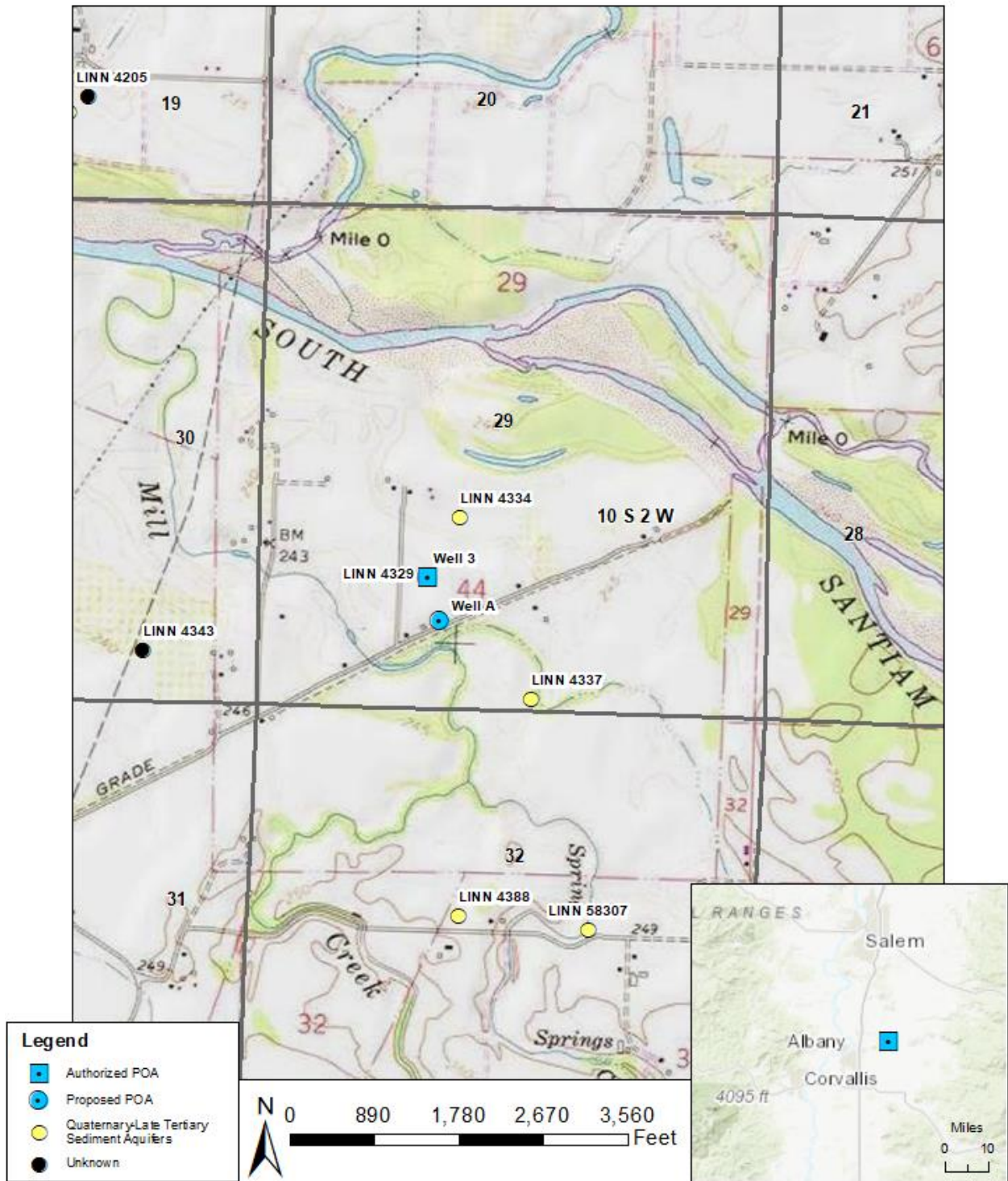
Claim File: GR-851, GR-437

Gannett and Caldwell, 1998, Geologic framework of the Willamette lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-A.

Hunt, B., 1999, Unsteady stream depletion from ground water pumping: Ground Water, V. 37, no. 1, p. 98-102.

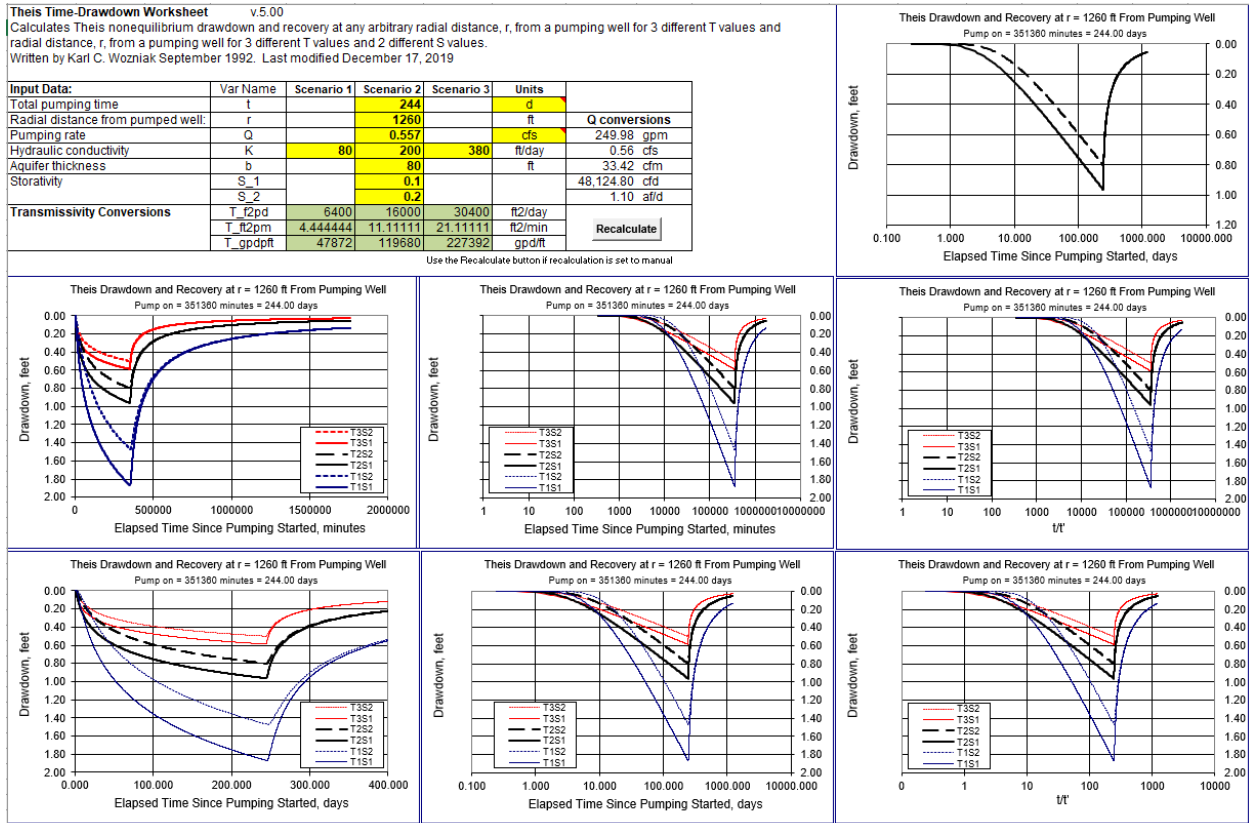
Well Location Map

T14676 Kreder Trust



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**This Interference Analysis – Proposed APOA (Well A) to LINN 4337**



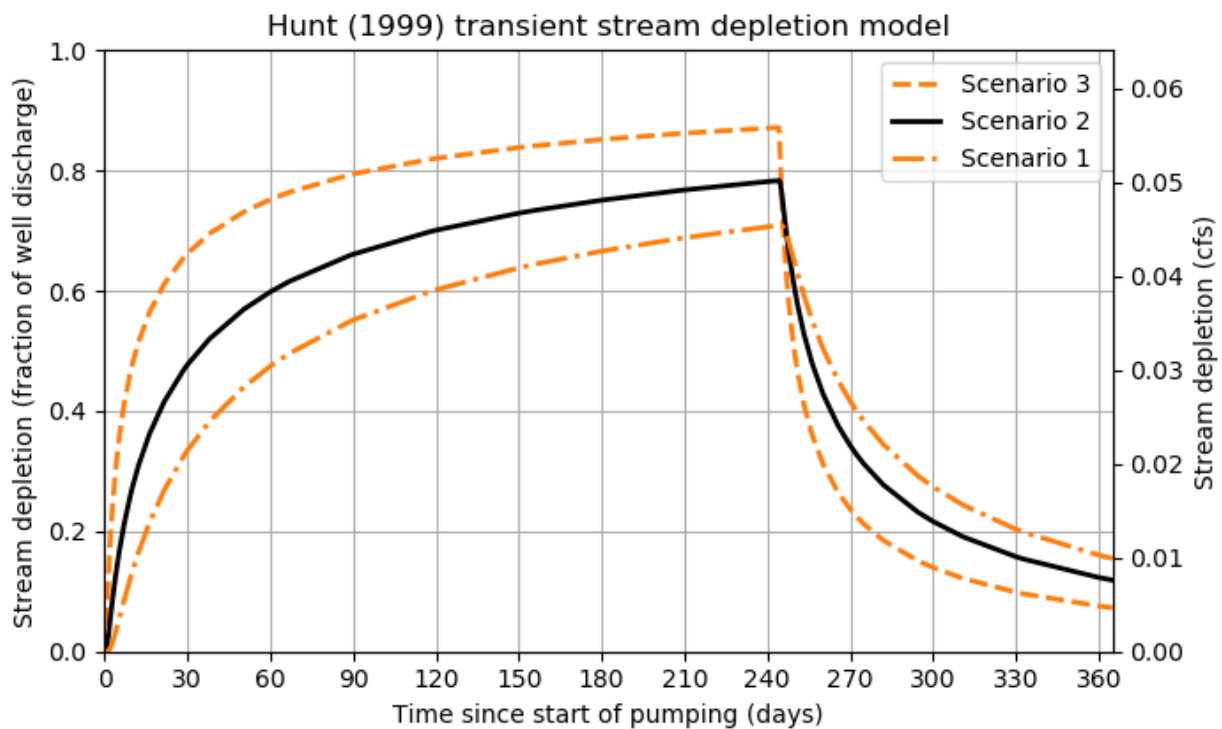
**Hunt 1999 Stream Depletion Model Results - Well 3/LINN 4329 with Mill Creek**

Application type:	T
Application number:	14676
Well number:	3
Stream Number:	1
Pumping rate (cfs):	0.064
Pumping duration (days):	244.0
Pumping start month number (3=March)	3.0
Plotting duration (days)	365

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	740	740	740	ft
Aquifer transmissivity	T	6400	16000	30400	ft <sup>2</sup> /day
Aquifer storativity	S	0.2	0.15	0.1	-
Aquitard vertical hydraulic conductivity	Kva	1	1	1	ft/day
Not used		10.0	20.0	30.0	
Aquitard thickness below stream	babs	3	2	1	ft
Not used		0.2	0.2	0.2	
Stream width	ws	50	50	50	ft

Stream depletion for Scenario 2:

Days	10	30	60	90	120	150	180	210	240	270	300	330	360
Depletion (%)	27	16	12	48	60	66	70	73	75	77	78	34	22
Depletion (cfs)	0.02	0.01	0.01	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.02	0.01



**Hunt 1999 Stream Depletion Model Results –Well A with Mill Creek**

Application type:	T
Application number:	14676
Well number:	A
Stream Number:	1
Pumping rate (cfs):	0.064
Pumping duration (days):	244.0
Pumping start month number (3=March)	3.0
Plotting duration (days)	365

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	275	275	275	ft
Aquifer transmissivity	T	6400	16000	30400	ft <sup>2</sup> /day
Aquifer storativity	S	0.2	0.15	0.1	-
Aquitard vertical hydraulic conductivity	Kva	1	1	1	ft/day
Not used		10.0	20.0	30.0	
Aquitard thickness below stream	babs	3	2	1	ft
Not used		0.2	0.2	0.2	
Stream width	ws	50	50	50	ft

Stream depletion for Scenario 2:

Days	10	330	360	30	60	90	120	150	180	210	240	270	300
Depletion (%)	41	12	10	59	69	74	77	79	81	82	83	27	17
Depletion (cfs)	0.03	0.01	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.01

