

Groundwater Transfer Review Summary Form

Transfer/PA # T- 14351

GW Reviewer James Hootsmans Date Review Completed: 6/17/2024

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-14351

Applicant Name: Brazelton

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

Reviewer(s): James Hootsmans

Date of Review: 6/17/2024

Date Returned to WRSD: 6/18/2024

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 complete a surface water (SW) to groundwater (GW) transfer from a Point of Diversion (POD) on the McKenzie River to up to 4 points of appropriation (POA) adjacent to the river on both Certificates 75779 and 86849. Since this is a SW-GW transfer, OAR 690-380-2130 rules apply. The four To-POA are displayed as PROP 484 through 487.
 2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
 Yes No Comments: The existing SW POD is pumping from the McKenzie River and the proposed well construction of the 4 proposed To-POA all target the alluvium adjacent to the river.
 3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
 Yes No All To-POA will develop in the alluvium (O’Conner et al. 2001). All To-POA will be hydraulically connected to McKenzie River.
 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 proposed POA in this SW-GW transfer are within 500 feet of the McKenzie River and would be all hydraulically connected to the river, and therefore, it is unlikely that there will be any injury to other groundwater rights.

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:

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: NA – SW to GW transfer

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: _____

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: All proposed To-POA will be constructed in unconfined alluvium in the McKenzie River alluvial floodplain, which is bounded by basalt flows to the north and south. Using Jenkins stream depletion model, and the distance of the POAs in relation to the river, the proposed To-POAs would affect the surface water similarly to the authorized POD (See stream depletion figures below).

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

8. Any additional comments: _____

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.

Freeze, R.A. and Cherry, J.A., 1979, Groundwater, Prentice Hall, Englewood Cliffs, New Jersey, 604 p.

Gannett, M.W. and Caldwell, R., 1998, Geologic framework of the Willamette Lowland aquifer system, Oregon and Washington, Professional Paper 1424-A, 32 p: U. S. Geological Survey, Reston, VA.

Jenkins, C.T., 1968. Techniques for computing rate and volume of stream depletion by wells, Ground Water, vol. 6, no. 2, pp. 37-46.

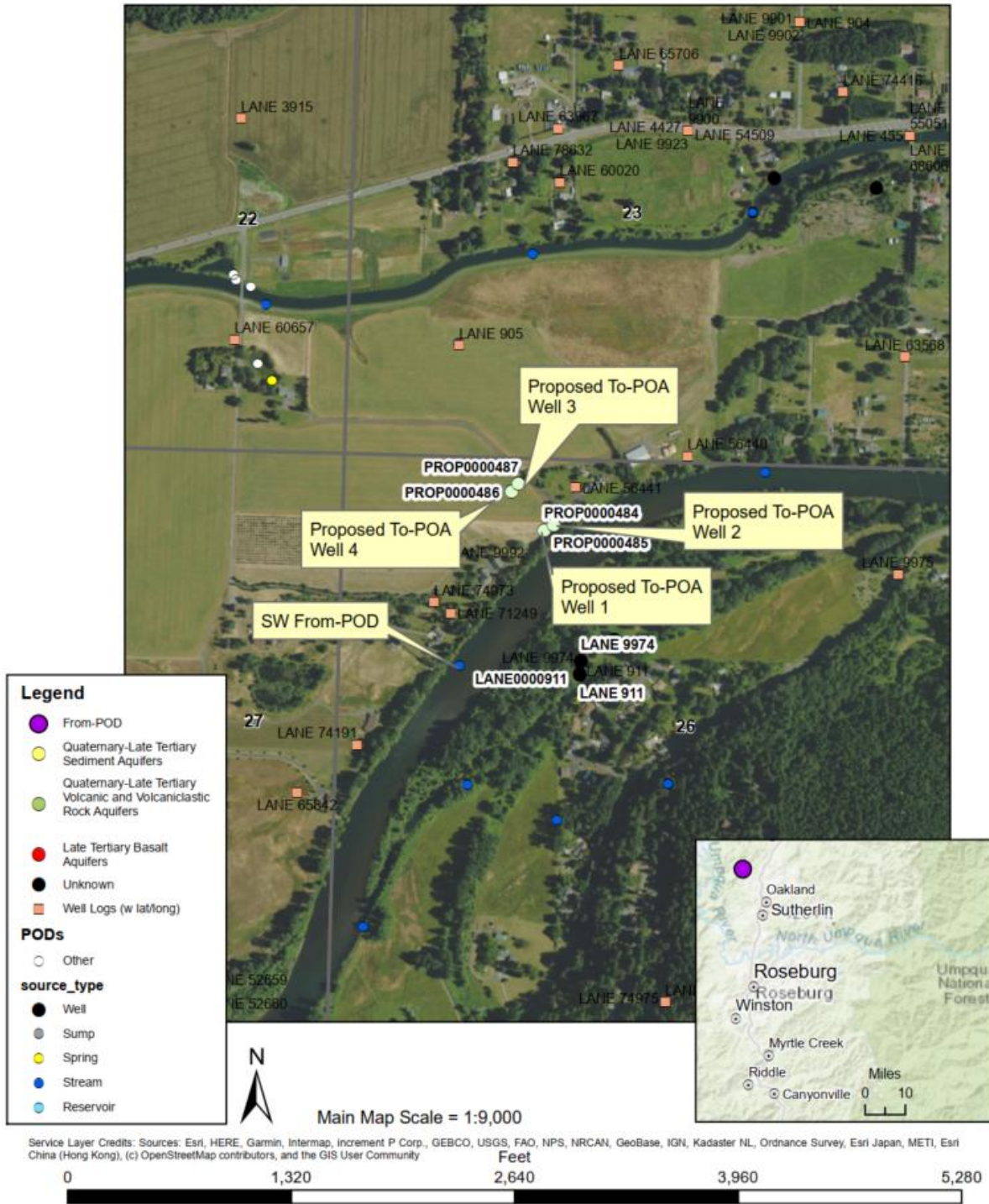
Lohman, S.W., 1972. Ground-water hydraulics, U.S. Geological Survey Prof. Paper 708, 70p.

O'Connor, J.E., Sarna-Wojcick, A., Wozniak, K.C., Polette, D.J., Fleck, R.J., 2001, Origin, Extent, and Thickness of Quaternary Geologic Units in the Willamette Valley, Oregon; U.S. Geological Survey, Professional Paper 1620, 51 p.

Woodward, D.G., Gannett, M.W., and Vaccaro, J.J., 1998, Hydrogeologic framework of the Willamette Lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-B, 82 p.

Location Map

T-14351 Brazelton SW to GW



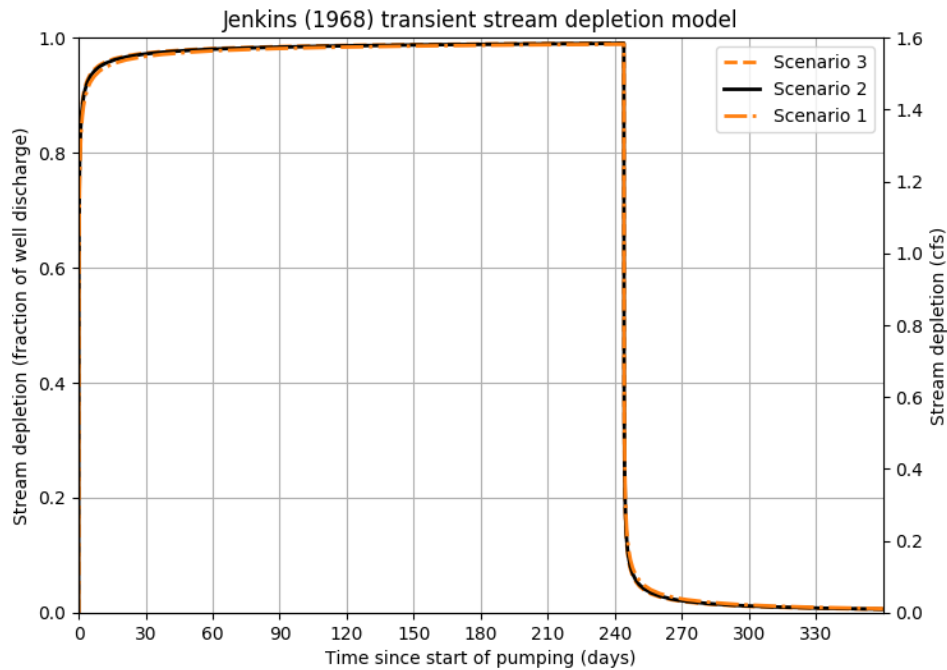
Stream Depletion from To-POA 1 and 2

Application type:	T
Application number:	14351
Well number:	1
Stream Number:	1
Pumping rate (cfs):	1.6
Pumping duration (days):	244.0
Pumping start month number (3=March)	3.0

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	100.0	100.0	100.0	ft
Aquifer transmissivity	T	10000.0	20000.0	30000.0	ft ² /day
Aquifer storativity	S	0.1	0.15	0.2	-
Not used		1.0	1.0	1.0	
Not used		90.0	90.0	90.0	
Not used		3.0	3.0	3.0	
Not used		0.2	0.2	0.2	
Not used		200.0	200.0	200.0	

Stream depletion for Scenario 2:

Days	10	330	360	30	60	90	120	150	180	210	240	270	300
Depletion (%)	95	1	1	97	98	98	99	99	99	99	99	2	1
Depletion (cfs)	1.52	0.01	0.01	1.55	1.57	1.57	1.58	1.58	1.58	1.58	1.58	0.03	0.02



Stream Depletion from To-POA 3 and 4

Application type:	T
Application number:	14351
Well number:	3
Stream Number:	1
Pumping rate (cfs):	1.6
Pumping duration (days):	244.0
Pumping start month number (3=March)	3.0

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	500.0	500.0	500.0	ft
Aquifer transmissivity	T	10000.0	20000.0	30000.0	ft ² /day
Aquifer storativity	S	0.1	0.15	0.2	-
Not used		1.0	1.0	1.0	
Not used		90.0	90.0	90.0	
Not used		3.0	3.0	3.0	
Not used		0.2	0.2	0.2	
Not used		200.0	200.0	200.0	

Stream depletion for Scenario 2:

Days	10	330	360	30	60	90	120	150	180	210	240	270	300
Depletion (%)	76	4	3	86	90	92	93	94	94	95	95	10	6
Depletion (cfs)	1.22	0.07	0.05	1.38	1.44	1.47	1.49	1.50	1.51	1.51	1.52	0.17	0.09

