Groundwater Transfer Review Summary Form

Transfer/PA # T- _14739_

GW Reviewer _Stacey Garrison_ Date Review Completed: _12/12/2025_

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-14739 Applicant Name: Bruce Ernst

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

Reviewer(s): Stacey Garrison Date of Review: 12/12/2025

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 3/13/26

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 add POA 4/Well 5 (**MARI 71683**) to **Certificate 98014** for irrigation of 60.7 ac*. **Certificate 98014** authorizes POA 1/Well 1 (**MARI 1065**) at a maximum rate of 0.095 cfs and a maximum annual duty of 19 AF for irrigation of 7.6 ac, and POA 2/Well 2 (**MARI 51725)** and POA 3/Well 3 (**MARI 68592**) at maximum rates of 0.42 cfs and a maximum annual volume of 151.75 AF for irrigation of 60.7 ac; the maximum combined rate of all POAs is not to exceed 0.42 cfs. Applicant proposes to irrigate the 60.7 ac* portion irrigated by Wells 2 and 3; therefore, the applicable rate for POA 4/Well 5 (**MARI 71683**) should be 0.42 cfs authorized for Wells 3 and 4. POA 4/Well 5 (**MARI 71683**) is also authorized under **Inchoate T-14189** for nursery use on 90.3 ac at 1.50 cfs and 451.5 AF. The full, combined rate and duty for POA 4/Well 5 (**MARI 71683**) is shown in the table below and used in this review.

Rates and Duties		POA 4/Well 5 (MARI 71683)
POU (ac)	This transfer, T-14739/Certificate 98014	60.7 ac
	Inchoate T-14189	90.3 ac
	Total	151 ac
Authorized duty (AF/year)	This transfer, T-14739/Certificate 98014	151.75 AF
	Inchoate T-14189	451.5 AF
	Total	603.25 AF
Flow rate CFS (gpm)	This transfer, T-14739/Certificate 98014	0.42 cfs (188.5 gpm)
	Inchoate T-14189	1.5 cfs (673 gpm)
	Total	1.92 cfs (861.7 gpm)

*Table 2 of application only lists Well 5 for 60.7 ac of the POU, but notes APOA change for all 68.3 ac. For this review, it is assumed the applicant only intends to add APOA Well 5/POA 4 (MARI 71683) to the 60.7 ac portion of the POU.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
☒ Yes ☐ No Comments: The authorized POAs and the proposed APOA all utilize 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: Only the alluvial source is developed.

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 proposed APOA, POA 4/Well 5 (**MARI 71683**), is closer than the authorized POAs to neighboring well **MARI 1139**, which is an authorized POA under **Certificate 42424.** The closer proximity of the proposed APOA to **MARI 1139** will likely result in an increase in interference with **MARI 1139**.

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: The proposed APOA, POA 4/Well 5 (**MARI 71683**) is approximately 2,160 ft northwest of MARI 1139. The Theis (1935) solution for drawdown in a confined aquifer was used to assess the potential for injury to MARI 1139 from the proposed changes (see attached Theis Interference and Injury Analysis). Results indicate the proposed change is unlikely to result in MARI 1139 no receiving the water to which it is legally entitled.

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, POA 4/Well 5 (**MARI 71683**) is closer to Mission Creek than the authorized POAs. Mission Creek is hydraulically connected to the alluvial aquifer system tapped by the authorized POAs and the APOA. Therefore, the closer proximity of the proposed APOA will likely increase interference with Mission 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: Mission Creek ☒ Minimal ☐ Significant

   Provide context for minimal/significant impact: Mission Creek is underlain by a substantial thickness of fine-grained sediments, which will diffuse surface water impacts due to groundwater pumping over a broad area and long span of time. Additionally, the vast majority of stream depletion due to groundwater pumping in this are will accrue to the Willamette River to the north and west as a result of that river's highly efficient hydraulic connection with the Willamette Alluvial Aquifer system (Herrera et al., 2014).

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 File: T-14739, T-14189, T-14049

Certificates: 98014, 38363, 42424, 96789

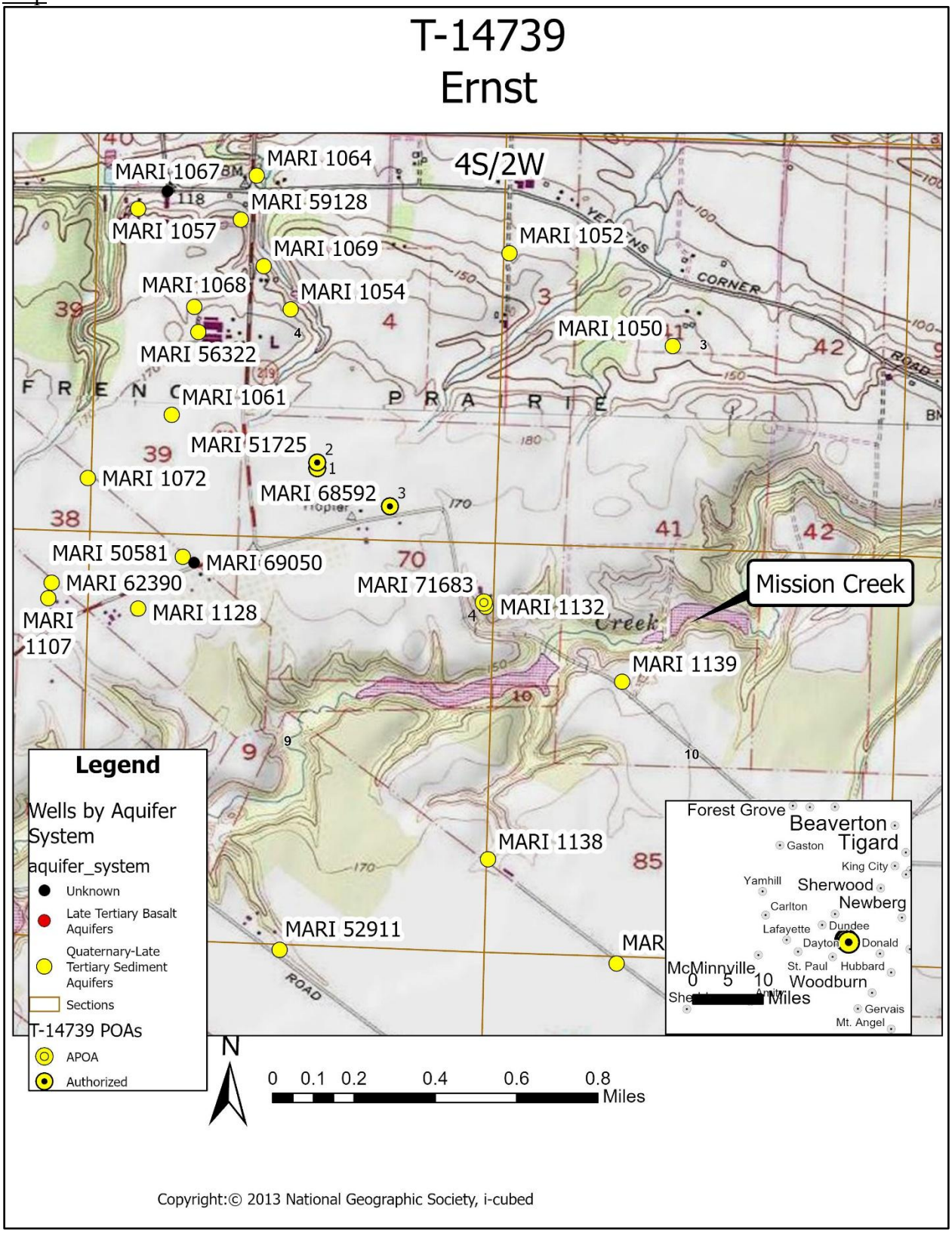
Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and Hinkle, S.R., 2005, Ground-water hydrology of the Willamette Basin, Oregon, Scientific Investigations Report 2005-5168: U. S. Geological Survey, Reston, VA.

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.

Herrera, N. B., Burns, E. R., Conlon, T. D., 2014, Simulation of groundwater flow and the interaction of groundwater and surface water in the Willamette Basin and Central Willamette Subbasin, Oregon, Scientific Investigations Report 2014-5136: U. S. Geological Survey, Reston, VA.

Theis, C.V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage, American Geophysical Union Transactions, vol. 16, p. 519-524.

Map


T-14739
Ernst
4S/2W
MARI 1067
MARI 1064
MARI 59128
MARI 1057
MARI 1052
MARI 1069
MARI 1068
MARI 1054
MARI 1050
MARI 56322
MARI 1061
MARI 51725
MARI 1072
MARI 68592
MARI 50581
MARI 69050
MARI 62390
MARI 71683
MARI 1132
MARI 1128
MARI 1107
MARI 1139
MARI 1138
MARI 52911
Mission Creek
FRENCH PRAIRIE
Legend
Wells by Aquifer System
aquifer_system
Unknown
Late Tertiary Basalt Aquifers
Quaternary-Late Tertiary Sediment Aquifers
Sections
T-14739 POAs
APOA
Authorized
N
0 0.1 0.2 0.4 0.6 0.8 Miles
Forest Grove
Beaverton
Tigard
Gaston
King City
Yamhill
Sherwood
Carlton
Newberg
Lafayette
Dundee
Dayton
Donald
McMinnville
St. Paul
Hubbard
Woodburn
0 5 10 Miles
Gervais
Mt. Angel
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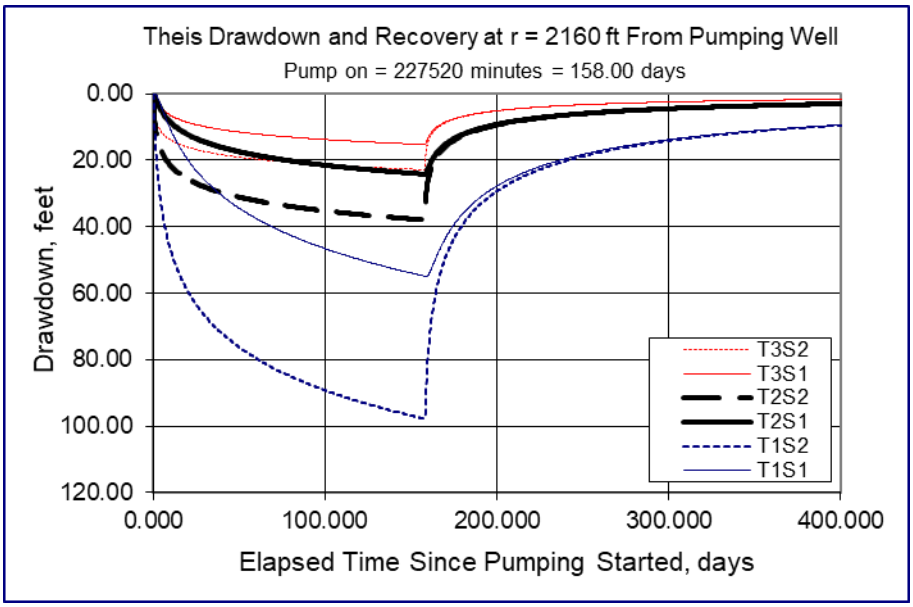
Theis Interference and Injury Analysis: POA 4/Well 5 (**MARI 71683**)-MARI 1139



Radius, r=2,160 ft [approximate distance from Well 5 to MARI 1139]

Pumping time, t=158 days [approximate time to exhaust combined duty at max combined rate]

Pumping rate, Q=1.92 cfs [max combined rate]

Transmissivity: T1=700 ft2/day, T2=2,200 ft2/day, T3=4,000 ft2/day [Pumping Test Reports]

Storativity: S1=0.003, S2=0.0003 [Conlon et al., 2005]

SWL	72.91	ft bls	MARI 1139, USGS measurement 7/31/1991
Aquifer Bottom	368	ft bls	Gannett & Caldwell 1998
Available Water Column	295.09	ft	Aquifer Bottom - SWL
Pump Height Above Bottom	5	ft	Estimate
NPSHa	5	ft	Estimate
Drawdown	92	ft	Pump test data + authorized rate under Certificate 42424
Minimum Water Column	102	ft	Estimated Drawdown + NPSHa + Pump Height
Injury	193	ft	Available Water Column-Minimum Water Column