Groundwater Transfer Review Summary Form

Transfer/PA # T- _ 14515_

GW Reviewer _Travis Brown_ **Date Review Completed:** _12/10/2024_

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.

Ground Water Review Form:

Oregon Water Resources Department
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Salem, Oregon 97301-1271
(503) 986-0900
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☒ **Water Right Transfer**

☐ **Permit Amendment**

☐ **GR Modification**

☐ **Other**

Application: T-<u>14515</u>   Applicant Name: <u>Walkdale Farms, LLC</u>

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

Reviewer(s):   <u>Travis Brown</u>   Date of Review: <u>12/10/2024</u>

Date Reviewed by GW Mgr. and Returned to WRSD: <u>JTI 6/4/25</u>

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: <u>Applicant proposes to add two APOA, "Well 2" (NLOG 58021) and "Well 3" (POLK 1267), to Certificate 97529 as well as modifying the Character of Use and the Place of Use. Certificate 97529 was the result of Transfer T-10935, which changed the Character of Use and Place of Use for original Certificate 45798. Certificate 97529 currently authorizes Quasi-Municipal use at a maximum rate of 0.33 cfs and total annual volume of 208.25 AF. The change proposed under T-14515 would allow Irrigation use on 83.3 acres at a maximum rate of 0.33 cfs from 3 total POA – the original authorized POA, "Well 1" (POLK 1264/1234/52994), plus the two proposed APOA, "Well 2" (NLOG 58021) and "Well 3" (POLK 1267).</u>

2.   Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
     ☒ Yes   ☐ No   Comments: <u>The authorized POA, "Well 1" (POLK 1264/1234/52994) is completed in both Quaternary alluvial terrace deposits (~0-118 ft bls) and deeper Eocene-Oligocene volcaniclastic marine sedimentary bedrock interbedded with Siletz River Volcanics (~118-150 ft bls). The proposed APOA are both completed in bedrock associated with Eocene-Oligocene volcaniclastic marine sedimentary rocks interbedded with Siletz River Volcanics (Brownfield and Schlicker, 1981).</u>

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: N/A

4.   a) Is there more than one source developed under the right (e.g., basalt and alluvium)?

☒ Yes   ☐ No   Comments: The authorized POA, "Well 1" (POLK 1264/1234/52994) is completed in both Quaternary alluvial terrace deposits (~0-118 ft bls) and deeper Eocene-Oligocene volcaniclastic marine sedimentary bedrock interbedded with Siletz River Volcanics (~118-150 ft bls) (Brownfield and Schlicker, 1981). The well deepening into the Eocene-Oligocene bedrock (POLK 1234) in October 1968 pre-dated the Well Construction Standard (OAR 690-200 and -210) which would prohibit well construction that commingles multiple aquifers. However, the alteration (POLK 52994) occurred in September 2009, when the Well Construction Standards were in effect, and included modification of the surficial seal (over-drilled and re-sealed to 28 ft bls). Regardless, the subject Certificate 97529 does not limit the source to only the alluvial aquifer and the original Permit G-5655 claims a total depth of 200 ft for the authorized well, "Well 1." Therefore, both the Quaternary alluvial terrace deposits and the deeper Eocene-Oligocene bedrock have been developed under the subject Certificate 97529.

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.): Based on the available information, it is not possible to differentiate the proportion of groundwater pumped from Well 1 (POLK 1264/1234/52994) derived from the alluvial aquifer system vs the bedrock aquifer system.

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 are both significantly closer than the authorized POA to neighboring well POLK 1269, sole POA on Claim GR-3313. The closer proximity of the APOA to POLK 1269 will increase interference with POLK 1269.

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: Proposed APOA "Well 3" is ~700 ft northeast of POLK 1269 and is the closest of the proposed APOA wells. Interference with POLK 1269 was analyzed using the Theis (1935) solution for drawdown in a confined aquifer (see attached Well-to-Well Interference Analysis). **Results of the analysis indicate the proposed change will likely result in injury to POLK 1269.** This finding could be overcome by conducting a multi-well aquifer test demonstrating that the level of interference with POLK 1269 will be less than the threshold for injury. Alternatively, the applicant could lower the requested rate for Wells 2 and 3 to less than 0.08 cfs combined, in which case, injury to POLK 1269 would not be likely.

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 are further than the authorized POA from the nearest hydraulically connected surface water (Spring Valley Creek). Thus, interference with surface water is not likely to increase due to the proposed change.

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

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: <u>N/A</u>

8. What conditions or other changes in the application are necessary to address any potential issues identified above: <u>None</u>

9. Any additional comments: <u>   </u>

References

Pumping Test Reports: POLK 1079, 52285; YAMH 7053, 7067

Brownfield, M.E., and Schlicker, H.G., 1981, Preliminary geologic map of the McMinnville and Dayton Quadrangles, Oregon [map, 1:24,000, Open File Report O-81-6, Oregon Department of Geology and Mineral Industries, Portland, OR.

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.
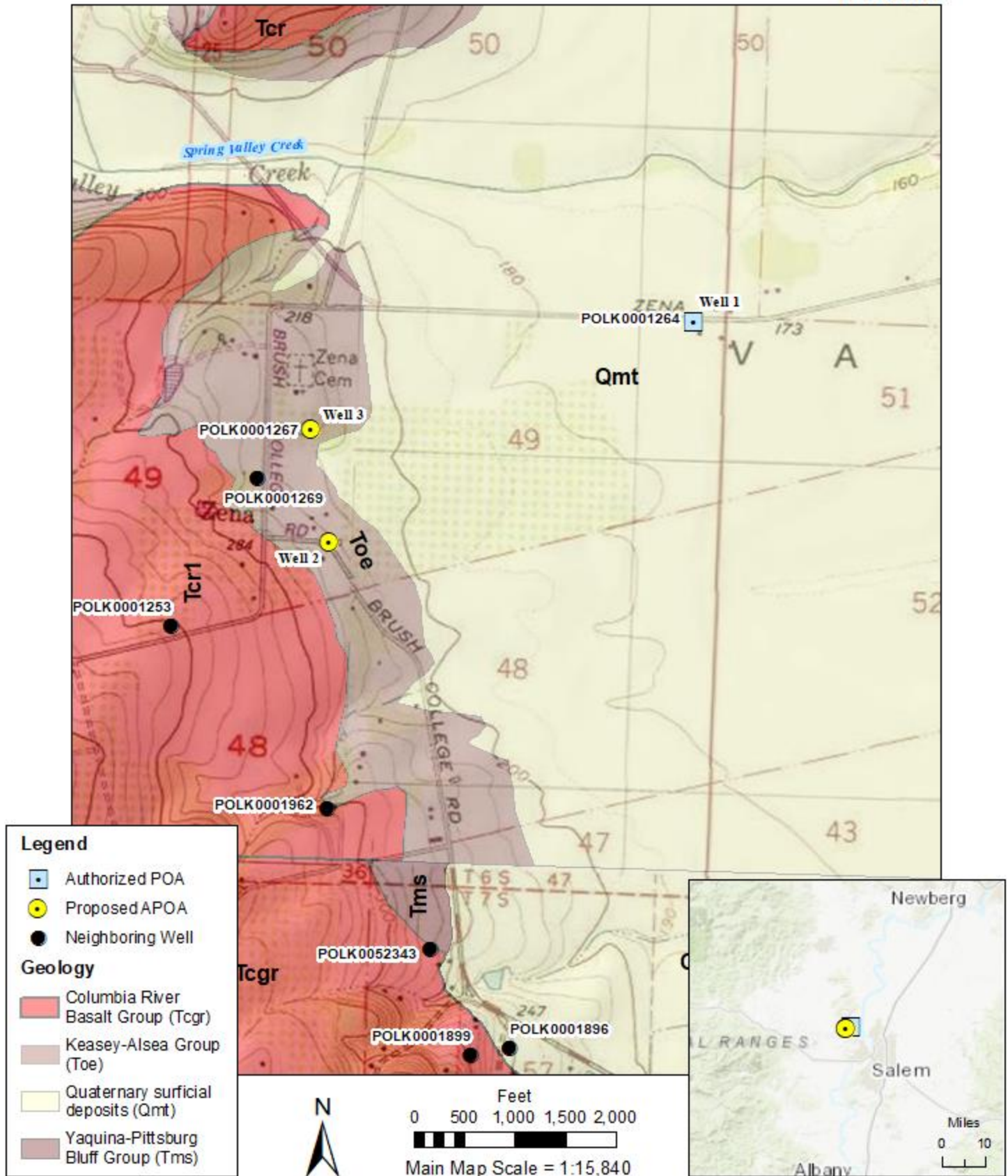
Domenico, P.A. and Mifflin, 1965, Water from low-permeability sediments and land subsidence: Water Resource Research, v. 1, no. 4, p. 563-576.

Freeze, R.A. and Cherry, J.A., 1979, Groundwater, Prentice Hall, Englewood Cliffs, New Jersey, 604 p.
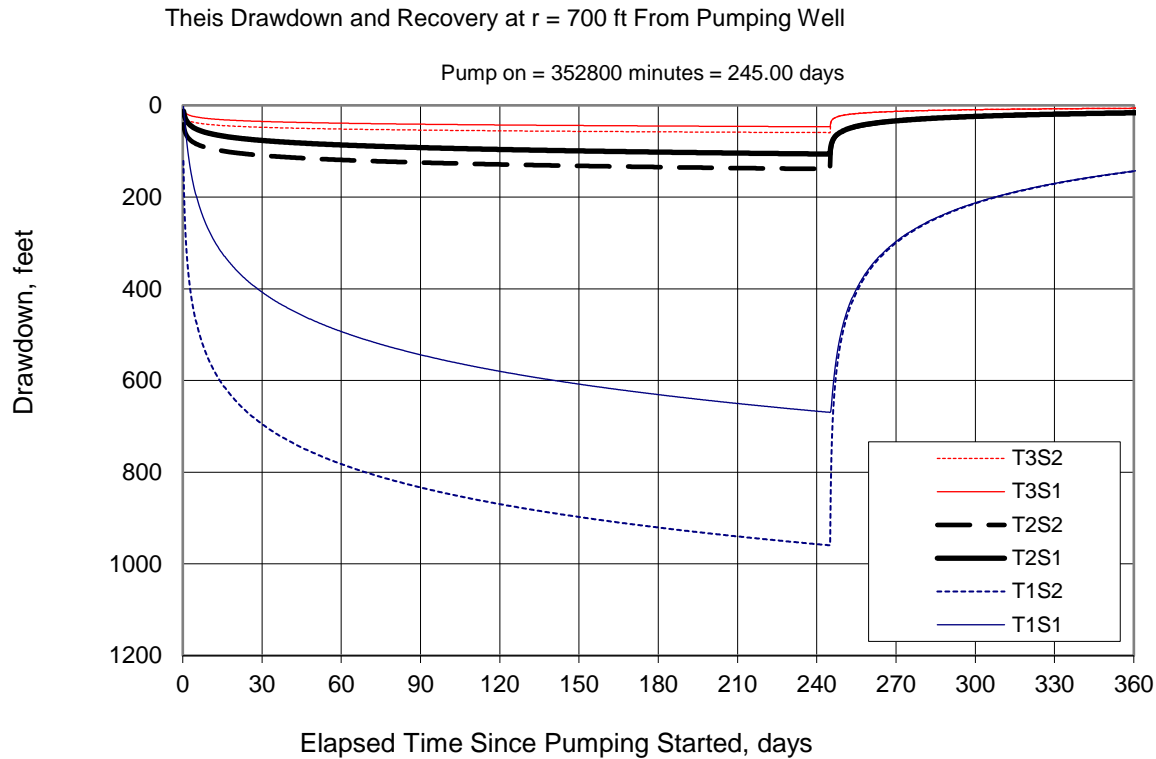
Theis, C.V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage, American Geophysical Union Transactions, vol. 16, p. 519-524.

Well Location Map

Legend

- Authorized POA
- Proposed APOA
- Neighboring Well

Geology

- Columbia River Basalt Group (Tcgr)
- Keasey-Alsea Group (Toe)
- Quaternary surficial deposits (Qmt)
- Yaquina-Pittsburg Bluff Group (Tms)

N

Feet
0   500 1,000 1,500 2,000

Main Map Scale = 1:15,840

Newberg

AL RANGES

Salem

Albany

Miles
0   10

Well-to-Well Interference Analysis (Theis, 1935): Well 3 to POLK 1269

Theis Drawdown and Recovery at r = 700 ft From Pumping Well

Pump on = 352800 minutes = 245.00 days

Pumping rate, Q = 0.33 cfs [maximum rate authorized by Certificate 97529]

Pumping time, t_{pump} = 245 days [irrigation season]

Transmissivity: T1* = 17 ft^2/day | T2* = 160 ft^2/day | T3 = 410 ft^2/day [Pumping test reports]

Storativity: S1 = 0.0001 | S2 = 0.00001 [Conlon et al., 2005]

*NOTE: The highest levels of interference under the T1 and T2 scenarios are not physically attainable due to the limited well depth/aquifer thickness. Well to well interference would still be expected to be high under the proposed pumping rate for these scenarios, but the pumping well would dry up and have to be shut off once water levels declined below the pump intake level.

POLK 1269 Injury Threshold

		Unit	Source
Depth to water	35	ft bls	Log MARI 2362
Total depth	100	ft bls	Assumed full penetration depth
Water Column	**65**	**ft**	
			Well report specific capacity (1 gpm/ft)
Min Avail Drawdown	25	ft	x Rate of GR-3313 (25 gpm)
Pump buffer	10	ft	
Min Water Column	**35**	**ft**	
Interference Threshhold	**30**	**ft**	