

Groundwater Transfer Review Summary Form

Transfer/PA # T- 13439 (Temp)

GW Reviewer Travis Brown Date Review Completed: 6/26/2020

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.



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Ground Water Review Form:

- Water Right Transfer
- Permit Amendment
- GR Modification
- Other

Application: T-13439 (temp)

Applicant Name: Heyerly Brothers

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

Reviewer(s): Travis Brown

Date of Review: 6/26/2020

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 6/29/2020

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 temporarily change portions of the POU and the associated POA for Certificates 38044*, 38507*, and 75769*, all of which are for Irrigation Use. Further details of the subject Certificates and proposed changes are summarized below:

Certificate	Authorized POU [acres]	POU Portion to be Changed [acres]	Rate for Changed Portion of POU [cfs]	Volume for Changed Portion of POU [af]	Authorized From-POA	Proposed To-POA
38044	123.6	42.9	0.53625	107.25	CLAC 14258	CLAC 53757 CLAC 74503
38507	13.6	13.6	0.11	34	CLAC 2503	CLAC 53757 CLAC 74503
75769	136.5	33.3	0.41625	83.25	CLAC 10027	CLAC 53757 CLAC 74503
TOTAL		89.8	1.0625	224.5		

The proposed changes would be in effect from the year 2020 through 2021.

Both proposed To-POA are also authorized POA under Permit G-17897* for up to 2.3 cfs of Irrigation use from May 1 through October 30.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
 Yes No Comments: All of the proposed and authorized POA develop the alluvial aquifer system.
3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
 Yes No Comments: N/A
- 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
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: Compared to the currently authorized From-POA, both of the proposed To-POA will be substantially closer to **CLAC 66134**, an authorized POA under **Certificate 92166*** and **Permits G-15254*** and **G-18008***. The closer proximity of the proposed To-POA will likely lead to an increase in interference with **CLAC 66134**.
- 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: Well-to-well interference with **CLAC 66134** was estimated using the Theis (1935) equation for drawdown in a confined aquifer. Results of this analysis indicate that under the proposed change, interference (drawdown) with **CLAC 66134** could total ~90 ft (by the end of the irrigation season) under an average (pro-rated) pumping scenario (see attached Well Interference Analysis). The most recent reported water level for **CLAC 66134** (~136.36 ft below land surface [bls] on 3/7/2019) indicates available drawdown of ~330 ft. The Water Supply Well Report for **CLAC 66134** reports a yield of 750 gpm (~1.67 cfs) based on an 8 hour pumping test during which the water level in the well was drawn down by ~129 ft. Assuming that the well efficiency of **CLAC 66134** has not substantially deteriorated, ~110 ft of the static water column in **CLAC 66134** would remain after pumping at its reported yield for 8 hrs and accounting for the estimated interference (~90 ft) from the average pumping scenario for the proposed To-POA. Therefore, it not anticipated that the proposed change will deprive **CLAC 66134** or similarly located rights of their customary use of groundwater.
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: The proposed To-POA are substantially closer to several streams, including Bear Creek and Kaiser Creek. The closer proximity of the proposed To-POA is likely to increase interference with these surface water sources.
- 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: Bear Creek Minimal Significant
Stream: Kaiser Creek Minimal Significant
Provide context for minimal/significant impact: The substantial thickness of fine-grained sediments between the bottom of the streambeds for Bear Creek and Kaiser Creek and the top of the water-bearing zones tapped by the proposed To-POA is anticipated to buffer these streams from depletion due to pumping. The change in degree of interference due to the proposed temporary transfer is expected to be minimal.

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: N/A
7. What conditions or other changes in the application are necessary to address any potential issues identified above: None
8. Any additional comments: Page 12 (Part 5c of 5c) of the application states “[t]he water user is currently using water from a different well (CLAC 52833) than the authorized well (CLAC 10027)” for Certificate 75769. **The use of CLAC 52833 under Certificate 75769 does not appear to have been approved by a transfer (temporary or otherwise) and therefore appears to constitute an illegal use. The applicant should apply for a transfer or discontinue diversion of water from CLAC 52833 under Certificate 75769.**

References

Application File: T-13439

Permit: G-17897

Certificates: 38044, 38507, 75769

Pumping Test Reports: CLAC 2049, 2060, 2240, 2454, 2473, 2635, 17723, 18102, 18360, 18601, 53757, 54578, 60032, 60360, 64005, 64205, 66134, 70809

Conlon, T.D., Lee, K.K., and Risley, J.R., 2003, Heat tracing in streams in the central Willamette Basin, Oregon, in Stonestrom, D.A. and Constantz, Jim, eds., Heat as a tool for studying the movement of groundwater near streams: U.S. Geological Survey Circular 1260, chapter 5, p. 29-34.

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.

Halford, K.J., and Kuniandy, E.L., 2002, Documentation of Spreadsheets for the Analysis of Aquifer-Test and Slug-Test Data, Open File Report 02-197, 51 p: U. S. Geological Survey, Reston, VA.

Hampton, E. R., 1972, Geology and Ground Water of the Molalla-Salem Slope Area, Northern Willamette Valley, Oregon, Water-Supply Paper 1997: U. S. Geological Survey, Reston, VA.

Iverson, J., 2002, Investigation of the hydraulic, physical, and chemical buffering capacity of Missoula flood deposits for water quality and supply in the Willamette Valley of Oregon: Unpublished M.S. thesis, Oregon State University, 147 p.

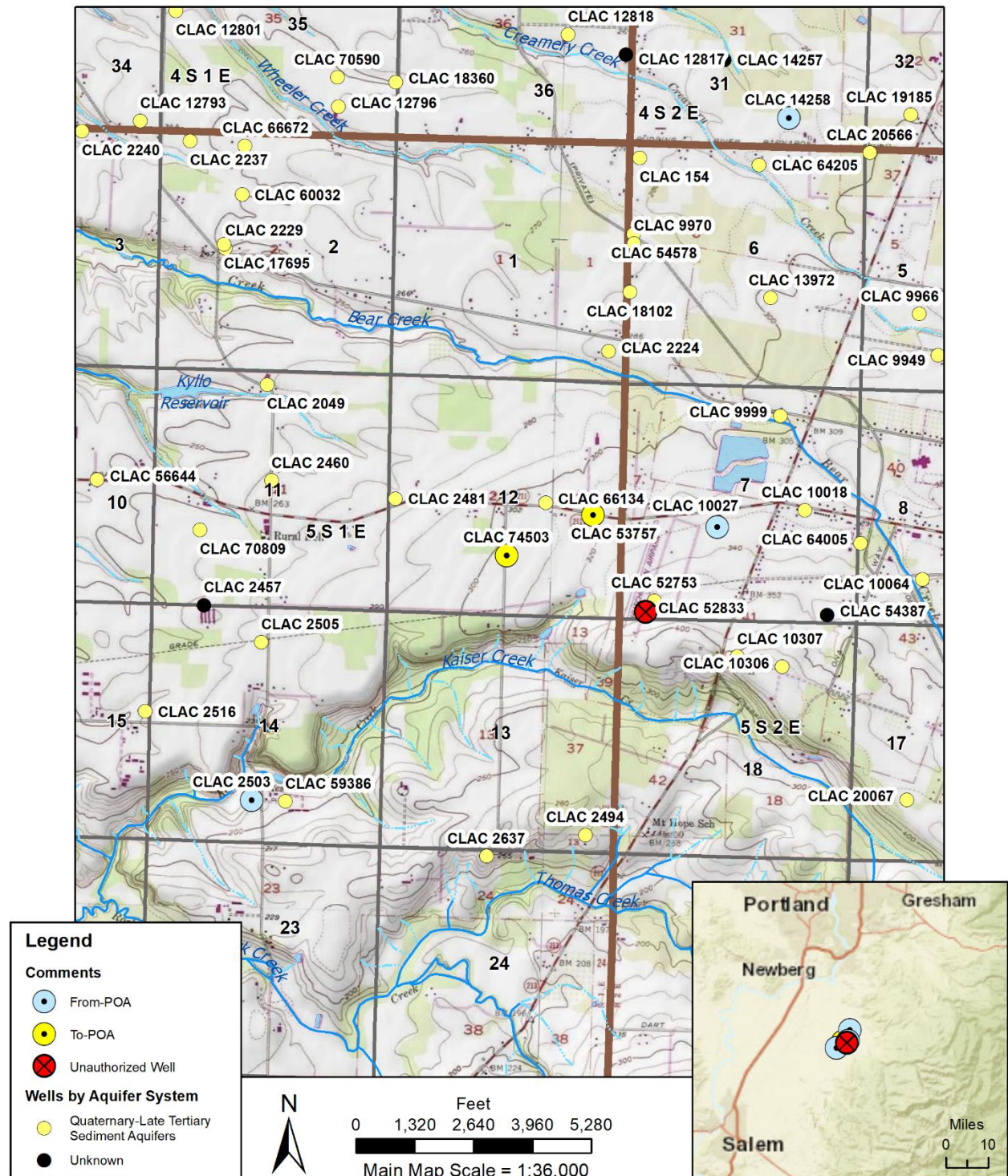
McFarland, W.D., and Morgan, D.S., 1996, Description of the Ground-Water Flow System in the Portland Basin, Oregon and Washington, Water Supply Paper 2470-A, 58 p: U. S. Geological Survey, Reston, VA.

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.

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.

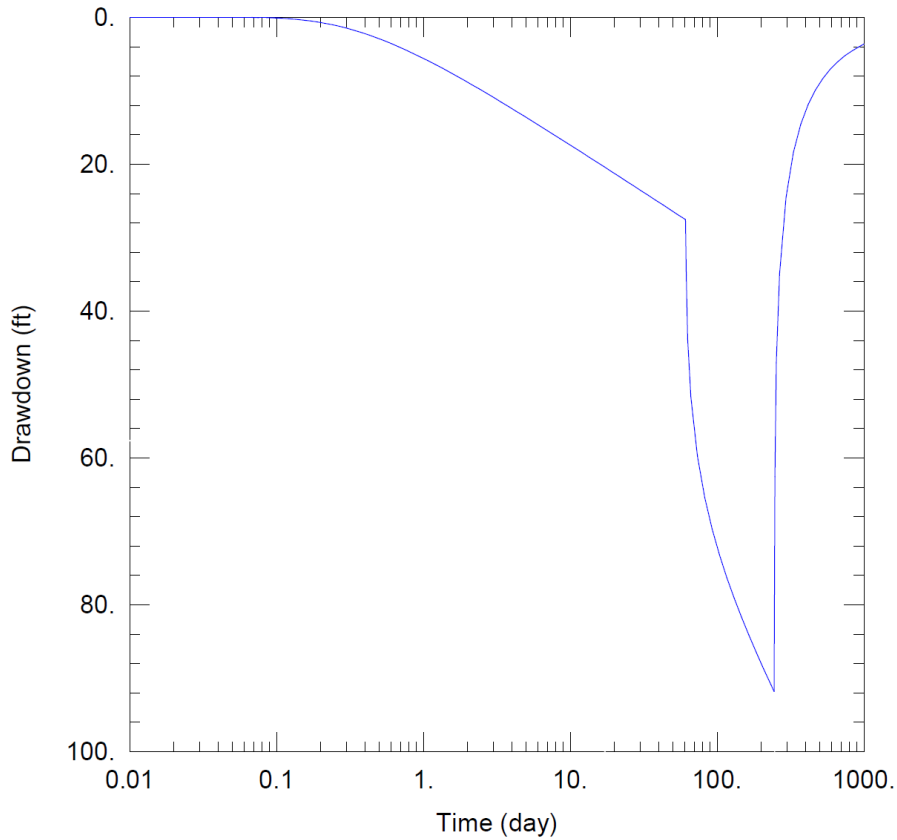
Well Location Map

T-13439 (Temp) Heyerly Brothers



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Well Interference Analysis



<u>WELL TEST ANALYSIS</u>					
Data Set: S:\...\CombinedInterference_avgQ.aqt			Time: 13:55:58		
Date: 06/14/20					
<u>PROJECT INFORMATION</u>					
Company: <u>OWRD</u>					
Client: <u>HeyerlyBros</u>					
Project: <u>T13439</u>					
Test Well: <u>CLAC 53757</u>					
Test Date: <u>6/14/2020</u>					
<u>WELL DATA</u>					
<u>Pumping Wells</u>			<u>Observation Wells</u>		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
CLAC 53757	0	0	□	0	0
			□ <u>CLAC 66134</u>	1100	0
<u>SOLUTION</u>					
Aquifer Model: <u>Confined</u>			Solution Method: <u>Theis</u>		
T = <u>560. ft²/day</u>			S = <u>0.0005</u>		
Kz/Kr = <u>1.</u>			b = <u>100. ft</u>		