# Groundwater Transfer Review Summary Form

**Transfer/PA # T- _13658_**

**GW Reviewer _Phillip I. Marcy_ Date Review Completed: _04/21/2021_**

**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-13658 Applicant Name: Mike Becker

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

Reviewer(s): Phillip I. Marcy Date of Review: 04/21/2021

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 4/21/21

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 add additional points of appropriation (APOAs) to Permit G-18368. Well yields encountered at authorized POA locations are lower than anticipated upon completion of these wells.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
   ☒ Yes ☐ No Comments: In the area of the existing and proposed POA wells, data indicate groundwater elevations on the west side of Hutchinson Hill are significantly higher than in wells on the east side of the hill. The volcanic aquifer accessed by BAKE 52368 (POD 2) displays significantly different static water level elevations, roughly 60-80 feet higher than BAKE 52742, completed into granite. This difference in static water levels is attributed to the groundwater divide imposed by Hutchinson Hill. Despite differences in depth and productive lithology, wells on the same side of the hill display similar elevations.

3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
   ☐ Yes ☒ No Basalt and granite host the aquifers targeted in the original application (G-17628). On the original groundwater review (Zwart, 2013) Wells 1 and 3 (BAKE 52742 and BAKE 52657) were assessed as developing from granite (map unit KJi), whereas Well 2 (BAKE 52368) was assessed as developing from Volcanic and Sedimentary rocks (map unit TrPv), though no hydrologic distinction was made at the time. Map units from Brooks, 1976. Considering the water level data collected since the initial review, lithology does not appear as important as location in determining groundwater trends.

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: BAKE 52382, authorized under permit G-17198 is within 1,400 feet of proposed location 3P, as opposed to a distance of 2,000 feet to currently authorized BAKE 52368. The alternate location proposed for Well 3P (see map) is roughly 1,700 feet from BAKE 52382, and would likely have a lesser degree of impact at the same rate of pumpage.

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 3P is proposed to produce groundwater from beneath the valley-fill sequence, while nearby BAKE 52382 produces entirely from valley-fill sands and gravels overlying bedrock. Though our conceptual model anticipates some degree of hydraulic connection between these sequences, the connection is likely inefficient and diffuse. Pumping at the locations is not expected to produce substantial seasonal interference with nearby wells that would result in another groundwater right not receiving the customary amount of water.

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: One of the proposed well locations (1P) is significantly closer to Warm Springs Creek than any currently authorized POAs (2,100' versus 4,000').

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: Warm Springs Creek ☒ Minimal ☐ Significant

Stream: _____ ☐ Minimal ☐ Significant

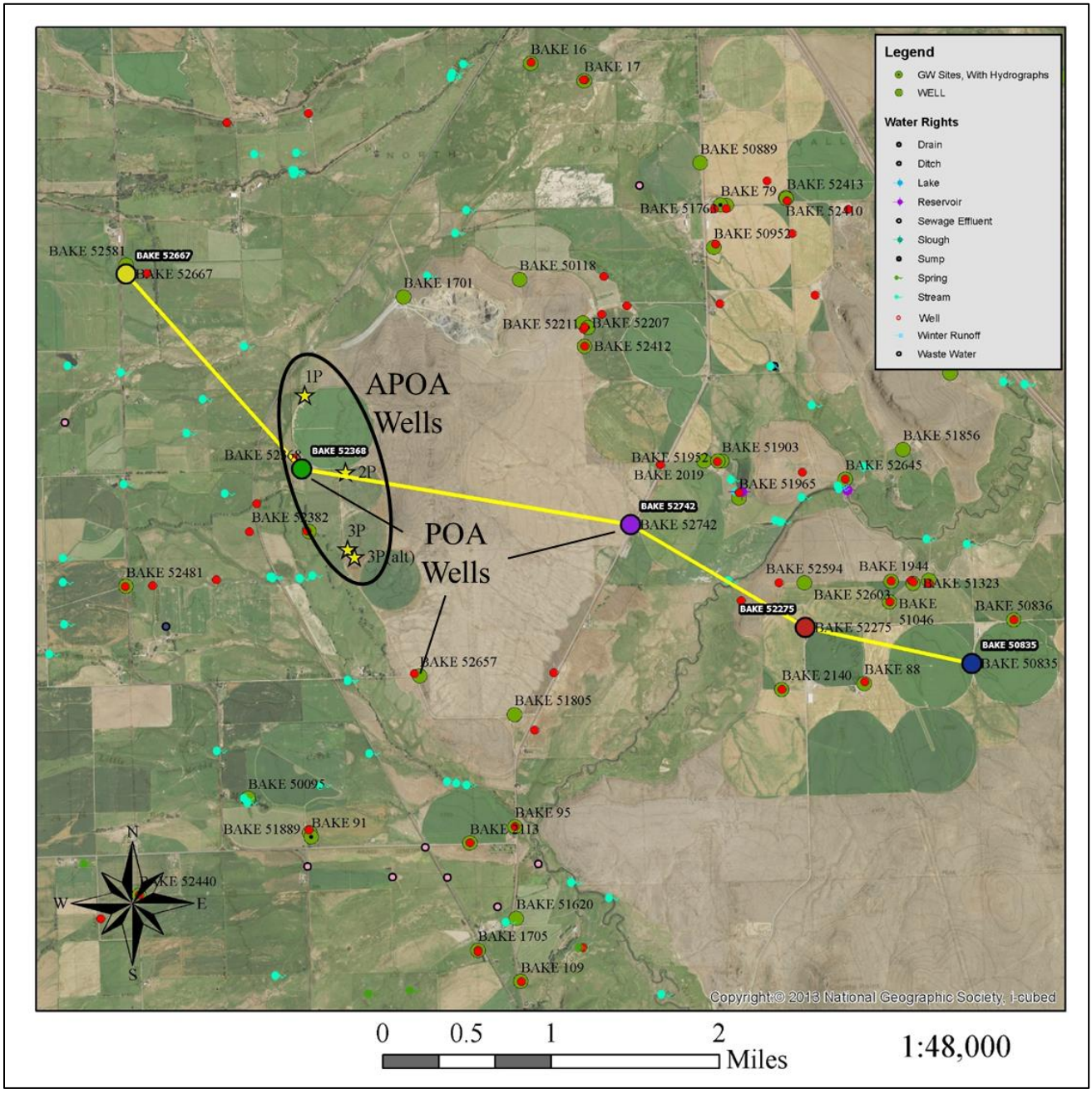
Provide context for minimal/significant impact: As the original review for the existing right presumes, the hydraulic connection between the proposed bedrock aquifer and Warm Springs Creek appears to be inefficient due to the presence of low-permeability horizons above the water-bearing zone. Therefore, seasonal impacts of pumping at this location are likely to be diffuse due to the slow vertical migration of groundwater. Under these assumptions, the difference in impact to Warm Springs Creek is expected to be minimal between these two locations within the bedrock aquifer over the course of an irrigation season.

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: NA

7. What conditions or other changes in the application are necessary to address any potential issues identified above: All wells must be continuously cased and sealed at least 5 feet into bedrock, as under permit G-18368.

8. Any additional comments:_____


Legend
GW Sites, With Hydrographs
WELL
Water Rights
Drain
Ditch
Lake
Reservoir
Sewage Effluent
Slough
Sump
Spring
Stream
Well
Winter Runoff
Waste Water
APOA Wells
POA Wells
1P
2P
3P
3P (alt)
BAKE 52667
BAKE 52368
BAKE 52742
BAKE 52275
BAKE 50835
BAKE 16
BAKE 17
BAKE 50889
BAKE 79
BAKE 52413
BAKE 52410
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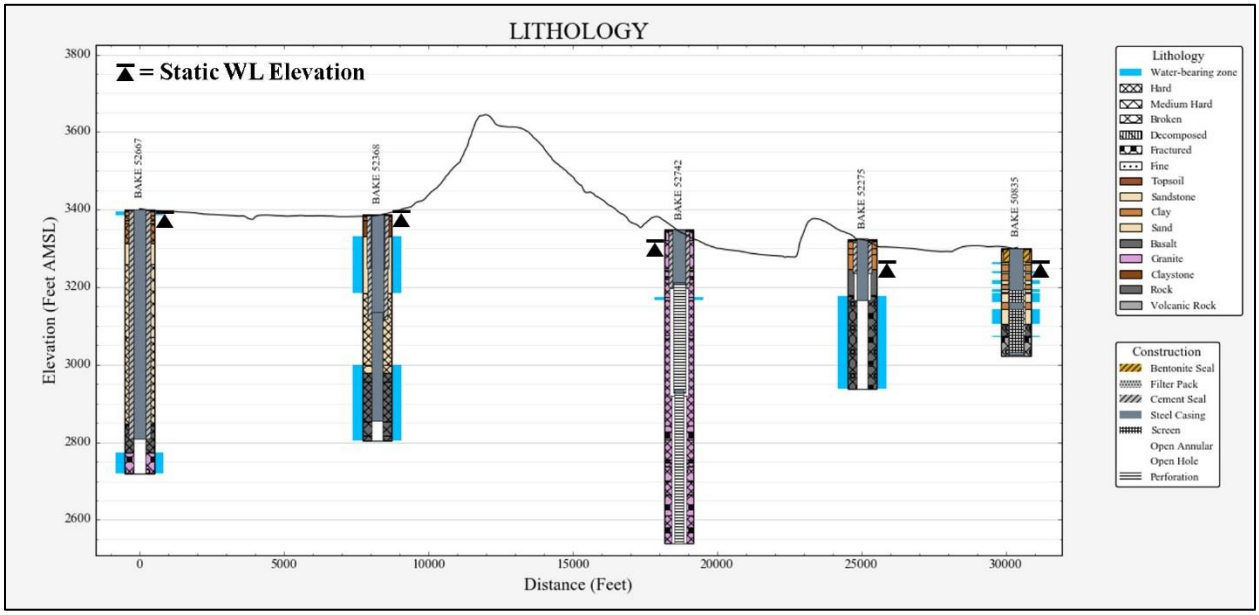


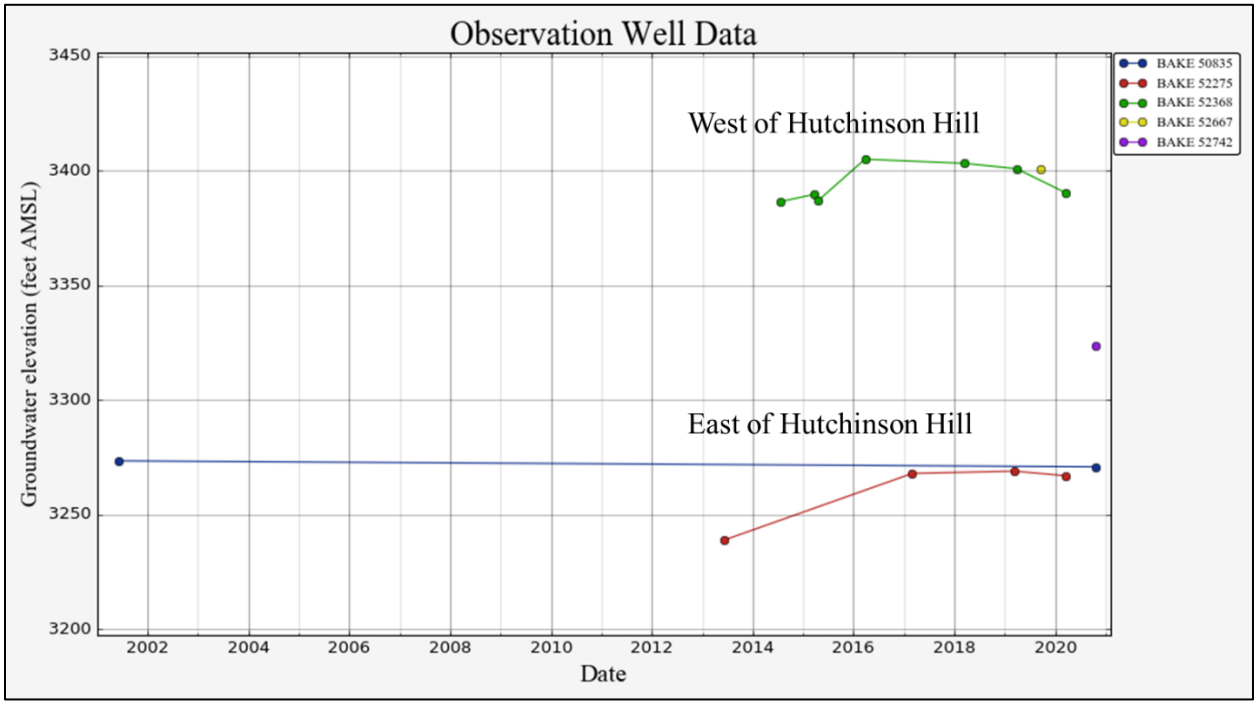


Water level data indicate groundwater elevations are much higher on the west side of Hutchinson Hill, with no apparent relation to which bedrock lithology is developed. Consequently, there do not appear to be separate “bedrock” aquifers, but instead aquifers distinguished by geography.