Groundwater Transfer Review Summary Form

Transfer/PA # T- _13630_

GW Reviewer _Jen Woody_ Date Review Completed: _4/12/2021_

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). *****There are multiple aquifers involved in this transfer. Not all proposed POA changes are within the same source.****

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-13630 Applicant Name: William H. Stoller/Red Hills Farm LLC

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

Reviewer(s): Jen Woody Date of Review: 04/12/2021

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 4/14/21

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 _____

---

1. Basic description of the changes proposed in this transfer:
Permit G-13083 currently authorizes use from 7 wells:
YAMH 5249/Well 2
YAMH 50307/Well 3
YAMH 456/Well 4
YAMH 5250/Well 5
YAMH 5278/Well 6
YAMH 50281/Well 7
YAMH 53886/Well 6A

T-13630 proposes to remove Well 4 and add industrial use from 2 wells to G-13083:
YAMH 53886/Well 6A
YAMH 53274/Well 8

Permit G-15661 currently authorizes use from:
YAMH 53274/Well 8
A drain tile system

T-13630 proposes to add irrigation from 6 wells to G-15661:
YAMH 5249/Well 2
YAMH 50307/Well 3
YAMH 456/Well 4
YAMH 5250/Well 5
YAMH 5278/Well 6
YAMH 50281/Well 7

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?

☐ Yes ☐ No (see table below) Comments: The subject site is located on the south facing slope of the Red Hills of Dundee. On this site, geologic maps show the Columbia River Basalt Group (CRBG) at the surface from the hilltops to the 280' above mean sea level (AMSL) topographic contour. Marine sedimentary rocks consisting of sandstone and claystone underlie the CRBG and outcrop below 280' AMSL.

YAMH 456 and YAMH 50307 (wells 3 and 4) access one or more CRBG aquifers above 250' AMSL and have static water elevations above 350' AMSL (see Figure 2).

The remaining wells share a basalt and/or marine sedimentary rock aquifer below 250' AMSL and have water level elevations below 250' AMSL. The drain tiles (land surface located at approximately 240' AMSL) are expected to access the lower aquifer based on elevation and geologic mapping. The lower elevation wells are located across the transition from CRBG to marine sedimentary rocks, and there is some uncertainty whether the geologic materials described in well logs are CRBG or marine sediments. This transition may consist of rubbly, brecciated flow edges of the CRBG that were emplaced over and against marine sedimentary rocks with topography. This conceptual model juxtaposes CRBG against marine sedimentary rocks, and could provide a hydraulic connection across the transition from CRBG to marine sedimentary rocks. Recent data are limited to a subset of the wells, but similar water level elevations indicate hydraulic connection.

For the purpose of this review, two groundwater sources are identified:

1. Columbia River Basalt Group/Marine Sediments with a water level below 250 feet AMSL (referred to as "CRBG/MS below 250'" in tables), and
2. CRBG with a water level above 350 feet AMSL (referred to as "CRBG above 350'").

Table 1. Same Source Analysis

Well	Aquifer	Proposed change	Target water right's aquifer(s)	Same source?
YAMH 53886 /Well 6A	CRBG/MS below 250'	Add to G-13083 for industrial use	CRBG/MS below 250'	Yes
			CRBG above 350'	No
YAMH 53274 /Well 8	CRBG/MS below 250'	Add to G-13083 for industrial use	CRBG/MS below 250'	Yes
			CRBG above 350'	No
YAMH 5249 /Well 2	CRBG/MS below 250'	Add to G-15661	CRBG/MS below 250'	Yes
YAMH 50307 /Well 3	CRBG above 350'	Add to G-15661	CRBG/MS below 250'	No
YAMH 456 /Well 4	CRBG above 350'	Add to G-15661	CRBG/MS below 250'	No
YAMH 5250 /Well 5	CRBG/MS below 250'	Add to G-15661	CRBG/MS below 250'	Yes
YAMH 5278 /Well 6	CRBG/MS below 250'	Add to G-15661	CRBG/MS below 250'	Yes
YAMH 50281 /Well 8	CRBG/MS below 250'	Add to G-15661	CRBG/MS below 250'	Yes

Any wells associated with CRBG/MS below 250' can be added to G-15661 according to same source analysis. YAMH 50307 and 456 (which access CRBG above 350') cannot be added to G-15661 because they access a different source than is permitted under G-15661.

G-13083 authorizes use from both CRBG/MS below 250' and CRBG above 350', therefore only a portion of that right can be transferred to YAMH 53886 and 53274 (which access CRBG/MS below 250').

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

☒ Yes ☐ No See comments in Section 2.

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.):

G-15661 authorizes 100% of its use from CRBG/MS below 250'. G-13083 authorizes 0.182 cfs of the total allowable rate of 0.579 cfs from CRBG above 350', which represents 31.4 % of the irrigation rate. The portion of G-13083 associated with YAMH 50307 and YAMH 456 (CRBG above 350') cannot be transferred to any other wells involved in this transfer. The remainder of G-13083 authorizes CRBG/MS below 250' and can be transferred to any well accessing CRBG/MS below 250'.

Table 2. Summary of current water rights per well

Permit	Well	Aquifer	Distributed Rate in water right
G-15661	YAMH 53274 / Well 8	CRBG/MS below 250'	Up to 0.14 cfs Irrigation
G-15661	Drain Tiles	CRBG/MS below 250'	Up to 0.14 cfs Irrigation
G-13083	YAMH 5249 / Well 2	CRBG/MS below 250'	0.029 cfs Irrigation
G-13083	YAMH 50307 /Well 3	CRBG above 350'	0.111 cfs Irrigation
G-13083	YAMH 456 / Well 4	CRBG above 350'	0.071 cfs Industrial use & Irrigation
G-13083	YAMH 5250 / Well 5	CRBG/MS below 250'	0.123 cfs Irrigation
G-13083	YAMH 5278 / Well 6	CRBG/MS below 250'	0.089 cfs Irrigation
G-13083/ T-9455	YAMH 53886 / Well 6A	CRBG/MS below 250'	Shares max rate of well 6
G-13083	YAMH 50281 / Well 7	CRBG/MS below 250'	0.125 cfs

3. 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: There is not a significant decrease in the distance to nearby wells, therefore a change in interference with other wells is not expected, assuming no change in source allowed.

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: N/A

4. 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: _____

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: N/A

5. 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

6. What conditions or other changes in the application are necessary to address any potential issues identified above: Allowable APOAs and rates should be limited to same source transfers as described in Sections 2 and 3.

7. Any additional comments: none

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: U.S. Geological Survey Scientific Investigations Report 2005-5168.

OWRD Groundwater Information System databases, accessed 4/12/2021.

USGS topographic maps, Dayton and Dundee Quadrangles.

Figure 1. Map

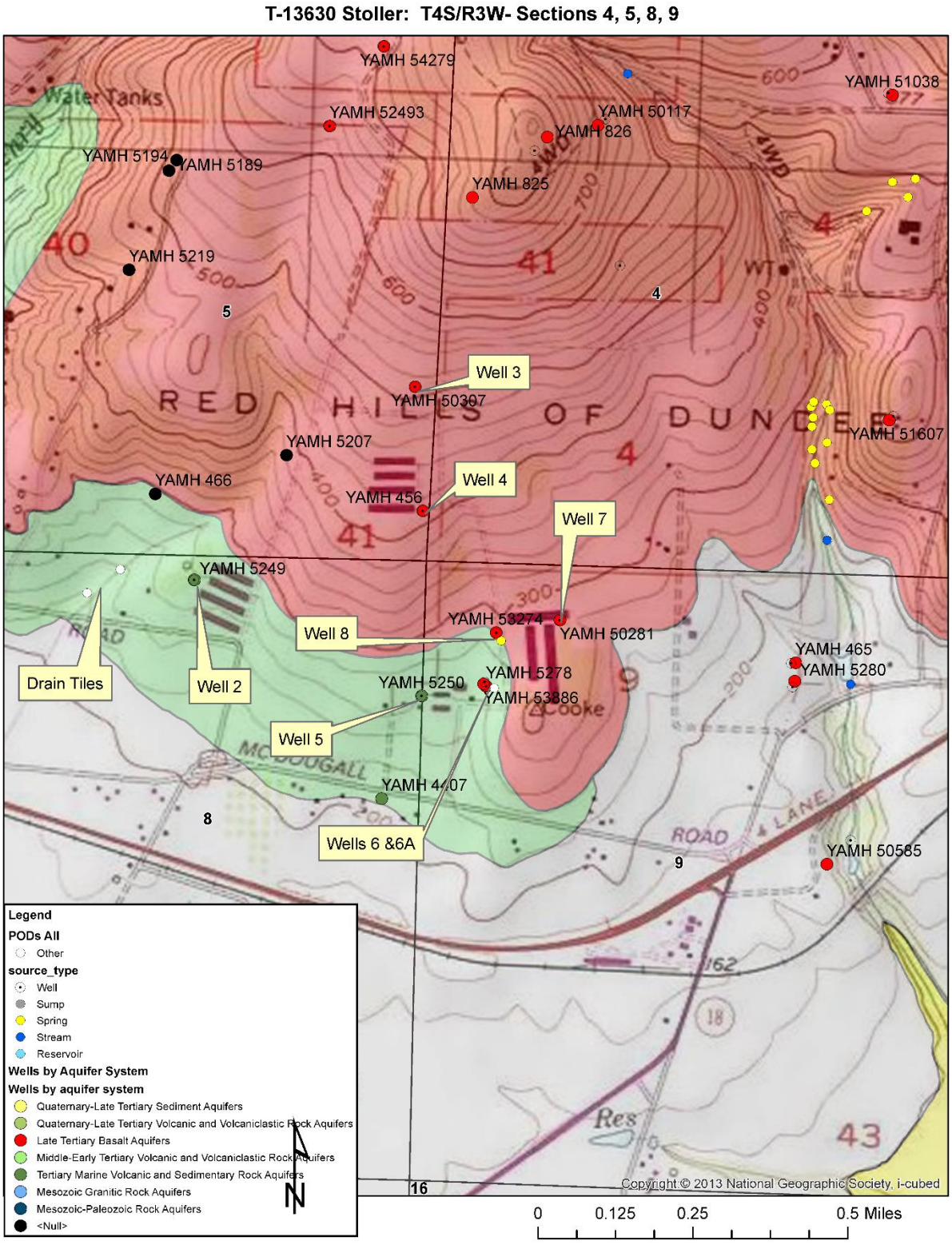
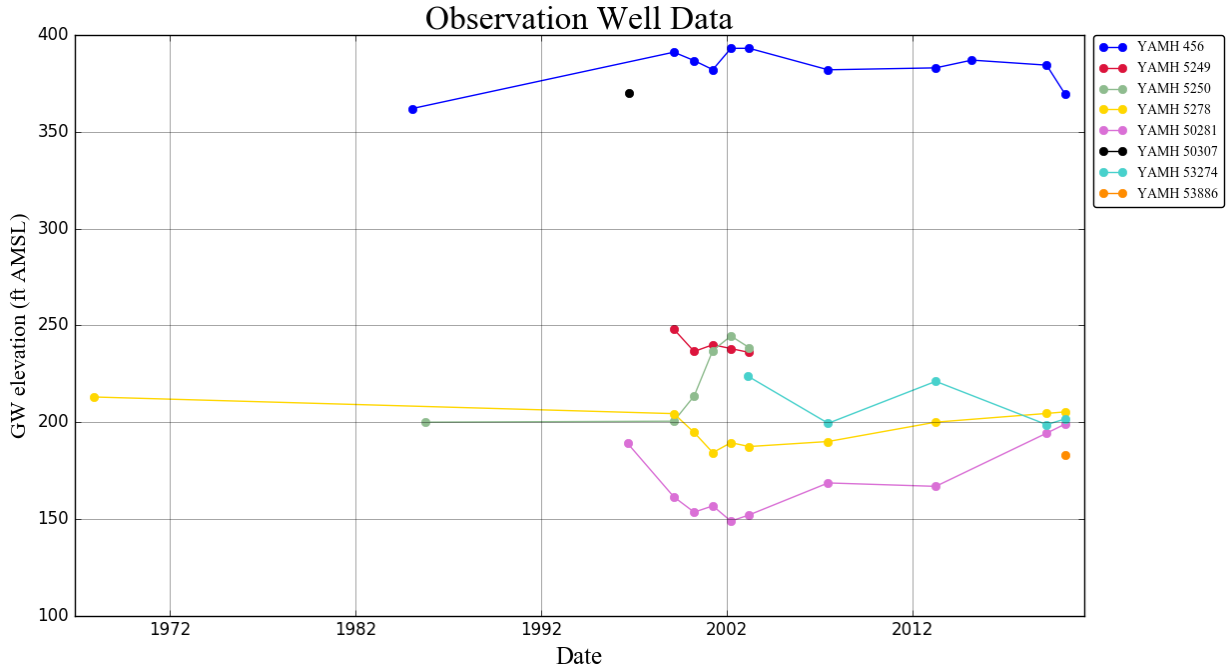
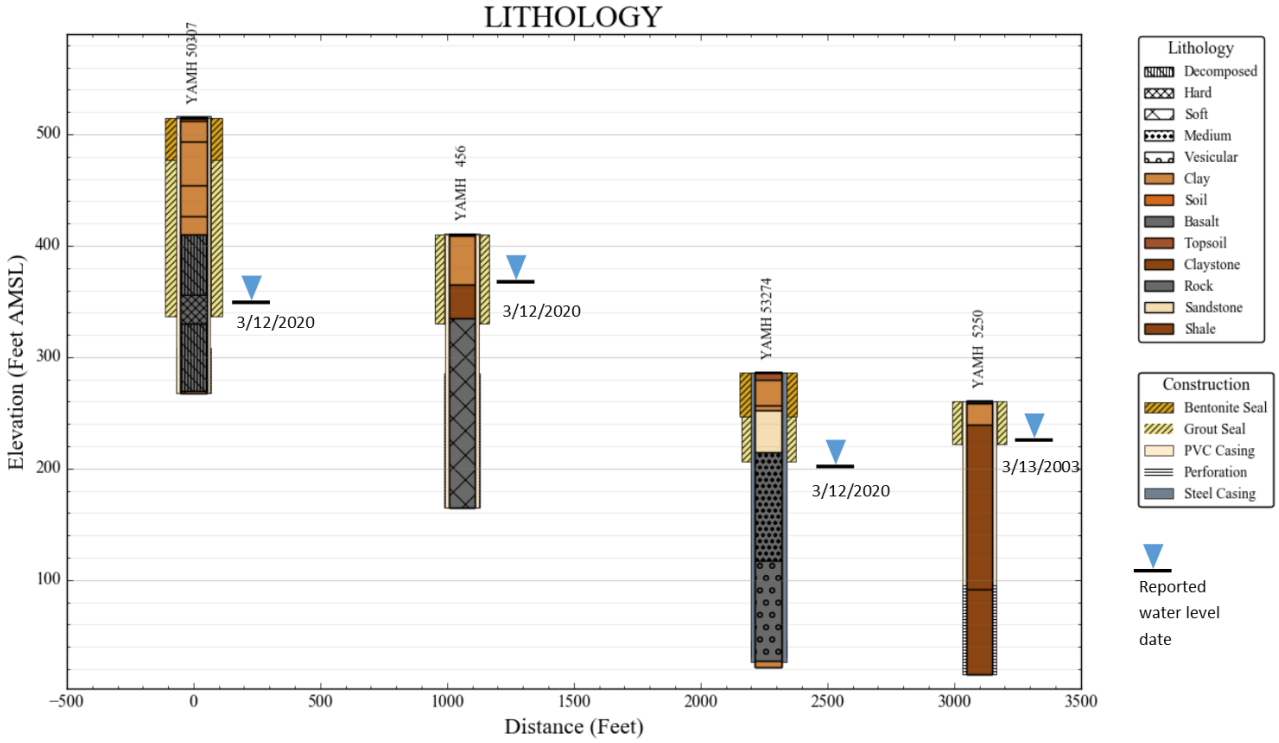

T-13630 Stoller: T4S/R3W- Sections 4, 5, 8, 9
YAMH 54279
YAMH 51038
YAMH 52493
YAMH 50117
YAMH 826
YAMH 5194
YAMH 5189
YAMH 825
YAMH 5219
Well 3
YAMH 50307
YAMH 51607
YAMH 5207
YAMH 466
Well 4
YAMH 456
Well 7
YAMH 5249
YAMH 53274
YAMH 50281
Well 8
YAMH 465
YAMH 5280
Drain Tiles
Well 2
YAMH 5250
YAMH 5278
YAMH 53886
Well 5
YAMH 4407
Wells 6 &6A
YAMH 50585
RED HILLS OF DUNDEE
Water Tanks
Legend
PODs All
Other
source_type
Well
Sump
Spring
Stream
Reservoir
Wells by Aquifer System
Wells by aquifer system
Quaternary-Late Tertiary Sediment Aquifers
Quaternary-Late Tertiary Volcanic and Volcaniclastic Rock Aquifers
Late Tertiary Basalt Aquifers
Middle-Early Tertiary Volcanic and Volcaniclastic Rock Aquifers
Tertiary Marine Volcanic and Sedimentary Rock Aquifers
Mesozoic Granitic Rock Aquifers
Mesozoic-Paleozoic Rock Aquifers
<Null>
N
Copyright © 2013 National Geographic Society, i-cubed
0 0.125 0.25 0.5 Miles

Figure 2. Hydrograph



Water level data are reported for permit conditions at some of the subject wells. Taking the reported water levels at face value, there are two groups of wells. YAMH 456 and 50307 (wells 4 and 3) have water level elevations that are more than 100 feet higher than those at the rest of the subject wells. This indicates at least 2 distinct groundwater sources associated with the two current permits.

Figure 3. Cross-Sectional Diagram



YAMH 50307 and 456 access a CRBG aquifer with a static water level elevation above approximately 350’ feet amsl. All of the remaining wells involved in this permit amendment and the drain tiles access water in the marine sedimentary rocks or CRBG with a static water level below approximately 250’ AMSL.