

**Water Right Conditions
Tracking Slip**

Groundwater/Hydrology Section

FILE ## G-17525

ROUTED TO: Water Rights

TOWNSHIP/

RANGE-SECTION: 27S/32E-18 cb

CONDITIONS ATTACHED? ☒ yes ☐ no

REMARKS OR FURTHER INSTRUCTIONS:

Reviewer: Mike Zwart

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date February 7, 2012

FROM: Ground Water/Hydrology Section Michael Zwart
Reviewer's Name

SUBJECT: Application G- 17525 Supersedes review of _____
Date of Review(s) _____

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525. Department staff review ground water applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. This review is based upon available information and agency policies in place at the time of evaluation.*

A. GENERAL INFORMATION: Applicant's Name: Tom R. and Julie A. Davis County: Harney

A1. Applicant(s) seek(s) 1.0 cfs from one well(s) in the Malheur Lake Basin,
_____ subbasin Quad Map: Jackass Butte NE

A2. Proposed use: Irrigation, 49 acres Seasonality: March 1 to October 31

A3. Well and aquifer data (attach and number logs for existing wells; mark proposed wells as such under logid):

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	HARN 50728	1	Basalt	1.0	27S/32E-18 NW-SW	1927' N, 668' E fr SW cor S 18
2						
3						
4						
5						

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	4118	83	21	10/23/01	100	0-38	0-38	None	None	2000	60	Air

Use data from application for proposed wells.

A4. Comments: _____

A5. ☒ **Provisions of the Malheur Lake** Basin rules relative to the development, classification and/or management of ground water hydraulically connected to surface water ☐ are, or ☒ are not, activated by this application. (Not all basin rules contain such provisions.)

Comments: _____

A6. ☐ **Well(s) #** _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
Name of administrative area: _____
Comments: _____

B. GROUND WATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. Based upon available data, I have determined that ground water* for the proposed use:

- a. ☐ is over appropriated, ☐ is not over appropriated, or ☒ cannot be determined to be over appropriated during any period of the proposed use. * This finding is limited to the ground water portion of the over-appropriation determination as prescribed in OAR 690-310-130;
- b. ☐ will not or ☒ will likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the ground water portion of the injury determination as prescribed in OAR 690-310-130;
- c. ☐ will not or ☒ will likely to be available within the capacity of the ground water resource; or
- d. ☒ will, if properly conditioned, avoid injury to existing ground water rights or to the ground water resource:
 - i. ☒ The permit should contain condition #(s) 7N _____;
 - ii. ☐ The permit should be conditioned as indicated in item 2 below.
 - iii. ☐ The permit should contain special condition(s) as indicated in item 3 below;

- B2.
- a. ☐ Condition to allow ground water production from no deeper than _____ ft. below land surface;
 - b. ☐ Condition to allow ground water production from no shallower than _____ ft. below land surface;
 - c. ☐ Condition to allow ground water production only from the _____ ground water reservoir between approximately _____ ft. and _____ ft. below land surface;
 - d. ☐ Well reconstruction is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Ground Water Section.

Describe injury –as related to water availability– that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): _____

B3. Ground water availability remarks: A nearby permitted well (HARN 51387) is being measured as required by a permit condition. It has not yet displayed any water-level decline.

C. GROUND WATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040**C1. 690-09-040 (1): Evaluation of aquifer confinement:**

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	Quaternary basalt	☐	☒
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: Based on the other nearby high-production irrigation well logs on file, the aquifer appears to be unconfined. The relatively deep first water-bearing zone reported at the subject well is unusual, but may reflect very local confined conditions.

C2. 690-09-040 (2) (3): Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Donner und Blitzen River	4097	4108	11800	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: The shallow unconfined aquifer penetrated appears to extend to the river without interruption. The head relationship suggests that the river may be losing, but the heads are close in any case. The well is located just outside of the Donner und Blitzen River WAB.

Water Availability Basin the well(s) are located within: No WAB data in this area.

C3a. 690-09-040 (4): Evaluation of stream impacts for each well that has been determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% *natural* flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked ☒ box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells.** Otherwise same evaluation and limitations apply as in C3a above.

	SW #		Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments: **This section does not apply.**

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)													
(E) = (A / B) x 100		%	%	%	%	%	%	%	%	%	%	%	%

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

Basis for impact evaluation: Use of the Hunt 99 model at a nearby well (file G-16953) has disclosed that the potential interference with the Donner und Blitzen River will be less than 0.1 percent of natural flow. The well on this application is farther from the river, so there is no need to calculate interference; it will be much less than 1 percent of natural flow.

C4b. **690-09-040 (5) (b)** The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.

- C5. ☐ If properly conditioned, the surface water source(s) can be adequately protected from interference, and/or ground water use under this permit can be regulated if it is found to substantially interfere with surface water:
- i. ☐ The permit should contain condition #(s) _____;
 - ii. ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions** _____

References Used: Recent application reviews, especially G-16953 & G-17524; local well logs; GW Report # 16; WSP #841; Geologic Map of the Burns Quadrangle, Oregon, by Greene, et al, 1972, USGS Miscellaneous Geologic Investigations Map I-680.

D. WELL CONSTRUCTION, OAR 690-200

- D1. Well #: 1 Logid: HARN 50728
- D2. **THE WELL does not meet current well construction standards based upon:**
- a. ☐ review of the well log;
 - b. ☐ field inspection by _____;
 - c. ☐ report of CWRE _____;
 - d. ☐ other: (specify) _____
- D3. **THE WELL construction deficiency:**
- a. ☐ constitutes a health threat under Division 200 rules;
 - b. ☐ commingles water from more than one ground water reservoir;
 - c. ☐ permits the loss of artesian head;
 - d. ☐ permits the de-watering of one or more ground water reservoirs;
 - e. ☐ other: (specify) _____
- D4. **THE WELL construction deficiency is described as follows:** _____

- D5. **THE WELL**
- a. ☐ was, or ☐ was not constructed according to the standards in effect at the time of original construction or most recent modification.
 - b. ☒ I don't know if it met standards at the time of construction.
- D6. ☐ **Route to the Enforcement Section.** I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Enforcement Section and the Ground Water Section.

THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

- D7. ☐ Well construction deficiency has been corrected by the following actions: _____

- _____, 200____.
- (Enforcement Section Signature)

- D8. ☐ **Route to Water Rights Section (attach well reconstruction logs to this page).**
-

MEMO

February 7, 2002

YES

YES

[illegible]

HARN 50728
RECEIVED

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

NOV 01 2001

WATER RESOURCES DEPT.

WELL I.D. # L 5/602
START CARD # W 129291

Instructions for completing this report are on the last page of this form.

(1) LAND OWNER Well Number _____
Name Tom Davis
Address HC 72 Box 125
City Princeton State OR Zip 97721

(2) TYPE OF WORK
☒ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:
☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger
☐ Other _____

(4) PROPOSED USE:
☐ Domestic ☐ Community ☐ Industrial ☒ Irrigation
☐ Thermal ☐ Injection ☐ Livestock ☐ Other _____

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Well 100 ft.
Explosives used ☐ Yes ☒ No Type _____ Amount _____

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds
<u>20</u>	<u>0</u>	<u>38</u>	<u>Cement</u>	<u>0</u>	<u>38</u>	<u>10</u>
			<u>+ bent</u>			<u>21</u>
<u>16</u>	<u>38</u>	<u>80</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
<u>10</u>	<u>80</u>	<u>100</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E
☐ Other _____

Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	<u>16</u>	<u>14</u>	<u>38</u>	<u>250</u>	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Drive Shoe used ☐ Inside ☐ Outside ☒ None
Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

☐ Perforations Method _____
☐ Screens Type _____ Material _____

From	To	Slot size	Number	Tele/pipe size	Casing	Liner
					☐	☐
					☐	☐
					☐	☐
					☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour

Yield gal/min	Drawdown	Drill stem at	Time
<u>2000+</u>	<u>60</u>	<u>81</u>	<u>69</u> hr.

Temperature of water 58 Depth Artesian Flow Found _____
Was a water analysis done NO ☐ Yes By whom _____
Did any strata contain water not suitable for intended use? NO ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other _____
Depth of strata: _____

(9) LOCATION OF WELL by legal description:
County Harney Latitude _____ Longitude _____
Township 27 S N or S Range 32 E E or W. WM.
Section 18 NW 1/4 SW 1/4
Tax Lot 1000 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) HC 72 Box 125
Princeton, OR 97721

(10) STATIC WATER LEVEL:
21 ft. below land surface. Date _____
Artesian pressure _____ lb. per square inch Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 83

From	To	Estimated Flow Rate	SWL
<u>83</u>	<u>92</u>	<u>2000</u>	<u>21</u>

(12) WELL LOG:

Ground Elevation _____

Material	From	To	SWL
<u>Top Soil</u>	<u>0</u>	<u>2</u>	<u>-</u>
<u>Hard Clay Stone</u>			
<u>Brown</u>	<u>2</u>	<u>24</u>	<u>-</u>
<u>Fractured</u>			
<u>Vesicular Basalt</u>	<u>24</u>	<u>31</u>	<u>-</u>
<u>Brown Basalt</u>			
<u>Medium</u>	<u>31</u>	<u>44</u>	<u>-</u>
<u>Hard Grey Basalt</u>	<u>44</u>	<u>83</u>	
<u>Hard Vesicular</u>			
<u>Brown Red</u>			
<u>Black Basalt</u>	<u>83</u>	<u>92</u>	<u>21</u>
<u>Hard Grey Basalt</u>	<u>92</u>	<u>100</u>	<u>21</u>

Date started 9-12-01 Completed 10-23-01

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

Signed _____ WWC Number _____ Date _____

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

Signed Donald H. Reed WWC Number 1521 Date 10-27-01

