

**PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS**

TO: Water Rights Section Date June 25, 2008

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

SUBJECT: Application G- 17005 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: Patti Wilson County: Harney

A1. Applicant(s) seek(s) 0.665 cfs from one well(s) in the Malheur Lake Basin,  
 \_\_\_\_\_ subbasin Quad Map: Weaver Lake

A2. Proposed use: Irrigation, 53.2 acres (P) 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 837	1	Basin-fill Seds.	0.665	24S/30E-18 SW-SE	860' S, 820' E fr CS 1/16 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	4165	36	25	6/6/80	425	0-50	0-142	None	100-140	800	160	P

Use data from application for proposed wells.

A4. Comments: Well was deepened (HARN 835).

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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:** Region Manager Ivan Gall recommends use of Condition 7N in the Harney Basin. Nearby SOW 174 (HARN 813) displays reasonably stable water levels. Current levels are not much different than in the 1970s. There may be a decadal-scale climatic signature to the hydrograph. Seasonal water-level fluctuations appear to be greater since the mid-1980s, but this may be in part a result of more frequent measurements.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**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	Valley fill deposits and possibly volcanic sediments	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

**Basis for aquifer confinement evaluation: Regionally, the basin-fill aquifer is unconfined and discharges to Malheur Lake. Locally, discharge may be to surface water sources such as Sage Hen Creek.**

**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	Sage Hen Creek	4140	4155	6200	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	1A	Sage Hen Creek downgradient	4140	<4140	10800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Basis for aquifer hydraulic connection evaluation: A finding of hydraulic connection with the nearest reach of the creek is problematic because of the head relationship. It is more likely that the aquifer discharges diffusely with downstream reaches no closer than the indicated distance.**

**Water Availability Basin the well(s) are located within: Sage Hen Cr > Silvies R at mouth (31200202).**

**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?
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

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?
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

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													
(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:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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:** Local well logs; local recent reviews; GW Report 16, by Leonard, 1970; Greene, Walker, and Corcoran, 1972, Geologic Map of the Burns Quadrangle, Oregon, USGS Miscellaneous Geologic Investigations Map I-680; Memo by Ivan Gall, 1/15, 2008, Stream Assessment for Division 9 Review in the Malheur Lakes Basin.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**D. WELL CONSTRUCTION, OAR 690-200**

D1. Well #: 1 Logid: HARN 837/835

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: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
(Enforcement Section Signature)

, 200\_\_\_\_\_

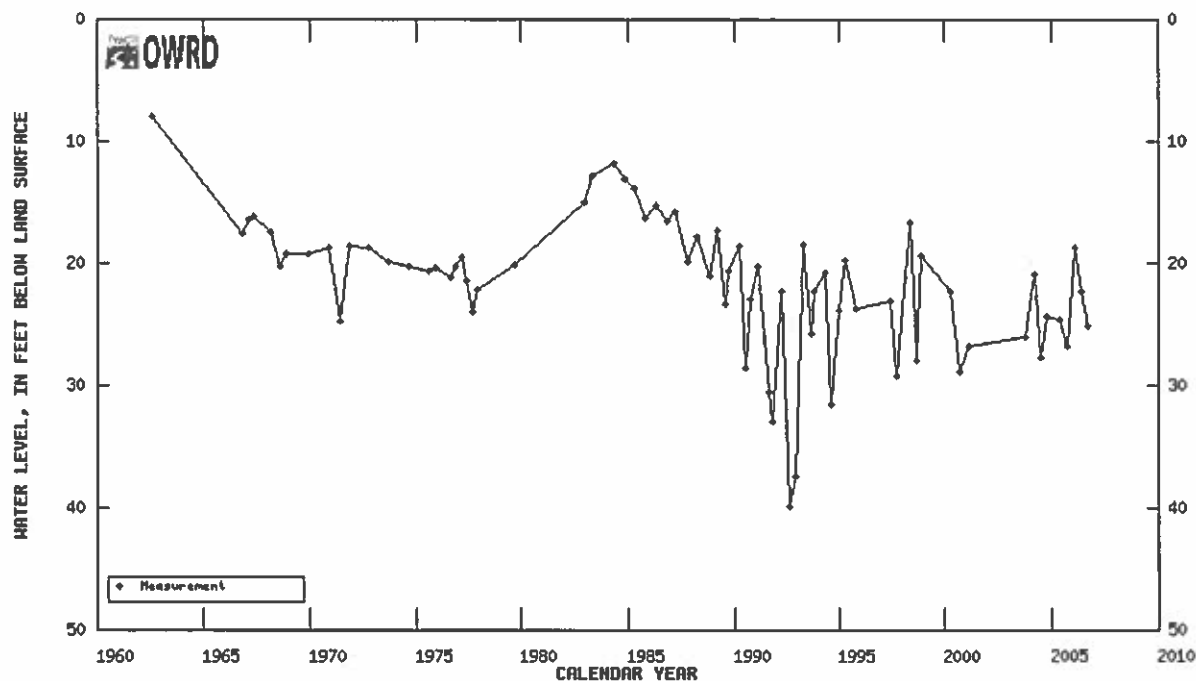
D8.  **Route to Water Rights Section (attach well reconstruction logs to this page).**





**Hydrograph for State Well HARN 813, State Observation Well # 174**

Well Location	24.08538.00E7CDD
Oregon Water Resources Department Well Log ID	HARN 813
Oregon Water Resources Department State Observation Well Number	174
Well depth, in feet below land surface	347
Land surface elevation, in feet above mean sea level	
Primary use of well	not determined



*Table showing water-level data for State Well HARN 813, State Observation Well # 174*



**WEAVER LAKE QUAD  
OREGON-HARNEY  
7.5 MINUTE SERIES (TOP)**

SOW 174  
HARN 813  
LOCATION FROM  
15' MAP

