

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date August 13, 2013

FROM: Groundwater Section Mike Zwart
Reviewer's Name

SUBJECT: Application G- 17677 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: William and Lori Peila County: Harney

A1. Applicant(s) seek(s) 12.3 cfs from seven well(s) in the Malheur Lake Basin,
Silver Creek subbasin Quad Map: Stinking Lake

A2. Proposed use Irrigation, 740.8 acres Seasonality: April 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 1085	1	Alluv./Volcanics	7.97	25S/29E-29 NE-SW	1300' S, 2680' W fr E ¼ cor S 29
2	HARN 1084	2	Alluv./Volcanics	7.97	25S/29E-29 NE-SW	0' S, 1320' E fr W ¼ cor S 29
3	Proposed	3	Alluv./Volcanics	7.97	25S/29E-28 SW-SW	1320' S, 1320' E fr E ¼ cor S 29
4	Proposed	4	Alluv./Volcanics	7.97	25S/29E-29 NE-SE	1320' S, 1320' W fr E ¼ cor S 29
5	Proposed	5	Alluv./Volcanics	2.67	26S/29E-18 NE-SE	1320' S, 1320' W fr E ¼ cor S 18
6	Proposed	6	Alluv./Volcanics	2.67	26S/29E-18 NE-SE	1320' S, 0' W fr E ¼ cor S 18
7	Proposed	7	Alluv./Volcanics	1.71	25S/29E-32 NW-SE	0' S, 1865' W fr E ¼ cor S 32

* 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	4128	35	6	6/4/73	338	0-20	0-170	None	None	1278	97	Pump
2	4128	8	6	8/20/78	457	0-25	0-200	None	60-120	700	35	Pump
3	4128				400	0-70						
4	4126				400	0-70						
5	4119				400	0-40±						
6	4117				400	0-40±						
7	4141				400	0-40±						

Use data from application for proposed wells.

A4. **Comments:** _____

A5. **Provisions of the Malheur** 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:** Condition 7N is typically used in this part of the Malheur Lake Basin.

This application is about seven miles west of the western part of an area of the Malheur Lake Basin, known as the Weaver Springs area, for which the Department has concerns about the groundwater resource. As a result, several years ago, the Department selected about 15 wells for quarterly water-level monitoring. Most of those wells are displaying year-to-year water-level declines. As a result, the Department is currently finding that groundwater is not available within the capacity of the resource in that area. The positive findings here are based on the significant distance from that area of the basin and on the lack of more local water-level data with an adequate period of record to conclude whether or not water levels are stable. However, given the documented water-level declines there, and elsewhere in the basin, and the fact that several of the permitted groundwater rights there are not yet developed, it is possible that the proposed use here will result in water level declines that will eventually exceed one or more of the triggers in the measurement condition that is being recommended.

Special Permit Condition: The permittee shall construct one minimum six-inch diameter observation well to penetrate the same aquifer as the production wells. The well shall meet the Department’s minimum well construction standards and shall be cased and sealed to the same depth as the production wells. The well shall be constructed at a location approved by the Department for the purpose of instrumentation with continuous water-level monitoring equipment. The landowner or permittee shall provide access to Department staff to install and maintain the monitoring equipment. The well shall not be used for any other purpose while the Department is monitoring water levels. The well shall be completed prior to water use under the terms of any permit issued.

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
All	Basin-fill sediments (Qal and Tvs of GW Report #16)	<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"/>

Basis for aquifer confinement evaluation: Groundwater in the basin fill is generally unconfined and hydraulically connected to surface water, including Malheur and Harney Lakes.

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
5	1	Silver Creek	4110±	4112	4000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	1	Silver Creek	4110±	4112	3800	<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: Wells 1-4 and 7 are not within one mile of any surface water source. The likely head relationship with Silver Creek and proposed wells #5 and #6 suggests an efficient hydraulic connection.

Water Availability Basin the well(s) are located within: Silver Cr > Harney Lk ab unn stream (31200408).

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?
5	1	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	2.22	<input checked="" type="checkbox"/>	<25%	<input checked="" type="checkbox"/>
6	1	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	2.22	<input checked="" type="checkbox"/>	<25%	<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"/>

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: The application states that proposed well #6 will be a backup well only. Therefore, the proposed rate for wells #5 and #6 should not be considered >5 cfs for the above table.

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													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)													
(E) = (A / B) x 100		%	%	%	%	%	%	%	%	%	%	%	%

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: _____ Logid: _____

D2. **THE WELL does not appear to 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 or other comment is described as follows:** _____

D4. **Route to the Well Construction and Compliance Section for a review of existing well construction.**

Water Availability Tables

Water Availability Analysis

Detailed Reports

SILVER CR > HARNEY L - AB UNN STR
MALHEUR LAKE BASIN

Water Availability as of 8/7/2013

Watershed ID #: 31200408

Date: 8/7/2013

Exceedance Level: -

Time: 8:29 AM

Water Availability Calculation	Consumptive Uses and Storages	Instream Flow Requirements	Reservations
Water Rights	Watershed Characteristics		

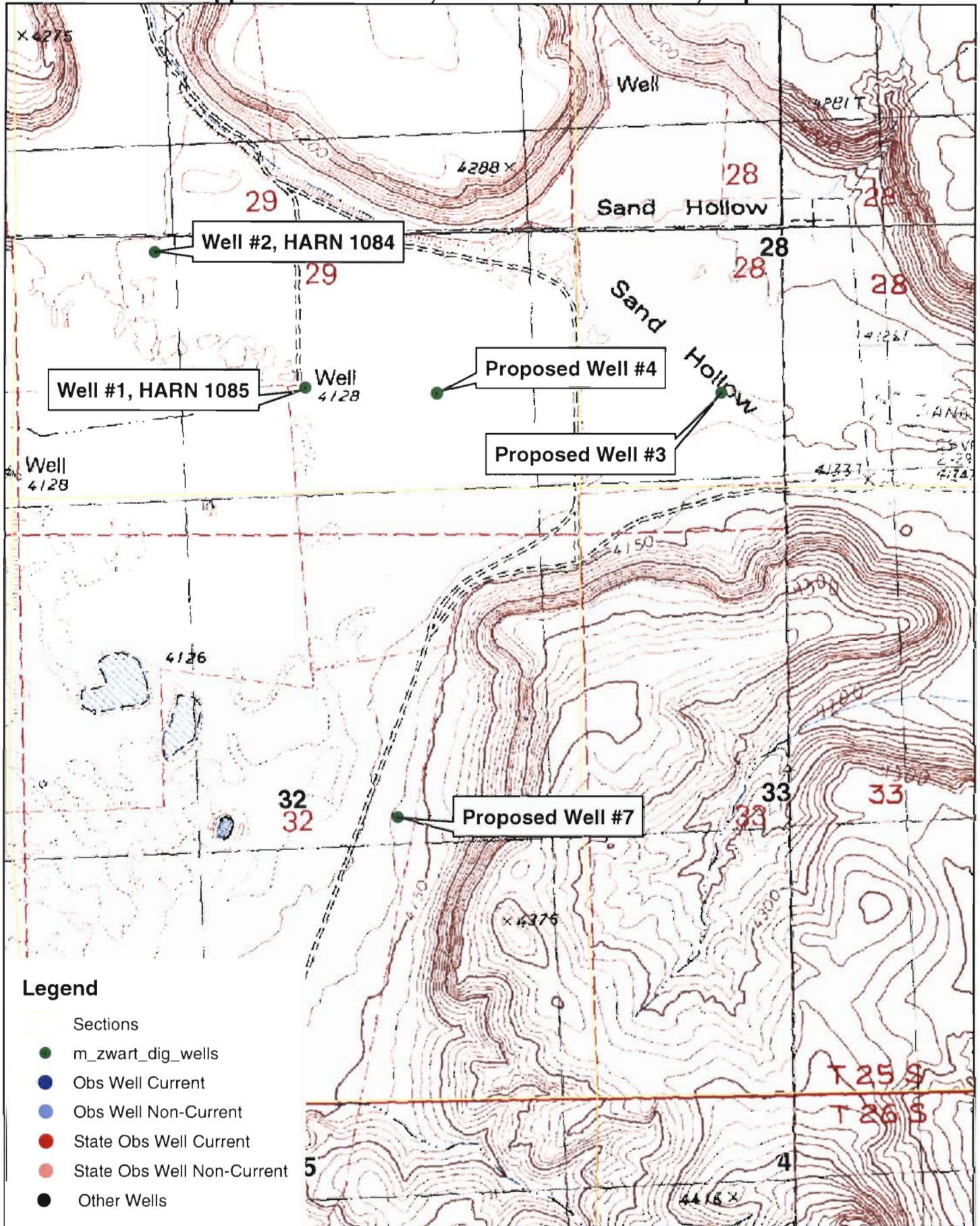
Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	5.66	2.96	2.70	0.00	0.00	2.70
FEB	13.40	7.60	5.80	0.00	0.00	5.80
MAR	40.90	34.20	6.72	0.00	0.00	6.72
APR	115.00	89.00	26.00	0.00	0.00	26.00
MAY	44.70	141.00	-96.10	0.00	0.00	-96.10
JUN	20.90	109.00	-88.10	0.00	0.00	-88.10
JUL	5.33	36.10	-30.80	0.00	0.00	-30.80
AUG	2.26	14.60	-12.40	0.00	0.00	-12.40
SEP	2.22	7.79	-5.57	0.00	0.00	-5.57
OCT	2.91	4.27	-1.36	0.00	0.00	-1.36
NOV	4.24	1.15	3.09	0.00	0.00	3.09
DEC	5.11	1.77	3.34	0.00	0.00	3.34
ANN	38,500.00	27,200.00	21,800.00	0.00	0.00	21,800.00

Download Data ([Text - Formatted](#), [Text - Tab Delimited](#), [Excel](#))

Application G-17677, William and Lori Peila, Map #1



Legend

- Sections
- m_zwart_dig_wells
- Obs Well Current
- Obs Well Non-Current
- State Obs Well Current
- State Obs Well Non-Current
- Other Wells



Application G-17677, William and Lori Peila, Map #2

