

Water Right Conditions  
Tracking Slip

Groundwater/Hydrology Section

FILE # # G-17626

ROUTED TO: Water Rights

TOWNSHIP/

RANGE-SECTION: 85/5W-6

CONDITIONS ATTACHED?: [] yes [ ] no

REMARKS OR FURTHER INSTRUCTIONS:

See p. 2.

Reviewer: Karl Wozniak

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date June 14, 2013

FROM: Ground Water/Hydrology Section Karl Wozniak  
Reviewer's Name

SUBJECT: Application G- 17626 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: Bogdan Caceu County: Polk

- A1. Applicant(s) seek(s) 0.021 cfs from 3 well(s) in the Willamette Basin,  
North Fork Ash Creek subbasin Quad Map: Dallas
- A2. Proposed use Irrigation, Storage, & Pond Maintenance Seasonality: Irrig season; Nov-Jun; All year, respectively
- 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	POLK 53022	South Well	Low-yield bedrock	.0067	8S/5W-6 NW/SE	2350 N, 1640 W fr SE cor, S 6
2	POLK 53096	North Well	Low-yield bedrock	.0022	8S/5W-6 NW/SE	2600 N, 1600 W fr SE cor, S 6
3	No Log	Sump Well	Low-yield bedrock	.0067	8S/5W-6 NE/SE	2160 N, 1000 W fr SE cor, S 6
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	540	26	15	12/18/2009	295	0-23	-1-24	-1-287	10-110 187-287	3	NA	Air
2	<b>560</b>	62	59	09/10/2010	198	0-34	-1-34	57-117 158-198	0-57 117-158	1	NA	Air
3	440		0	01/22/2013	7	0	0	0	0	9.6		

Use data from application for proposed wells.

A4. **Comments:** The applicant proposes to use two drilled wells and one sump well to produce water for irrigation of orchard land. Well 1, POLK 53022, is an approved POA on permit G-16630 which also allows irrigation of 30 of the acres included in this new application. The applicant has indicated that he intends to cancel permit G-16630 if the current application is approved.

A5.  **Provisions of the Willamette** \_\_\_\_\_ 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: The proposed POAs will produce groundwater from a low-yield bedrock aquifer so the pertinent rules (OAR 690-502-240) do not apply.

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) 7B, 7E (wells only, not the sump);
  - 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:** The surrounding area is underlain by sedimentary rock of the Yamhill Formation, part of the low-yield bedrock aquifer system found in the Coast Ranges. Production is probably from fractures and the permeability and porosity of the unit are generally very low which results in very low well yields. This aquifer system is generally not capable of irrigation of large acreages. The low proposed rates in the application reflect these realities. There are no local observation wells to assess water-level trends in the area but well density is very low in the section (45 wells of record in our well log database), few irrigation wells are permitted in the surrounding area, and there are no known water supply issues in the area related to groundwater withdrawals. In addition, the surrounding area is within the Luckiamute Domestic Water Cooperative service area. Because of the low proposed rates and the nature of the aquifer system, it is unlikely that the proposed use will have adverse impacts to the groundwater system or to existing groundwater users in the area.

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\_\_\_\_\_

\_\_\_\_\_

**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	Low-yield bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Low-yield bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Low-yield bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

**Basis for aquifer confinement evaluation:** Well logs suggest unconfined conditions but general knowledge suggests that confinement will increase with depth in the area.

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	North Fork Ash Creek	525	340-400	1750	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	North Fork Ash Creek	501	340-400	1990	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	North Fork Ash Creek	440	340-400	1500	<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"/>

**Basis for aquifer hydraulic connection evaluation:** Groundwater elevations (based on static water levels reported for the three wells) indicate that groundwater heads are above the elevations of North Fork Ash Creek in adjacent reaches. This indicates groundwater flow toward, and discharge to, the creek. The general hydrogeology suggests that North Fork Ash Creek is likely to be the principal hydraulic boundary for the wells on the application.

**Water Availability Basin the well(s) are located within:** WAB 183 (WILLAMETTE R > COLUMBIA R - AB MILL CR AT GAGE 14191000)

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?
1	1	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	36.2	<input type="checkbox"/>		<input type="checkbox"/>
2	1	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	36.2	<input type="checkbox"/>		<input type="checkbox"/>
3	1	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	36.2	<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 #	Qtotal	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?
	1	0.0156	<input type="checkbox"/>			<input type="checkbox"/>	36.2	<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:** No good method for calculating stream interference is readily available for fractured bedrock systems. Given the distance from the stream and the nature of the aquifer, interference at 30 days is likely to be much less than 25%.

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.

<b>Non-Distributed Wells</b>													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
<b>Distributed Wells</b>													
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 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).**

\_\_\_\_\_

**Water Availability Table**

Watershed ID	Exceedance Level	Month	Natural St	Consumpt	Expected	Reserverd	Instream I	Net Water	Download Date
183	80	JAN	18400	2240	16200	0	1300	14900	6/14/2013
183	80	FEB	20100	7430	12700	0	1300	11400	6/14/2013
183	80	MAR	19600	7220	12400	0	1300	11100	6/14/2013
183	80	APR	18000	6880	11100	0	1300	9820	6/14/2013
183	80	MAY	15500	4170	11300	0	1300	10000	6/14/2013
183	80	JUN	8310	1710	6600	0	1300	5300	6/14/2013
183	80	JUL	4710	1460	3250	0	1300	1950	6/14/2013
183	80	AUG	3620	1350	2270	0	1300	974	6/14/2013
183	80	SEP	3680	1170	2510	0	1300	1210	6/14/2013
183	80	OCT	4650	753	3900	0	1300	2600	6/14/2013
183	80	NOV	9400	862	8540	0	1300	7240	6/14/2013
183	80	DEC	16700	917	15800	0	1300	14500	6/14/2013
183	80	ANN	13500000	2160000	11300000	0	942000	10400000	6/14/2013



# Application G-17626, Caceu

