Water Right Conditions Tracking Slip

Groundwater/Hydrology Section

FILE # # G-17124

ROUTED TO: WR's

TOWNSHIP/
RANGE-SECTION: T39S/R19E-15

CONDITIONS ATTACHED?: [X] yes [ ] no

REMARKS OR FURTHER INSTRUCTIONS:
Supersedes review of 2/18/2010

Reviewer: Donn Miller

WATER RESOURCES DEPARTMENT

MEMO May 19, ~~200~~ 2010

TO: **Application G-** 17124

FROM: **GW:** Donn Miller
(Reviewer's Name)

SUBJECT: **Scenic Waterway Interference Evaluation**

_____YES
The source of appropriation is within or above a Scenic Waterway
__X__NO

_____YES
Use the Scenic Waterway condition (Condition 7J)
__X__NO

_____Per ORS 390.835, the Ground Water Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below.

__X__Per ORS 390.835, the Ground Water Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway.**

DISTRIBUTION OF INTERFERENCE

Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is unable to make a Preponderance of Evidence finding.

Exercise of this permit is calculated to reduce monthly flows in _____Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date **5/19/2010**

FROM: Ground Water/Hydrology Section **Donn Miller**
Reviewer's Name

SUBJECT: Application G- **17124** Supersedes review of **2/18/2010 with watermaster info**
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: **Burt and Reba Swingle** County: **Lake**

A1. Applicant(s) seek(s) **1.0** cfs from **one** well(s) in the **Goose and Summer Lakes** Basin, **Goose Lake** subbasin Quad Map: **Lakeview NW**

A2. Proposed use: **irrigation of 80 ac** Seasonality: **3/1-10/31**

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	**To be built**	**1**	**See comments**	**1.0**	**39S/19E-15 NE NE**	**90'S, 360'W fr NE cor S 15**
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	**4838**	---	**E38**	---	**E350**	**0-125**	**0-350**	---	**130-350**	---	---	---

Use data from application for proposed wells.

A4. **Comments: The proposed aquifer entry on the application simply says below 130'. Nearby well logs report shallow water conditions.**

A5. ☐ **Provisions of the Goose and Summer Lakes** 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: **NA**

Application G-17124 continued Date 5/19/2010

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) **7C, 7F**;
   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:** **There is limited ground water data. Three state observation wells in the basin show rather stable water levels. Data for closer wells that have measuring and reporting conditions provide little new data. The ground water report and well information lead me to conclude that any ground water declines have been largely the cyclical response to the strength of precipitation.**

Ground water flow is to the southeast locally. Ultimately, discharge is to Goose Lake or tributaries.

It appears that irrigation of the valley floor with surface water also aids considerably to ground water recharge.

Water level tracking at the well by permit condition is reasonable. It's a practical way to get data at the site.

See previous reviews and associated materials for additional information.

Application G-17124 continued Date 5/19/2010

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	**alluvium**	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: **There is nominal confinement per nearby well log entries which show shallow clay layers/lenses being interspersed with sand and other water producing layers/lenses. I conclude that lenses rather than layers occur in the materials reported in nearby wells. Water levels in wells are less than 50 feet but none flow. The water levels in the wells seem to reflect a subdued topography in which confinement is weak. Wells that develop materials that are deeper than the current set of wells (<400 feet total depth) may be strongly confined and capable of flowing at land surface.**

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? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	1	**Determined non-public water**				☐	☐	☐	☐	☐
1	2	**Cottonwood Creek**	**E4800**	**~4835**	**6000**	☒	☐	☐	☐	☒
1	3	**Determined non-public water**				☐	☐	☐	☐	☐
1	4	**Determined non-public water**				☐	☐	☐	☐	☐
1	5	**Thomas Creek Trib to south**	**E4800**	**~4785**	**5400**	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: **The current policy is to evaluate only public water sources. Therefore, the previously evaluates sources are removed from this review. Brian Mayer, watermaster district 12, made a site determination that two of the water sources were laterals of the canal system. They are not public water. This is a major factor since no public waters are identified within a mile of the proposed well. As a result, the determination of the potential for substantial interference changes from the previous review(s).**

Water Availability Basin the well(s) are located within: **Thomas Creek >Goose Lake @mouth**

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?
	NA	☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

Application G- 17124 continued Date 5/19/2010

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: **NA**

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
1	**2, 5**	**0.29%**	**0.39%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.01%**	**0.02%**	**0.04%**	**0.08%**	**0.14%**	**0.21%**
Well Q as CFS		**0**	**0**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	**0**
Interference CFS		**0.003**	**0.004**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.001**	**0.001**	**0.002**

Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NA		%	%	%	%	%	%	%	%	%	%	%	%
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													

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(A) = Total Interf.	**0.003**	**0.004**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.001**	**0.001**	**0.002**
(B) = 80 % Nat. Q	**16.7**	**38.7**	**76.6**	**151.0**	**111.0**	**41.7**	**13.1**	**8.24**	**8.98**	**10.40**	**14.50**	**19.1**
(C) = 1 % Nat. Q	**.167**	**.387**	**.766**	**1.51**	**1.11**	**.417**	**.131**	**.0824**	**.0898**	**.104**	**.145**	**.191**
(D) = (A) > (C)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100	**.02%**	**0.01%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.01%**	**0.01%**	**0.01%**

(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.

Application G- 17124 continued Date 5/19/2010

Basis for impact evaluation: The basis is the possible hydraulic connection and various reasonable parameters for conditions between the new proposed well and both Cottonwood Creek and the unnamedThomas Creek tributary to the south. Based solely on the distance involved in this semi-confined environment, we know that the estimated impact will be very small. The model results were presented in the review of 1/15/2009.

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** The ground water is shallow and flows in the general direction as surface water. The surface water heads near the site are close to those estimated for the well. The connection with surface water is certain in the big picture.

Previous reviews identified three surface water sources within one mile of the proposed well. Brian Mayer, watermaster district 12, identified two as irrigation laterals. The other is a canal. On that basis they are not public waters. The potential for substantial interference with surface water cannot occur on such waters.

The connection with Cottonwood Creek is weak at best. In any event, it probably has no real impact on the evaluation for surface water impacts.

An unnamed tributary of Thomas Creek to the south is a little over one mile from the proposed wells. The distance to the well is similar to that of Cottonwood Creek and the well. The estimation of surface water impacts is similar at these two sources.

References Used: well logs, File G-17124, USGS WRIR 87-4058, WRD GW database

Application G-17124 continued Date 5/19/2010

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** NA **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).**