

**Water Right Conditions
Tracking Slip**

Groundwater/Hydrology Section

FILE ## G 17142

ROUTED TO: Water Rights

TOWNSHIP/

RANGE-SECTION: 1S/32E-15 del

CONDITIONS ATTACHED? ☒ yes ☐ no

REMARKS OR FURTHER INSTRUCTIONS:

Reviewer: Mike Zwart

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date February 12, 2009

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

SUBJECT: Application G- 17142 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 and Maureen Rugg County: Umatilla

A1. Applicant(s) seek(s) 0.19 cfs from 1 well(s) in the Umatilla Basin,
Birch Creek subbasin Quad Map: Pilot Rock

A2. Proposed use: Irrigation, 15.0 acres Seasonality: March 1-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	Proposed	1	CRB	0.19	1S/32E-15 SE-SE	630' N, 530' W fr SE 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	1915				500-600	0-20	0-20					

Use data from application for proposed wells.

A4. Comments: The proposed well construction would allow up to 580 feet of open borehole. This large of an open interval would very likely allow commingling of multiple basalt aquifers within the well bore. Therefore, up-hole or down-hole flow will likely result if the proposed well is constructed in this manner. Well construction conditions are proposed (see B3) to address this concern.

A5. ☒ Provisions of the Umatilla 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:
- ☒ The permit should contain condition #(s) 7N; 7K, as modified below;
 - ☐ The permit should be conditioned as indicated in item 2 below.
 - ☒ 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: Currently measured basalt wells in the area are displaying reasonably stable water levels.

The well shall be continuously cased and continuously sealed to a minimum depth of 130 feet below land surface. The well may not be completed in such a manner that it allows ground water to be developed from shallower water-bearing zones. If during well construction, it becomes apparent that the well can be constructed to eliminate interference with nearby shallow wells or hydraulically connected streams in a manner other than specified in this permit, the permittee can contact the Department Hydrogeologist for this permit or the Ground Water/Hydrology Section Manager to request approval of such construction. The request shall be in writing, and shall include a rough well log and a proposed construction design for approval by the Department. The request can be approved only if it is received and reviewed prior to placement of any permanent casing and sealing material. If the well is constructed first and then the request made, requested modification will not be approved. If approved, the new well depth and construction specifications will be incorporated into any certificate issued for this permit.

Recommended language for well construction follows: The well shall be cased and sealed in such a manner to develop a single basalt aquifer.

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	Basalt of the Columbia River Basalt Group	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: Basalt aquifers are typically confined in this area. Some nearby wells are flowing artesian.

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	Stewart Creek		1840	2840	☐	☒	☐	☐	☒
1	2	Ray Creek		1880	600	☐	☒	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Local creeks are incised into basalt. The proposed well construction conditions will eliminate potential interference with the creeks if the regional dip of the basalt is at least one degree to the north, which appears likely.

Water Availability Basin the well(s) are located within: 220 BIRCH CR> UMATILLA R- AT MOUTH; 71681 E BIRCH CR> BIRCH CR- AT 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?
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

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													
(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:

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 PERSONNELD7. ☐ 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).**

**BIRCH CR> UMATILLA R- AT MOUTH
UMATILLA BASIN**

Water Availability as of 2/3/2009

Watershed ID #: 220

Exceedance Level: 80% ▼

Date: 2/3/2009

Time: 9:27 PM

Water Availability Calculation

Consumptive Uses and Storages

Instream Requirements

Reservations

Water Rights

Watershed Characteristics

Water Availability Calculation

Monthly Streamflows in Cubic Feet per Second

Storage at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirement	Net Water Available
Jan	23.40	0.66	22.70	0.00	20.00	2.74
Feb	39.40	0.93	38.50	0.00	30.00	8.47
Mar	52.20	4.95	47.30	0.00	30.00	17.30
Apr	97.00	19.70	77.30	0.00	30.00	47.30
May	64.60	47.60	17.00	0.00	30.00	-13.00
Jun	32.60	38.20	-5.57	0.00	20.00	-25.60
Jul	10.60	12.70	-2.14	0.00	12.00	-14.10
Aug	4.40	5.19	-0.79	0.00	8.00	-8.79
Sep	2.30	2.75	-0.45	0.00	8.00	-8.45
Oct	1.10	1.42	-0.32	0.00	8.00	-8.32
Nov	5.70	0.27	5.43	0.00	8.00	-2.57
Dec	19.20	0.48	18.70	0.00	20.00	-1.28
Storage Acre-Feet at 50%	39,200.00	8,170.00	31,200.00	0.00	13,500.00	20,400.00

E BIRCH CR> BIRCH CR- AT MOUTH UMATILLA BASIN

Water Availability as of 2/3/2009

Watershed ID #: 70681

Exceedance Level: 80% ▼

Date: 2/3/2009

Time: 9:28 PM

Water Availability Calculation

Consumptive Uses and Storages

Instream Requirements

Reservations

Water Rights

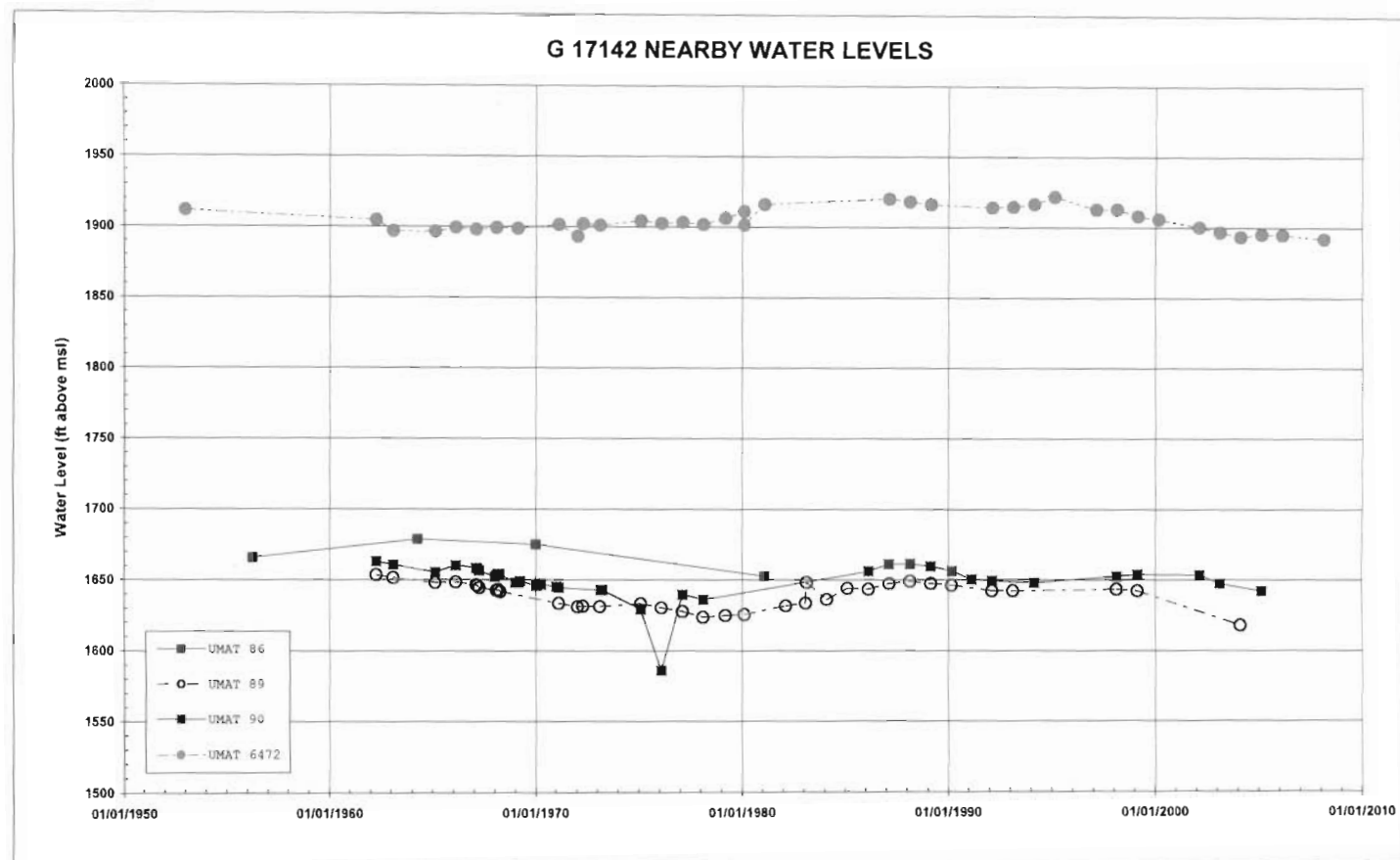
Watershed Characteristics

Water Availability Calculation

Monthly Streamflows in Cubic Feet per Second

Storage at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirement	Net Water Available
Jan	8.36	0.00	8.36	0.00	28.20	-19.80
Feb	17.90	0.04	17.90	0.00	38.00	-20.10
Mar	32.70	0.72	32.00	0.00	38.00	-6.02
Apr	51.80	3.38	48.40	0.00	38.00	10.40
May	25.10	8.47	16.60	0.00	38.00	-21.40
Jun	9.30	6.86	2.44	0.00	16.50	-14.10
Jul	3.10	2.29	0.81	0.00	9.84	-9.03
Aug	1.15	0.92	0.23	0.00	6.55	-6.32
Sep	1.42	0.47	0.95	0.00	5.63	-4.68
Oct	2.73	0.23	2.50	0.00	6.53	-4.03
Nov	4.50	0.00	4.50	0.00	10.70	-6.20
Dec	7.70	0.00	7.70	0.00	23.00	-15.30
Storage Acre-Feet at 50%	19,500.00	1,420.00	18,100.00	0.00	15,600.00	4,270.00



MEMO

February 12, 2009

YES

✓ NO

YES

☒ NO

[illegible]

