

Water Right Conditions Tracking Slip

Groundwater/Hydrology Section

FILE # G-17142

ROUTED TO: Michele McAloon

TOWNSHIP/

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

CONDITIONS ATTACHED? ☒ yes ☐ no

REMARKS OR FURTHER INSTRUCTIONS:

Revised review

Reviewer: Mike Zwart

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date March 31, 2009

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

SUBJECT: Application G- 17142 Supersedes review of February 12, 2009
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	UMAT 56290	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	130	60.2	02/20/09	770	0-18	0-18	None	None	800		Air

Use data from application for proposed wells.

A4. **Comments:** The well was constructed following my original review. The applicant requested a review of the construction of the well to determine if the casing and seal requirements made in the original review remain necessary. Please see additional comments at C6 regarding this issue.

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;
 - ☐ 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.

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	1858	1840	2840	☐	☒	☐	☐	☒
1	2	Ray Creek	1858	1880	600	☐	☒	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Local creeks are incised into basalt. The shallowest water-bearing zone reported is not likely to be in hydraulic connection with the surface water sources within one mile of the well.

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													
		%	%	%	%	%	%	%	%	%	%	%	%
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: This section likely applies, but it is not known with any certainty where interference will occur on more distant reaches of local creeks. Therefore, no calculations of potential interference were attempted.

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:
- ☐ The permit should contain condition #(s) _____;
 - ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. SW / GW Remarks and Conditions: The original review included two conditions regarding well construction. The first was primarily to ensure that the well would not cause interference with surface water sources within one mile, notably Stewart Creek and an identified spring in this creek about 4500 feet from the well. Given that the regional dip of the basalt beds is likely to be at least one degree to the north, 130 feet of casing and seal was recommended. The well log does not report any water-bearing zones shallower than 130 feet. Therefore, provided that the well log is accurate, it is likely that the well will not interfere with the spring and nearby reaches of the creeks. The second condition required the well to develop a single basalt aquifer. Historic well construction practices have resulted in numerous basalt wells that commingle multiple aquifers within the same borehole. This typically results when wells have minimal casing and seal installed and are finished with hundreds of feet of open borehole. This well is also constructed in this way and reports two water-bearing zones separated by 628 feet of basalt that is not reported to be water bearing. The static water level is reported to be the same for both water-bearing zones, which may indicate that the well is not commingling multiple basalt aquifers. However, I suspect that the well could be commingling and recommend that the Department inspect the well bore with a video camera and/or a temperature logger prior to pump installation. I have contacted Enforcement staff to schedule the work, if possible.

References Used: Local well logs; local well knowledge; nearby recent reviews; GW Reports 30 & 35; Lower Umatilla Basin Report, 1995, Chapter 2, Hydrogeology, by Wozniak.

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: 1 Logid: UMAT 56290

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).**

STATE OF OREGON

WATER SUPPLY WELL REPORT

(as required by ORS 537.765 & OAR 690-205-0210)

02-17-2009

WELL LABEL # L 90299

START CARD # 1006302

(1) LAND OWNER

Owner Well I.D. _____

First Name TOM

Last Name RUGG

Company _____

Address PO BOX 209

City PILOT ROCK

State OR

Zip 97868

(2) TYPE OF WORK

☒ New Well ☐ Deepening ☐ Conversion☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD

☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger ☐ Cable Mud☐ Reverse Rotary ☐ Other _____

(4) PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Community☐ Industrial/ Commercial ☐ Livestock ☐ Dewatering☐ Thermal ☐ Injection ☐ Other _____

(5) BORE HOLE CONSTRUCTION

Special Standard ☐ (Attach copy)

Depth of Completed Well 770.00 ft.

BORE HOLE			SEAL			Amt	sacks/ lbs
Dia	From	To	Material	From	To		
12	0	18	Bentonite	0	18	16	S
8	18	770					

How was seal placed:

Method ☐ A ☐ B ☐ C ☐ D ☐ E☒ Other POURED BENTONITE

Backfill placed from _____ ft. to _____ ft. Material _____

Filter pack from _____ ft. to _____ ft. Material _____ Size _____

Explosives used: ☐ Yes Type _____ Amount _____

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
☒	☐	8	☒	2	18	.25	☒	☐	☒	☐
☐	☐		☐				☐	☐	☐	☐
☐	☐		☐				☐	☐	☐	☐
☐	☐		☐				☐	☐	☐	☐
☐	☐		☐				☐	☐	☐	☐

Shoe ☐ Inside ☐ Outside ☐ Other Location of shoe(s) _____Temp casing ☐ Yes Dia _____ From _____ To _____

(7) PERFORATIONS/SCREENS

Perforations Method _____

Screens Type _____ Material _____

Perf/S	Casing/	Screen							
reen	Liner	Dia	From	To	Scr/slot	Slot	# of	Tele/	size
					width	length	slots	pipe	

(8) WELL TESTS: Minimum testing time is 1 hour

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
800		770	1

Temperature 57 °F Lab analysis ☐ Yes By _____Water quality concerns? ☐ Yes (describe below)

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)

County Umatilla Twp 1.00 S N/S Range 32.00 E E/W WM

Sec 15 SE 1/4 of the SE 1/4 Tax Lot 2201

Tax Map Number _____ Lot _____

Lat _____ " or _____ DMS or DD

Long _____ " or _____ DMS or DD

☒ Street address of well ☐ Nearest address

45422 STEWART CREEK RD

(10) STATIC WATER LEVEL

Date SWL(psi) + SWL(ft)

Existing Well / Predeepening			
Completed Well	02-17-2009		57

Flowing Artesian? ☐ Dry Hole? ☐

WATER BEARING ZONES Depth water was first found 130

SWL Date	From	To	Est Flow	SWL(psi)	+ SWL(ft)
02-17-2009	130	140	20		57
02-17-2009	768	770	800		57

(11) WELL LOG

Ground Elevation _____

Material	From	To
SOIL	0	2
CEMENTED GRAVEL	2	6
BROWN BASALT	6	75
BLACK BASALT	75	130
BROWN BASALT W/TAN CLAYSTONE	130	140
BLACK BASALT	140	200
BLACK BASALT W/GREEN CLAYSTONE	200	235
BLACK BASALT	235	260
BLACK BASALT W/GREEN CLAYSTONE	260	295
BLACK BASALT	295	420
BLACK BASALT W/GREEN CLAYSTONE	420	460
BLACK BASALT	460	555
BLACK BASALT W/GREEN CLAYSTONE	555	580
SOFT BLACK BASALT	580	600
BLACK BASALT W/GREEN CLAYSTONE	600	630
BLACK BASALT	630	665
BLACK BASALT W/GREEN CLAYSTONE	665	695
BLACK BASALT	695	725
BROWN W/TAN CLAYSTONE	725	740

Date Started 02-13-2009 Completed 02-17-2009

(unbonded) Water Well Constructor Certification

I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

License Number 1735 Date 02-17-2009

Electronically Filed

Signed CHAD COURTNEY (E-filed)

(bonded) Water Well Constructor Certification

I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

License Number 544 Date 02-17-2009

Electronically Filed

Signed LARRY BURD (E-filed)

Contact Info (optional) _____

ORIGINAL - WATER RESOURCES DEPARTMENT

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Form Version: 0.88

02-17-2009

START CARD # 1006302

(5) BORE HOLE CONSTRUCTION

[illegible]

FILTER PACK

From	To	Material	Size

(6) CASING/LINER

Casing Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd

(7) PERFORATIONS/SCREENS

[illegible]

(8) WELL TESTS: Minimum testing time is 1 hour

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)

Water Quality Concerns

From	To	Description	Amount	Units

(10) STATIC WATER LEVEL

Water Bearing Zones

[illegible]

(11) WELL LOG

[illegible]

Comments/Remarks

