

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date June 6, 2006

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

SUBJECT: Application G- 16626 Supersedes review of N/A
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: Rattlesnake Creek Land & Cattle County: Harney

- A1. Applicant(s) seek(s) 3.423 cfs from one well(s) in the Malheur Lake Basin,
 _____ subbasin Quad Map: Northeast Harney Lake
- A2. Proposed use: Irrigation, 273.8 ac. (P) Seasonality: March 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 51272*	1	Basalt/Vol. Seds	3.423	25S/30E-34 SE-SW	2090' S, 762' W fr ctr. S 34
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	4165	349	98	4/30/06	375	0-44	0-77	None	None	550	102	P

Use data from application for proposed wells.

A4. **Comments: *Only very general well construction information is in the application, but HARN 51272 is recently filed and matches the proposed location. Therefore, I will presume that this is the subject well and if not, that the proposed well will be similarly constructed.**

A5. Provisions of the Malheur Lake 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) 7C;
 - 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 basalt and volcanic sediments 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: _____

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	Late Tertiary to Quaternary basalt and volcanioclastic sedimentary rocks	<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"/>

Basis for aquifer confinement evaluation: The water level is above the depth that ground water was first encountered.

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 1/4 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	Harney Lake	4067	4098*	25000	<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: *Elevation from quad map (1983). It is generally accepted that Harney and Malheur Lakes are regional discharge areas for the ground-water system in the basin. Here, the gradient appears to be opposite of what is expected. Despite this, I expect hydraulic connection exists with the lake, but actual interference will likely be very diffuse.

Water Availability Basin the well(s) are located within: No WAB in this area.

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 < 1/4 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?
		<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"/>

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

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: 1 Logid: HARN 51272 (presumed log)

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: Unclear as to whether a well seal exists or is adequate.

- 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).

HARN 51272

*placed in file
by Mike Zwart
6/6/06*

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

WELL I.D.# L 72702
START CARD # 169131

Instructions for completing this report are on the last page of this form.

(1) LAND OWNER Andy Root Well Number _____
Name Andy Root
Address P.O. Box 946
City Burns State OR Zip 97720

(2) TYPE OF WORK New Well
 Deepening Alteration (repair/recondition) Abandonment Conversion

(3) DRILL METHOD
 Rotary Air Rotary Mud Cable Auger Cable Mud
 Other _____

(4) PROPOSED USE
 Domestic Community Industrial Irrigation
 Thermal Injection Livestock Other _____

(5) BORE HOLE CONSTRUCTION Special Construction: Yes No
Depth of Completed Well 375 ft.
Explosives used: Yes No Type _____ Amount _____

BORE HOLE			SEAL		
Diameter	From	To	Material	From	To
18"	0	44	Bent	0	24
14"	44	240	Cement	24	1 yd
12"	240	375	-	-	-

How was seal placed: Method A B C D E
 Other Pour down

Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 14"	43	77	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Linr:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Drive Shoe used Inside Outside None
Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS

Perforations Method _____
 Screens Type _____ Material _____

From	To	Slot Size	Number	Diameter	Tele/pipe size	Casing	Linr
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailor Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
550	102	200	4 hr

Temperature of water 60 Depth Artesian Flow Found _____
Was a water analysis done? Yes By whom NO
Did any strata contain water not suitable for intended use? NO Too little
 Salty Muddy Odor Colored Other _____
Depth of strata: _____

(9) LOCATION OF WELL (legal description)
County Harvey
Tax Lot 2002 Lot _____
Township 20025 North Range 30 East W WM
Section 34 S E 1/4 S W 1/4

Lat _____ " or _____ (degrees or decimal)
Long _____ " or _____ (degrees or decimal)

Street Address of Well (or nearest address) End of Weaver Springs Rd Burns, OR 97720

(10) STATIC WATER LEVEL
98 ft. below land surface Date 4-30-06
_____ ft. below land surface. Date _____
Artesian pressure _____ lb. per square inch Date _____

(11) WATER BEARING ZONES

Depth at which water was first found 349

From	To	Estimated Flow Rate	SWL
349	371	500	98

(12) WELL LOG

Material	From	To	SWL
Top Soil	0	3	-
Clay shales	3	26	-
Brown sand	26	35	-
Stone Basalt w/ clay seams	35	349	-
white, brown & blue pumice	349	371	98
Green clay	371	375	98

Date Started 3-26-06 Completed 4-30-06

(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.

WWC Number _____ Date _____
Signed _____

(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.

WWC Number 1521 Date 4-30-06
Signed Donald W. Reed

RECEIVED

MAY 24 2006

WATER RESOURCES DEPT
SALEM, OREGON

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Northeast Harney Lake

