

# Groundwater Application Review Summary Form

Application # G- 18792

GW Reviewer M. Thorne Date Review Completed: 06-07-19

## Summary of GW Availability and Injury Review:

[ ] Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.

## Summary of Potential for Substantial Interference Review:

There is the potential for substantial interference per Section C of the attached review form.

## Summary of Well Construction Assessment:

[ ] The well does not appear to meet current well construction standards per Section D of the attached review form. Route through Well Construction and Compliance Section.

*This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).*



PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 6/7/2019  
 FROM: Groundwater Section Michael Thoma  
 Reviewer's Name  
 SUBJECT: Application G- 18792 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 groundwater 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: Bryan Long County: Josephine

A1. Applicant(s) seek(s) 1.0 cfs from 2 well(s) in the Rogue Basin,  
Grave Creek subbasin

A2. Proposed use: Primary Irrigation (40 ac); Supplemental Irrigation (40 ac); Stock/Industrial/Mining/Commercial (14 AF)  
 Seasonality: Irrigation: Apr. 1 – Oct 31; Stock/Industrial/Mining/Commercial: Nov. 1 – Mar. 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	SUMP	Sump 1	Alluvium	0.20	34S/06W-9 NWNE	265'S, 1786'W of NE cor S 9†
2	SUMP	Sump 2	Alluvium	0.80	24S/06W-9 NWNE	401'S, 1781'E of NE cor S 9†
3						

\* 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	1110		2		10							
2	1110		4		10							

Use data from application for proposed wells.

A4. **Comments:** POA 1 and 2 are sumps; information on depth and SWL were provided with the application  
~~†POA metes and bounds were not provided on the application map but could be reasonably estimated from the application map and aerial imagery.~~

A5.  Provisions of the Rogue (690-515) Basin rules relative to the development, classification and/or management of groundwater 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. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070**

B1. Based upon available data, I have determined that groundwater\* 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 groundwater 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 groundwater 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 groundwater resource; or
- d.  will, if properly conditioned, avoid injury to existing groundwater rights or to the groundwater resource:
  - i.  The permit should contain condition #(s) 7J (Scenic); Medium Water-Use Reporting;
  - 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 groundwater production from no deeper than \_\_\_\_\_ ft. below land surface;
- b.  Condition to allow groundwater production from no shallower than \_\_\_\_\_ ft. below land surface;
- c.  Condition to allow groundwater production only from the \_\_\_\_\_ groundwater 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 Groundwater 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. **Groundwater availability remarks:** The applicant’s proposed POAs are two sumps reported to be 10 ft deep and within 300 ft of Grave Creek. These sumps will be very efficiently connected to Grave Creek to the point were they can be considered, hydrologically, to be surface water (see Section C). Therefore any assessment of groundwater over-appropriation, capacity of the resource, or injury to existing groundwater users, would not be reasonable to apply to these POAs.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**C. GROUNDWATER/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	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Alluvium	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

**Basis for aquifer confinement evaluation:** the POAs are 10 ft deep sumps producing from unconsolidated alluvial sediments

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	Grave Creek	1110	1110	110	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	1	Grave Creek	1110	1110	210	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" 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:** POAs are producing from shallow depths within an unconfined alluvial aquifer; the distance to surface water is < ¼ mile so Hydraulic Connection and PSI are assumed.

**Water Availability Basin the well(s) are located within:** Grave Cr > Rogue R – AB Wolf Cr (ID# 71034)

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 checked="" type="checkbox"/>	<input type="checkbox"/>	IS 71034	4.35	<input checked="" type="checkbox"/>	3.61	<input checked="" type="checkbox"/>	> 25%	<input checked="" type="checkbox"/>
2	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	IS 71034	4.35	<input checked="" type="checkbox"/>	3.61	<input checked="" type="checkbox"/>	> 25%	<input checked="" 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?
2	<input type="checkbox"/>	IS 71034	4.35	<input checked="" type="checkbox"/>	3.61	<input checked="" type="checkbox"/>	> 25%	<input checked="" type="checkbox"/>
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

**Comments:** Stream-depletion was inferred using the Hunt (1999) stream-depletion model but given the distance and high-transmissivity of the aquifer system, stream-depletion will be well-over 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.

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													
(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:** No surface water sources were evaluated beyond 1 mile

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 groundwater 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 applicant's proposed POAs would be producing from an aquifer that has been found to be hydraulically connected to surface water – specifically Grave Cr. at a distance of < ¼ mile. The proposed rate is greater than 1% of the pertinent adopted minimum perennial streamflow and 1% of the pertinent instream water right for Grave Creek. Per OAR 690-009 the proposed POAs are assumed to have the Potential for Substantial Interference.

**References Used:**

Hunt, B. 1999. *Unsteady Stream Depletion from Ground Water Pumping*. Journal of Hydrologic Engineering, Vol 8(1), pp 12-19

Oregon Department of Geology and Mineral Industries. *Geologic Map of Oregon*. <http://www.oregongeology.org/geologicmap/>

OWRD Well Log Database – Accessed 6/7/2019

Ramp, L. and Peterson, N. 2004. *Geologic Map of Josephine County, Oregon*. Oregon Dept. of Geol. and Mineral Industries, OFR O-04-13.

**D. WELL CONSTRUCTION, OAR 690-200**

D1. Well #: \_\_\_\_\_ Logid: \_\_\_\_\_

D2. THE WELL does not appear to 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 or other comment is described as follows: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

D4.  Route to the Well Construction and Compliance Section for a review of existing well construction.

**Water Availability Tables**

<h2 style="margin: 0;">Water Availability Analysis</h2> <h3 style="margin: 0;">Detailed Reports</h3>									
GRAVE CR > ROGUE R - AB WOLF CR									
ROGUE BASIN									
Water Availability as of 6/7/2019									
Watershed ID #: 71034 ( <a href="#">Map</a> )								Exceedance Level: 80% ▾	
Date: 6/7/2019								Time: 1:46 PM	
Water Availability Calculation	Consumptive Uses and Storages	Instream Flow Requirements	Reservations						
Water Rights	Watershed Characteristics								
Water Availability Calculation									
Monthly Streamflow in Cubic Feet per Second									
Annual Volume at 50% Exceedance in Acre-Feet									
Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available			
JAN	76.20	1.02	75.20	0.00	135.00	-59.80			
FEB	120.00	1.75	118.00	0.00	135.00	-16.70			
MAR	117.00	0.91	116.00	0.00	135.00	-18.90			
APR	69.50	1.70	67.80	0.00	119.00	-51.20			
MAY	33.70	2.55	31.10	0.00	50.60	-19.50			
JUN	13.70	3.47	10.20	0.00	40.00	-29.80			
JUL	7.02	4.56	2.46	0.00	8.89	-6.43			
AUG	4.97	3.80	1.17	0.00	5.09	-3.92			
SEP	3.61	2.59	1.02	0.00	40.00	-39.00			
OCT	4.06	1.03	3.03	0.00	40.00	-37.00			
NOV	10.50	0.32	10.20	0.00	80.00	-69.80			
DEC	38.30	0.34	38.00	0.00	135.00	-97.00			
- ANN	60,500.00	1,450.00	59,100.00	0.00	55,500.00	13,000.00			

