





PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 8/23/2016  
 FROM: Groundwater Section Jen Woody  
 Reviewer's Name  
 SUBJECT: Application G- 18304 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 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: Kathleen and Jeff Irish County: Josephine

A1. Applicant(s) seek(s) 0.067 cfs from 1 well(s) in the Rogue Basin,  
Applegate subbasin

A2. Proposed use Nursery Seasonality: year-round

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	JOSE 16140	1	Bedrock	0.067	T39S/R5W-3 NE ¼ NW ¼	346' W, 420' S fr N cor S 3
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	1430	100	18	9/15/1992	158	0-25	0-115	98-158	138-157	30		air

Use data from application for proposed wells.

A4. **Comments:** Based on the well log, the water-bearing materials are likely decomposed granite and fractured granitic materials. Alluvium overlies the granitic aquifer. While it is likely saturated, it does not appear to be the primary productive zone utilized by JOSE 16140.

A5.  **Provisions of the Rogue** 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: Rogue Basin rules do not contain a provision for groundwater hydraulically connected to surface water.

A6.  **Well(s) #** \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, tap(s) an aquifer limited by an administrative restriction.  
 Name of administrative area: \_\_\_\_\_  
 Comments: N/A



**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) 7C, 7J, 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): N/A

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B3. **Groundwater availability remarks:** The application proposes to use 30 gallons per minute (gpm) from the predominantly granitic aquifer. Based on nearby well logs, approximately 20-80 feet of clay and coarse sediments overlie the granitic aquifer of the Grayback Pluton at this location. Nearby logs report the water-bearing zone is primarily below the alluvial sediments, in the decomposed granite and fractured granite. Well yields in the area are low to moderate (10-30 gpm). There are no recent static water level data (within the last 15 years) in the immediate area to determine local over-appropriation of the groundwater resource.

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**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	<b>Granitic Aquifer</b>	<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 well log describes a static water level that is tens of feet above the water-bearing zone, indicating the aquifer is more confined than unconfined.

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	<b>Williams Creek</b>	<b>1412</b>	<b>1410</b>	<b>1820</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	<b>West Fork Williams Creek</b>	<b>1412</b>	<b>1410</b>	<b>1700</b>	<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:** Groundwater elevation is above or coincident with Williams Creek, indicating groundwater discharges to surface water locally.

**Water Availability Basin the well(s) are located within:** Watershed ID #: 70981 WILLIAMS CR > APPLGATE R - AT MOUTH; hydraulically connected to Watershed ID #: 70976 W FK WILLIAMS CR > WILLIAMS 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?
1	1	<input type="checkbox"/>	<input type="checkbox"/>	<b>MF278A</b>	<b>5.00</b>	<input type="checkbox"/>	<b>1.89</b>	<input checked="" type="checkbox"/>	<b>**</b>	<input checked="" type="checkbox"/>
1	2	<input type="checkbox"/>	<input type="checkbox"/>	<b>IS70976 A</b>	<b>1.08</b>	<input checked="" type="checkbox"/>	<b>0.80</b>	<input checked="" type="checkbox"/>	<b>**</b>	<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"/>



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:** \*\*Interference at 30 days could not be estimated because the terrain and geology do not meet model assumptions of the widely accepted techniques for determining stream depletion (e.g., Hunt 1999, 2003). The fractured nature of the aquifer indicates that it likely cannot be treated as homogeneous over the distances of the current situation.

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													
<b>(A) = Total Interf.</b>													
<b>(B) = 80 % Nat. Q</b>													
<b>(C) = 1 % Nat. Q</b>													



<b>(D) = (A) &gt; (C)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>(E) = (A / B) x 100</b>	%	%	%	%	%	%	%	%	%	%	%	%

(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:** N/A

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**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 POA is located within 1 mile of both the West Fork Williams Creek and Williams Creek (below the confluence of the west and east forks) and has been found to be hydraulically connected to both reaches based on analysis of the geology and hydrogeology of the area. Under OAR 690-009 the proposed use will have the potential for substantial interference with both reaches because the proposed rate (0.067 cfs) is greater than 1% of the 80% exceedance natural flows.

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**References Used:**

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

Hunt, B. 2003. Unsteady Stream Depletion when Pumping from a Semiconfined Aquifer. Journal of Hydrologic Engineering. Vol 8(1), pp 12-19

Wiley, T. J. 2006. Preliminary Geologic Map of the Sexton Mountain, Murphy, Applegate, and Mount Isabelle 7.5' Quadrangles, Jackson and Josephine Counties, Oregon. Oregon Dept. of Geology and Mineral Industries. OFR O-06-11

US Geologic Survey Topographic map, Williams Quadrangle.

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

D1. Well #: \_\_\_\_\_ Logid: **this section does not apply** \_\_\_\_\_

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

## Water Availability Analysis Detailed Reports

### WILLIAMS CR > APPLGATE R - AT MOUTH ROGUE BASIN

Water Availability as of 8/23/2016

Watershed ID #: 70981 ([Map](#))

Exceedance Level:80%

Date: 8/23/2016

Time: 8:57 AM

## 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	67.30	1.16	66.10	0.00	110.00	-43.90
FEB	110.00	1.56	108.00	0.00	110.00	-1.56
MAR	107.00	1.16	106.00	0.00	110.00	-4.16
APR	62.70	3.75	59.00	0.00	110.00	-51.00
MAY	29.50	5.82	23.70	0.00	65.00	-41.30
JUN	10.30	8.11	2.19	0.00	40.00	-37.80
JUL	4.24	10.80	-6.56	0.00	15.00	-21.60
AUG	2.68	8.94	-6.26	0.00	5.00	-11.30
SEP	1.89	5.92	-4.03	0.00	50.00	-54.00
OCT	2.28	2.06	0.22	0.00	80.00	-79.80
NOV	6.60	0.38	6.22	0.00	80.00	-73.80
DEC	32.30	0.82	31.50	0.00	110.00	-78.50
ANN	54,800.00	3,060.00	52,600.00	0.00	53,300.00	15,200.0



## Water Availability Analysis Detailed Reports

### W FK WILLIAMS CR > WILLIAMS CR - AT MOUTH ROGUE BASIN

Water Availability as of 8/23/2016

Watershed ID #: 70976 ([Map](#))

Exceedance Level:80%

Date: 8/23/2016

Time: 10:27 AM

## 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	31.70	0.26	31.40	0.00	42.00	-10.60
FEB	52.40	0.31	52.10	0.00	42.00	10.10
MAR	51.60	0.27	51.30	0.00	42.00	9.33
APR	30.20	1.20	29.00	0.00	42.00	-13.00
MAY	14.10	1.84	12.30	0.00	25.00	-12.70
JUN	5.01	2.55	2.46	0.00	8.85	-6.39
JUL	1.93	3.38	-1.45	0.00	2.88	-4.33
AUG	1.14	2.81	-1.67	0.00	1.40	-3.07
SEP	0.80	1.87	-1.07	0.00	1.08	-2.15
OCT	1.06	0.68	0.38	0.00	1.89	-1.51
NOV	3.46	0.15	3.31	0.00	12.10	-8.79
DEC	16.10	0.21	15.90	0.00	42.00	-26.10
ANN	26,500.00	942.00	25,700.00	0.00	15,800.00	10,600.00



### Well Location Map

### G-18304 Irish T39S/R5W-Section 3

