

Groundwater Application Review Summary Form

Application # G- 18572

GW Reviewer M. Thorne Date Review Completed: 02-06-19

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).

WATER RESOURCES DEPARTMENT

MEMO

02-06, 2019

TO: Application G- 18572

FROM: GW: M. Thomas
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

YES The source of appropriation is hydraulically connected to a State Scenic Waterway or its tributaries
 NO

YES Use the Scenic Waterway Condition (Condition 7J)
 NO

Per ORS 390.835, the Groundwater Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below

Per ORS 390.835, the Groundwater Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway**

DISTRIBUTION OF INTERFERENCE

Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is unable to make a Preponderance of Evidence finding.

Exercise of this permit is calculated to reduce monthly flows in Rogue Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 02/06/2019
 FROM: Groundwater Section Michael Thoma
 Reviewer's Name
 SUBJECT: Application G- 18572 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: Rachel and Nathan Kondor County: Josephine

A1. Applicant(s) seek(s) 0.019 cfs from 1 well(s) in the Rogue Basin,
Williams Creek subbasin

A2. Proposed use Irrigation (27.1 acres) 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	PROP	1	Bedrock	0.019	38S/5W-35 SESW	780'N, 537'W fr S1/2 cor S 35

* 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	1,550	-	50*	-	†	0-18‡	+1-18‡	-	-	-	-	-

Use data from application for proposed wells.

A4. **Comments:** *The well is proposed but a well log (JOSE 16149) for the same taxlot reports SWL of 50 ft and it is assumed the proposed well will have a similar SWL.

†The application does not provide a well depth for the proposed POA but the geology at the location is such that a well completed to a reasonable depth (< 500 ft) will penetrate a single aquifer. Additionally, well-construction conditions are recommended in Section B.

‡The applicant only lists that the well shall meet minimum construction standards, which is what this review assumes

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) 7C (7-yr SWL); 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 100 ft. below land surface; **(the well shall be constructed to be continuously cased and continuously sealed to at least 100 ft)**
- 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:** There are limited water level data in the aquifer and vicinity of the applicant’s proposed POA so Capacity of the Resource cannot be determined and water-level reporting conditions in B1(d) are recommended. There are three water rights within or just over ¼ mile of the proposed POA that could be affected by the proposed use: Cert. 43054, Cert. 34164, and Cert. 43162, with the sources being a sump, a spring, and a spring, respectively. From the geologic information for the area it is inferred that these water rights are appropriating shallow groundwater from the alluvial or colluvial deposits forming the debris apron on the east side of the valley and blanketing the underlying granitic bedrock. These deposits are likely less than 100 ft thick so the condition in B2(b) is recommended to minimize the potential for injury to existing nearby water rights. Compliance with the condition in B2(b) does not exempt the proposed use from a finding of injury to these three water rights or any other water rights in the area.

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	Fractured Bedrock of Grayback Pluton	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: reported static water level is higher than reported "First Water" on many driller's logs for the area and "clay" is often reported in the first few tens of feet on driller's logs – this "clay" zone is interpreted to be the alluvial apron deposits overlying the consolidated bedrock below, which acts as a confining layer to the bedrock locally.

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	Williams Creek	~1500	1360-1390	2160	<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"/>

Basis for aquifer hydraulic connection evaluation: groundwater elevations are above surface water elevations implying the groundwater is flowing towards and discharging to surface water. The alluvial apron deposits overlying the bedrock aquifer terminate above and east of Williams Creek.

Water Availability Basin the well(s) are located within: WILLIAMS CR > APPLGATE R – AT MOUTH (ID# 70981)

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"/>	MF278A	5.0	<input type="checkbox"/>	1.89	<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 was not evaluated because the terrain and geology (high-relief, bedrock hillside adjacent to alluvial valley deposits) does not meet the model assumptions of the widely-accepted stream-depletion models (e.g., Hunt, 1999; Hunt, 2003)

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"/>

Comments:

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													
(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 POA would be producing from an aquifer that has been found to be hydraulically connected to surface water – specifically Williamson Cr. – at a distance of less than 1 mile. The proposed maximum rate of appropriation is less than 1% of the pertinent adopted perennial streamflow and also less than 1% of the adopted instream water rights for either surface water source. Per OAR 690-009-0040(4) the proposed use is assumed to **not** 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

Hunt, B. 2003. *Unsteady Stream Depletion when Pumping from a Semiconfined Aquifer*. 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 02/06/2019

Smith, J. G., N. J. Page, M. G. Johnson, B. C. Moring, F. Gray. 1982. *Preliminary Geologic Map of the Medford 1 by 2 Degree Quadrangle, Oregon and California*. USGS Open-file Report 82-955

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

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:** _____

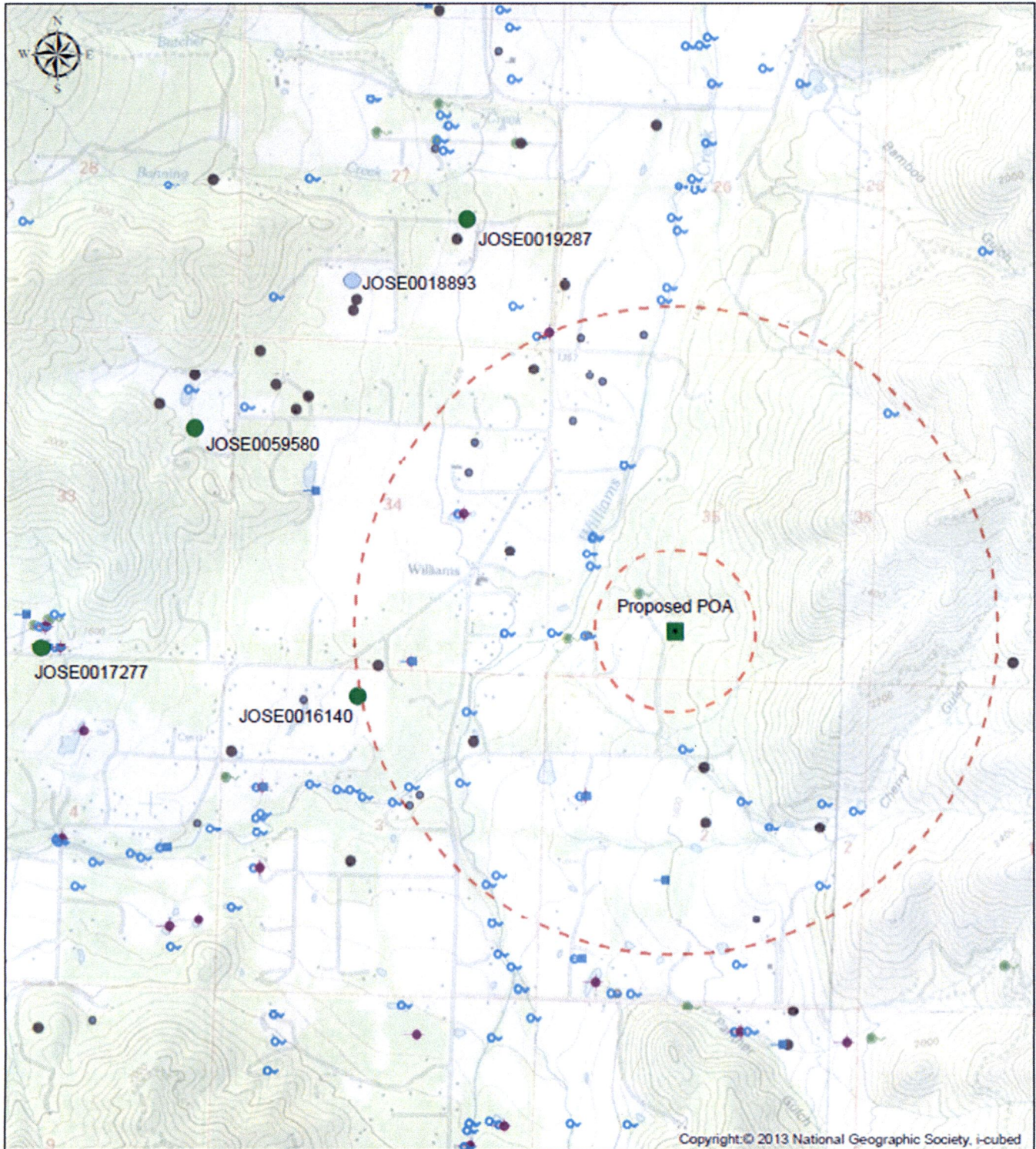
D4. Route to the Well Construction and Compliance Section for a review of existing well construction.

Water Availability Tables

Water Availability Analysis Detailed Reports							
WILLIAMS CR > APPLGATE R - AT MOUTH ROGUE BASIN							
Water Availability as of 2/5/2019							
Watershed ID #: 70981 (Map)				Exceedance Level: 80% ▾			
Date: 2/5/2019				Time: 8:58 AM			
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	67.30	1.09	66.20	0.00	110.00	-43.80	
FEB	110.00	1.49	109.00	0.00	110.00	-1.49	
MAR	107.00	1.09	106.00	0.00	110.00	-4.09	
APR	62.70	3.69	59.00	0.00	110.00	-51.00	
MAY	29.50	5.80	23.70	0.00	65.00	-41.30	
JUN	10.30	8.12	2.18	0.00	40.00	-37.80	
JUL	4.24	10.90	-6.61	0.00	15.00	-21.60	
AUG	2.68	9.02	-6.34	0.00	5.00	-11.30	
SEP	1.89	6.01	-4.12	0.00	50.00	-54.10	
OCT	2.28	2.14	0.14	0.00	80.00	-79.90	
NOV	6.60	0.45	6.15	0.00	80.00	-73.80	
DEC	32.30	0.75	31.60	0.00	110.00	-78.40	
ANN	54,800.00	3,060.00	52,600.00	0.00	53,300.00	15,200.00	

Location Map

POA Location Map for App G-18572



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Legend		0 0.25 0.5 1 Miles			
	1/4 mi Buffer		Obs Well Non-Current		Sump
	1 mi Buffer		Well Sites		Spring
	G 18572		Reservoir		Stream
			Well		Winter Runoff
			Waste Water		