





**PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS**

TO: Water Rights Section Date 8/31/2016  
 FROM: Groundwater Section Jen Woody  
Reviewer's Name  
 SUBJECT: Application G- 18332 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: Luke Hewko, PermAg LLC County: Jackson

A1. Applicant(s) seek(s) 0.167 cfs from 1 well(s) in the Rogue Basin,  
Bear Creek 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	PROP 999999	1	Bedrock	0.167	T39S/R1E-3 NE ¼ NW ¼	383' S, 1583'E fr NW 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	1900	365*	75*	10-8-1994*	380	0-20	0-20	n/a	n/a	n/a	n/a	n/a

Use data from application for proposed wells.

A4. **Comments:** The application proposes a new well, but JACK 33854 is referenced by the application. Based on exempt well maps, nearby well logs also include JACK 61777 (total depth 600 feet, water-bearing zone at 213 feet below land surface, static water level 178 feet below land surface) and JACK 59463 (158 feet total depth, water bearing zones at 50 and 140 feet below land surface, static water level 10 feet below land surface). This review assumes the proposed well is targeting a deep zone similar to JACK 33854\* (380 feet deep, water-bearing zone at 365 feet below land surface, static water level 75 feet below land surface).

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: N/A

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





**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	Sandstone of the Hornbrook Formation	<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 static water level rises 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	Kitchen Creek	1825	1820	2000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Bear Creek	1825	1860	4000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	3	Unnamed tributary to Bear Creek	1825	1825	1550	<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"/>

**Basis for aquifer hydraulic connection evaluation:** The static groundwater level is coincident or above nearby surface water, indicating groundwater discharges to surface water and is therefore hydraulically connected.

**Water Availability Basin the well(s) are located within:** Watershed ID #: 70993 BEAR CR > ROGUE R - 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"/>	n/a	n/a	<input type="checkbox"/>	17.10	<input type="checkbox"/>	*	<input type="checkbox"/>
1	2	<input type="checkbox"/>	<input type="checkbox"/>	IS70993A	20.00	<input type="checkbox"/>	17.10	<input type="checkbox"/>	*	<input type="checkbox"/>
1	3	<input type="checkbox"/>	<input type="checkbox"/>	n/a	n/a	<input type="checkbox"/>	17.10	<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:** \* Interference at 30 days could not be estimated because the terrain (high-relief slopes) and geology (fractured bedrock aquifer) do not meet model assumptions of the widely accepted techniques for determining stream depletion (e.g., Hunt 1999, 2003).

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.

<b>Non-Distributed Wells</b>													
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													
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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>		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<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:** Under OAR 690-009 the proposed use does not produce the finding of potential for substantial interference with Kitchen Creek, Bear Creek, or the unnamed tributary to Bear Creek.

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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.

Ashland SLW

U.S. Geological Survey topographic map, ~~Sterling~~ Sterling Creek Quadrangle.

Wiley, T, McClaughry, J. D., D'Allura, J.A. 2011. Geologic Database and Generalized Geologic Map of Bear Creek Valley, Jackson County, Oregon. State of Oregon Department of Geology and Mineral Industries Open File report O-11-11.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**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 Analysis Detailed Reports

### BEAR CR > ROGUE R - AT MOUTH ROGUE BASIN

Water Availability as of 8/31/2016

Watershed ID #: 70993 ([Map](#))

Exceedance Level:

Date: 8/31/2016

Time: 10:11 AM

## Water Availability Calculation

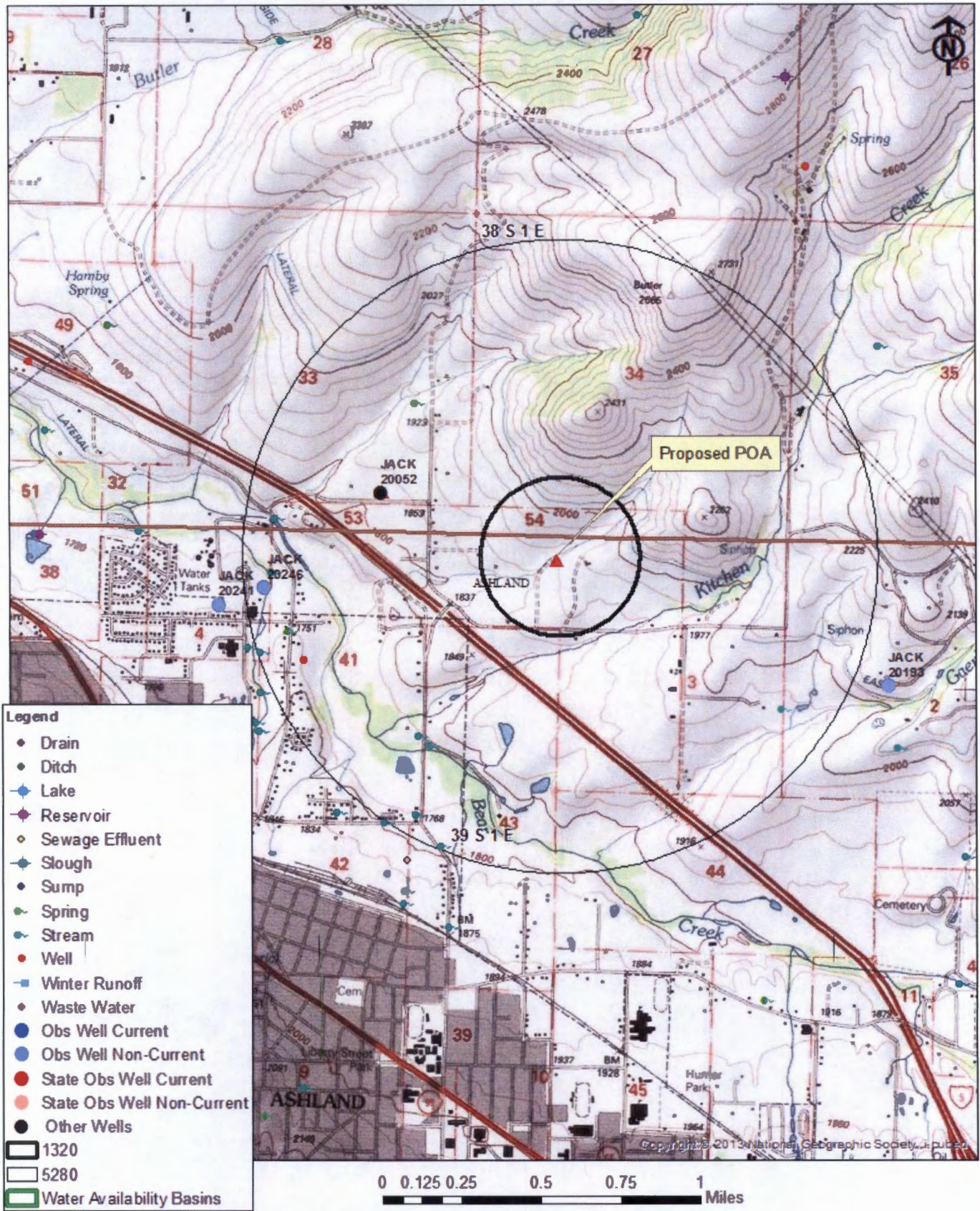
Monthly Streamflow in Cubic Feet per Second  
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	107.00	192.00	-85.40	0.00	170.00	-255.00
FEB	129.00	235.00	-106.00	0.00	170.00	-276.00
MAR	129.00	214.00	-85.20	0.00	170.00	-255.00
APR	105.00	31.00	74.00	0.00	170.00	-96.00
MAY	84.20	47.20	37.00	0.00	170.00	-133.00
JUN	61.60	73.40	-11.80	0.00	100.00	-112.00
JUL	28.10	94.20	-66.10	0.00	40.00	-106.00
AUG	19.30	79.80	-60.50	0.00	24.00	-84.50
SEP	17.10	56.50	-39.40	0.00	20.00	-59.40
OCT	18.30	18.10	0.17	0.00	24.00	-23.80
NOV	30.90	57.90	-27.00	0.00	62.00	-89.00
DEC	65.30	138.00	-72.30	0.00	153.00	-225.00
ANN	89,800.00	74,400.00	24,400.00	0.00	76,600.00	0.00



Well Location Map

G-18332 PermAg LLC  
T39S/R1E-Section 3



- Legend**
- Drain
  - Ditch
  - ◆ Lake
  - ◆ Reservoir
  - ◆ Sewage Effluent
  - ◆ Slough
  - Sump
  - ◆ Spring
  - ◆ Stream
  - Well
  - ◆ Winter Runoff
  - ◆ Waste Water
  - Obs Well Current
  - Obs Well Non-Current
  - State Obs Well Current
  - State Obs Well Non-Current
  - Other Wells
  - 1320
  - 5280
  - Water Availability Basins

0 0.125 0.25 0.5 0.75 1 Miles

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