<u>PUBLI</u>	C INTE	REST	REVIEW	FOR GROU	UND WAT	ER APPLIC	CATIONS	-					
TO:		Wate	r Rights S	ection				Date	e <u>Septemb</u>	er 3, 20	08		
FROM	Ground Water/Hydrology Section Josh Hackett												
						Poviou	ar's Nama						
SUBJE	ECT:	Appl	ication G-	17098		Supe	rsedes rev	view of		D . (D	• • • •		
										Date of Rev	view(s)		
OAR 6 welfare to deter the pres	90-310-1 , <i>safety an</i> mine whe sumption	<b>30 (1)</b> <i>nd heal</i> ether th criteria	<i>The Depart</i> <i>Ith as descr</i> ie presumpt a. <b>This revi</b>	<i>ment shall p</i> <i>ibed in ORS</i> ion is establ <b>ew is based</b>	537.525. D ished. OAR	<i>t a proposea</i> epartment s 690-310-14 <b>able inform</b>	taff review 10 allows t 11 ation and	r ground wate he proposed agency poli	ensure the pres er applications use be modified cices in place at County: <u>M</u>	under OA d or condi t the time	R 690-3 itioned to	10-140 meet	
A1.	Applica	nt(s) se	eek(s) 0.4	46 cfs f	rom 1 w	ell(s) in the	W	illamette				_Basin,	
		(-)										,	
						subba	sin Qu	ad Map: <u>Si</u>	Iverton				
A2. A3.	Propose Well an	d use: d aquif	irrig fer data ( <b>att</b>	gation-nurse ach and nu	ry mber logs f	Seasor	nality: wells; ma	year-round rk proposed	wells as such	under log	gid):		
Well	Log	id	Applicant's Well #		Proposed Aquifer*		Proposed Location Rate(cfs) (T/R-S QQ						
1	propo	sed	1	Allı	ıvium**	0.446							
2													
3							_						
4 5													
-	um, CRB,	Bedroc	k										
	<b>TT</b> 7 11		<u> </u>		<b>TT</b> 7 11	G 1	<i>a</i> .	<b>.</b>		XX 7 11	5		
Well	Well Elev	First Wate	r SWL	SWL Date	Well Depth	Seal Interval	Casing Intervals	Liner Intervals	Perforations Or Screens	Well Yield	Draw Down	Test Type	
1	ft msl	ft bls	8 10015	Dute	(ft)	(ft)	(ft)	(ft)	(ft)	(gpm)	(ft)	1990	
1	182												
Use data	from app	lication	for proposed	l wells.									
		wer 10							River Basalt Gro lication review				
A5. 🛛	manage (Not all	ment o basin	f ground wa rules contai	ater hydraul n such prov	ically conne isions.)	cted to surfa	ace water	are, or [>	o the developm <b>are not</b> , activ tinent basin rul	ated by th	his applic		
	Comme	nts. <u> </u>			in produce		meu aquil	ci, so the per	unent basin ful		appiy.		

A6. Well(s) #\_\_\_\_\_

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

2

### 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:
  - □ is over appropriated, □ is not over appropriated, *or* ⊠ cannot be determined to be over appropriated during any a. 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;
  - will not or will likely be available in the amounts requested without injury to prior water rights. \* This finding b. is limited to the ground water portion of the injury determination as prescribed in OAR 690-310-130;
  - **will not** or **will** likely to be available within the capacity of the ground water resource; or c.
  - **will, if properly conditioned**, avoid injury to existing ground water rights or to the ground water resource: d. i. The permit should contain condition #(s) **7B**, **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;

Condition to allow ground water production from no deeper than \_\_\_\_\_\_ ft. below land surface; B2. a.

- **Condition** to allow ground water production from no shallower than \_\_\_\_\_\_ ft. below land surface; b.
- Condition to allow ground water production only from the \_\_\_\_\_\_\_\_\_ft. and \_\_\_\_\_\_\_ft. below land surface; \_\_\_\_\_ ground c.
- Well reconstruction is necessary to accomplish one or more of the above conditions. The problems that are likely d. 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):

### Ground water availability remarks: \_\_\_\_\_ B3.

The applicant's wells are located in an area that contains fine grained alluvial sediments from land surface to an approximate depth of 120 feet. A 40 feet thick package of sands and gravels underlies the fine grained sediments. More than 1000 feet of mostly fine grained sediments with thin sand and gravel interbeds is found beneath the coarse grained alluvial sediments.

Static water levels in nearby alluvial wells are within 50 feet of land surface. There is no indication of water level declines in nearby wells (see attached hydrograph).

### 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	alluvial	$\square$	

**Basis for aquifer confinement evaluation:** <u>Water bearing zones in nearby wells are confined by up to 120 feet of fine</u> grained 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 <sup>1</sup>/<sub>4</sub> 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? YES NO ASSUMED	Potential Subst. Int Assume <b>YES</b>	erfer.
1	1	Mill Creek	160	160	8200			$\boxtimes$
1	2	Pudding River	160	110	9500			$\boxtimes$

**Basis for aquifer hydraulic connection evaluation:** There are no perennial surface water sources within a 1 mile radius of the applicant's proposed well. The distances indicated above are to the nearest perennial stream reach.

### Water Availability Basin the well(s) are located within: <u>30200901-MILL CR > PUDDING R – AT MOUTH; 151-</u> PUDDING R > MOLALLA R – AB MILL CR

C3a. **690-09-040** (4): Evaluation of stream impacts for <u>each well</u> 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?

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?
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.

	stributed W						-			a			
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q a													
Interfere	ence CFS												
Distribu	ited Wells												
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	· · ·	%	%	%	%	%	%	%	%
Well Q a	as CFS												
	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q a	as CFS												
-	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q a	as CFS												
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q a	as CFS												
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q a													
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q a													
Interfere	ence CFS												
$(\mathbf{A}) = \mathbf{Tot}$	tal Interf.												
	% Nat. Q												
(C) = 1 %	% Nat. Q												
$(\mathbf{D}) = (\mathbf{A})$	) > (C)	~	~	~	~	~	$\checkmark$	$\checkmark$	~	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
	/ 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:** <u>Modeling in similar circumstances suggests that pumping impacts to Mill Creek and the</u> Pudding River will be much less than 1% of the 80% exceedence flow for any given month.

# 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 ground water use under this permit can be regulated if it is found to substantially interfere with surface water:

- i.  $\Box$  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:

### References Used:

Conlon and others, 2005, Ground-water hydrology of the Willamette Basin, Oregon: U.S Geological Survey Scientific Investigations Report 2005-5168.

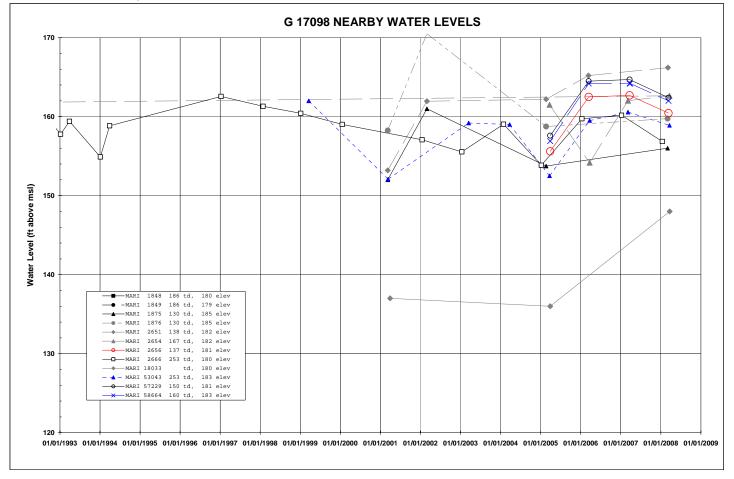
Gannett and Caldwell, 1998, Geologic framework of the Willamette lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-A,

Woodward and others, 1998, Hydrogeologic framework of the Willamette lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-B,

D.	WELL	CONSTRUCTION, OAR 690-200	

D1.	Well #: Logid:
D2.	THE WELL does not meet current well construction standards based upon:   a. review of the well log;   b. field inspection by
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:
D5.	<b>THE WELL</b> a. <b>was</b> , <i>or</i> <b>was not</b> 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. [	<b>Route to the Enforcement Section.</b> 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	ECTION 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).

## Water Levels in Nearby Wells



## Well Location Map

