Water Right Conditions Tracking Slip

Groundwater/Hydrology Section

FILE ## 6 - 17470

ROUTED TO: Water Rights

TOWNSHIP/

RANGE-SECTION: 35/3 W - 2 3

CONDITIONS ATTACHED? [1 yes [] no REMARKS OR FURTHER INSTRUCTIONS:

See conditions on page 2.

Reviewer: Karl Wazniak

WATER RESOURCES DEPARTMENT

MEM	0							Augv.	st 10	o,ŝ	260 201
TO:		Applie	cation (G-171	170						
FROM	И:	GW:									
SUBJ	ECT:	-	(Re	way In		ice Eva	luation				
	_YES _NO	The so	urce of	appropi	riation i	s within	or abov	e a Sce	nic Wat	terway	
	_YES	Use the	e Scenic	Water	way cor	idition (Conditi	on 7J)			
	_NO										
	Per OF interfe the De that the	RS 390.8 rence wated inte	ith surfar ferences 335, the ith surfar ent is ur osed us	Ground ace wate ace wate ace wate able to e will m	er that coributed Water er that corifind the neasura	ontribut below. Section ontribut at there bly red	is unal es to a s e is a pr uce the	ole to ca scenic w reponde surface	Waterwa nlculate vaterwa; erance e water	ground y; there of evide flows	water
Calculate calculate informing Exerci Water	te the per led, per cong Water se of the way by	ON OF reentage of riteria in Rights the is permited the followater flowater	of consum 390.835, at the De t is calc owing an	nptive use do not fil partment ulated to mounts	by mont. If in the to is unable to reduce	able but ca to make e month	heck the a Prepon ly flows	"unable" derance s in	option a of Eviden	bove, thus	s g. Scenic
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Later V						Contract of					

PUBLIC	TIMIE	(F211	KEVIEW	FUR GRUU	ND WAI	EK AFFLI	CATIONS						
TO:		Wate	r Rights S	Section				Date	August 1	0, 2011			
FROM	:	Grou	nd Water	/Hydrology	Section _								
or in in	~			15.450			wer's Name						
SUBJE	CT:	Appl	ication G	- <u>17470</u>		Sup	ersedes re	view of		Date of Rev	riew(s)		
	~ **			TA EDITION	CDOIN								
OAR 69 welfare, to determ	90-310-1 safety ar mine whe	30 (1) ind heal ther the	The Depar th as desc e presump	<i>ribed in ORS</i> tion is establi	resume tha 537.525. I shed. OAR	at a propose Department 2 690-310-1	ed groundwa staff review 40 allows th	ground wate ne proposed u	ensure the presert applications use be modified cies in place at	under OA	R 690-31 ioned to	0-140 meet	
A. GEN	ERAL IN	VFORM	MATION:	Applicant's	Name: H	liland Wate	r Corp – Th	e Stables	County:	<u>Yamhill</u>			
A1.		, ,	,	222 cfs f								_ Basin	
		<u>Chehal</u>	em Creek		_	subb	asin Qu	ad Map: <u>Dı</u>	ındee				
A2.	Propose	d use:	Qu Con data (a)	asi-Municipa	al	Seas		Year Round			:4).		
A3.	well an	a aquii			mber logs				wells as such				
Well	Log	id	Applican Well #		ed Aquifer*	Propose Rate(cfs		Location /R-S QQ-Q)		n, metes a			
1	YAMH	55859	The Stab		CRB	0.222				2250' N, 1200' E fr NW cor S 36 370' S, 170' W fr NE cor, S 23			
2													
3										<u> </u>			
5													
* Alluviu	ım, CRB,	Bedroc	k	•									
	Well	First			Well	Seal	Casing	Liner	Perforations	Well	Draw	1	
Well	Elev	Wate	r SWL	SWL Date	Depth	Interval	Intervals	Intervals	Or Screens	Yield	Down	Test Type	
1	ft msl	ft bls	62	03/21/2011	(ft) 301	(ft) 0-277	(ft) 0-277	(ft)	(ft)	(gpm) 100	(ft)	Air	
_	173	,	02	03/21/2011	301	0-277	0-211			100		AIF	
										_			
Use data	from ann	ication	for propose	ed wells									
Osc data													
A4.	Comme	nts: _											
A5. 🖂	Provisi	ons of	the	Willamette			Basin ru	les relative to	the developm	ent. classi	fication a	and/or	
	manage	ment of	f ground w	ater hydrauli	cally conne	ected to sur	face water [are, or	are not, activ	ated by th	is applica	ation.	
				in such provi		. 4	. 41			(OAD (0	0 500 00		
	Colline	nts:	The wen	produces iroi	n a contine	ed aquiller se	o the pertine	ent basin ruie	s do not apply	(OAK <u>69</u>	<u>0-302-02</u>	240).	
A6. 🔲	Waller	#					tos	n(s) an aquifa	or limited by an	administ	ativa saa	triction	
ло. Ц	Name o	″ f admir	nistrative a	,, , _ rea:	,-	,	, taj	p(s) an aquile	er limited by an	aumminsu	ative res	LICTION	
	Comme	nts:											

Application: G- 17470 continued Date: August 10, 1011

B. GROUND WATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

Bas	ed upon available data, I have determined that ground water* 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 ground water 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 ground water portion of the injury determination as prescribed in OAR 690-310-130;
c.	\square will not or \square will likely to be available within the capacity of the ground water resource; or
d.	will, if properly conditioned, avoid injury to existing ground water rights or to the ground water resource: i. The permit should contain condition #(s) 71 and large water-use reporting. The permit should be conditioned as indicated in item 2 below. The permit should contain special condition(s) as indicated in item 3 below;
a.	Condition to allow ground water production from no deeper than ft. below land surface;
b.	Condition to allow ground water production from no shallower than ft. below land surface;
c.	Condition to allow ground water production only from the ground water 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 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):
Riv Gro the inte pro- the	e with a significantly different head. The well penetrates a few feet of soil and about three hundred feet of Columbia er Basalt, the upper several hundred feet of which is highly weathered (red and brown clay). The Columbia River Basalt pup (CRBG) is a series of lava flows with a composite thickness that ranges up to 400 feet in the area. Most groundwater in basalt occurs in confined aquifers that occupy thin rubble zones (interflow zones) at the contacts between lava flows. The riors of the basalt flows generally have low porosity and permeability and act as confining beds. This geometry generally duces a stack of thin aquifers (interflow zones) separated by thick confining beds (flow interiors). The low permeability of basalt flow interiors probably limits the natural vertical connection between overlying aquifers. Edriller notes three water-bearing zones in the well but the seal was placed at 277 feet and the well appears to produce er from a single deep water-bearing zone from 269-301 feet. The static water level on the well log is reported as 62 feet
belo a cl the wel rule of n	ow land surface which corresponds to a water-level elevation of about 133 feet. This is similar to heads in nearby wells and uster of wells about 1 mile to the south, all of which show heads ranging from about 130-150 feet and likely produce from same aquifer within the basalt. The available data (see attached hydrograph) suggests that water levels are stable in these ls. This indicates that the groundwater resource is not likely to be over-appropriated under current use. However, basin is (OAR 690-502-0250) require conditions for water-level and water-use reporting. Available data indicates the presence multiple aquifers with different heads in the CRBG within the surrounding area. A special condition was added to prevent future deepening of the well such that the borehole commingles aquifers with different heads.

Date: August 10, 1011

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	Columbia River Basalt	\boxtimes	

Basis for aquifer confinement evaluation: The static water level in the well is significantly higher than the water-bearing zone. This indicates that the aquifer is confined, consistent with general knowledge of the basalt aquifer system.

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? YES NO ASSUMED	Potential for Subst. Interfer. Assumed? YES NO
1	1	Bronson Creek	133	120-200	2100		
1	2	Harvey Creek	133	100-200	2450		
1	3	Chehalem Creek	133	90-120	2800		

Basis for aquifer hydraulic connection evaluation: The water-bearing zone in the well occurs from about 269-301 feet which corresponds to elevations from -74 to -106 feet below mean sea level. This is well below the incision level of local creeks. Therefore, the dense interiors of the overlying basalt flows and the thick weathered clay at the top of the basalt are likely to preclude any effective hydraulic connection to local streams.

Water Availability Basin the well(s) are located within: CHEHALEM CR > WILLAMETTE 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 < ½ 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.

Well	stributed W SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WCII	3 W π	%	%	%	Дрі	%	%	%	Aug %	%	%	%	<u> </u>
W-11 O	OFG	70	70	70	70	70	70	70	70	70	70	70	70
Well Q													
Interfere	ence CFS			6 *				· Lieu					
Dietrib	uted Wells				_	18 .							
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
17 022	T 1	%	%	%	%	<u>%</u>	%	%	%	%	%	%	%
Well Q	as CFS	,,,	,,,	,,,	,,,	,,,		,,	,,	,,		,,	
	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CES	,,,	,,,	,,,	- 70	,,,	,,	70	,,,	,,		,,,	70
	ence CFS												
mener	Chec Cr 5	%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS	70	70	70	70	70	70	70	70	70	70	70	70
	ence CFS												
interier		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS	70	70		70	70		70	70	70		70	70
	ence CFS												
Interior	chec er s	%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS	70	70	70	70	70	70	70	70	70	70	70	70
	ence CFS												
TITLE TELL		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CES		,,,		- 70			70		70	70	70	
	ence CFS												
- Interret	chec cr b			· · .		- 44							
$(A) = T_0$	otal Interf.												
(B) = 80	% Nat. Q												
(C) = 1 °	% Nat. Q												
	. 1		,			·	, \$29-9-51.	. 4			_		
$(\mathbf{D}) = (A$	A) > (C)	1	1	Set.	v/	1	✓	J. *		s'	, ,	*	,
(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:

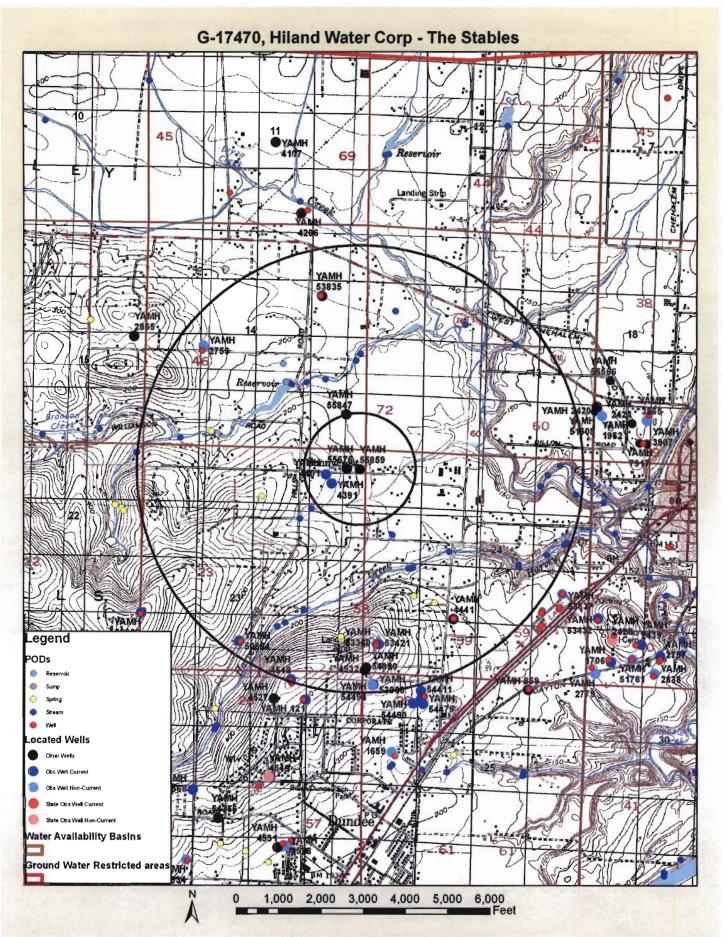
	ntinued					
-						
-						
690-09-040 (5) (Rights Section		impair or detrime	ntally affect the public	c interest is to l	be determined by	the W
under this permit	can be regulated if it	t is found to substant n condition #(s)	be adequately protected cially interfere with surf	ace water:	ace, and/or ground	l water
ii. 🗌 The	permit should contair	n special condition(s) as indicated in "Rema	arks" below;		
SW / GW Ramarks	and Conditions:					
SW/GW Remarks	and Conditions					
					_	
Hinkle, S.R., 2005, C			x, D., Herrera, N.B., Fise Basin, Oregon: U.S. Co			
Hinkle, S.R., 2005, C Report 2005-5168.	round-water hydrolog	gy of the Willamette	Basin, Oregon: U.S. C	deological Surve	ey Scientific Inves	tigation
Hinkle, S.R., 2005, C Report 2005-5168. Gannett, M.W. and C	round-water hydrologates aldwell, R., 1998, Ge	gy of the Willamette eologic framework o		Seological Surve and aquifer syste	ey Scientific Invesem, Oregon and W	stigation
Hinkle, S.R., 2005, C Report 2005-5168. Gannett, M.W. and C U.S. Geological Surv Woodward, D.G., Ga	round-water hydrologaldwell, R., 1998, Geey Professional Pape	eologic framework o er 1424-A, 32 p. ccaro, J.J., 1998, Hy	f the Willamette Lowla	deological Surve	ey Scientific Investm. Oregon and W	tigatior /ashing
Hinkle, S.R., 2005, C. Report 2005-5168. Gannett, M.W. and C. U.S. Geological Surv. Woodward, D.G., Ga	round-water hydrologaldwell, R., 1998, Geey Professional Pape	eologic framework o er 1424-A, 32 p. ccaro, J.J., 1998, Hy	Basin, Oregon: U.S. C	deological Surve	ey Scientific Investm. Oregon and W	tigation /ashing
Hinkle, S.R., 2005, C Report 2005-5168. Gannett, M.W. and C U.S. Geological Surv Woodward, D.G., Ga	round-water hydrologaldwell, R., 1998, Geey Professional Pape	eologic framework o er 1424-A, 32 p. ccaro, J.J., 1998, Hy	f the Willamette Lowla	deological Surve	ey Scientific Investm. Oregon and W	tigation /ashing
Hinkle, S.R., 2005, C. Report 2005-5168. Gannett, M.W. and C. U.S. Geological Surv. Woodward, D.G., Ga	round-water hydrologaldwell, R., 1998, Geey Professional Pape	eologic framework o er 1424-A, 32 p. ccaro, J.J., 1998, Hy	f the Willamette Lowla	deological Surve	ey Scientific Investm. Oregon and W	tigatior /ashing

Application: G- 17470 continued Date: August 10, 1011

D. WELL CONSTRUCTION, OAR 690-200

D1.	V	Well #: _	Logid:
D2.	a b c	n.	ELL does not meet current well construction standards based upon: review of the well log; field inspection by
D3.	a b c	1.	ELL construction deficiency: constitutes a health threat under Division 200 rules; commingles water from more than one ground water reservoir; permits the loss of artesian head; permits the de-watering of one or more ground water reservoirs; other: (specify)
D4.	Γ -	THE W	ELL construction deficiency is described as follows:
	_		
D5.	7	THE W	 a. was, or was not 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.			the Enforcement Section. I recommend withholding issuance of the permit until evidence of well reconstruction with the Department and approved by the Enforcement Section and the Ground Water Section.
TH	IS SI	ECTIO	N TO BE COMPLETED BY ENFORCEMENT PERSONNEL
D7.	□ <u>\</u>	Well con	struction deficiency has been corrected by the following actions:
	- - -		
	-		
	_		
D8.		Route to	o Water Rights Section (attach well reconstruction logs to this page).

6



Date: August 10, 1011

