Groundwater Application Review Summary Form

Application # LL- <u>1856</u>
GW Reviewer J. Hackett Date Review Completed: 03/16/2021
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:
\square 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

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WATER RESOURCES DEPARTMENT

MEM	0							_1	March 1	6, 2021	-	
то:		Applica	tion LL	- <u>1856</u>	_							
FROM	1:	GW: _J.	Hackett Reviewer	_								
SUBJI	ECT: So	cenic Wa	aterway	Interf	erence l	Evaluat	ion					
	YES NO		source o		-	is hydr	aulically	y connec	cted to a	a State S	Scenic	
	YES NO	Use	the Scer	nic Wate	erway C	Condition	n (Cond	ition 7J)			
	interfer	S 390.8 ence with ence is d	h surfac	e water	that con					_		
	interfered Depart propos	S 390.8 ence with ment is ed use in the fr	h surfac <mark>unable</mark> will me	e water to find asurab	that con that the ly redu	tributes ere is a p ace the	to a sce prepone surface	enic wat derance e water	erway; e of evic	therefo	re, the at the	
Calcula per crite	te the perc eria in 390	ON OF II centage of 0.835, do 1 unable to	consump 10t fill in	tive use b the table	y month o but check	the "una	ıble" opti					
Waterv	way by t	s permit he follo	wing an					_			use by v	which
surface	e water f	low is re	educed.									7
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	

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PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date <u>03/16/2021</u>														
FROM:		Ground	lwater Secti	on		J. Hacke								
CLIDIE	CT.	Amplia	stion II 1	000			wer's Nan		•					
SUBJE	CI:	Арриса	ation LL- <u>1</u>	1850_	,	Supersede	s revie	w oi				ate of Revi	ew(s)	
	~				~- ~									
OAR 69 welfare, to determ the presu	one whete safety and s	0 (1) <i>Th d health</i> her the priteria. T	as described presumption This review i	t shall product in ORS 5 is establis s based u	esume that 537.525. Deshed. OAR apon availa	a proposed epartment s 690-310-14 able inforn	d ground staff rev 40 allov nation a	view ; ws the	er use will en groundwater e proposed us agency polici	applica se be n ies in p	ations und nodified o	der OAR or conditi he time	690-310- oned to n	-140 neet
A. GEN	NERAL	INFOR	MATION:	Ap	plicant's N	ame:D	esign,	LLC	;		Co	ounty:	Vasco	
A1.	Applican	t(s) seek	z(s) <u>2.0</u>	_cfs from	1				Hood					Basin,
						subbas	sin							
A2.	Proposed	l use	Industr	ial		Seaso	nality:	Ye	ar - round					
A3.	Well and	aquifer	data (attach	and nun	nber logs f	or existing	wells;	mar	k proposed v	vells a	s such ui	nder logi	d):	
Well	Logic		Applicant's Well #	Proposed Aquifer* Proposed Location Rate(cfs) (T/R-S QQ-Q)		Location, metes and bound 2) 2250' N, 1200' E fr NW co		fr NW cor	S 36					
2	Propose	1**	5		CRB	2.0	1	1	2N/13E-28 SW-	SW	50' 1	N, 610' E fr	SW cor S 2	28
3														
4	GDD T													
* Alluviu	m, CRB, I	Bedrock												
	Well	First	SWL	SWL	Well	Seal	Casi		Liner		orations	Well	Draw	Test
Well	Elev ft msl	Water ft bls	ft bls	Date	Depth (ft)	Interval (ft)	Interv (ft		Intervals (ft)		Screens (ft)	Yield (gpm)	Down (ft)	Type
1	145	NA	NA	NA	320 est.	0-220 est.	TBI		TBD		TBD	NA	NA NA	NA
Use data	from appli	cation for	r proposed we	lls.										
A4.	Solutions transfer a	s), this w	vell will replation; this Limi	ce author ted Licen	rized POAs se is intend	WASC 32 led to act as	49 and s a brid	WA; ge un	According to SC 3255 on t atil the transfe ed well const	wo cer er appl	tificates. ication is	The ager	t has file d. In ord	
A5. 🛛	(Not all b	nent of g pasin rul	roundwater les contain su	nydraulica ch provis	ally connections.)	eted to surfa	ace wate	er 🗆	es relative to are, or	are no	t , activat			
A6. 🗵	Name of	adminis	trative area:	The Dal	les Critica	l Area			(s) an aquifer					

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

BI.	Bas	ed upon available data, I have determined that groundwater* for the proposed use:
	a.	is over appropriated, \square is not over appropriated, or \square 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.	\boxtimes will not or \square 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.	\boxtimes will not or \square 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)
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):
В3.	Gro	oundwater availability remarks: The proposed POA is located within The Dalles Critical Area, in which groundwater

The applicant's proposed POA will likely produce from a single water-bearing zone in the Sand Hollow unit of the Wanapum Formation of the Columbia River Basalt Group (CRBG), a series of lava flows with a composite thickness greater than 2,000 feet locally (Burns, 2011). Each flow is characterized by a series of internal features, which generally include a thin rubble zone at the contact between flows and a thick, dense, low porosity and low permeability interior zone. In some cases, sedimentary layers were deposited during the time between basalt flow emplacements. A flow top, sedimentary interbed (if present) and flow bottom are collectively referred to as an interflow zone. Unconfined groundwater occurs near the weathered top of the basalts, but most water occurs in interflow zones under confining conditions at the contacts between lava flows. CRBG flow features result in a series of stacked, thin aquifers that are confined by dense flow interiors. The low permeability of the basalt flow interiors usually results in little connection between stacked aquifers, which results in tabular aquifers with unique water level heads (Reidel et al., 2002).

has been determined to be over-appropriated.

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	CRBG	\boxtimes	

Basis for aquifer confinement evaluation: Groundwater present within CRBG is typically limited to the porous interflow zones between dense flow interiors. These dense flow interiors generally have very low permeability, and provide considerable confinement where extensive faulting or incision by nearby streams have not occurred.

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)	Čonn	ulically ected? ASSUMED	Potential for Subst. Interfer. Assumed? YES NO	
1	1	Chenoweth Creek	~60	~89	4360	×			☒
1	2	Columbia River	~60	~80	2800	\boxtimes			⊠

Basis for aquifer hydraulic connection evaluation: <u>In the case of the applicant's well, the targeted water-bearing zone</u> extends beneath the Columbia River to the north, and is not incised by local surface water drainages.

Water Availability Basin the well(s) are located within: No WAB is assigned to the area in which the POA is proposed.

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 (SW) source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that SW source, 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 < 1/4 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?

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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

	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?
Comn	nents: This sect	ion does not a	pply.						
									-

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-Di	istributed	Wells											
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfere	ence CFS												
Distrib Well	uted Well SW#	s Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
,, 011	2	%	%	%	%	%	%	%	%	%	%	%	%
Well O	as CFS	70	70	70	70	70	70	70	70	70	70	70	70
	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfere	ence CFS												
(A) = To	tal Interf.												
	% Nat. Q												
(C) = 1	% Nat. Q												
	*												
$(\mathbf{D}) = ($	$(\mathbf{A}) > (\mathbf{C})$	\checkmark											
$(\mathbf{E}) = (\mathbf{A})$	/ 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.

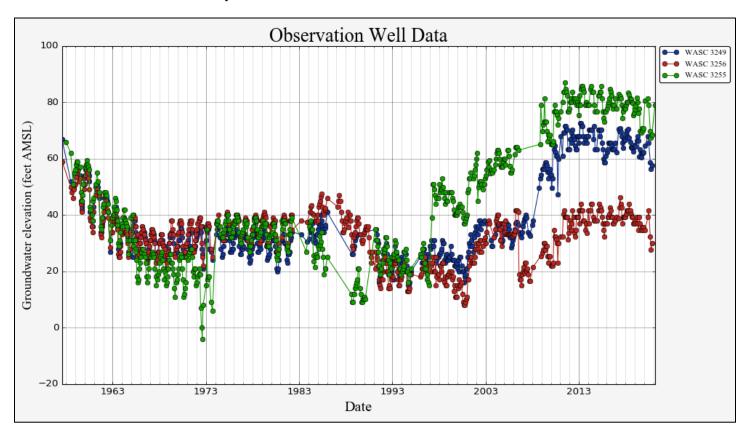
Basis for impact evaluation:

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C4b. 690-09-040 (5) (b) The potential to impair or detriment Rights Section.	ntally affect the public interest is to be deter	mined by the Water
C5. If properly conditioned, the surface water source(s) can be under this permit can be regulated if it is found to substant i. The permit should contain condition #(s)	ially interfere with surface water:	
ii. The permit should contain special condition(s) as indicated in "Remarks" below;	
C6. SW / GW Remarks and Conditions:		
References Used:		
Burns, E.R., Morgan, D.S., Peavler, R.S., and Kahle, S.C., 201 Columbia Plateau Regional Aquifer System, Idaho, Oregon, ar Report 2010-5246, 54 p.		
Reidel, S.P., Johnson, V.G., Spane, F.A., 2002, Natural Gas St USA: A Guide to Site Characterization; Pacific Northwest Nat		

D. WELL CONSTRUCTION, OAR 690-200

D1.	Well #:	Logid:							
D2.	THE WELL does not appear to meet current well construction standards based upon:								
	a. \square review of	the well log;							
	b. field inspec	ection by	;						
		CWRE							
	d. other: (spe	ecify)							
D3.		truction deficiency or other comment is described as follows:							
D4. [Route to the Wel	ll Construction and Compliance Section for a review of existing well	construction.						

Water-Level Measurements in Nearby Wells



Well Location Map

