Water Right Conditions Tracking Slip	
Groundwater/Hydrology Section	
FILE # # <u>G-17758</u> ROUTED TO: <u>Water Rights - Kin</u> TOWNSHIP/ RANGE-SECTION: 75/41E-14	
CONDITIONS ATTACHED?: [Jyyes [] no	
REMARKS OR FURTHER INSTRUCTIONS:	
Reviewer: Mike Zwart	

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WATER RESOURCES DEPARTMENT

MEMO

February 27,20 14

TO: Application G-<u>17758</u>

FROM: GW: Mike Zwart (Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

- ☐ YES
 The source of appropriation is within or above a Scenic Waterway
 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 ______ 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

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PUBI	LIC INT	ERES												
TO:		Wate	er Rights S	ection				Date	e <u>Feb</u>	ruary	27, 20	14		
FROM	M:	Grou	ndwater S	ection										
SUBJ	FCT	Anni	ication G	17758		Reviewer's Name Supersedes review of								
3001	LCI.	дррі		1//30		Suj	perseues			I	Date of Re	view(s)		
PURI	LIC INT	FRFS	T PRESI	MPTION;	GROUNI	WATE	P							
OAR (welfar) to dete	690-310-1 e, safety a ermine who	30 (1) <i>nd heal</i> ether th	The Depart th as descr e presumpt	ment shall privilege to the shall privilege t	resume that 537.525. Do shed. OAR	a propose epartment 690-310-	ed ground staff revie 140 allow	water use will a ew ground wate s the proposed nd agency poli	er applicat use be mo	ions un dified	nder OA or condi	R 690-3 tioned to	10-140 meet	
A. <u>G</u>	ENERAL	, INF()RMATI	<u>ON</u> : Ap	oplicant's N	ame:	<u>Mike an</u>	d Nicky McG	linnis	C	ounty:	Baker		
A1.	Applica	nt(s) se	eek(s) <u>10</u>	. <u>688</u> cfs from	n <u>three</u>	well((s) in the _	Powder					_ Basin,	
						subb	asin (Quad Map: <u>K</u>	eating N	<u>W</u>				
A2.	Propose	od use	In	rigation 64	13(P&S) Seas	onality	March 1 t	o Octobe	er 31				
A2. A3.								nark proposed			nder log	gid):		
Well	Logic	T	Applicant	's Propose	ed Aquifer*	Prop		Location				s and bou		
1	BAKE 5		Well #		Bedrock		(cfs) 79	(T/R-S QQ-Q) 7S/41E-14 SW-SW		2250' N, 1200' E fr NW cor S 36 1275' N, 1259' E fr SW cor S 14				
2	Propos		2		drock	2.1		75/41E-14 N					V cor S 14	
3	Propos		3		drock	2.79		7S/41E-14 SW-SW		210' N, 360' E fr SW cor S 14				
4														
5 * Alluv	/ium, CRB,	Bedroc	k			L								
	Well	First			Well	Seal	Casing	Liner	Perforati	ons	Well	Draw		
Well		Wate		SWL Date	Depth	Interval	Intervals	Intervals	Or Scree		Yield	Down	Test Type	
	ft msl	ft bls			(ft)	(ft)	(ft)	(ft)	(ft)		(gpm)	(ft)		
12	3190 3265	285	63	12/29/2013	400*	0-18 0-18	0-280	None None	None None		400		Air	
3	3196				400	0-18	0-280	None	None					
	+						l							
Use dat	ta from app	lication	for propose	d wells.										
A4.	Comm	ents: 7	The applica	ntion reques	ts 1250 gpn	n per well	l. which d	oes not total t	he request	ted rat	te. This	mav be	an	
	error a	nd cou	ld be corre	ected to 1600) gpm. *BA	KE 5232	22 is a tes	t well which is	planned t	to be d	leepeneo	and rea	amed to	
	the san	ne dept	h (400 feet) as is propo	sed for all	wells.								
									- <u>-</u>					
							Pasin	rules relative to	o the deve	lonme	nt class	ification	and/or	
A5. 🛛	Provis	ions of	the Powde	er			Dasin	rules relative to		ropine	int, ciuso	nounon	und/or	
A5. 🛛	Provis manage	ions of ment o	the <u>Powde</u> f ground w	e r ater hydrauli	cally conne	cted to su	rface wate	er 🗌 are, or 🛛	are not,	activa	ted by t	his applic	cation.	
A5. 🛛	(Not all	basin	rules contai	n such provi	sions.)									
A5. 🛛	(Not all	basin	rules contai	n such provi	sions.)									
A5. 🗵	(Not all	basin	rules contai	n such provi	sions.)									
A5. 🛛	(Not all Comme	basin : ents:	rules contai	n such provi	sions.)									

Comments:

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

- Based upon available data, I have determined that ground water* for the proposed use: B1.
 - is over appropriated, is not over appropriated, or annot 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) <u>7N</u>
 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.

- _____ 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: ______ There are no nearby State Observation Wells that are appropriate. This area B3. has not yet experienced significant groundwater development.

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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
All	Basalt, likely TrPv of Brooks, et al, 1976	\boxtimes	
	u u		

Basis for aquifer confinement evaluation: <u>The static water level at the test well is considerably above the reported</u> water-bearing zone.

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	Big Creek	3127±	2975	6100				
2	1	Big Creek	3127±	2980	8250				
3	1	Big Creek	3127±	2975	5400				
1	2	Spring mapped to southwest	3127±	3035	6900				
2	2	Spring mapped to southwest	3127±	3035	9200				
3	2	Spring mapped to southwest	3127±	3035	5500				
	-								

Basis for aquifer hydraulic connection evaluation: <u>The local geology is complex and the aquifer is likely fracture</u> dominated. Fracture-permeability dominated aquifers are problematic for finding hydraulic connection. Big Creek is incised into several mapped formations within the nearest reach. It appears that the basalt developed by the proposed wells may be exposed for about 4500 feet in the bed of the creek upstream from the proposed wells. This is the distance estimated above. Hydraulic connection at the spring below the elevation of the groundwater head is more certain.

Water Availability Basin the well(s) are located within: <u>Powder R > Snake R ab Goose Cr (72192).</u>

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?
			8				<u> </u>			
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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 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: ______ This section does not apply.

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		F 1							C .	0	1	D
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q													
Interfere	nce CFS							and secondaria					
Distrib	ited Well	s						3-11-19 <u>-</u> - 201-29-33				<u> </u>	
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	. %	%	%	%	%	%	%
Well Q	as CFS												
Interfere	nce CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfere	nce CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
	as CFS												
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
	as CFS												
Interfere	nce CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
	as CFS												
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
-	as CFS												
Interfere	ence CFS	- 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10						- 1.4 3 - 201 - W		5.00 Section 20	AL 74 DAL 1 DAL		
(A) = To	tal Interf.	e _{na} te secto a ACAA					antina dia 19	n dan da ser			e esta en tra porta da la constana.		5.55 <u> </u>
	% Nat. Q												
(C) = 1 9	% Nat. Q												
(D) = 0	A) > (C)	4			e serversen V	1	√ 	10-20. 50 5-0000000 	aling og oans generale V	4	an general ar dit. V	and an ann an	erena. V
	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: ______ This section applies. However, the Hunt/Wozniak analytical model is not suited to calculation of interference with springs and with limited stream reaches, as is the case here. . 690-09-040 (5) (b) The potential to impair or detrimentally affect the public interest is to be determined by the Water C4b. **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. 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: Recent nearby reviews; nearby well logs; Geology of the Oregon Part of the Baker 1° by 2° Quadrangle. by Brooks, et al, 1976, DOGAMI Geological Map Series GMS-7.

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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

