Water Right Conditions Tracking Slip Groundwater/Hydrology Section FILE # # G-17647 ROUTED TO: Water Rights - Kerry TOWNSHIP/ RANGE-SECTION: 75/39E-4 da 75/39E-34 dd

CONDITIONS ATTACHED?: [] no

REMARKS OR FURTHER INSTRUCTIONS:

Reviewer: Mike Zwart

WATER RESOURCES DEPARTMENT July 3,20 13 **MEMO** Application G- 17647 TO: GW: Mike Zwart FROM: 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 П 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. П 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.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Waterway by the following amounts expressed as a proportion of the consumptive use by

Exercise of this permit is calculated to reduce monthly flows in _____

which surface water flow is reduced.

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO:		Water	r Rights Sec	tion			Date <u>July 3, 2013</u>							
FROM	:	Groun	nd Water/H	ydrology	Section		ael Zwart				_			
SUBJE	CT:	Appli	cation G	17647			iewer's Name persedes ro	eview of						
		• •								Date of Re	view(s)			
OAR 69 welfare, to determent the press	90-310-1 safety a mine who umption	30 (1) 7 and healt ther the criteria.	th as describe presumption	ent shall ped in ORS n is estable is based	oresume the 537.525. ished. OA upon ava	at a propos Departmen R 690-310- ilable info	sed groundw t staff review 140 allows rmation and	water use will w ground wat the proposed d agency politiams, Hay	er application use be modif icies in place	ns under OA ied or condi at the time	AR 690-31 itioned to e of evalu	10-140 meet		
A 1.	Applica	nt(s) se	ek(s) <u>5.57</u>	cfs fro	m <u>four</u>	* well	(s) in the	Powder _				_Basin,		
A2. A3.							sonality:	uad Map: <u>H</u> March 1 to ark proposed	o October 31		gid):			
Well	Log	id	Applicant's Well #		oposed	Propos Rate(ct		Location (/R-S QQ-Q)		ion, metes				
1	Proposed Sec. 4		Ве	Aquifer* Bedrock		2 7S/	39E-4 NE-SI	E 152	2250' N, 1200' E fr NW cor S 36 1520' N, 1310' W fr SE cor S 4					
3	Propo	sed	Sec. 34	Be	edrock	2.785	2.7852 6S/39E-34 SE-SE			30' N, 65' W fr SE cor S 34				
4														
5 * Alluviu	ım, 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)	Perforation Or Screens (ft)		Draw Down (ft)	Test Type		
1 2	3410				375	0-200	0-375		Below seal					
2	3314				400	0-200	0-400		Below seal					
			 		 									
				11										
A4. <u>review</u> 100 feet	Commo	ents: <u>*T</u> r only to wo prin	o the two sp nary wells.	ion propo ecific wel My findii	l locations	s provided, will apply	since the a	for all practi dditional we tion within t higher rate	lls, if needed he two areas	, may be lo proposed	cated wi in the file	<u>thin</u> e. This		
A5. 🛚	manage (Not all	ment of basin r	ules contain	r hydrauli such provi	ically connisions.)	nected to sur	rface water	ules relative t	are not, ac	oment, class	ification a	and/or ation.		
A6. □	Name o	f admin	istrative area	:				ap(s) an aquif				striction.		

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в. <u>GR</u>	<u>OUN</u>	ND WATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070
B 1.	Bas	sed upon available data, I have determined that ground water* for the proposed use:
	a.	is over appropriated, is not over appropriated, or is 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.	will not or 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)
B2.	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;
	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):
3.	Gre	ound water availability remarks: The geology in the area is complex. There are not many high production wells
	<u>cur</u>	rently developing the bedrock aquifer. Two recently constructed wells for the applicant (BAKE 52207 and BAKE 11) are near the proposed wells in Section 4. It appears that the proposed wells will be constructed similarly.
	to l con the add not	ave some concern regarding the potential for mutual interference between wells in this application, which proposes ocate two additional wells (if needed) only 100 feet or less from the primary wells. In addition, I have a similar ocern regarding potential interference with the well proposed by the same applicant, file G-17198, and with one of wells proposed in file G-17628 (Wogman). I believe that the proposed permit condition above will adequately dress this issue. However, it may be advisable for the applicant to propose well locations a greater distance from only the other wells proposed here, but also from the proposed well locations in the above-mentioned files (see ached map).
	_	

Date: July 3, 2013

Application G-17647 continued

Application G-17647	continued	Date: <u>July 3, 2013</u>						
C. GROUND WATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040								
C1. 690-09-040 (1): Evaluatio	on of aquifer confinement:							

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	Likely plutonic rocks (Kji) often described as granite in well logs		
2	Likely basalt or andesite (Tab) (Brooks, 1976)	\boxtimes	

Basis for aquifer confinement evaluation:	The few local wells that penetra	ate these rocks appear	to be penetrating a
confined aquifer which underlies clay beds	<u>, hard sandstone or alluvial sedi</u>	ments.	

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	Powder River	3300±	3273	8700				
2	1	Powder River	3300±	3270	9200				

Basis for aquifer hydraulic connection evaluation: <u>Hydraulic connection with the older plutonic rocks is indirect at best with alluvial deposits, which overlie and are adjacent to these rocks. The alluvial deposits, which will be cased and sealed off, are in good hydraulic connection with the river.</u>

Water Availability Basin the well(s) are located within: POWDER R > SNAKE R - AB UNN STR (72191).

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 < 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?
								H		
									_	

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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 doe	s not annly						

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.

Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
	ence CFS												
	uted Well												
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q					_								
Interfere	nce CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfere	nce CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS				_								
Interfere	nce CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS									_			
	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	
Well Q	as CFS									_			
	ence CFS				-								
		%	%	%	%	%	%	%	%	%	- %	%	96
Well Q a	as CFS											-	
	ence CFS										_		
(A) = Tot	tal Interf.												
(B) = 80	% Nat. Q							_					
	% Nat. Q						-				_		
(0)-17	TIAL Q												
$(\mathbf{D}) = (\mathbf{A}$) > (C)	Jaren .	*	4	1	be some	√	V.	46	4	*	√′	1
	/B) x 100	%	%	%	%	%	%		%	%	%	%	9/6

(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.

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plication G-17647 continued	Date: July 3, 2013
Basis for impact evaluation:	
	
6. 690-09-040 (5) (b) The potential to impair or detriment Rights Section.	tally affect the public interest is to be determined by the Water
under this permit can be regulated if it is found to substantia	
 i. The permit should contain condition #(s) ii. The permit should contain special condition(s) 	as indicated in "Remarks" below;
SW / GW Remarks and Conditions	
	
	<u> </u>
#6; Ground Water Resources of Baker Valley, Baker Count Valley, Baker County, Oregon, by Lystrom, Nees and Hamp	1° by 2° Quad, Brooks, 1976; OWRD Ground Water Reporty, Oregon, by Frederick D. Trauger; Ground Water of Baketon, 1967; past personal communications with DOGAMI
Regional Geologist Mark Ferns and other OWRD staff; near	rdy reviews.

	W	l#:Logid:	
D2.	a. b. c.	WELL does not meet current well construction standards based upon: review of the well log; field inspection by report of CWRE other: (specify)	
D3.	a. b. c.	CWELL 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.	TH	E WELL construction deficiency is described as follows:	
D5.	TH	EWELL a. was, or was not constructed according to the standards in effect at the time of original construction or most recent modification.	of
		b. I don't know if it met standards at the time of construction.	
D6.		ate to the Enforcement Section. I recommend withholding issuance of the permit until evidence of well ed with the Department and approved by the Enforcement Section and the Ground Water Section.	l reconstruction
TH	IS SEC	TION TO BE COMPLETED BY ENFORCEMENT PERSONNEL	
D7		construction deficiency has been corrected by the following actions:	
D7.		construction deficiency has been corrected by the following actions.	
	_		
	_		
	_		
	_		
			, 200
		(Enforcement Section Signature)	
D8.	□ R	te to Water Rights Section (attach well reconstruction logs to this page).	

Date: July 3, 2013

Application G-17647 _____continued

STATE OF OREGON	BAKE	52211	WELL I.D. LABE		07025				
WATER SUPPLY WELL REPORT			START CAR	D# 20	07686				
(as required by ORS 537.765 & OAR 690-205-0210)	6/1/2	2012	ORIGINAL LO	G#					
(1) LAND OWNER Owner Well I.D.									
First Name Last Name		(9) LOCATION	ON OF WELL (le	gal des	cription)				
Company WILLIAMS LAND LLC		ľ	Twp 7.00 S			E E/W WM			
Address 48857 HWY 30			E 1/4 of the SE						
City NORTH POWDER State OR Zip 97867		Tax Map Number			Lot				
(2) TYPE OF WORK New Well Deepening Conv	Lat°	" ог			DMS or DD				
(2a) PRE-ALTERATION	Long	' " or			DMS or DD				
Dia + From To Gauge Stl Plstc Wld Thrd		Street address of well (Nearest address							
Casing:	48857 HWY 30 1	NORTH POWDER, OR	97867						
Material From To Amt sacks/lbs									
Seal: (3) DRILL METHOD		(10) STATIC	WATER LEVEL						
Rotary Air Rotary Mud Cable Auger Cable Mud		(10) STATIC	WAIER DEVEL		SWL(psi) +	SWL(ft)			
Reverse Rotary Other			/ Pre-Alteration						
		Completed W				98			
(4) PROPOSED USE Domestic Irrigation Community			Flowing Artesian?	_	Dry Hole?				
Industrial/ Commercial Livestock Dewatering		WATER BEARIN	G ZONES Dep		was first found _3				
Thermal Injection Other		SWL Date	From To	Est Flo	ow SWL(psi)	+ SWL(ft)			
(5) BORE HOLE CONSTRUCTION Special Standard (Attach copy)	5/2/2012	321 375	1000	0	98			
Depth of Completed Well 375.00 ft.									
BORE HOLE SEAL	sacks/								
Dia From To Material From To A 14 0 21 Bentonite 0 21	Amt lbs 16 S								
	10 S								
10 298 375		(11) WELL LO	<u>nc</u>						
		` ´	Ground Ele	vation					
How was seal placed: Method A B C D	E	Top Soil	Material		From 0	To 3			
Other POURED BENTONITE		Brown clay with I	broken rock		3	244			
Filter pack from ft. to ft. Material Size		Consolidated Roc			244	321			
		Fractured Black F	Rock		321	372			
Explosives used: Yes Type Amount Amount		Granite			372	375			
(5a) ABANDONMENT USING UNHYDRATED BENTONI' Proposed Amount Actual Amount	IE								
(6) CASING/LINER Casing Liner Dia + From To Gauge Stl Plstc	Wld Thrd								
	× □								
					_				
	\sqcup \sqcup								
Shoe Inside Other Location of shoe(s) 29	97		<u>_</u>						
Temp casing X Yes Dia 14 From 0 To 8									
(7) PERFORATIONS/SCREENS									
Perforations Method Material		Date Started 4/2	2/2012	omnle	ete 5/2/2012				
Perf/ Casing/Screen Scrn/slot Slot # of	Tele/								
	pipe size	, ,	ter Well Constructor C						
			work I performed on t this well is in comp						
			dards. Materials used a						
		the best of my kn	owledge and belief.		•				
		License Number		Date					
(8) WELL TESTS: Minimum testing time is 1 hour		a		_					
Pump Bailer • Air Flowing A	Artesian	Signed							
Yield gal/min Drawdown Drill stem/Pump depth Duration (I	hr)	(bonded) Water Well Constructor Certification							
1000 370 3			bility for the constructi						
			on this well during the co						
			g this time is in complants. This report is true						
						construction standards. This report is true to the best of my knowledge and belief.			
Water quality concerns? Yes (describe below) TDS amount From To Description Amount	Units	License Number	1640	- Date	6/1/2012				
Tribular Printers		Signed JEFFS	TOFFEL (E-filed)						
			ional) Jeff Stoffel						

Page 1 of 1

WELL I.D. LABEL# L 107025

WELL I.D. LABEL# L 107021 STATE OF OREGON BAKE 52207 START CARD # 207683 WATER SUPPLY WELL REPORT (as required by ORS 537.765 & OAR 690-205-0210) 3/26/2012 **ORIGINAL LOG#** (1) LAND OWNER Owner Well I.D. First Name Last Name (9) LOCATION OF WELL (legal description) Company WILLIAMAS LAND LLC County BAKER Twp 7.00 S N/S Range 39.00 E E/W WM Address 48857 HWY 30 Sec 4 NE 1/4 of the SE 1/4 Tax Lot 701 City NORTH POWDER State OR Zip 97867 Tax Map Number (2) TYPE OF WORK X New Well Deepening Conversion DMS or DD Lat Alteration (complete 2a & 10) Abandonment(complete 5a) DMS or DD (2a) PRE-ALTERATION Street address of well Nearest address Gauge Stl Plstc Wld Thrd Casing: 48857 HWY 30 NORTH POWDER, OR 97867 Material From Amt sacks/lbs Seal: (10) STATIC WATER LEVEL (3) DRILL METHOD Rotary Air Rotary Mud Cable Auger Cable Mud SWL(psi) SWL(ft) Existing Well / Pre-Alteration Reverse Rotary Other Completed Well 2/26/2012 Flowing Artesian? Dry Hole? (4) PROPOSED USE Domestic Irrigation Community Industrial/ Commericial X Livestock Dewatering WATER BEARING ZONES Depth water was first found 310.00 Thermal Injection Other SWL Date To Est Flow SWL(psi) + SWL(ft) From (5) BORE HOLE CONSTRUCTION Special Standard (Attach copy) 2/25/2012 310 394 Depth of Completed Well 394.00 ft. BORE HOLE SEAL sacks/ To Dia From To Material From Amt lbs 12 0 Bentonite 18 394 8 25 (11) WELL LOG Ground Elevation Method A From How was seal placed: Material To Other POURED BENTONITE TOP SOIL 4 **BROWN CLAY WITH BROKEN ROCK** 240 Backfill placed from _____ ft. to ____ ft. Material_ 308 BLACK BASALT Filter pack from _ _ ft. to ft. Material FRACTURED BLACK BASALT 308 394 Explosives used: Yes Type___ Amount (5a) ABANDONMENT USING UNHYDRATED BENTONITE Proposed Amount Actual Amount (6) CASING/LINER Dia Casing Liner From Gauge Stl Plstc Wld Thrd \odot X X 57 .250 Shoe Inside Outside Other Location of shoe(s) 57 Temp casing X Yes Dia 12 From <u>0</u> To <u>6</u> (7) PERFORATIONS/SCREENS Perforations Method Screens Type_ Date Started2/19/2012 Complete 2/26/2012 Material # of Perf/ Casing/Screen Scrn/slot Slot Tele/ (unbonded) Water Well Constructor Certification Screen Liner slots From width length pipe size I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief. License Number Date (8) WELL TESTS: Minimum testing time is 1 hour Signed O Pump O Bailer Air Flowing Artesian (bonded) Water Well Constructor Certification Yield gal/min Drawdown Drill stem/Pump depth Duration (hr) 390 I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief. °F Lab analysis Yes By _ Temperature 54 Yes (describe below) TDS amount License Number 1640 Date 3/26/2012 Water quality concerns? Amount Units Description Signed JEFF STOFFEL (E-filed)

Contact Info (optional)_

