Groundwater Application Review Summary Form

Application # G- 18705
GW Reviewer Joe Kemper Date Review Completed: 5/16/2019
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:
[] 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. Koute through Well Construction and Compliance Section.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).

WATER RESOURCES DEPARTMENT

MEM	Ю					•		Ma	4 16	, ,20 <u>_1</u>	9	
TO:		Applic	eation G	- <u> </u>	3705		_	•	<i>;</i> ;			
FRO	M:	GW: _	(Reviewe	_ Ke er's Name	s) Moes		-		**			
SUBJ	ECT: S	Scenic V	Vaterwa	y Inter	ference	Evalua	ition					
ĭ □	YES NO	The so	urce of a	appropr	iation is	within	or abov	e a Scer	iic Wate	erway		
,¤	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.												
Water	ise of the way by surface	the follo	owing a	mounts	express							
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
6.033	0,043	0.083	0.093	0.083	0.083	0.083	0.083	0,083	ଅ.୦୫୬	0.083	0.083	

of the second

MEMO

To:

Kristopher Byrd, Well Construction and Compliance Section Manager

From:

Joel Jeffery, Well Construction Program Coordinator,

Subject:

Review of Water Right Application G-18705

Date:

May 28, 2019

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Joe Kempér reviewed the application. Please see Joe's Groundwater Review and the Well Log.

Applicant's Well #1 (JACK 8234): Based on a review of the well report, Applicant's Well #1 does not appear to comply with current minimum well construction standards (See OAR 690 Division 210). The well report indicates that 5 sacks of cement grout were used to seal the well's annular space, however, by calculation, a minimum of 9 sacks of cement grout is required. In addition, the cement grout seal was "poured" instead of being placed by the use of a grout pipe. In order to meet minimum well construction standards, the well must be properly resealed with the correct amount of grout sealing material.

My recommendation is that the Department **not issue** a permit for Applicant's Well #1 (JACK 8234) unless it is brought into compliance with minimum well construction standards or information is provided showing that it is in compliance with current minimum well construction standards.

Bringing Applicant's Well #1 into compliance with minimum well construction standards may not satisfy hydraulic connection issues.

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report
are to be filed with the

WATER RESOURCES DEPARTMENT.
SALEM, OREGON 97310
within 30 days from the date
of well completion.

WATER WELL REPORT

STATE OF OREGON

(Please type or print)

5ACK 8234 State Well No. 366/3W-11

DEPARTMENT.
ON 97310
m the date

STATE 0
(Please to

(Please type or print)	10	500	60	700	n -		
(Please type or print) (Do not write above this li	K	L	G		V	State Permit	No

(1) OWNER:	(10) LOCATION OF STELL:		
Name Mirian Di Reda	County ATER RESQUECE Britist prell no	ımher	
Address 825 East Main			****
- Medford, Ore, 97501	36S Bearing and distance from section or subdivision		W.M.
(2) TYPE OF WORK (check):	Dearing and distance from section of subdivisi	on corner	
New Well 🕱 Deepening 🗌 Reconditioning 🗍 Abandon 🗇			
If abandonment, describe material and procedure in Item 12.	(11) WATER LEVEL: Completed w	ell.	
(3) TYPE OF WELL: (4) PROPOSED USE (check):	Depth at which water was first found 41		ft.
Rotary Driven Domestic Landustrial Municipal Domestic Landustrial Municipal Domestic	Static level 19 ft. below land s	surface. Date 5/2	0/78
Dug	Artesian pressure lbs. per squar		
CASING INSTALLED: Threaded □ Welded X	(12) WELL LOG: Diameter of well b	nelow easing 6	,
	Depth drilled 84 ft. Depth of compl		ft.
"Diam. fromft. toft. Gage	Formation: Describe color, texture, grain size		
"Diam. from	and show thickness and nature of each stratus	m and aquifer pe	enetrated.
PERFORATIONS: Perforated? Yes No.	with at least one entry for each change of format position of Static Water Level and indicate prin	tion. Report each (cipal water-bearir	change in 18 strata.
of perforator used	MATERIAL	From To	SWL
Size of perforations in. by in.	Soilbrown	0 6	
perforations from ft. to ft.	Claybrown	6 12	 -
perforations from ft. to ft.	Shattered rockgray	12 32	
perforations fromft. toft.	Conglomerategray	32 84	
(K) GODEFNG			
in the second resumed D res Of the			
Manufacturer's Name			
Diam. Slot size Set from ft. to ft.	· · · · · · · · · · · · · · · · · · ·		
Diam. Slot size Set from ft. to ft.			
(8) WELL TESTS: Drawdown is amount water level is lowered below static level			
Was a pump test made? Yes No If yes, by whom?			
Yield: gal./min. with ft. drawdown after hrs.			
" " "			
ATP " "		<u> </u>	
Bailer test 12 gal./min. with 65 ft. drawdown after 11 hrs.			
Artesian flow g.p.m.			 .
perature of water Depth artesian flow encounteredft.	Work started 5/20 1978 Complete	ed 5/20	1978
(9) CONSTRUCTION:	Date well drilling machine moved off of well	5/20	¹⁹ 78
Well seal—Material used Cement	Drilling Machine Operator's Certification:	-,-	
Well sealed from land surface toft.	This well was constructed under my		
Diameter of well bore to bottom of seal10 in.	Materials used and information reported best knowledge and belief.		•
Diameter of well bore below seal	[Signed] Wayne Millowski	Date 5/22	19.78
Number of sacks of cement used in well seal	(Prilling Machine Operator)	00	,
How was cement grout placed?Poured	Drilling Machine Operator's License No	ΩΩ	
The second secon	Water Well Contractor's Certification:		
	This well was drilled under my jurisdi true to the best of my knowledge and beli		eport is
Was a drive shoe used? Yes No PlugsSize: location it.			
Did any strata contain unusable water? 🗌 Yes 🕱 No	Name Vingle Cribble Well Drill (Person, firm or corporation)	(Type or prir	1t)
Type of water? depth of strata	Address 8380 Ramsey Rd., Gold H	ill. Or.e	**********
Method of sealing strata off	[Signed] Wayne Milewsk	21	
Was well gravel packed? Tyes X No Size of gravel:	(Water Well Contra		
Gravel placed from ft. to ft.	Contractor's License No. 461 Date	5/22	., 19.78

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO:									Date .		5/16/20	<u>19</u>		
FROM:	(rounc	lwater Sec	ction		Joe Ken	nper							
SUBJECT:	A	Applica	ation G- <u>1</u>	8705		Reviewer's Name Supersedes review of NA Date of Review(s)								
			•								L	ale of Revi	cw(s)	
PUBLIC II														
OAR 690-31	10-130	(1) <i>Th</i>	e Departm	ent shall pre	sume that	a proposed	d ground	dwate	er use will en	sure t	he preser	vation of	the publ	ic
welfare, safe	ty and	health	as describ	ed in ORS 5	37.525. De	epartment s	taff rev	iew g	groundwater	applic	ations un	der OAR	690-310	-140
to determine the presumpt														
the presumpt	tion cr	iciia. I	LIMS LEVIEV	y is baseu u	рон ачана	ible illiori	nauon a	anu a	igency ponci	ies iii j	ріасе-аі і	ne ume (or evalua	ition.
A. GENER	RAL I	NFOR	MATIO	<u>N</u> : Apr	olicant's Na	ame:A	ndrew	Har	rison		. Co	ounty: J	ackson	
					r							7		
A1. App	olicant	(s) seel	c(s) <u>0.033</u>	34 cfs from	_1	well(s) in the		Rogue					Basin,
			•			~-	-							
A2. Prop	posed	use	Nurse	ery (2 acres)		Seaso	nality:	Yea	ar Round					
A3. We	II and a	quifer	data (atta	ch and num	ber logs fo	or existing	wells;	marl	k proposed v	vells a	is such u	nder logi	d):	
Wall	T: J		Applicant's	s D	1 A: 6*	Propo	sed		Location		Location	n, metes a	nd bound	s, e.g.
	Logid		Well#	Propose	d Aquifer*	Rate(cfs) (T/R-S QQ-					2250' N	I, 1200' E	fr NW cor	S 36
	ACK 823		11	Ве	drock	0.033	34	3	6S/3W-11 NW	٧W	637.5	S, 363'E fr	NW cor S	11*
* Alluvium, C	CRB, Be	drock												
V	Well	First			Well	Seal	Casi	nø	Liner	Perf	orations	Well	Draw	
	Elev	Water	SWL ft bls	SWL Date	Depth	Interval	Interv		Intervals		Screens	Yield	Down	Test
	msl	ft bls			(ft)	(ft)	(ft)		(ft)		(ft)	(gpm)	(ft)	Type
	,250	41	19	5/20/1978	84	0-38	0-3	9	-			12	65	В
Use data from	applica	ation to	r proposea v	vells.					•			-	_	
A4. Cor	mment	s: The	න නාකම් ලිනුණු ද	कारकी जासका वा	ත්තියේ වේත ගැ	ell location	n න ේ රිපිට්ට්	5°S (from the NW	രണ്ണര	ල් පෙන්	aa 111. aa	ැල්වීම ලේවීම	മ്പരുക ദര
									प्रवाधित की क्रिस्ता					
. = -														
				OAR 690-5		· · ·	Basii	n rule	es relative to	the de	velopme	nt, classif	ication a	nd/or
						ted to surfa	ace wate	er _	are, or 🛛	are no	ot, activat	ed by this	s applicat	tion.
				such provisi sin contains		:_:								
. Con	nmenu	s: <u>The</u>	Rogue Bas	sin contains	no such pro	ovisions.								
	11(e) #					_	_	tan(s) an aquifer	limite	ed by an a	dministra	ative rest	riction.
A6. □ We							· '		,					
A6. We Nan	me of a	dminis	strative area	a:									~	
Nar	me of a	dminis	strative area	a:									•	
Nar	me of a	dminis s:	strative area										•	
Nar	me of a	dminis s:	strative area										-	

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Date: 5/16/2019 Page

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

Ba	sed upon available data, I have determined that groundwater* 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 groundwater 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 groundwater 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 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) 7C (7-yr SWL); 7J (Scenic); Medium Water-use Reporting 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;
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):
<u>PC</u> <u>Th</u> <u>use</u>	oundwater availability remarks: There are limited water level data from wells adjacent to the applicant's proposed A so Capacity of the Resource cannot be determined and water-level reporting conditions in B1(d) are recommended. ere are two groundwater/springs rights within 1 mile of the applicant's proposed POA, but it is unlikely that the applicant's awould result in injury to these or other permitted water rights given the low requested rate. However, standard erference conditions should be applied.
_	<u></u>
_	
	· ·

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	- Fractured Bedrock of Applegate Group		

Basis for aquifer confinement evaluation: In fractured-bedrock aquifer systems, water is stored and transmitted primarily by discrete but connected fracture sets. These fractures generally extend to near the surface, so water within these fractures is likely under atmospheric pressure (unconfined) despite an overall low storage coefficient for the aquifer system as a whole and static water levels often reported above water-bearing zones on driller's logs.

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 Subst. Into Assume YES	erfer.
1	1	Rogue River	1232	1079	1515			
	,							
		-						

asis for aquifer hydraulic connection evaluation: Groundwater elevations are above or coincident with adjacent stream levations, indicating that water is flowing towards and discharging to surface water sources.									
Water Availability Basin the well(s) are located within: ROGUE R > PACIFIC OCEAN - AB FALL 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 \(\subseteq \) 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?
1	1			NA	NA		1130		<25%	
									,	

С3ь.	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.

 valuation and initiations apply as in Osa 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: Interference at 30 days was estimated using an analytical stream depletion model (Hunt, 1999) using bulk aquifer parameters representative of the local geology (see Figure 4 below).

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#	Wells Jan	Feb	Mar	Apr	May	Jun	Jul	Δ 11 α	Sep	Oct	Nov	Dec
VV CII	Ο ΨΨ	Jan	TCD	iviai	Apı	Iviay	Juii	Jui	Aug	Зер	- 001	NOV	Dec
		%	%	%	%	%	%	%	%	%	%	%	•
Well Q	as CFS												
Interfere	ence CFS					•							
·													
(A) = To	tal Interf.												
(B) = 80	% Nat. Q		,										
(C) = 1	% Nat. Q												
(D) = (A) > (C)		1	√	1	√ .	1	·	· √	1	V	√	1
$(\mathbf{E}) = (\mathbf{A})$	/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: Streams beyond 1 mile were not evaluated for PSI under OAR 690-009.
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 groundwater use under this permit can be regulated if it is found to substantially interfere with surface water: i The permit should contain condition #(s)
<u>H</u>	W/GW Remarks and Conditions: The applicant's well is found to be hydraulically connected to the Rogue River. [Nowever, there is not a preponderance of evidence that the proposed use/rate has the Potential for Substantial Interference (PSI) is per OAR 690-009.
	References Used: Sunt, B. 1999. Unsteady Stream Depletion from Ground Water Pumping. Journal of Hydrologic Engineering, Vol 8(1), pp 12-19
0	WRD Groundwater Site Information System Database – Accessed 5/16/2019.

Wiley, T. J. 2006. Preliminary Geologic Map of the Gold Hill and Rogue River 7.5' Quadrangles, Jackson and Josephine

Counties, Oregon. Oregon Dept. of Geol. and Mineral Industries. OFR O-06-18.

Monthly Streamflow in Cubic Feet per Second Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive U	ses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	2,540.00		1,080.00	1,460.00		1,200.00	261.00
FEB	3,150.00		1,990.00	1,160.00	0.00	1,200.00	-44_40
MAR	3,160.00		1,770.00	1,390.00	0.00	1,200.00	191.00
APR	3,110.00		1,020.00	2,090.00	0.00	1,200.00	889.00
MAY	2,900.00		361.00	2,540.00	0.00	1,200.00	1,340.00
JUN	1,810.00		368.00	1,440.00	0.00	1,200.00	242.00
JUL	1,350.00		404.00	946.00	0.00	. 1,200.00	-254.00
AUG	1,170.00		359.00	811.00	0.00	1,200.00	-389.00
SEP	1,130.00		290.00	840.00	0.00	1,200.00	-360.00
OCT	1,170.00		213.00	957.00	0.00	1,200.00	-243.00
NOV	1,460.00		306.00	1,150.00	0.00	1,200.00	-45.70
DEC	2,050.00		521.00	1,530.00	0.00	1,200.00	329.00
ANN	2,110,000.00	/ -	519,000.00	1,590,000.00	0.00	869,000.00	753,000.00

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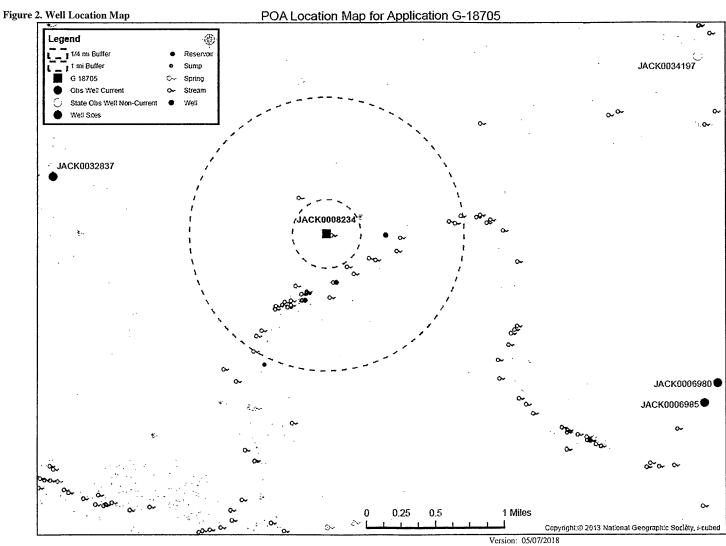


Figure 3. Stream Depletion Model (Hunt, 1999)

Application type:	G
Application number:	18705
Well number:	1
Stream Number:	1
Pumping rate (cfs):	0.033
Pumping duration (days):	365
Pumping start month number (3=March)	1

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	1515	1515	1515	ft
Aquifer transmissivity	T	50	100	500	ft2/day
Aquifer storativity	S	0.1	0.01	0.001	-
Aquitard vertical hydraulic conductivity	Kva	0.01	0.05	0.1	ft/day
Not used		0	0	0	•
Aquitard thickness below stream	babs	5	5	5	ft
Not used		0	0	0	•
Stream width	WS	200	200	200	ft

Stream depletion for Scenario 2: Days 10 30 60 90 120 150 180 210 300 240 270 330 360 Depletion (%) 0 4 23 30 35 14 39 43 48 51 53 54 46 Depletion (cfs) 0.00 0.00 0.00 0.010.01 0.01 0.01 0.01 0.02 0.02 0.02 0.02 0.02

