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**Water Right Conditions
Tracking Slip**

Groundwater/Hydrology Section

FILE # # G-17526

ROUTED TO: water rights

TOWNSHIP/

RANGE-SECTION: 12S|15E-27

CONDITIONS ATTACHED?: yes no

REMARKS OR FURTHER INSTRUCTIONS:

re-review for change in rate;

changes in review are

highlighted in yellow

Reviewer: K. Lite

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date 6/18/2012
 FROM: Ground Water/Hydrology Section K. Lite
Reviewer's Name
 SUBJECT: Application G- 17526 Supersedes review of 5/21/2012
Date of Review(s)

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review ground water applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation.**

A. GENERAL INFORMATION: Applicant's Name: Glenn Fessler County: Jefferson

A1. Applicant(s) seek(s) (449 gpm) 1.0 cfs from 2 well(s) in the Deschutes Basin,
Willow Creek subbasin Quad Map: Grizzly Mtn and Brewster Reservoir

A2. Proposed use: Irrigation Seasonality: April 1 – October 31

A3. Well and aquifer data (attach and number logs for existing wells; mark proposed wells as such under logid):

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	Croo 53942	1	Clarno Fm	1.0	12S/15E-sec 27 ABC	137' E & 1087' N fr C1/4 cor S 27
2	Not yet drilled	2	Clarno Fm	1.0	12S/15E-sec 27 DBA	250' E & 130' S fr C1/4 cor S 27
3						
4						
5						

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SW L ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	3655	14	10.5	12/5/2011	416	38.5	+1.5-38.5			200		A
2	3710				Prop +/- 416	Prop 38.5	Prop 38.5					

Use data from application for proposed wells.

A4. **Comments: THE WELLS ARE/WILL LIKELY TO BE CONSTRUCTED INTO WATER-BEARING ZONES WITHIN CLARNO FM. THE PERMEABILITY IN THE UNIT IS LIKELY FROM SECONDARY FRACTURES, BASED ON THE AGE (OLD) OF THE ROCKS. THE ORIENTATIONS OF FRACTURE SURFACES ARE UNKNOWN. ALSO, THERE ARE MANY SPRINGS MAPPED WITHIN A FEW MILES OF THE PROPOSED POA'S**

A5. **Provisions of the Deschutes** Basin rules relative to the development, classification and/or management of ground water hydraulically connected to surface water are, or are not, activated by this application. (Not all basin rules contain such provisions.)
 Comments: THE WELLS ARE / WILL BE LOCATED OUTSIDE THE USGS DESCHUTES GROUND WATER STUDY AREA

A6. Well(s) # _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
 Name of administrative area: _____
 Comments: _____

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

B1. Based 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. 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) 7B, 7N;
 - 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;

- 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 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): _____

B3. Ground water availability remarks: _____
THE WELLS ARE / WILL BE CONSTRUCTED INTO WATER-BEARING ZONES WITHIN THE CLANO FORMATION. THE YIELD IN POA #1 (CROO 53942) DOES NOT APPEAR TO SUPPORT THE PROPOSED PUMPING RATE.

NO NEARBY STATE OBSERVATION WELL IS COMPLETED IN THE CLARNO FM. HOWEVER, THE WATER LEVEL TREND IN A STATE OBSERVATION WELL NEAR MADRAS (OBS WELL 1306 (JEFF 466)), LOCATED ABOUT 12.5 MILES TO THE NORTHWEST IS LIKELY SIMILAR. ALTHOUGH THAT WELL IS COMPLETED IN THE DESCHUTES FM. THE WELL HAS BEEN MONITORED PERIODICALLY SINCE THE MID-1980s. THE GROUND WATER LEVEL HAS SEASONALLY FLUCTUATED ABOUT 1 TO 7 FEET DURING THE PERIOD OF RECORD. CLIMATE INFLUENCE IS APPARENT AT STATE OBS WELL 1306.

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	Clarno Formation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Clarno Formation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation:

GROUND WATER AT THE WELL LOCATIONS IS LIKELY SEMI-CONFINED WITHIN FRACTURE ZONES IN THE CLARNO FM.

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?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Willow Creek	3644	3650	150	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	Willow Creek	?	3650	1,053	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: **THE RELATION BETWEEN THE SPRINGS AND THE GROUNDWATER FLOW SYSTEM AT THE PROPOSED POA'S IS ALSO UNKNOWN. WATER LEVEL ELEVATION IS ABOUT 3645 FT AMSL (IN POA #1) AND THAT ELEVATION APPEARS COINCIDENT WITH NEARBY REACHES OF WILLOW CREEK AND A WETLAND. HOWEVER, PAST STREAM GAGING IN THE VICINITY INDICATES NO BASE FLOW TO WILLOW CREEK IN THIS AREA.**

Water Availability Basin the well(s) are located within: **WILLOW CR > DESCHUTES 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 < 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?
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

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?
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

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.

Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Well Q as CFS													
Interference CFS													
Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
(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:
NO STREAM DEPLETION WAS CALCULATED BECAUSE NO MODEL WAS FOUND TO BE APPROPRIATE FOR USE IN THIS HYDROGEOLOGIC SETTING.

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 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) 7B;
 - ii. The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions**

References Used:
USGS GEOLOGIC MAP I-568; UNPUBLISHED "GRIZZLY" STREAM GAGE SUMMARY BY KYLE GORMAN; GRIZZLY MTN & BREWSTER RESERVOIR QUADRANGLE MAPS; APPL FILE G-17526; STATE OBSERVATION WELL 1306 (JEFF 466); WATER WELL REPORTS FOR CROO 53951, JEFF 51159, AND JEFF 51160.

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: 1 Logid: CROO 53951

D2. **THE WELL does not 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:**
a. constitutes a health threat under Division 200 rules;
b. commingles water from more than one ground water reservoir;
c. permits the loss of artesian head;
d. permits the de-watering of one or more ground water reservoirs;
e. other: (specify) _____

D4. **THE WELL construction deficiency is described as follows:** _____

D5. **THE WELL** 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. **Route to the Enforcement Section.** I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Enforcement Section and the Ground Water Section.

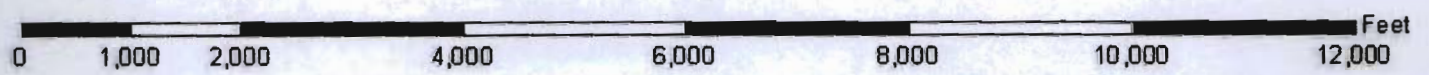
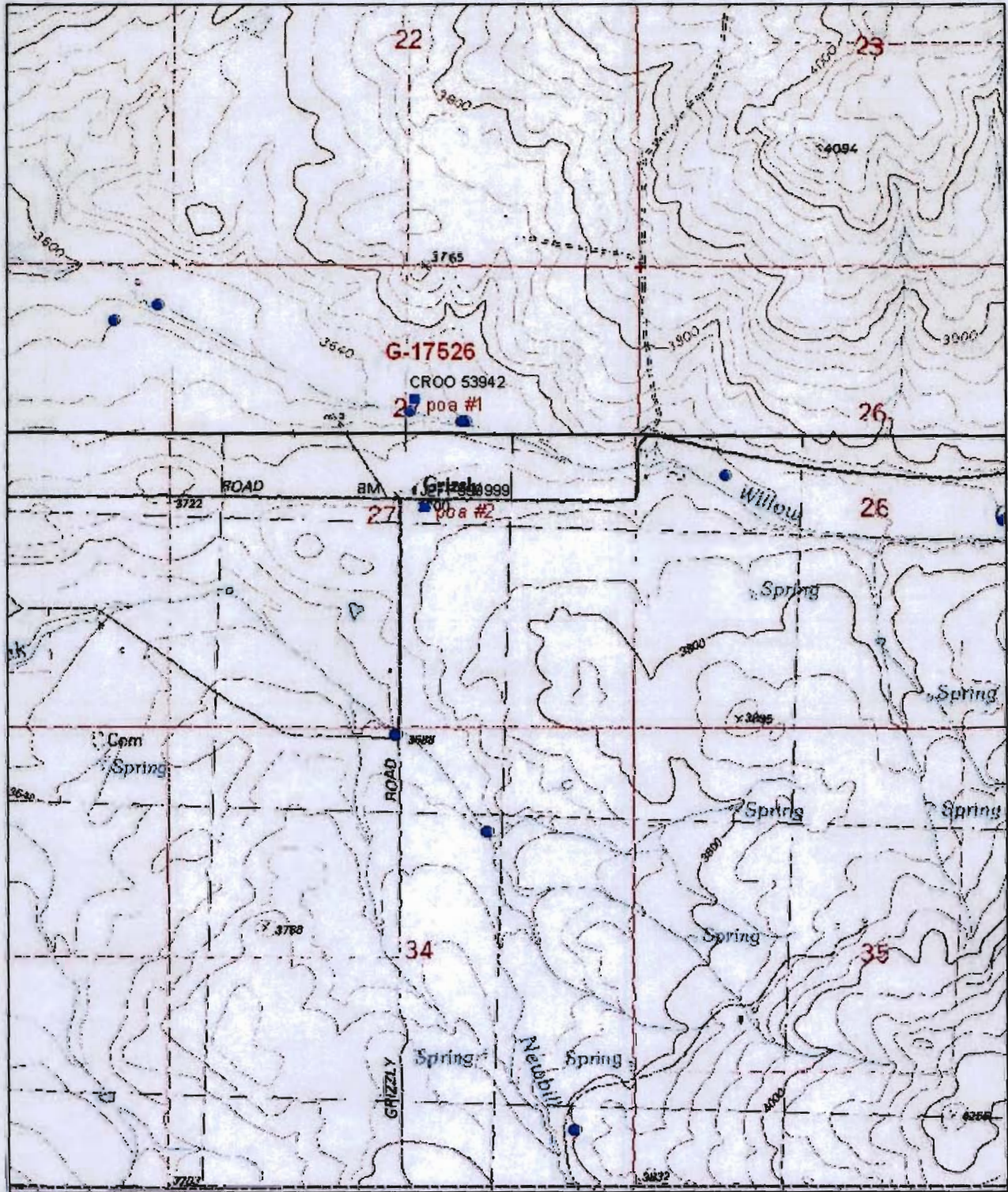
THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

D7. Well construction deficiency has been corrected by the following actions: _____

_____, 200_____
(Enforcement Section Signature)

D8. **Route to Water Rights Section (attach well reconstruction logs to this page).**

G-17526: Brewer Reservoir and Grizzly Mtn Quadrangles



Oregon Water Resources Department (OWRD) Well Location
 OWRD Logid
 OWRD Well Tag (Well ID)
 OWRD State Observation Well Number
 Total well depth (feet below land surface)
 Land surface elevation (feet above mean sea level)
 Primary use of well
 Primary aquifer system

11.00S/13.00E-24bcd1
 JEFF 466

 1306
 590
 2490
 DOMESTIC

