MEMO

To: File
From: Joel Jeffery, Well Construction Program Coordinator
Subject: Review of Water Right Application G-17789
Date: August 21, 2014

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

Applicant's Well #1 (GRAN 51033): 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). This is a flowing artesian well. In order to meet minimum well construction standards, the well must be cased and sealed to a depth of at least 195 feet below surface grade. In addition, flowing artesian wells shall be equipped with a control valve and a watertight mechanical cap, threaded or welded, so that all flow of water from the well can be completely stopped. Also the well shall be equipped with a pressure gauge on a dead end line with a petcock valve placed between the gauge and the well casing.

My recommendation is that the Department **not issue** a permit for Applicant's Well #1 (GRAN 51033) unless it is brought into compliance with current minimum well construction standards or information 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.

WATER RESOURCES DEPARTMENT

MEMO

July 25, 2014

TO: Application G-17789

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 Ground Water 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 Ground Water 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

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date July 25, 2014

FROM: Groundwater Section Mike Zwart
Reviewer's Name

SUBJECT: Application G- 17789 Supersedes review of
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: City of Prairie City County: Grant

A1. Applicant(s) seek(s) 0.06 cfs from two well(s) in the John Day Basin,
subbasin Quad Map: Prairie City

A2. Proposed use Irrigation 2.5 acres Seasonality: March 1 to 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	GRAN 51033	1	Bedrock	0.06	13S/33E-11 NE-NW	910' S, 40' W fr N ¼ cor S 11
2	Proposed	2	Bedrock	0.06	13S/33E-11 NE-NW	900' S, 90' W fr N ¼ cor S 11
3						
4						
5						

* Alluvium, 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)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	3526	190	-6.9	05/06/2010	200	0-20	0-138	120-200	160-200	27		Air
2	3524											

Use data from application for proposed wells.

A4. **Comments:** No construction information provided for proposed well 2. It is assumed that similar construction is proposed.

A5. ☒ **Provisions of the John Day** 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:

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) 7,J;
   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:** There are no nearby observation wells. The proposed use is relatively minor.

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, 2	**Sandstone and possibly basalt?**	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: **The well is flowing artesian.**

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**	**John Day River**	**3533±**	**3510**	**250**	☐	☒	☐	☐	☒
2	**1**	**John Day River**	**3533±**	**3510**	**250**	☐	☒	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: **The water-bearing zone is well below the nearest reach of the river. Hydraulic connection may be at a downstream reach of the river at an undetermined distance greater than one mile.**

Water Availability Basin the well(s) are located within: **30620124, John Day R > Columbia R ab unn stream.**

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?
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

C3b. **690-09-040 (4):** Evaluation of stream impacts <u>by total appropriation</u> 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: ____

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													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(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: _____

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) **7.J** ;

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

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

References Used: **Local well logs; local reviews; Geologic Map of the Canyon City Quadrangle, Northeastern Oregon, by Brown and Thayer, 1966; Preliminary Geologic Map of the Mt. Vernon Quadrangle, Oregon, by Thayer, 1956.**

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

Gran 51033

STATE OF OREGON
WATER SUPPLY WELL REPORT
(ORS 537.765 & OAR 690-205-0210)
Instructions for completing this report are on the last page of this form.

GRAN 51033

WELL LABEL # L 105004
START CARD # 197304
ORIGINAL LOG #

(1) LANDOWNER Owner Well I.D. _____
First Name Grant County Last Name _____
Company Grant County
Address 201 South Humbold
City Canyon City State OR. Zip 97820

(2) TYPE OF WORK ☒ New ☐ Conversion ☐ Deepening
☐ Alteration (complete Sections 2a & 10) ☐ Abandonment (complete Section 5a)

(2a) PRE-ALTERATION: Well Depth _____ ft.
Seal Material _____
Casing Type: ☐ Steel ☐ Plastic ☐ Other _____
Casing Gauge _____ Casing Diameter _____

(3) DRILL METHOD ☒ Rotary Air ☐ Rotary Mud ☐ Auger
☐ Cable ☐ Cable Mud ☐ Reverse Rotary ☐ Other _____

(4) PROPOSED USE ☒ Domestic ☐ Irrigation ☐ Community
☐ Industrial/Commercial ☐ Livestock ☐ Dewatering ☐ Injection
☐ Thermal ☐ Other _____

(5) BORE HOLE CONSTRUCTION
Depth of Completed Well 200 ft. Special Standard: ☐ Yes (attach copy)

BORE HOLE Dia	From	To	SEAL Material	From	To	Amount	sacks/lbs
10	0	20	Bent.	0	20		15
6	20	200					

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☒ Other 3/8 pelleted dry
Backfill placed from _____ ft. to _____ ft. Material _____
Filter pack from _____ ft. to _____ ft. Material _____ Size _____

(5a) ABANDONMENT USING UNHYDRATED BENTONITE:
Calculated Amount Proposed to be Used: _____ sacks/lbs
Actual Amount Used: _____ sacks/lbs

(6) CASING/LINER

Csng	Linr	Dia	+	From	To	Gauge	Steel	Plastic	Welded	Thrd
☒		6	☒	2	138	.250	☒		☒	
	☒	4		120	200	SDR26		☒		

Shoe ☒ Inside ☐ Outside ☐ Other Location of shoe(s) 138
Temporary casing ☐ Yes Diameter _____ From _____ To _____

(7) PERFORATIONS/SCREENS
Perforations Method Slotted Pipe
Screens Type _____ Material P.V.C.

Perf	Scrn	Csng	Linr	Screen Dia	From	To	Screen/slot width	Slot length	# of slots	Tele/pipe size
☒			☒		160	200	1/4	8"	60	4

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
27	200	200	2hr.

Temperature 51 °F Lab analysis ☐ Yes By _____
Water quality concerns? ☐ Yes (describe below) TDS _____ ppm

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)
County Grant Twp 13 N or ☒ S Range 33 ☒ E or W W.M.
Sec 11BA NW 1/4 of the SE 1/4 Tax Lot 500
Tax Map Number _____ Lot _____
Lat ___° ___' ___.___" or ___.___ DMS or DD
Long ___° ___' ___.___" or ___.___ DMS or DD
Street Address of Well (or nearest address) 425 South Maine Prairie City OR. 97869

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL (ft)
Existing Well/Pre-Alteration				
Completed Well	5-6-10	3 psi		

Flowing Artesian? ☒ Yes ☐ Dry Hole? ☐ Yes

WATER BEARING ZONES Depth water was first found 6

SWL Date	From	To	Est Flow	SWL (psi)	+	SWL (ft)
4-28-10	6	8	4			5
5-6-10	190	200	27	3 psi		

(11) WELL LOG Ground Elevation _____

Material	From	To
Brown Clay cobbles	0	
Sand		8
Red Clay Sand gravel	8	60
Tan Clay Sand	60	190
Black Sandstone	190	
Broken Rock		200

RECEIVED
JUN 07 2010
WATER RESOURCES DEPT
SALEM, OREGON

Date Started 4-26-10 Completed 5-6-10

(unbonded) Water Well Constructor Certification
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 _____
Signed _____

(bonded) Water Well Constructor Certification
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.

License Number 1816 Date 5-27-10
Signed _____
Contact Info. (optional)
541-519-0618

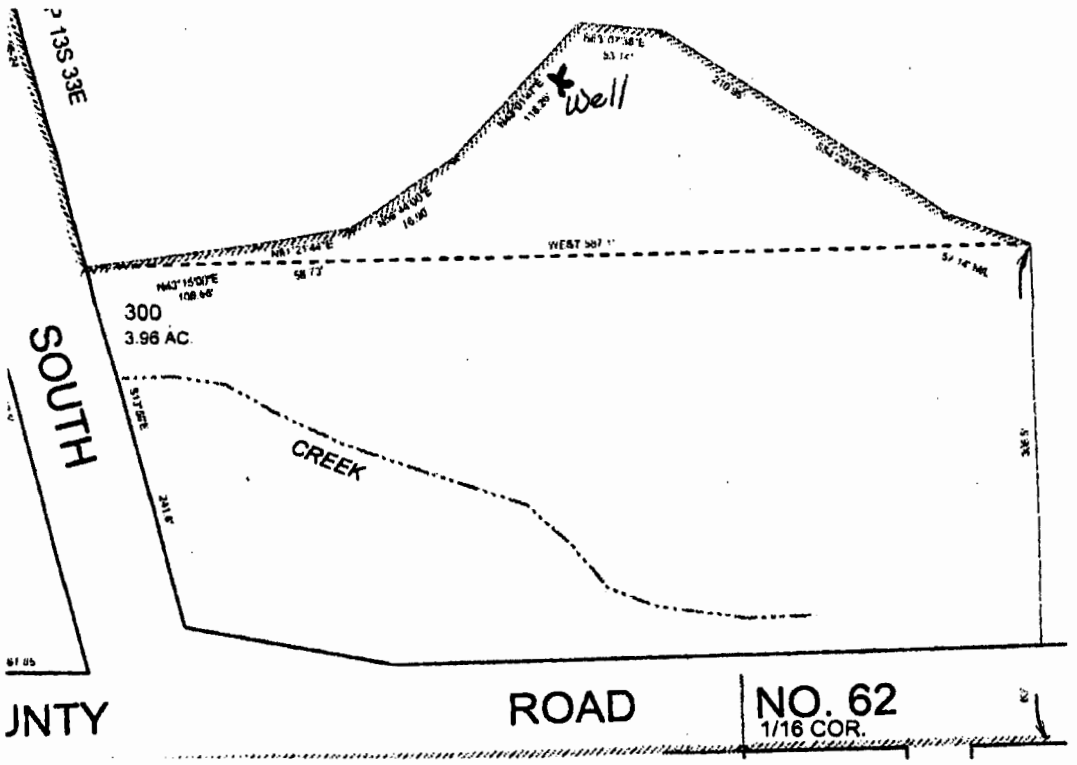
AUG 09 2010

ORIGINAL – WATER RESOURCES DEPARTMENT ONE COPY FOR CONSTRUCTOR ONE COPY FOR CUSTOMER
SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

01/02/2009

GRAN 51033

EXEMPT USE WELL LOCATION MAP



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WATER RESOURCES DEPT
SALEM, OREGON

↑N

Grant County

Assessor Map Reference Number: **13S 33E 11 NENW; Tax Lot 300**
Street Address of Well, if Available: **425 S Main, Prairie City, OR.**
Well Log # **GRAN 51033.** Well Label (ID Tag) # **L 103004.** (Please Locate Well and Indicate distance From Property or Survey Corner, See Attached Sample Well Location Map.) **You may also locate your well using our exempt use well mapping tool on our website at www.wrd.state.or.us/OWRD/exempt_use_788_info.shtml or by contacting the Exempt Use Well Program Coordinator at 503 986-0861.**

MAP NOT TO SCALE

GRANT COUNTY
GRAN 51033
INV 3308
SC 197304

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SEP 15 2011
WATER RESOURCES DEPT
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Application G-17789, City of Prairie City