

Groundwater Application Review Summary Form

Application # G- 18836

GW Reviewer J. Woody Date Review Completed: 10-17-2019

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. Route through Well Construction and Compliance Section.

on 10/26/19

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).

MEMO

10-17, 2019

TO: Application G- 18836

FROM: GW: J. Woody
(Reviewer's Name)

☐ YES

NO

The source of appropriation is within or above a Scenic Waterway

☐ YES☒

NO

Use the Scenic Waterway condition (Condition 7J)

9

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.

7

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.**

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.

[illegible]

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Joel Jeffery, Well Construction Program Coordinator
Subject: Review of Water Right Application G-18836
Date: October 29, 2019

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

Applicant's Well #1 (WASH 57754): Based on a review of the Well Report, Applicant's Well #1 seems to protect the groundwater resource.

The construction of Well #1 may not satisfy hydraulic connection issues.

Applicant's Well #2 is a proposed well and has not yet been constructed. Therefore a review cannot be completed.

OCT 01 2001

STATE OF OREGON

WATER SUPPLY WELL REPORT WATER RESOURCES DEPT.
(as required by ORS 537.765) SALEM, OREGON

Instructions for completing this report are on the last page of this form.

WELL I.D. # L 50510

START CARD # 142840

(1) LAND OWNER

Well Number _____

Name YULE TREE FARM

Address P.O. BOX 429

City AURORA State OR Zip 97002

(2) TYPE OF WORK

☒ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:

☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger☐ Other _____

(4) PROPOSED USE:

☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation☐ Thermal ☐ Injection ☐ Livestock ☐ Other _____

(5) BORE HOLE CONSTRUCTION:

Special Construction approval ☐ Yes ☒ No Depth of Completed Well 421 ft.Explosives used ☐ Yes ☒ No Type _____ Amount _____

HOLE				SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds	
10"	0	160	Cem/Bent.	0	160	80 sks	
7 1/2"	160	299	Cement	260	299	7 sks	
5 1/2"	299	421					

How was seal placed: Method ☐ A ☒ B ☒ C ☐ D ☐ E☐ Other _____

Backfill placed from _____ ft. to _____ ft. Material _____

Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 6"	+1	299	.250	☒	☐	☒	☐
				☐	☐	☐	☐
				☐	☐	☐	☐
Liner:				☐	☐	☐	☐
				☐	☐	☐	☐

Drive Shoe used ☐ Inside ☐ Outside ☐ None

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

☒ Perforations Method Drilled☐ Screens Type _____ Material PVC 200

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
391	421	1/2"	105	4 1/2"	pipe	☐	☒
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour

☐ Pump ☐ Bailer ☒ Air ☐ Flowing☐ Artesian

Yield gal/min	Drawdown	Drill stem at	Time
36		421	1 hr.
24		340	"

Temperature of water 53°F Depth Artesian Flow Found _____

Was a water analysis done? ☒ Yes By whom AMJDid any strata contain water not suitable for intended use? ☐ Too little☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other _____

Depth of strata: _____

(9) LOCATION OF WELL by legal description:

County WASHINGTON Latitude _____ Longitude _____

Township 3N N or S Range 3W E or W. WM.

Section 32 NW 1/4 NE 1/4

Tax Lot 100 Lot _____ Block _____ Subdivision _____

Street Address of Well (or nearest address) 25800 NW BUMP RD
CORNELIUS, OR 97113

(10) STATIC WATER LEVEL:

278 ft. below land surface.

Date 09/25/01

Artesian pressure _____ lb. per square inch

Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 320

From	To	Estimated Flow Rate	SWL
320	340	15 gpm	278
360	410	21 "	278

(12) WELL LOG:

Ground Elevation _____

Material	From	To	SWL
Topsoil	0	1	
Brown clay	1	3	
Red-brown clay	3	42	
Decomp red-brown basalt	42	122	
occ. clay interbed			
Soft lt. brown clay	122	129	
Broken gray-brown basalt	129	142	
(loss circulation)			
Firm gray-black basalt	142	172	
Broken gray-brown basalt	172	188	
(loss circulation)			
Gray-black basalt, hard, frac.	188	205	
Soft gray-brown, brown	205	221	
rotten rock			
Gray-brown sandy clay	221	253	
Gray sandy clay	253	297	
Gray sandstone w/occ. claystone	297	421	278

Date started 08/31/01 Completed 09/25/01

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, 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.

Signed Mel Bigsby WWC Number 1492
Date 09/26/01

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, 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.

Signed [Signature] WWC Number 1266
Date 09/26/01

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 10/17/2019
 FROM: Groundwater Section Jen Woody
 SUBJECT: Application G- 18836 Reviewer's Name
 Supersedes review of n/a 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 groundwater 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: Barrett Brown, Avventura LLC County: Washington

A1. Applicant(s) seek(s) 1.67 cfs from 2 well(s) in the Willamette Basin,
East Fork Dairy Creek subbasin

A2. Proposed use Irrigation (332.7 AF/yr) and Agricultural Use(1AF/yr) Seasonality: March 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	WASH 57754	1	Sandstone	1.67	T3N/R3W-32 NW ¼ NE ¼	190'S, 2060'W fr NW cor S 33*
2	Proposed	2	Sandstone	1.67	T3N/R3W-32 NW ¼ NE ¼	115'S, 1190'W fr NW cor S 33*
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	932	320	278	09/25/2001	421	0-160, 260-299	0-299	unknown	391-421	36		air
2	940	320**	278**	**	440	0-300	0-300	unknown	400-440			

Use data from application for proposed wells.

A4. **Comments:** *The application describes metes and bounds from the NW corner of Section 32, but the map shows the metes and bounds should be measured from the NW corner of Section 33. This review is based on locating the wells in Section 32.
 **Conditions at the proposed well are assumed to be similar to WASH 57754.

A5. ☒ **Provisions of the** Willamette Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water ☐ are, or ☒ are not, activated by this application. (Not all basin rules contain such provisions.)
 Comments: The proposed POAs will produce groundwater from a low-yield bedrock aquifer. Therefore, the pertinent rules (OAR 690-502-240) do not apply.

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

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

B1. **Based upon available data**, I have determined that groundwater* 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 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. ☒ **will not** or ☐ **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) _____;
 - 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 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 _____ **marine sedimentary rock** 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): _____

B3. **Groundwater availability remarks:** _____

The surrounding area is underlain by sedimentary rock of the Yamhill Formation, part of the low-yield bedrock aquifer system found in the Coast Ranges. Production is likely from fractures. The permeability and porosity of the unit are generally low which results in well yields generally only suitable for domestic use. Well logs in T3N/R3W-Section 32 report yields ranging from 0-98 gpm, with a median yield of 8 gpm. This aquifer system is generally not capable of irrigation of large acreages. The proposed rate (1.67 cfs, or 748 gpm) does not reflect these limitations of the aquifer system. Installation of the number of wells required to produce 748 gpm (approximately 25 wells producing 30 gpm each) would likely injure other nearby exempt groundwater users by substantially increasing the seasonal groundwater level drawdown.

If the requested rate is lowered to below the threshold triggering PSI in Section C., the injury and capacity of the resource findings will be reevaluated.

There are no nearby, long-term groundwater level data available.

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	Marine Sedimentary Rock Aquifer	☒	☐
2	Marine Sedimentary Rock Aquifer	☒	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: Well logs indicate confined conditions: the static water level rises above the 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?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Unnamed tributary to East Fork Dairy Creek	654	360-440	3490	☒	☐	☐	☐	☒
2	1	Unnamed tributary to East Fork Dairy Creek	654	360-440	2790	☒	☐	☐	☐	☒
1	2	Whiskey Creek	654	480-640	4240	☒	☐	☐	☐	☒
2	2	Whiskey Creek	654	480-640	3110	☒	☐	☐	☐	☒
1	3	Fern Spring	654	650	2220	☒	☐	☐	☐	☒
2	3	Fern Spring	654	650	1870	☒	☐	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: Groundwater elevation is coincident or above the elevations of Whiskey and East Fork Dairy Creek in adjacent reaches. This indicates groundwater flows toward, and likely discharges to, perennial reaches of nearby creeks and springs.

Water Availability Basin the well(s) are located within: #94: E FK DAIRY CR > DAIRY CR - AB UNN STR

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?
1	1	☐	☐	Cert 59525	12	☒	8.59	☒	*	☒
2	1	☐	☐	Cert 59525	12	☒	8.59	☒	*	☒
1	2	☐	☐	Cert 59525	12	☒	8.59	☒	*	☒
2	2	☐	☐	Cert 59525	12	☒	8.59	☒	*	☒
1	3	☐	☐	Cert 59525	12	☒	8.59	☒	*	☒
2	3	☐	☐	Cert 59525	12	☒	8.59	☒	*	☒
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

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: * No suitable method for calculating stream interference is readily available for fractured bedrock systems. Given the distance from the streams and the nature of the aquifer, interference at 30 days is likely to be much less than 25%. Potential for Substantial Interference (PSI), as defined in 690-09-040, is triggered because the requested rate, 1.67 cfs, is greater than 1% of 80% exceedance flow in this Water Availability Basin and 1% of the instream water right. A requested rate that is less than 1% of 8.59 cfs would remove the PSI finding triggered by the instream right and the natural flow.

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)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(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: N/A

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:
- ☐ The permit should contain condition #(s) _____;
 - ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

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

References Used: Gannett and Caldwell, 1998, Geologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-A

Woodward, Gannett and Vaccaro, 1998, Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-B

Conlon and Others, 2005, Ground-Water Hydrology of the Willamette Basin, Oregon, Scientific Report 2005-5168, USGS.

USGS Topographic maps, Meacham Corner Quadrangle.

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

Water Availability Analysis Detailed Reports

E FK DAIRY CR > DAIRY CR - AB UNN STR
WILLAMETTE BASIN

Water Availability as of 10/17/2019

Watershed ID #: 94 ([Map](#))

Exceedance Level: 80%

Date: 10/17/2019

Time: 8:47 AM

Water Availability Calculation

Consumptive Uses and Storages

Instream Flow Requirements

Reservations

Water Rights

Watershed Characteristics

Water Availability Calculation

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

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	81.20	1.19	80.00	0.00	50.00	30.00
FEB	102.00	1.24	101.00	0.00	50.00	50.80
MAR	82.30	1.12	81.20	0.00	50.00	31.20
APR	57.10	0.99	56.10	0.00	50.00	6.11
MAY	35.60	1.35	34.30	0.00	50.00	-15.70
JUN	20.70	1.50	19.20	0.00	25.00	-5.80
JUL	12.00	1.80	10.20	0.00	25.00	-14.80
AUG	9.57	1.65	7.92	0.00	12.00	-4.08
SEP	8.59	1.22	7.37	0.00	12.00	-4.63
OCT	10.30	0.82	9.48	0.00	12.00	-2.52
NOV	16.70	0.89	15.80	0.00	50.00	-34.20
DEC	60.00	1.15	58.90	0.00	50.00	8.85
ANN	48,200.00	902.00	47,300.00	0.00	26,300.00	23,000.00

G-18836 Avventura
3N/3W- Section 32 NW 1/4 NE 1/4

