

Groundwater Application Review Summary Form

Application # G- 18893

GW Reviewer Karl Wozniak Date Review Completed: 1-21-2020

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 1/23/20

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

Jan. 21, 20 20

FROM: GW: Karl Wozniak
(Reviewer's Name)

☐ YES☐ YES

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]

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONSp

TO: Water Rights Section Date January 21, 2020
 FROM: Groundwater Section Karl Wozniak
 Reviewer's Name
 SUBJECT: Application G- 18893 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 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: Benton Lane Winery LLC and others County: Linn

A1. Applicant(s) seek(s) 0.1337 cfs from 1 well(s) in the Willamette Basin,
Long Tom River subbasin

A2. Proposed use Commercial/Industrial Seasonality: Year Round

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	BENT 51463 BENT 51610 (deepening)	1	Bedrock	0.1337	15S/3W-9 NW/NW	159' S, 924' E fr NW cor S 9.
2						
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*	557	115	105	09/14/2000	205	0-39	0-39	0-205	80-205	45+	--	Air

Use data from application for proposed wells.

A4. **Comments:** The applicant seeks a maximum rate of 0.1337 cfs (60 gpm) from 1 well for commercial/industrial use and an annual use of less than 1 acre foot of water.

*The original well, BENT 51463 was completed to a total depth of 130 feet on 04/11/2000 and deepened to 205 feet (BENT 51610) on 09/14/2000; table A3 reflects the final construction after the deepening.

The well is also 1 of 3 wells listed as a POA on permit G-15300.

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 well does not produce from unconfined alluvium so the pertinent rules (OAR 690-502-0240) do not apply.

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

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) 7N, 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;

- 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 _____ 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 proposed POA, BENT 51463, is located in the foothills of the Coast Range about 1 mile west of the Long Tom River and 1.5 miles south of Monroe, Oregon. The well produces water from sandstones within the Spencer Formation, part of the low-yield bedrock aquifer system which is comprised of Tertiary marine sedimentary and volcanic rocks. Productive zones in the host rocks are likely to be water-bearing fractures, as the primary porosity has largely been destroyed by secondary mineralization. The low-yield aquifer system is characterized by low permeability, low porosity, low well yield, considerable anisotropy, and excessive pumping drawdowns; it is generally not capable of producing sustainable yields for irrigation of high water-use crops.

The OWRD well log database indicates a median well yield of 10 gpm in the 4 sections adjacent to the subject well, but the distribution is highly skewed toward lower values. Actual yields are likely to be lower since most of the reported yields are based on air tests which tend to overestimate yields in completed wells. The applicant is requesting a maximum rate of 0.1471 cfs (60 gpm), which is high relative to the median well yield in the area. A yield of 100+ gpm was reported when the subject well was originally completed on April 11, 2000 (BENT 51463) but a subsequent yield of 45+ gpm was reported when the well was deepened to 205 feet in September of 2000 (BENT 51610). Water levels in nearby observation wells, including the subject well, show relatively stable trends over time. These facts, coupled with the low proposed annual use, indicate that groundwater will likely be available for the proposed use within the capacity of the resource and that the proposed use is unlikely to result in injury to existing groundwater rights. However, the general characteristics of the aquifer indicate that it would be prudent to require water-level and water-use reporting conditions if the Department issues a permit.

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	Low-yield bedrock aquifer system	☒	☐
		☐	☐

Basis for aquifer confinement evaluation: General experience indicates that water-bearing zones in the low-yield bedrock aquifer are confined. Reported water levels in the subject well (see enclosed plot) are generally at about 15 feet below land surface, well above the reported water-bearing zone at a depth of 115-116 feet on the well 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?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Long Tom River	540	280	4980	☒	☐	☐	☐	☒
1	2	Shafer Creek	540	290-335	5710	☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Water levels in local wells show hydraulic heads that are above local stream levels. This is consistent with general observations and published reports in the Willamette basin that indicate that the water table in the low-yield bedrock aquifer system generally mimics topography and discharges to local streams. Distances to surface water sources in Table C2 were measured to the nearest perennial stream reaches as depicted on current USGS 7.5-minute topographic maps.

Water Availability Basin the well(s) are located within: WAB 114, Long Tom R > Willamette R – AB 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?
1	1	☐	☐			☐	32.10	☐	<<25	☐

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: Interference @ 30 days was not calculated in Table C3a because of the lack of a readily available suitable model for fractured bedrock aquifer systems and a lack of knowledge about likely anisotropy in the low-yield bedrock aquifer system. However, impacts are expected to be much less than 25% because cones of depression in low-transmissivity aquifers are generally steep and narrow.

- 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													
(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: Impacts to surface water sources greater than 1 mile from the well (e.g. Shafer Creek) were not evaluated as the maximum proposed rate is lower than 1% of the 80% exceedance flows in all months of the year in the pertinent WAB.

- 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:

Freeze, R.A., and J.A. Cherry, 1979, groundwater: Prentice Hall, Englewood Cliffs, N.J.

Gannett, M.W. and Caldwell, R., 1998, Geologic framework of the Willamette Lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-A, 32 p.

O'Connor, J.E., Sarna-Wojcicki, A., Wozniak, K.C., Polette, D.J., and Fleck, R.J., 2001: U.S. Geological Survey Professional Paper 1620.

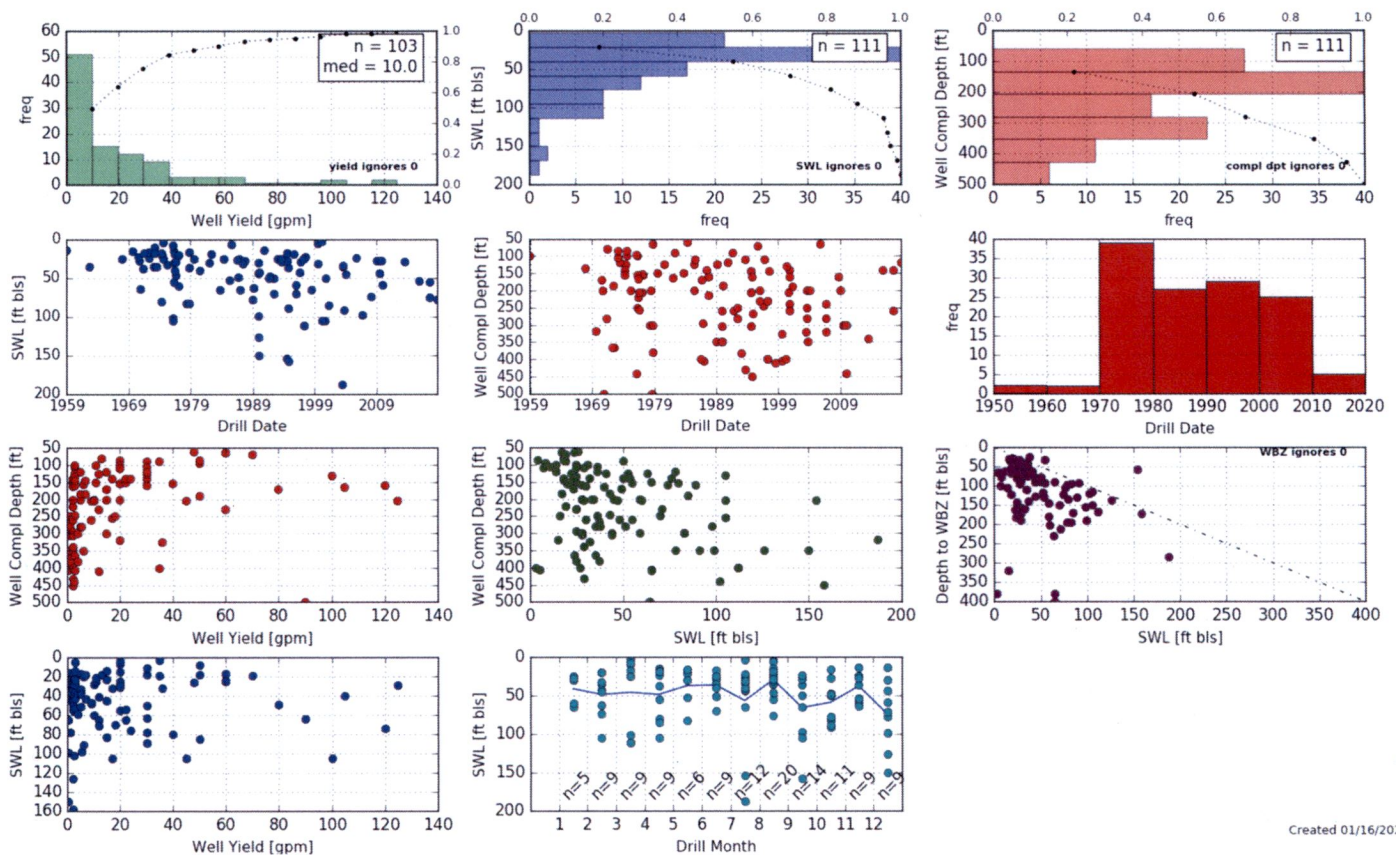
Woodward, D.G., Gannett, M.W., and Vaccaro, J.J., 1998, Hydrogeologic framework of the Willamette Lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-B, 82p.

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.**Well Statistics (Sections 4, 5, 8, & 9, T15S, R5W)**

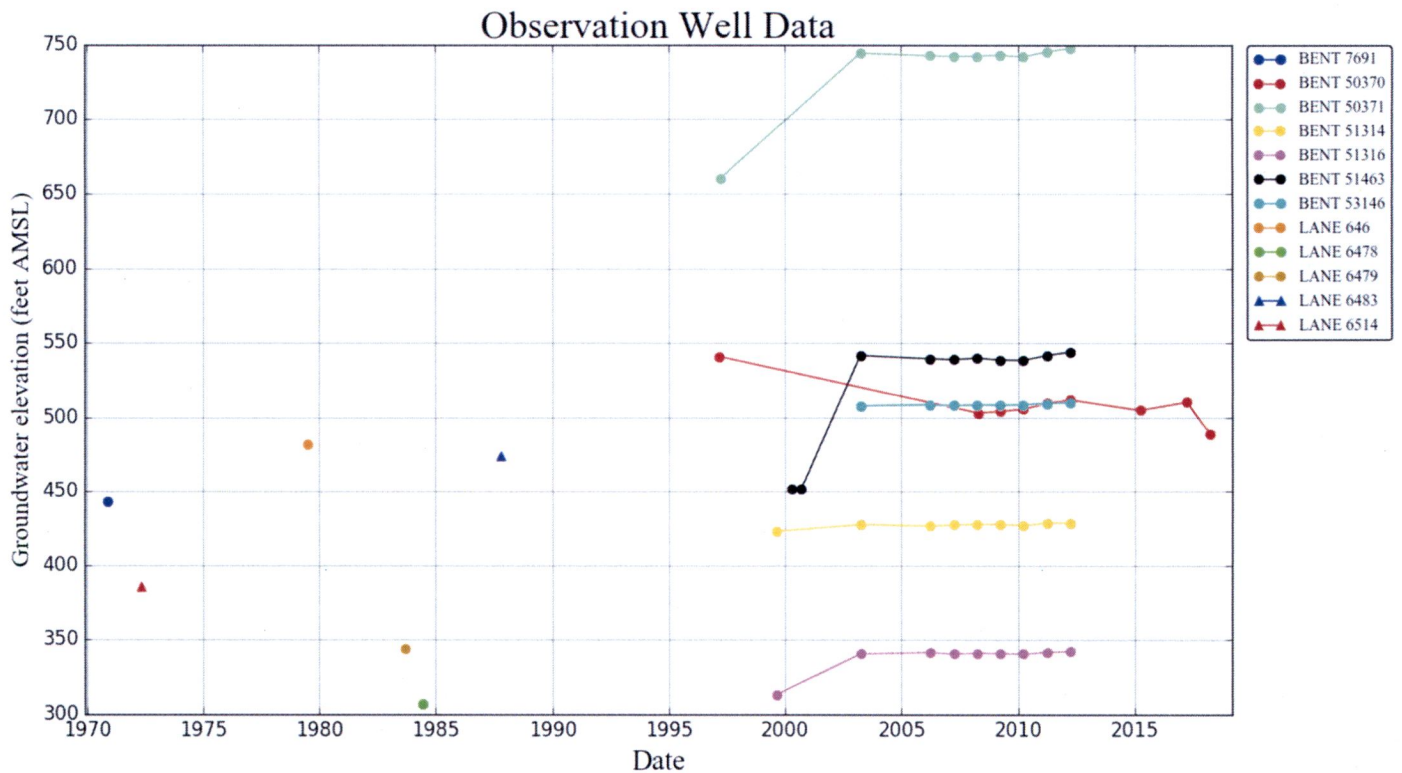
Created 01/16/2020

Water Availability Tables

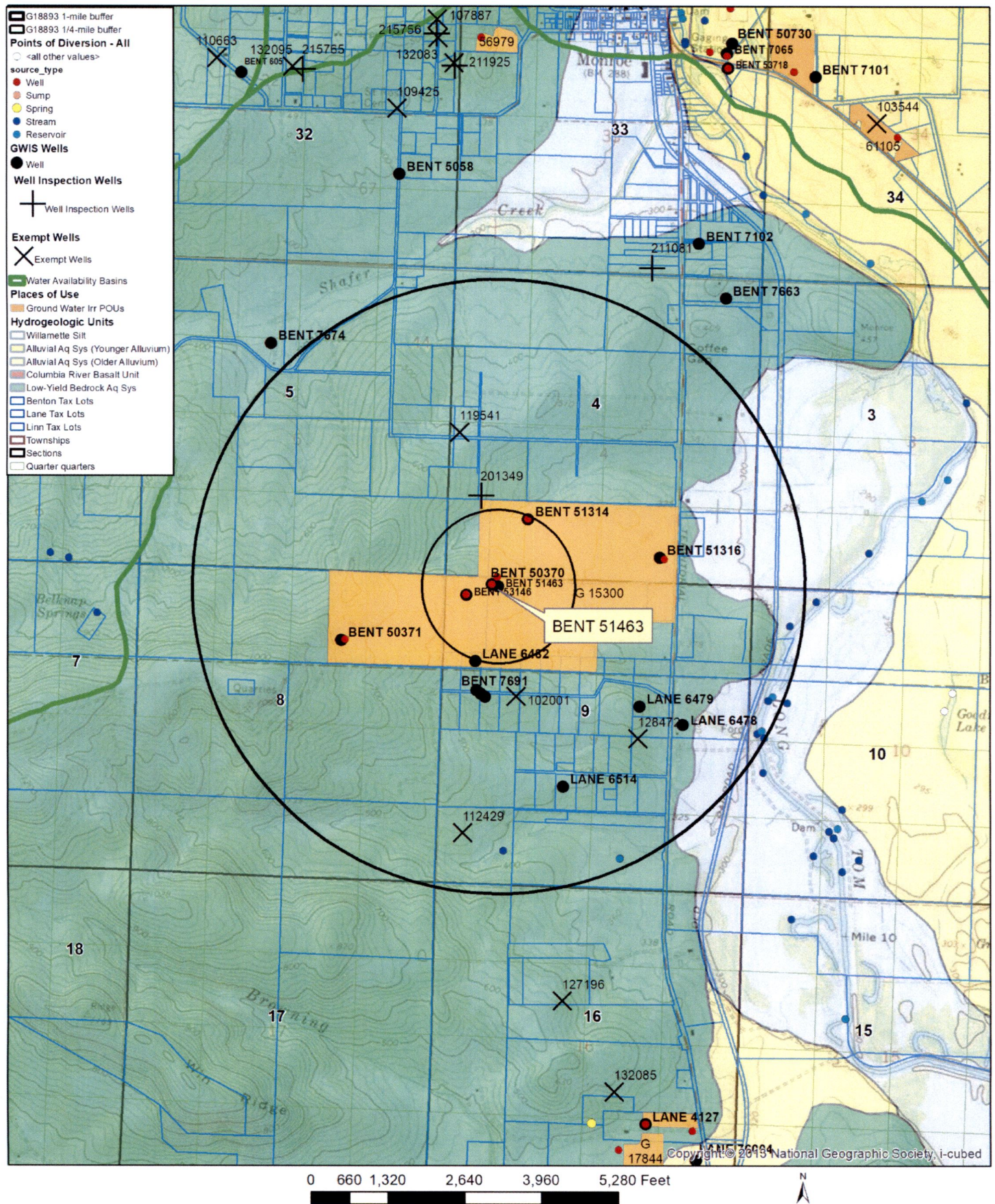
DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

Watershed ID #: 114		LONG TOM R > WILLAMETTE R - AB MOUTH			Exceedance Level: 80	
Time: 11:32 AM		Basin: WILLAMETTE			Date: 01/16/2020	
Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft.						
JAN	568.00	149.00	419.00	0.00	0.00	419.00
FEB	697.00	389.00	308.00	0.00	0.00	308.00
MAR	596.00	555.00	41.00	0.00	0.00	41.00
APR	373.00	250.00	123.00	0.00	0.00	123.00
MAY	215.00	63.80	151.00	0.00	0.00	151.00
JUN	105.00	29.50	75.50	0.00	0.00	75.50
JUL	50.60	47.80	2.83	0.00	0.00	2.83
AUG	35.40	38.80	-3.36	0.00	0.00	-3.36
SEP	32.10	21.40	10.70	0.00	0.00	10.70
OCT	35.30	5.69	29.60	0.00	0.00	29.60
NOV	82.50	5.45	77.10	0.00	0.00	77.10
DEC	364.00	105.00	259.00	0.00	0.00	259.00
ANN	362,000	99,300	262,000	0	0	262,000

Water-Level Trends in Nearby Wells



Well Location Map



MEMO

OK
KHJ

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Joel Jeffery, Well Construction Program Coordinator
Subject: Review of Water Right Application G-18893
Date: January 27, 2020

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

Applicant's Well #1 (BENT 51463 and BENT 51610, the deepening of BENT 51463): 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.

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

BENT
51463

WELL I.D. # L 38279
START CARD # 128783

Well Number 1852

Name Benton Lane Vineyards
Address 23924 Toppenish Rd
City Thurston State OR Zip 97456

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

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

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

Special Construction approval ☐ Yes ☒ No Depth of Completed Well 130 ft.
Explosives used ☐ Yes ☒ No Type _____ Amount _____

SEAL

Diameter	From	To	Material	From	To	Sacks or pounds
10"	12'	39'	Bentonite	0	39'	18 Sacks
6"	39'	130'				

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

☒ Other Harvest @ 1.50¢/lb or 5 min. rate

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

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

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6"	10'	39'	250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:	4"	0'	130'	160	☐	☒	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) 6" E-39'

☒ Perforations Method Elect Saw
☐ Screens Type _____ Material _____
 From 20' To 129' Slot 3x5 Number 340 Diameter _____
 Tele/pipe size _____ Casing _____ Line _____

☐ Pump	☐ Bailer	☒ Air	☐ Flowing ☐ Artesian
Yield gal/min	Drawdown	Drill stem at	Time
100 + 69m		130'	1 hr.

Temperature of water 56° Depth Artesian Flow Found —

Was a water analysis done? ☐ Yes By whom

Did any strata contain water not suitable for intended use? ☐ Too little

☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other

Depth of strata: _____

County Benton Latitude _____ Longitude _____
Township 15S N or S Range 05W E or W WM.

Section 04 SE 1/4 SW 1/4
Tax Lot 148159 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 23924 Territorial
Monroe, OR

105' ft. below land surface. Date 4-11-00
Artesian pressure _____ lb. per square inch. Date _____

Depth at which water was first found 115'

From	To	Estimated Flow Rate	SWL
115'	116'	100+ GPM	105

Ground Elevation

[illegible]

Date started 4-11-00 Completed 4-11-00

(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 Leonel Roberts WWC Number 1742
Date _____

(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.

WWC Number 751
Signed Donald L. Davis Date 4-11-00

(as required by ORS 537.765)

WELL I.D. # L 38279
START CARD # 135559

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

ORIGINAL - WATER RESOURCES DEPARTMENT FIRST COPY - CONSTRUCTOR SECOND COPY - CUSTOMER