

Groundwater Application Review Summary Form

Application # G- 19296

GW Reviewer Mitra Khadka/Travis Brown

Date Review Completed: 09/12/2023

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.

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

MEMO

September 12, 2023

TO: Application G- 19296

FROM: GW: Mitra Khadka/Travis Brown
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

- ☐ YES The source of appropriation is hydraulically connected to a State Scenic Waterway or its tributaries
- ☐ NO
-
- ☐ 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.

Exercise of this permit is calculated to reduce monthly flows in [Enter] 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 9/12/2023
 FROM: Groundwater Section Mitra Khadka/Travis Brown
 Reviewer's Name
 SUBJECT: Application G- 19296 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: Tasha's Inc. County: Yamhill

A1. Applicant(s) seek(s) 0.047 cfs from 1 well(s) in the Willamette Basin,
Yamhill River subbasin

A2. Proposed use Irrigation Seasonality: April 1 – September 30

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	PROP 347	1	Marine Volcanic and Sedimentary Rock	0.047	4S/5W-S27 SE ¼ SW 1/4	1145'N, 215'W fr S 1/4 cor S 27

* 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	~710 ^a	NA	NA	NA	350	0-40	0-350	NA	300-340	NA	NA	NA

Use data from application for proposed wells.

A4. **Comments:** The proposed POA is approximately 5 miles southwest of McMinnville, Oregon. Applicant requests to pump 0.047 cfs groundwater from a proposed well (PROP 347) for irrigation use.

^aWell elevation data from LiDAR ground surface elevation (Watershed Sciences, 2009).

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 POA is not located within ¼ mile of any perennial surface water body, and the well will produce groundwater from a confined bedrock aquifer. Therefore, per OAR 690-502-0240, the relevant Willamette Basin rules 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) 7C, 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 bedrock 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 will produce water from the Coast Range Tertiary Marine Volcanic and Sedimentary Rock Aquifer (TMVS). The aquifer consists mainly of thick layers of low permeability marine tuffaceous shale and siltstone, with moderately permeable thin interbeds of sandstone of the Nestucca Formation (Price, 1967; Gannet and Caldwell, 1998). In the area, the marine sedimentary rocks are intruded by sheets, dikes, and sills of basalt, gabbro, and diabase. These intrusive rocks are of generally low permeability and will not yield appreciable amount of water to wells (Frank and Collins, 1978).

Wells completed in the TMVS (based on well logs on file for T4S/R5W) report well yields that range from 4.5-75 gpm, with a median yield of 14.8 gpm. The requested pumping rate (~21 gpm) is within the range of reported yields for wells in the area. Groundwater level data in the immediate vicinity are sparse, however available data and information from the surroundings indicate local marine sedimentary and volcanic aquifers are reasonably stable at the current level of use (see attached hydrograph).

The nearest permitted well to the proposed POA appears to be YAMH 53850 (Permit G-17540), located about 6,150 ft to the southeast. YAMH 53850 produces groundwater from shallower and different water bearing zone than the proposed POA. Nearby well-logs (YAMH 54648 and YAMH 54715) indicate that there is likely more than 100 ft thick low permeability claystone between water-bearing zone of YAMH 53850 and the proposed POA. Based on the information from nearby well-logs, it is assumed that the proposed use of groundwater is not anticipated to cause significant interference with the nearest groundwater user. Because of unavailability of appropriate models for fractured rock aquifers, well-to-well interference with YAMH 53850 was not quantified.

Based on the analysis of available groundwater data and given the fact that there is limited groundwater development in the area of proposed POA, we have determined that groundwater for the proposed use is not over-appropriated and within the

capacity of resources. However, in order to monitor and protect the resources and other groundwater rights in the area, the conditions specified in Item B1(d) and B2(c) are recommended for any permit issued pursuant to this application.

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 Volcanic and Sedimentary Rock	☒	☐

Basis for aquifer confinement evaluation: In this area, the wells that produce from TMVS generally report SWLs above the water-bearing zones. Additionally, available well-logs in the area indicate the water-bearing zones are overlain by thick layers of claystone and intrusive volcanic rocks.

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	East Fork Muddy Creek	~300	~270-500 ^a	2300	☒	☐	☐	☐	☒
1	2	Cozine Creek	~300	~360-460 ^a	4900	☐	☒	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: Lower reach of SW 1, within the 1-mile radius of POA, is at lower elevation than groundwater elevation and is hydraulically connected with groundwater. However, SW 2 and upper reach of SW 1 are at higher elevation and not hydraulically connected with groundwater within a mile radius.

^aSurface water elevations are estimated from LiDAR (Watershed Sciences, 2009).

Water Availability Basin the well(s) are located within: The proposed POA will be located at borderline of WID# 162 S YAMHILL R > YAMHILL R – AB COZINE CR and WID# 91 DEER CR > S YAMHILL – 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 (SW) source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that SW source, 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	☐	☐	MF162A	15	☐	40.30 (WID# 162)	☐		☐
1	1	☐	☐	MF91A	6	☐	5.25 (WID# 91)	☐		☐

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: There are currently no appropriate models available to estimate streamflow depletion by groundwater pumping from fractured rock aquifers like a proposed one. However, based on the presence of thick sequences of low-yielding, low

permeability claystone and intrusive rocks that underlie the surface water bodies in this area, impact of groundwater pumping on stream depletion is expected to be minimal.

- 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													
(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 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:

Application File: G-19296

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

Frank, F.J., Collins, C.A., 1978, Groundwater in the Newberg area, Northern Willamette Valley, Oregon. Oregon Water Resources Department Groud Water Report 27, 77p.

Price, D., 1967, Ground water in the Eola-Amity Hills area Northern Willamette Valley, Oregon. U.S. Geological Survey Water-Supply Paper 1847, 98p.

Watershed Sciences, 2009, LIDAR remote sensing data collection, Department of Geology and Mineral Industries, Hood to Coast, Oregon: Portland, OR, May 27.

Well-log Report: YAMH 54648, YAMH 54715, YAMH 53850.

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** _____ **Logid:** _____

D2. **THE WELL does not appear to meet current well construction standards based upon:**

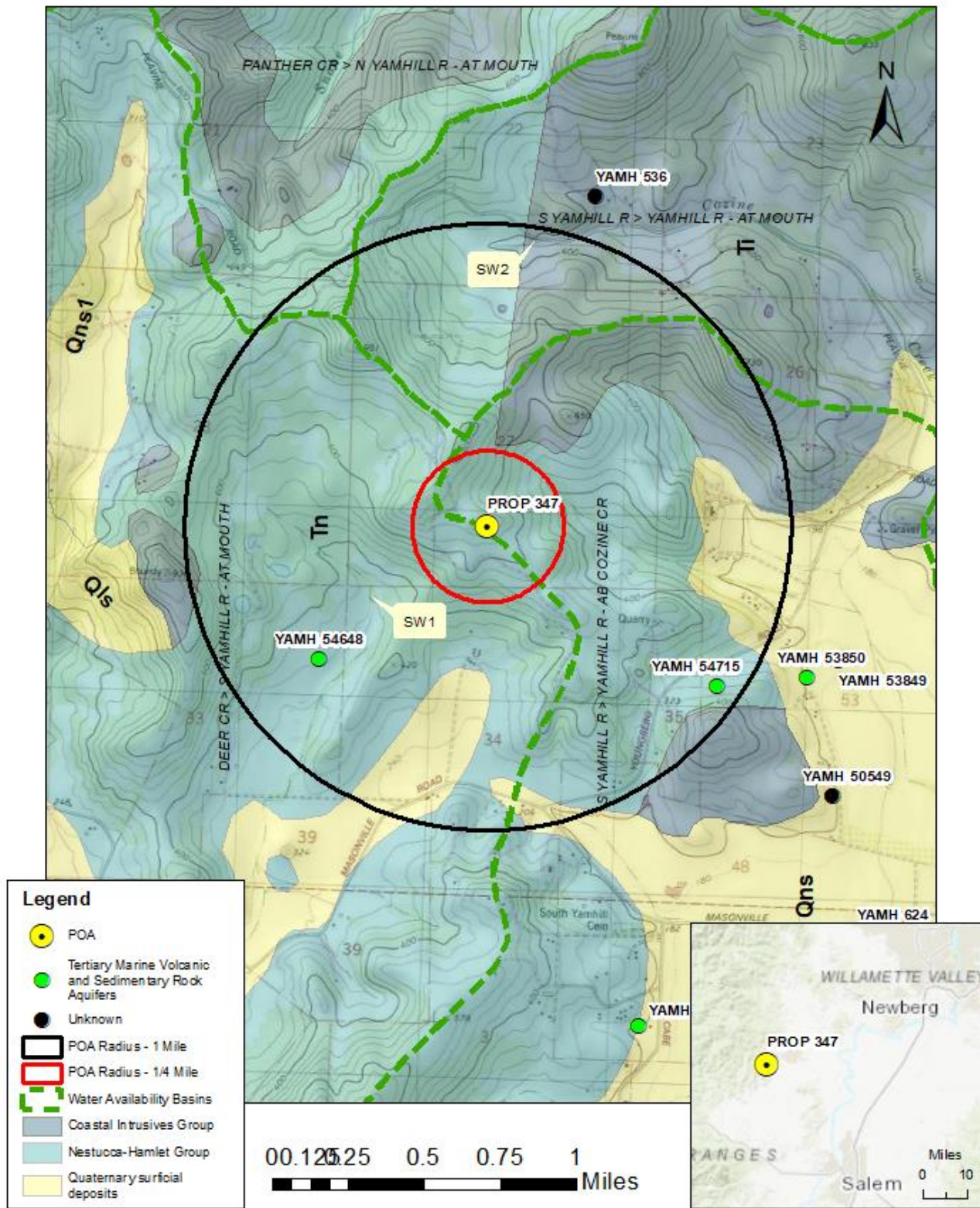
- a. ☐ review of the well log;
- b. ☐ field inspection by _____;
- c. ☐ report of CWRE _____;
- d. ☐ other: (specify) _____

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.**

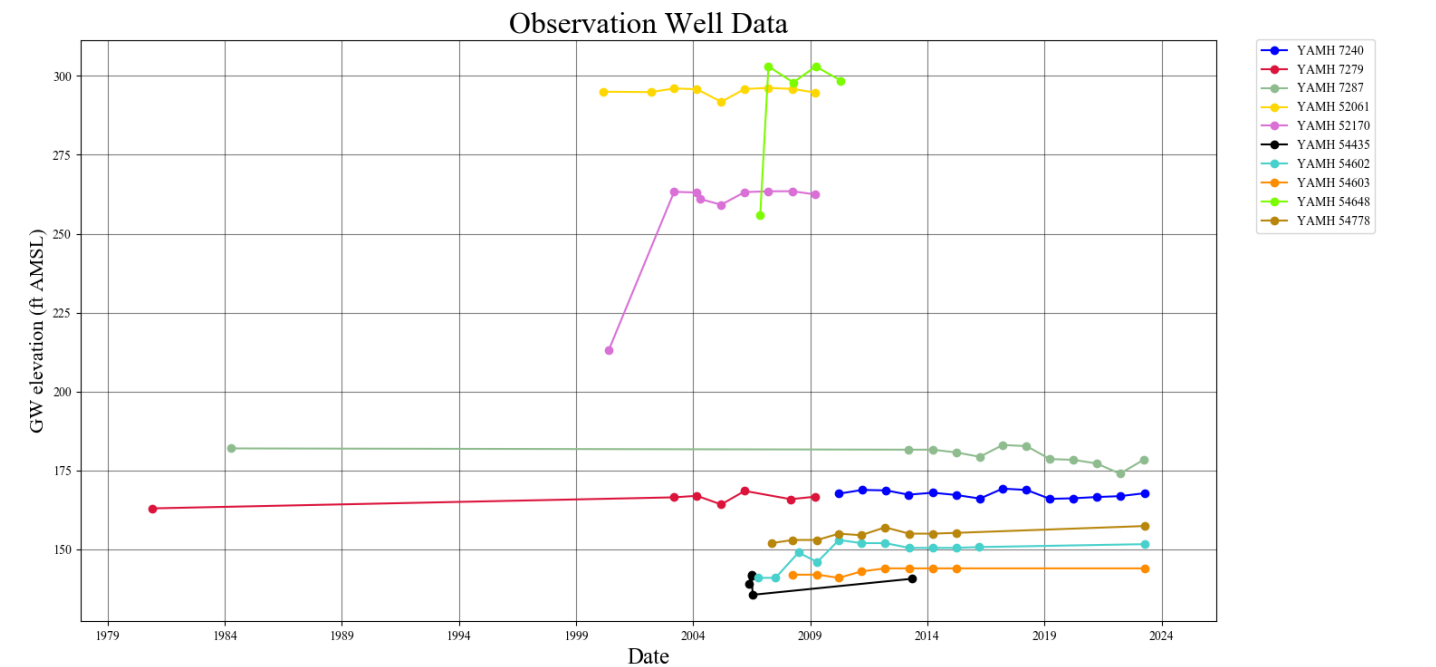
Well Location Map

G-19296



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp.,

Water-Level Measurements in Nearby Wells



Water Availability Analysis

Water Availability Analysis
Detailed Reports

S YAMHILL R > YAMHILL R - AB COZINE CR
WILLAMETTE BASIN

Watershed ID #: 162 ([Map](#))
Date: 9/7/2023

Water Availability as of 9/7/2023

Exceedance Level: 80%
Time: 4:08 PM

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	1,290.00	31.70	1,260.00	0.00	15.00	1,240.00
FEB	1,470.00	29.70	1,440.00	0.00	15.00	1,430.00
MAR	1,260.00	22.50	1,240.00	0.00	15.00	1,220.00
APR	764.00	17.00	747.00	0.00	15.00	732.00
MAY	378.00	25.40	353.00	0.00	15.00	338.00
JUN	171.00	44.90	126.00	0.00	15.00	111.00
JUL	79.00	67.50	11.50	0.00	15.00	-3.46
AUG	47.70	56.50	-8.77	0.00	15.00	-23.80
SEP	40.30	34.70	5.63	0.00	15.00	-9.37
OCT	53.80	9.61	44.20	0.00	15.00	29.20
NOV	363.00	15.70	347.00	0.00	15.00	332.00
DEC	1,220.00	29.70	1,190.00	0.00	15.00	1,180.00
ANN	847,000.00	23,300.00	824,000.00	0.00	10,900.00	814,000.00

Water Availability Analysis

Detailed Reports

DEER CR > S YAMHILL R - AT MOUTH
WILLAMETTE BASIN

Water Availability as of 9/7/2023

Watershed ID #: 91 [\(Map\)](#)

Exceedance Level: 80% ▼

Date: 9/7/2023

Time: 4:12 PM

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	104.00	2.90	101.00	0.00	80.00	21.10
FEB	125.00	2.87	122.00	0.00	80.00	42.10
MAR	101.00	2.78	98.20	0.00	80.00	18.20
APR	60.90	2.72	58.20	0.00	80.00	-21.80
MAY	31.40	3.84	27.60	0.00	80.00	-52.40
JUN	15.60	5.19	10.40	0.00	25.00	-14.60
JUL	8.47	7.19	1.28	0.00	15.00	-13.70
AUG	6.06	6.23	-0.17	0.00	8.00	-8.17
SEP	5.25	4.33	0.92	0.00	6.00	-5.08
OCT	5.36	2.65	2.71	0.00	40.00	-37.30
NOV	16.20	2.52	13.70	0.00	80.00	-66.30
DEC	77.70	2.72	75.00	0.00	80.00	-5.02
ANN	62,400.00	2,780.00	59,700.00	0.00	39,400.00	28,600.00