

Groundwater Application Review Summary Form

Application # G- 19370

GW Reviewer James Hootsmans/Travis Brown Date Review Completed: 2/29/2024

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

February 29, 2024

TO: **Application G- 19370**

FROM: **GW: James Hootsmans/Travis Brown**
 (Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

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

YES
 NO Use the Scenic Waterway Condition (Condition 7J)

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 2/29/2024
 FROM: Groundwater Section James Hootsmans/Travis Brown
 Reviewer's Name
 SUBJECT: Application G- 19370 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: Zenith Vineyard, LLC County: Polk

A1. Applicant(s) seek(s) 0.0668 cfs from 1 well(s) in the Willamette Basin,
Mainstem Willamette subbasin

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):

POA 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	POLK 50030	1	Tertiary Marine Volcanic and Sed Rock	*0.2168 (0.0668 + 0.12 +0.03)	6S/4W-26 NWNE	677' S, 1121' E fr S¼ Cor S 23
2						
3						
4						

* Alluvium, CRB, Bedrock

POA Well	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Drawdown (ft)	Test Type
1	140	0-39	1-79	3-140	85-140			
2								
3								
4								

POA Well	Land Surface Elevation at Well (ft amsl)	Depth of First Water (ft bls)	SWL (ft bls)	SWL Date	Reference Level (ft bls)	Reference Level Date
1	299		67.80	3/10/2020	64.59	4/23/2012
2						
3						
4						

Use data from application for proposed wells.

A4. **Comments:** *The applicant seeks to obtain water from existing well POLK 50030 with a proposed rate of 0.0668 cubic feet per second (cfs) for irrigation of 3.3 acres. POLK 50030 is already an existing POA on Permit G-15573 with existing irrigation max rates of 0.12 cfs from April 1 to October 31, and commercial use max rate of 0.03 year-round. Therefore, for the purposes of this review, a combined (stacked) rate of 0.2168 cfs will be used.

A5. Provisions of the Willamette Basin 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 is completed in the Tertiary Marine Volcanic and Sedimentary bedrock, not alluvial material, so the pertinent basin rules do not apply.

A6. Well(s) # _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction. Name of administrative area: Eola Hills Ground Water Limited Area (OAR 690-502-0200)
 Comments: While the subject well lies geographically within the Eola Hills Groundwater Limited Area, it does not access a basalt aquifer, so the administrative restrictions do not apply.

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) 7RLA, medium 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 Marine Volcanic and 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:** Groundwater levels in the proposed POA (POLK 50300) and surrounding wells have remained relatively stable despite the proposed POA being used on an existing water right (See Observation Well Data). Therefore, the groundwater resource that POLK 50300 develops from is likely not over appropriated.

The subject wells are all completed in the low-yield bedrock aquifer system, which is composed of Tertiary marine sedimentary and volcanic rocks. This system generally has low porosity, low permeability, and low well yield. Most of the available pore space in this unit is likely to occur in fractures where groundwater is confined by the low-permeability matrix (Conlon, 2005; Woodward et al., 1998). Fractured rock aquifers generally have large seasonal water level fluctuations, and the cone of depression from a pumping well is expected to be narrow and steep (large drawdown at the pumping well, limited horizontal extent). The applicant is requesting a rate of about 30 gpm, which is double the median well yields in the area (see Well Statistics), though the well log for POLK 50030 lists a yield of 30 gpm for 1 hour. As noted above, the proposed POA is already an authorized POA on Permit G-15573 with existing irrigation max rates of 0.12 cfs from April 1 to October 31, and commercial use max rate of 0.03 year-round. Therefore, the total 0.2168 cfs would be almost 4x the reported well yield in the POA at the time of drilling. This pumping rate is most likely will not be available within the capacity of the groundwater resource.

At the time of this review, there is no appropriate model to quantify drawdown so well-to-well interference for injury was not assessed.

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
	Bedrock	<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"/>

Basis for aquifer confinement evaluation: Reported water levels in the proposed POA and nearby well logs report most static water levels rise above the water-bearing zone, indicating aquifer confinement.

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 Trib to Spring Valley Creek (East)	230-240	200-260	950	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Spring Valley Creek	230-240	160-210	2940	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	3	Unnamed Trib to Spring Valley Creek (West)	230-240	200-270	4600	<input checked="" type="checkbox"/>	<input 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"/>

Basis for aquifer hydraulic connection evaluation: Nearby, un-named tributaries to Spring Creek are deeply incised into the basalt and overlying layers and ground water levels are higher than surface water levels.

Water Availability Basin the well(s) are located within: WILLAMETTE R > COLUMBIA R - AB MOLALLA R

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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MF182A	1500	<input type="checkbox"/>	3830	<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"/>

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"/>

Comments: Instream water rights and 80% Natural Flows far exceed the discharge rate requested (see Water Availability Analysis)

* There is no appropriate model to estimate stream depletion from pumping in fractured rock that is incised by streams or discharges to point sources such as springs. Therefore, the percentage of interference at 30 days is not calculated.

However, the POA is within a quarter mile of a tributary of Spring Valley Creek; therefore, the potential for substantial interference is assumed.

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: _____

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: _____ Logid: _____

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

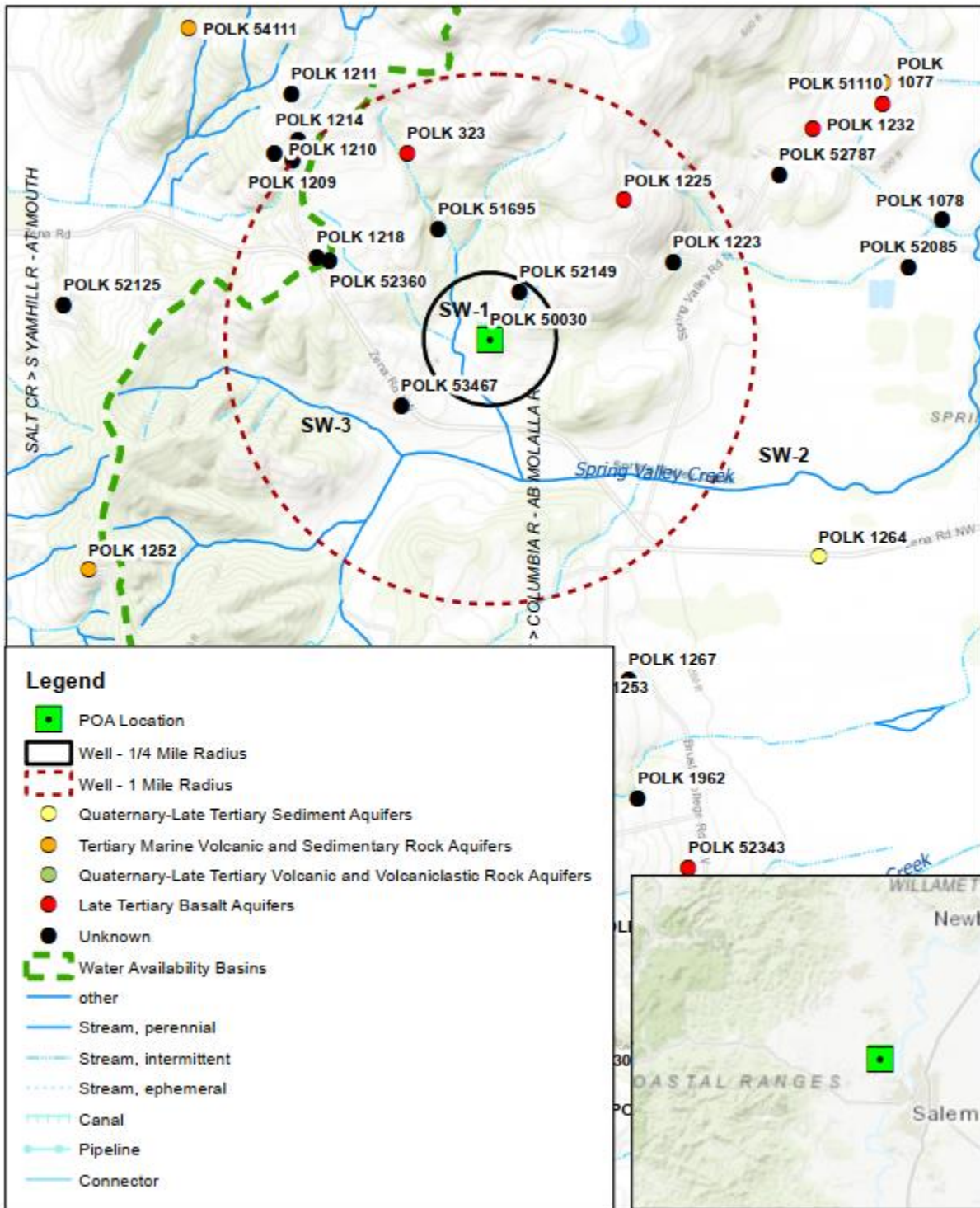
- a. review of the well log;
- b. field inspection by _____;
- c. report of CWRE _____;
- d. other: (specify) _____

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

G19370 Zenith Vineyards LLC

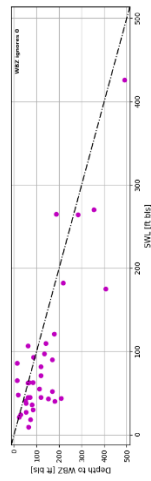
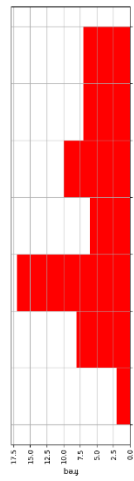
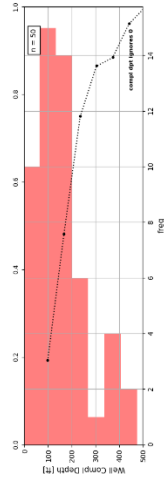


Main Map Scale = 1:36,000

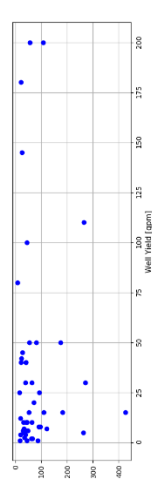
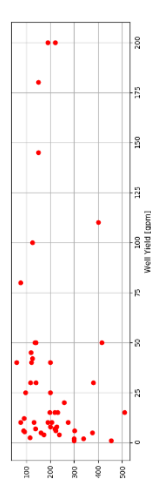
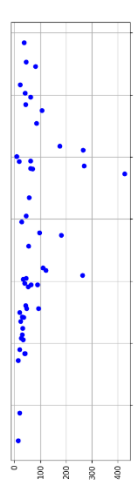
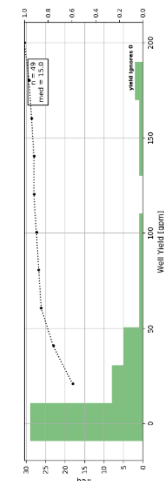
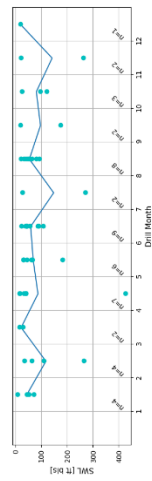
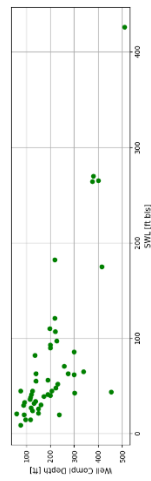
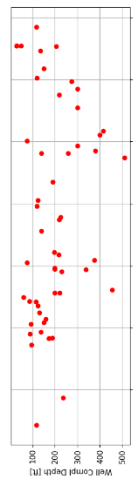
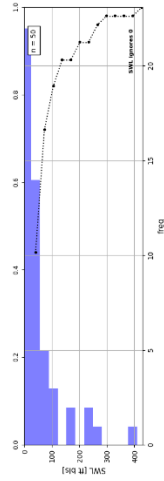


Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, InCREMENT P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

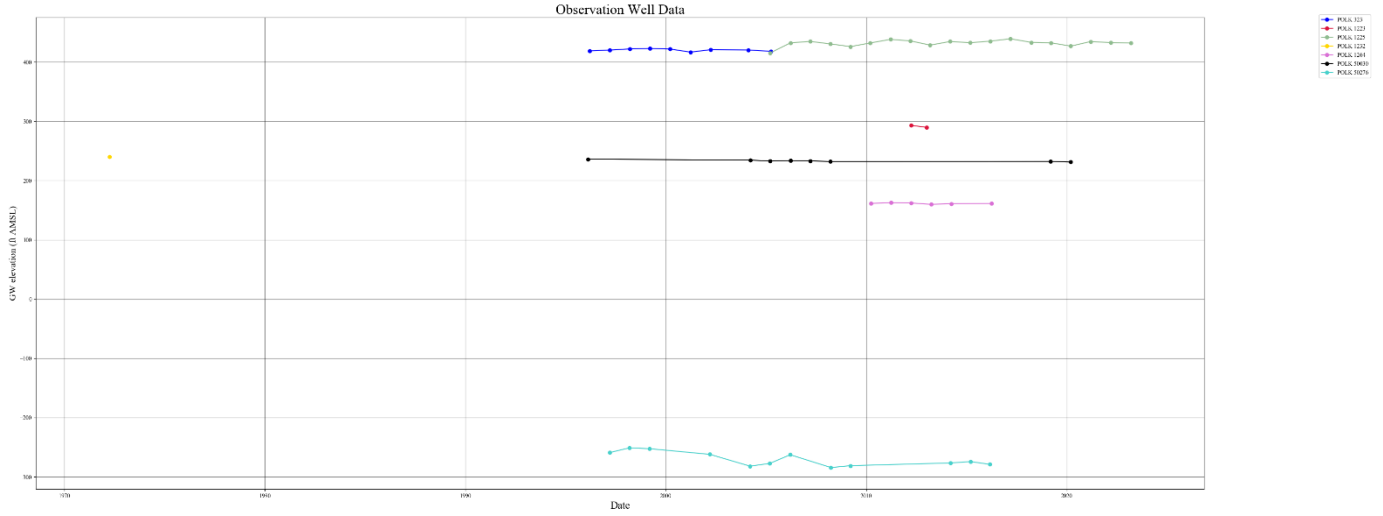
Well Statistics (Sections 23 to 26)



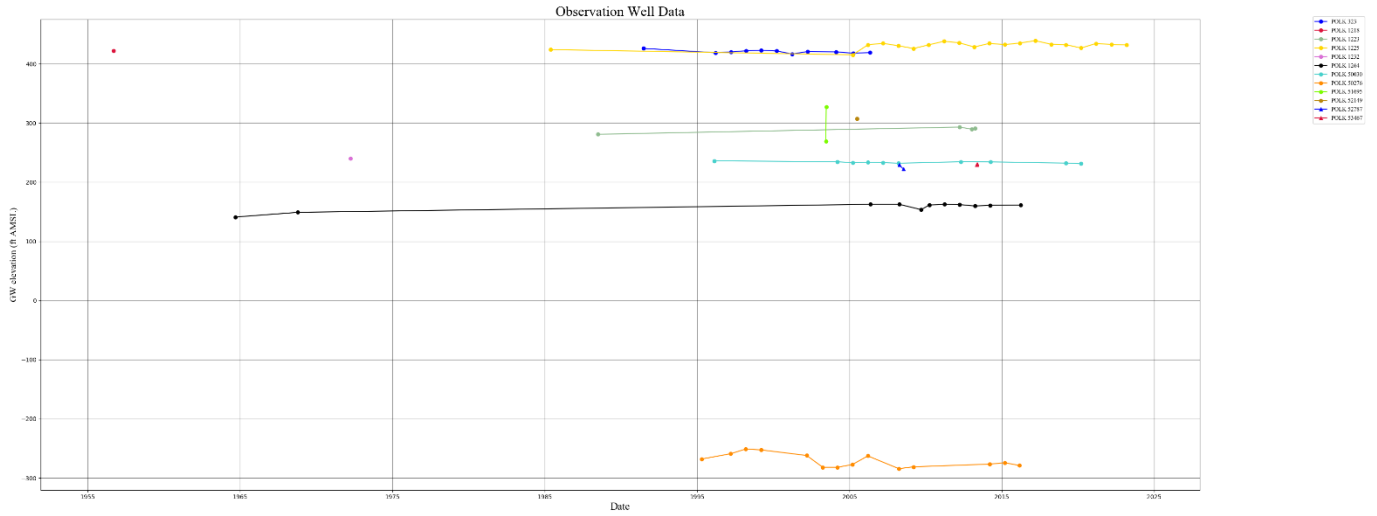
Created 11/20/2023



Water-Level Measurements in Nearby Wells (Jan to March measurements)



Water-Level Measurements in Nearby Wells (All Data)



Water Availability Tables

Water Availability Analysis
Detailed Reports

WILLAMETTE R > COLUMBIA R - AB MOLALLA R
WILLAMETTE BASIN

Water Availability as of 1/16/2024

Watershed ID #: 182 (Map)
Date: 1/16/2024

Exceedance Level: 80%
Time: 10:05 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	21,400.00	2,300.00	19,100.00	0.00	1,500.00	17,600.00
FEB	23,200.00	7,490.00	15,700.00	0.00	1,500.00	14,200.00
MAR	22,400.00	7,260.00	15,100.00	0.00	1,500.00	13,600.00
APR	19,900.00	6,910.00	13,000.00	0.00	1,500.00	11,500.00
MAY	16,600.00	4,250.00	12,300.00	0.00	1,500.00	10,800.00
JUN	8,740.00	1,980.00	6,760.00	0.00	1,500.00	5,260.00
JUL	4,980.00	1,810.00	3,170.00	0.00	1,500.00	1,670.00
AUG	3,830.00	1,650.00	2,180.00	0.00	1,500.00	681.00
SEP	3,890.00	1,390.00	2,500.00	0.00	1,500.00	997.00
OCT	4,850.00	754.00	4,100.00	0.00	1,500.00	2,600.00
NOV	10,200.00	888.00	9,310.00	0.00	1,500.00	7,810.00
DEC	19,300.00	974.00	18,300.00	0.00	1,500.00	16,800.00
ANN	15,200,000.00	2,250,000.00	13,000,000.00	0.00	1,090,000.00	11,900,000.00

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Water Availability Analysis
Detailed Reports

WILLAMETTE R > COLUMBIA R - AB MOLALLA R
WILLAMETTE BASIN

Water Availability as of 1/16/2024

Watershed ID #: 182 (Map)
Date: 1/16/2024

Exceedance Level: 80%
Time: 10:08 AM

Water Availability Calculation Consumptive Uses and Storages Instream Flow Requirements Reservations
Water Rights Watershed Characteristics

Detailed Report of Instream Flow Requirements

Instream Flow Requirements in Cubic Feet per Second

Application #	Status	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
MF182A	APPLICATION	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
Maximum		1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00

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