

Groundwater Application Review Summary Form

Application # G- 19265

GW Reviewer Phillip I. Marcy Date Review Completed: 11/29/2023

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

November 29, 2023

TO: Application G- 19265

FROM: GW: Phillip I. Marcy
(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 11/29/2023
 FROM: Groundwater Section Phillip I. Marcy
 Reviewer's Name
 SUBJECT: Application G- 19265 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: Black Dog Vineyard LLC County: Yamhill

A1. Applicant(s) seek(s) 0.49 cfs from 2 well(s) in the Willamette Basin,
 _____ subbasin

A2. Proposed use: Commercial/Industrial/Irrigation (32.5 acres)

Seasonality: Commercial: Year-round (0.03 CFS) / Industrial: Year-round (0.05 CFS) / Irrigation: April 1st – September 30th (0.41 CFS)

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	Proposed	1	Alluvium	0.49	3S/3W-30 SW-SW	390'S, 390'E fr NE cor DLC 76
2	Proposed	2	Alluvium	0.49	3S/4W-25 SE-SE	120'S, 50'W fr NE cor DLC 76
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	~200	18+	0-50	Unknown	Unknown	NA	NA	NA
2	~200	18+	0-50	Unknown	Unknown	NA	NA	NA
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	344	Unknown	NA	NA	NA	NA
2	387	Unknown	NA	NA	NA	NA
3						
4						

Use data from application for proposed wells.

A4. **Comments:** The applicant has not yet constructed either proposed POA well. There are currently no water levels that can be assumed to be appropriate for determination of reference water levels within the proposed POA wells.

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 wells are not within ¼ mile of a surface water source, therefore pertinent 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) 7RLN; "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 wells are located on bedrock uplands underlain by the Yamhill, Spencer and Pittsburg Bluff Formations, part of the low-yield bedrock aquifer system that consists 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 target aquifer is sensitive to overdraft and likely responds to climatic trends.

Limited water-level data in the area show no evidence of long-term declines (see attached hydrograph). However, the proposed maximum pumping rate is unlikely to be achieved, as the reports well yields in the area is typically very low, with greater than 80% of wells reporting yields of less than 25 GPM (0.055 CFS), which is about 10% of the proposed rate. Proposed well location for POA 1 is 440' from the authorized location for groundwater right Permit G-15574. At the proposed maximum pumping rate, a Theis model anticipates drawdown at the neighboring well to be quite severe as a result of this pumping, primarily due to very low transmissivity. However, modeling these impacts at a more reasonable and attainable rate for wells in this area (20 GPM), drawdowns are much less extreme, in the range of 5-20 feet after 245 days of continuous pumping. Therefore, unless the proposed pumping rate is lowered to fall in line with anticipated well yields, the proposed use is not within the capacity of the resource.

If a permit is issued, Condition 7RLN shall be applied, in addition to Water Use Reporting conditions.

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 Bedrock Aquifer	☒	☐
2	Marine Sedimentary Bedrock Aquifer	☒	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: Well logs in the vicinity of the proposed development report static water levels somewhat above the level of the highest water-bearing zone. However, this confinement is limited by incision of water-bearing lithologies by local drainages and generally poor conductance in both vertical and horizontal orientations.

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	Millican Creek	~320	125-220	3100	☒	☐	☐	☐	☒
2	1	Millican Creek	~340	125-220	3600	☒	☐	☐	☐	☒
1	2	Unnamed trib. to Hawn Ck.	~320	150-225	2670	☒	☐	☐	☐	☒
2	2	Unnamed trib. to Hawn Ck.	~340	150-225	2425	☒	☐	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: Water levels within nearby wells are coincident with or above perennial reaches of the nearby surface water indicating hydraulic connection. Local drainages have incised through several hundred feet of marine sediments. Groundwater from the uplands likely discharges to surface water, providing baseflow or spring flow to sustain nearby perennial reaches of the nearby streams.

Water Availability Basin the well(s) are located within: YAMHILL R > WILLAMETTE R - AB PALMER CR

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?	Q _w > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Q _w > 1% ISWR?	80% Natural Flow (cfs)	Q _w > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
1	1	☐	☐	MF188A	15.0	☒	56.3	☐	*	☒
2	1	☐	☐	MF188A	15.0	☒	56.3	☐	*	☒
1	2	☐	☐	MF188A	15.0	☒	56.3	☐	*	☒
2	2	☐	☐	MF188A	15.0	☒	56.3	☐	*	☒

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 #		Q _w > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Q _w > 1% ISWR?	80% Natural Flow (cfs)	Q _w > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments: PSI is triggered by the proposed rate of 0.49 cfs, which is greater than 1% of the Instream Water Right MF188A (15.0 cfs) the Yamhill R WAB. Reducing the rate to equal or less than 0.15 cfs will overcome the PSI finding.

*There is no readily available model to estimate stream depletion by pumping a well that is located in an anisotropic fractured rock aquifer.

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:

i. ☐ The permit should contain condition #(s) _____;

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

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

References Used: _____

OWRD water level database, includes reported water levels, GWIS groundwater database, accessed 11/29/2023.

Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and Hinkle, S.R., 2005, Ground-water hydrology of the Willamette Basin, Oregon: U.S. Geological Survey Scientific Investigations Report 2005-5168.

Wells, R.E., Niem, A.R., MacLeod, N.S., Snively, P.D. Jr., Niem, W.A., 1983, Preliminary geologic map of the west half of the Vancouver (Washington-Oregon) 1 x 2 degree quadrangle, Open File Report OFR 83-591, U.S. Geological Survey, Reston, VA., map scale 1:250,000.

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

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

Watershed ID #: 188 YAMHILL R > WILLAMETTE R - AB PALMER CR Exceedance Level: 80
 Time: 10:33 AM Basin: WILLAMETTE Date: 11/29/2023

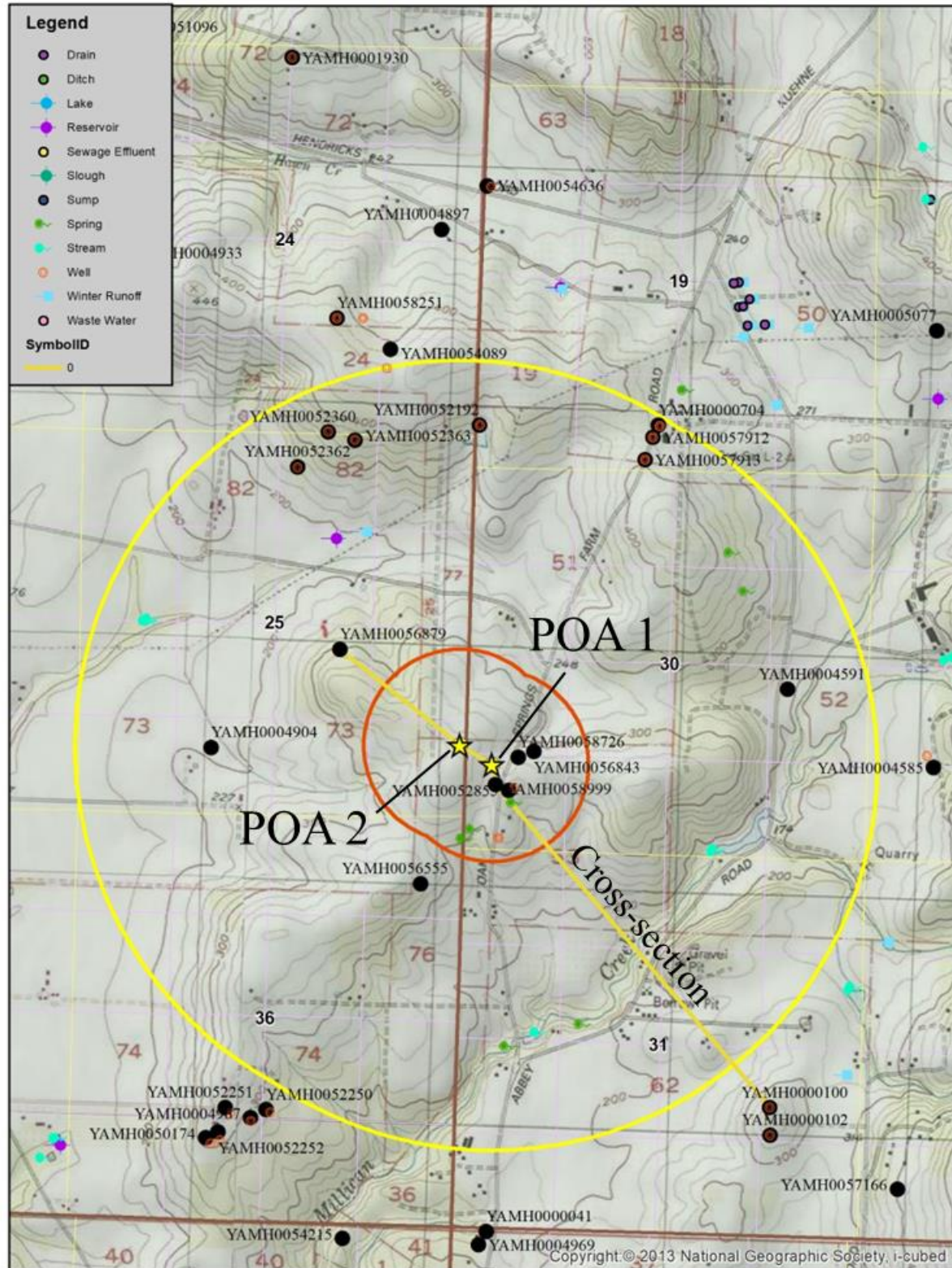
Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft.						
JAN	1,780.00	61.50	1,720.00	0.00	31.00	1,690.00
FEB	2,010.00	59.40	1,950.00	0.00	31.00	1,920.00
MAR	1,710.00	38.00	1,670.00	0.00	31.00	1,640.00
APR	1,030.00	44.10	986.00	0.00	31.00	955.00
MAY	512.00	56.40	456.00	0.00	31.00	425.00
JUN	229.00	75.30	154.00	0.00	31.00	123.00
JUL	107.00	95.60	11.40	0.00	31.00	-19.60
AUG	66.60	84.70	-18.10	0.00	31.00	-49.10
SEP	56.30	54.00	2.27	0.00	31.00	-28.70
OCT	72.70	15.10	57.60	0.00	31.00	26.60
NOV	465.00	31.60	433.00	0.00	31.00	402.00
DEC	1,640.00	58.30	1,580.00	0.00	31.00	1,550.00
ANN	1,150,000	40,700	1,100,000	0	22,500	1,080,000

DETAILED REPORT OF INSTREAM REQUIREMENTS

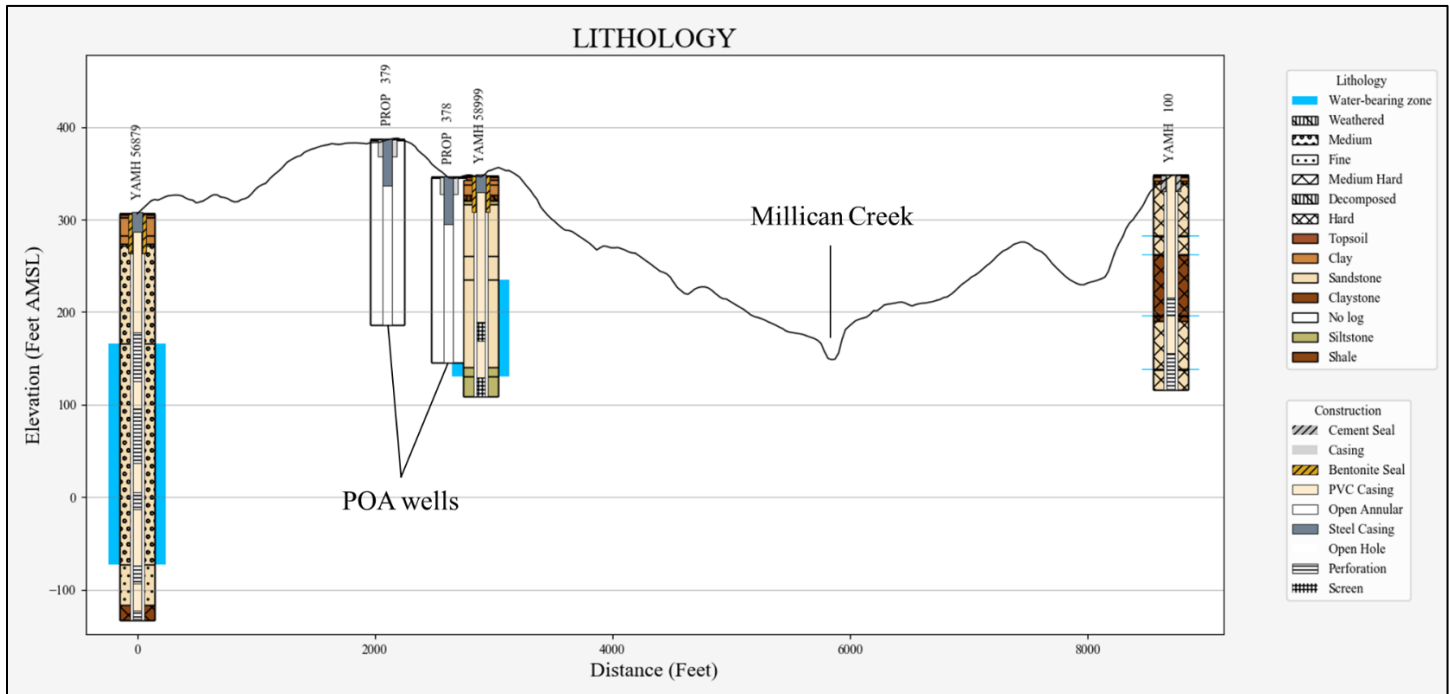
Watershed ID #: 188 YAMHILL R > WILLAMETTE R - AB PALMER CR Basin: WILLAMETTE
 Time: 10:33 AM Date: 11/29/2023

Application Number	Status	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Monthly values are in cfs.													
MF188A	CERTIFICATE	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.00	15.0
IS73549A	CERTIFICATE	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.00	31.0
IS73550A	CERTIFICATE	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.50	28.5
MAXIMUM		31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0

Well Location Map

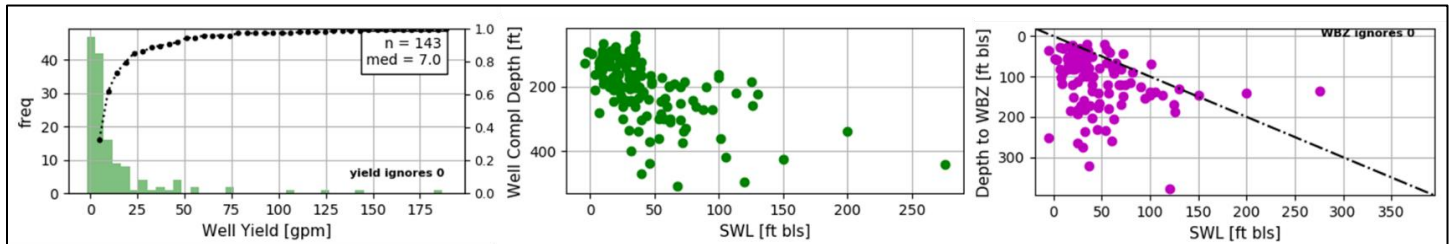


Cross-Section



The proposed POA wells target water-bearing zones commiserate with the elevation of nearby drainages, such as Millican Creek.

Well Statistics



Well reports from the area surrounding the proposed development indicate very low yields for the vast majority of wells, and indicate moderately confined conditions for the Marine Sedimentary Aquifer system here.

Water-Level Measurements in Nearby Wells