

Groundwater Application Review Summary Form

Application # G- 19462

GW Reviewer James Hootsmans Date Review Completed: 6/20/2025

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

June 20, 2025

TO: Application G- 19462

FROM: GW: James Hootsmans
(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 6/20/2025
 FROM: Groundwater Section James Hootsmans
 Reviewer's Name
 SUBJECT: Application G- 19462 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: Richard and Marianne Kraft County: Marion

A1. Applicant(s) seek(s) 0.65 cfs from 2 well(s) in the Willamette Basin,
Pudding subbasin

A2. Proposed use Irrigation Seasonality: March 1 to 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	PROP 604	1	Basalt	0.65	8S/2W-1 NENE	330' S, 500' W fr NE cor S 1
2	PROP 605	2	Basalt	0.65	8S/2W-1 NENE	270' S, 1025' W fr NE cor S 1
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	500	TBD	TBD					
2	500	TBD	TBD					
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	552					
2	569					
3						
4						

Use data from application for proposed wells.

A4. **Comments:** The applicant proposes to complete two Points of Appropriation (POA) approximately 4.20 miles east of the City of Salem. The two POAs, identified as PROP 604 and 605 on the location map, are proposed to be developed in the basalt groundwater system. The applicant proposed to pump 0.65 cfs (approximately 292 gallons per minute (gpm)) from the two proposed POAs.

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 confined basalt 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: N/A
 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) Willamette CRB condition 7RLN with XX = 15 and YY = 15, 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 Columbia River Basalt Group 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 POAs will produce groundwater from a water-bearing zone within the Columbia River Basalt Group (CRBG), a series of lava flows with composite thickness of about over 400 ft in the area. The thickness of the aquifer generally is several hundred feet but locally is as much as 1000 feet. Aquifers within the CRBG typically occur in relatively thin brecciated, porous, and permeable zones at the contacts of lava flows. The aquifers are generally overlain and confined by thick and dense flow interiors with very low porosity and permeability (Conlon et al., 2005; Gannett and Caldwell, 1998). Ground water in the basalts is generally under confined conditions except in the foot-hills where they may be unconfined. Brackish water has been encountered in several areas, particularly with depth.

Because the CRBG aquifers are confined (storativity is estimated to be 0.0001 for the CRBG), pumping impacts will propagate outward at rapid rates and are likely to reach aquifer boundaries (streams, faults, and truncated basalt flow margins) within a few hours. Using aquifer parameters appropriate for the basalts, it can be shown that the cone of depression from a pumped well will produce measurable impacts at a distance of 1 mile within several hours. Therefore, hydraulic interference with nearby wells, springs, and streams will occur rapidly once pumping begins. The presence of local aquifer boundaries will increase the degree of interference with nearby wells that are completed in the same water-bearing zones.

Water level data in the nearby vicinity of the proposed POA is sporadic. Most wells in the Section and nearby Sections are domestic wells, with the nearest irrigation wells being just under a mile away. In addition, most of the nearby irrigation wells

develop in the alluvial aquifer system above the CRBG. Water levels in the basalt wells appear to be stable, therefore, groundwater for the proposed is determined to not be over appropriated at this time.

Well statistics for nearby irrigation and domestic wells for basalt wells indicate that the maximum well yield is approximately 600 gpm. The proposed rate for the proposed POA is 0.65 cfs (approximately 292 gpm) which is about one half the maximum yield of wells in the area. However, the median yield is 40 gpm, which is less than 1/5 of the proposed rate. Given the proposed rate and the depth proposed, it is likely that the requested rate will be within the capacity of the resource if properly conditioned (see below).

Based upon the well logs for nearby wells, the applicant's proposed wells would likely open to multiple water-bearing zones in the basalts. The water-bearing zones would most likely include the flow of the Silver Falls basalt (Frenchman Springs Member – Wanapum Basalt). The Silver Falls basalt (as well as the underlying Sentinel Bluffs basalt) is exposed in (and hydraulically connected to) nearby reaches of both the Pudding River to the northeast of the applicant's well and the unnamed tributary of the Pudding River to the southwest of the applicant's well. This shallow water-bearing zone is also the source aquifer for many domestic wells in the area.

Moreover, the proposed well construction of the two POAs is casing and seal depths is to be determined during drilling, according to the applicant. Nearby domestic and irrigation well logs indicated that weathered basalt layers are found up to 50 to 70 bls so any shallow well casing and seal would potentially lead to commingling of the overlying units above the CRBG flows. As such, there are significant concerns about the potential for future groundwater level decline in the CRBG aquifers in the area. To avoid injury to senior groundwater users and the groundwater resources, the Conditions specified in B1(d), B2(c), and B3 (Special Conditions) are recommended for any permit issued pursuant to this application.

Special Conditions:

To protect senior users and the groundwater resource, the following Special Conditions are recommended:

1. Any well authorized as a Point of Appropriation (POA) under this or subsequent permits shall be open to a single aquifer of the Columbia River Basalt Group and shall meet the applicable well construction standards (OAR 690-200 and OAR 690-210). In addition, the open interval in each well shall be no greater than 100 feet. An open interval of greater than 100 feet may be allowed if substantial evidence of a single aquifer completion can be demonstrated to the satisfaction of the Department Hydrogeologists, using information from a video log, downhole flowmeter, water chemistry and temperature, or other downhole geophysical methods. These methods shall characterize the nature of the basalt rock and assess whether water is moving in the borehole. Any discernable movement of water within the well bore when the well is not being pumped shall be assumed as evidence of the presence of multiple aquifers in the open interval. Single aquifer completion for any well with an open interval greater than 100 ft should be demonstrated to the satisfaction of the Department Hydrogeologists prior to authorization as a POA under this or subsequent permits.

If, during well construction or repair, it becomes apparent that the well can be constructed to eliminate aquifer commingling or interference with hydraulically connected streams in a manner other than specified in this permit, the permittee can contact the Department Hydrogeologist for this permit or the Ground Water/Hydrology Section Manager to request approval of such construction. The request shall be in writing and shall include a rough well log and a proposed construction design for approval by the Department. The request can be approved only if it is received and reviewed prior to placement of any new permanent casing and sealing material. If the request is made after casing and seal are placed, the requested modification will not be approved. If approved, the new well depth and construction specifications will be incorporated into any certificate issued for this permit.

2. For any well constructed under this or subsequent permits, a dedicated water-level measuring tube shall be installed in each well. The measuring tube shall meet the standards described in OAR 690-215-0060. When requested, access to the wells shall be provided to Department staff in order to make water-level measurements.
3. For any wells constructed or deepened under this or subsequent permits, the applicant shall coordinate with the driller to ensure that drill cuttings are collected at 10 ft intervals and at changes in formation in each well. A split of each sampled interval shall be provided to the Department.

If any geologic and hydrogeologic reports are completed for the permittee during the development of permitted wells, including geophysical well logs and borehole video logs, then copies of the reports shall be provided to the Department. Except for borehole video logs, two paper copies or a single electronic copy shall be provided of each report. Digital tables of any data shall be provided upon request.

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	Columbia River Basalt	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Columbia River Basalt	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: Columbia River Basalt aquifers (i.e., separate interflow zones) are typically confined by dense flow interiors which restrict vertical movement of groundwater.

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	Tributary to Pudding River	300-500	225 - 450	2650	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	Tributary to Pudding River	300-500	225 - 450	3000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Little Pudding River	300-500	190 - 450	5800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	2	Little Pudding River	300-500	190 - 450	5100	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: Water levels from the time of drilling in nearby basalt well logs indicate groundwater ranges from 150 to 300 feet bls. Regionally and locally, the Silver Falls basalt (as well as the underlying Sentinel Bluffs basalt) is exposed in nearby reaches of both the Pudding River to the northeast of the applicant's well and the unnamed tributary of the Pudding River to the southwest of the applicant's well. Regardless of the specific surface water point evaluated for hydraulic connection, all the surface water bodies are within a mile of the stream and the elevations of the water bearing zones and surface water bodies within the region are similar.

The 2 wells are along the edge of two separate Water Availability Basins (WABs), listed below. Both WABs will be used to analyze for PSI. **The perennial streams to the northeast and southwest are incised down to at least ~190 and 225 ft amsl respectively based on LIDAR. To get below that and prevent hydraulic connection, the casing and seal of the POA would need to be at least ~380 ft bls, which is possible given the proposed depth of 500 feet bgs.**

Water Availability Basin the well(s) are located within: SW1: PUDDING R > MOLALLA R - AB HOWELL PRAIRIE;
SW2: PUDDING R > MOLALLA R - AB MILL CREEK

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 type="checkbox"/>	<input type="checkbox"/>	MF152	10	<input checked="" type="checkbox"/>	22.70	<input checked="" type="checkbox"/>	See Below	<input checked="" type="checkbox"/>
2	1	<input type="checkbox"/>	<input type="checkbox"/>	MF152	10	<input checked="" type="checkbox"/>	22.70	<input checked="" type="checkbox"/>	See Below	<input checked="" type="checkbox"/>
1	2	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	67.30	<input type="checkbox"/>	See Below	<input type="checkbox"/>
2	2	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	67.30	<input type="checkbox"/>	See Below	<input type="checkbox"/>

	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"/>

The requested rate is significantly higher than 1% of 80% of natural flow and also exceeds the instream water right for SW1. For SW2 (Little Pudding River), the requested rate is below 1% of 80% of natural flow for that WAB. However, if the POA are cased and sealed below 380 feet bgs, the POA will be sealed off from hydraulic connection with the surface water bodies and thus potential for substantial interference (PSI) with surface water would not occur.

[illegible]

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:**

Based on the proposed construction and the proposed rate, PSI is assumed for SW1. PSI can be avoided by either:

- 1. Lowering the requested rate below 0.10 cfs for the POA; or**
- 2. Casing and Seal the POA to 380 feet bgs to avoid hydraulic connection with SW1.**

References Used: Application Files: G-19462, G-19428, G-18261 and LL1817

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, 83 p.

Freeze and Cherry, 1979, Groundwater, Prentice-Hall, Inc.

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.

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

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) _____

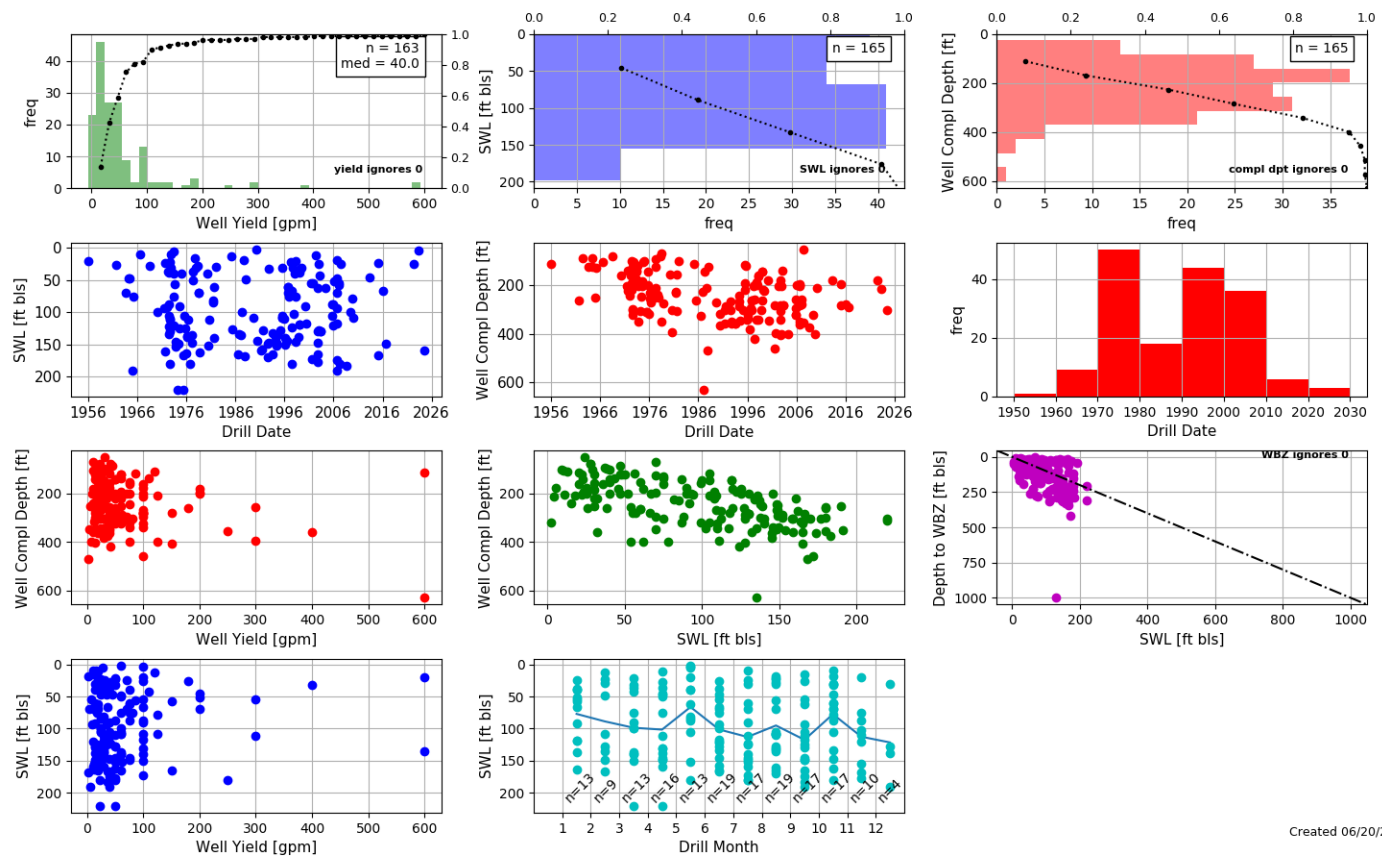
D3. **THE WELL construction deficiency or other comment is described as follows:** _____

D4. ☐ **Route to the Well Construction and Compliance Section for a review of existing well construction.**

G19462 Kraft

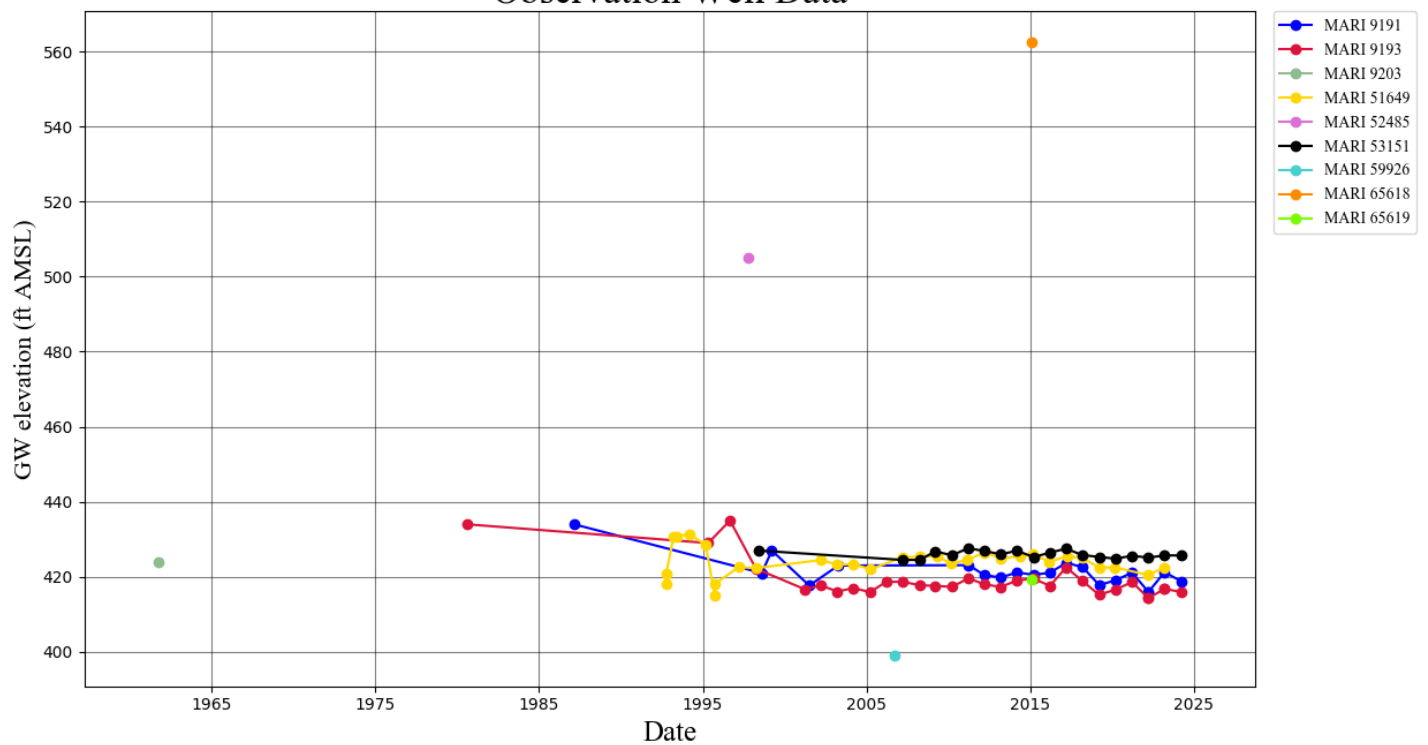


Well Statistics (7S2W Sec 36, 7S1W Sec 31, 8S2W Sec 1, 8S1W Sec 6)



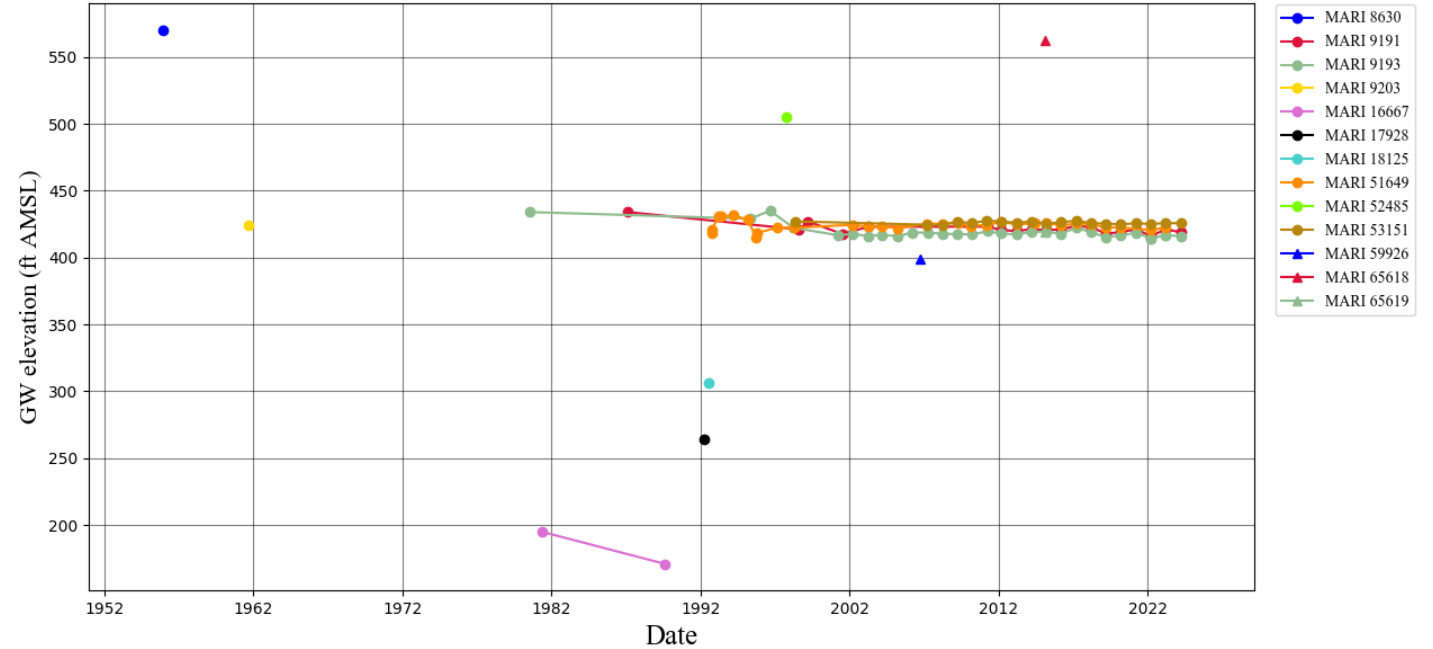
Water-Level Measurements in Nearby Wells (8S2W Sec 1)

Observation Well Data



Water-Level Measurements in Nearby Wells (7S2W Sec 36, 7S1W Sec 31, 8S2W Sec 1, 8S1W Sec 6)

Observation Well Data



Water Availability Tables

Water Availability Analysis

Detailed Reports

PUDDING R > MOLALLA R - AB HOWELL PRAIRIE

WILLAMETTE BASIN

Watershed ID #: 152 (Map)

Water Availability as of 1/24/2025

Exceedance Level: 80%
Time: 10:03 AM

Water Availability Calculation

Consumptive Uses and Storages

Water Rights

Instream Flow Requirements

Watershed Characteristics

Reservations

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	603.00	69.80	533.00	0.00	50.00	483.00
FEB	649.00	60.80	588.00	0.00	50.00	538.00
MAR	587.00	39.90	547.00	0.00	50.00	497.00
APR	451.00	21.30	430.00	0.00	50.00	380.00
MAY	235.00	14.40	221.00	0.00	36.80	184.00
JUN	111.00	29.40	81.60	0.00	11.00	70.60
JUL	43.60	45.40	-1.76	0.00	10.00	-11.80
AUG	24.70	37.50	-12.80	0.00	10.00	-22.80
SEP	22.70	22.30	0.43	0.00	10.00	-9.57
OCT	38.90	3.99	34.90	0.00	10.00	24.90
NOV	233.00	18.60	214.00	0.00	50.00	164.00
DEC	608.00	63.80	544.00	0.00	50.00	494.00
ANN	385,000.00	25,700.00	360,000.00	0.00	23,300.00	337,000.00

Water Availability Analysis

Detailed Reports

PUDDING R > MOLALLA R - AB MILL CR
WILLAMETTE BASIN

Watershed ID #: 151 [\(Map\)](#)

Water Availability as of 1/24/2025

Exceedance Level: 80%

Date: 1/24/2025

Time: 10:04 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	1,040.00	125.00	915.00	0.00	80.00	835.00
FEB	1,180.00	115.00	1,070.00	0.00	80.00	985.00
MAR	1,010.00	76.60	933.00	0.00	80.00	853.00
APR	787.00	52.40	735.00	0.00	80.00	655.00
MAY	425.00	51.00	374.00	0.00	80.00	294.00
JUN	224.00	73.20	151.00	0.00	50.00	101.00
JUL	109.00	115.00	-6.28	0.00	40.00	-46.30
AUG	71.00	94.50	-23.50	0.00	36.00	-59.50
SEP	67.30	53.60	13.70	0.00	36.00	-22.30
OCT	91.60	11.50	80.10	0.00	50.00	30.10
NOV	363.00	48.60	314.00	0.00	80.00	234.00
DEC	957.00	118.00	839.00	0.00	80.00	759.00
ANN	706,000.00	56,400.00	650,000.00	0.00	46,500.00	606,000.00