

Groundwater Application Review Summary Form

Application # G- 19449

GW Reviewer Gabriela Ferreira Date Review Completed: 11/8/2024

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

11/8/2024

TO: Application G- 19449

FROM: GW: Gabriela Ferreira
(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 November 8, 2024
 FROM: Groundwater Section Gabriela Ferreira
 Reviewer's Name
 SUBJECT: Application G- 19449 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: Trent Doman / UU Ranch LLC County: Clackamas

A1. Applicant(s) seek(s) 0.223 cfs from two well(s) in the Willamette Basin,
 _____ subbasin

A2. Proposed use Irrigation Seasonality: March 1 through 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	PROPOSED	1	Alluvial	0.223	3S/3E-31	1575' S, 90' E fr NW cor S 31
2	PROPOSED	2	Alluvial	0.223	3S/3E-31	1450' S, 900' E fr NW cor S 31

* 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	300	0 - 50	0 - 50	--	50 - 300	TBD	TBD	TBD
2	300	0 - 50	0 - 50	--	50 - 300	TBD	TBD	TBD

POA Well	Land Surface Elevation at Well (ft amsl) ^a	Depth of First Water (ft bls)	SWL (ft bls)	SWL Date	Reference Level (ft bls)	Reference Level Date
1	740	TBD	TBD	TBD	TBD	TBD
2	760	TBD	TBD	TBD	TBD	TBD

Use data from application for proposed wells.

A4. **Comments:** The proposed POAs/POU are located approximately 6 miles southeast of Oregon City limits. The applicant proposes irrigation use on 168 acres by two wells to be constructed, for a maximum instantaneous rate of 0.223 cfs (~100 gpm) .

^a Land surface elevation from LIDAR at the proposed well location (OLC, 2016).

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 are greater than ¼-mile from the nearest perennial surface water source and will produce from a confined aquifer; therefore, the relevant Willamette Basin 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: N/A

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) 7RL;
- 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/POU location is on uplands comprised of volcanic flows of the Boring Lava volcanics, which were then incised by smaller streams, producing substantial local topographic relief. The Clackamas River, located approximately 6 miles northeast of the proposed POAs/POU, is generally considered the southern extent of the Portland Basin hydrogeologic units, although some discretization of alluvial aquifers is still observed. The POAs proposed would produce from the Troutdale Gravel Aquifer, which is comprised of gravel, sand, and Boring lava deposits (Leonard and Collins, 1983; Conlon and others, 2005; Gannett and Caldwell, 1998).

Local wells obtain groundwater from the uppermost Quaternary terrace deposits, Boring lavas, and the Troutdale Gravel Aquifer (TGA). Reported yields for nearby wells generally range up to 40 gpm with two wells reporting yields between 100-120 gpm. The requested rate (~100 gpm) is within the upper range of reported yields.

The nearest groundwater user was identified as CLAC 72302, located approximately 3,000 feet northwest of the proposed POAs. Additional wells may be located closer, given the presence of residences, although a well report was not identified. CLAC 72302 is a domestic well completed to a depth of 120 feet bls and sealed to 60 feet bls and a reported water level of 68 feet bls at time of drilling (2016). Despite not fully penetrating the alluvial aquifer system, potential impacts on CLAC 72302 were modeled using the attached Theis drawdown analysis and assuming the full duty and rate of the proposed POA. Transmissivity values are based on pump tests from nearby alluvial wells. Under the most conservative parameters modeled, drawdown may temporarily reach up to 50 feet bls. It appears unlikely that interference in excess of the typical permit

condition limits (Condition 7RL) would occur at CLAC 72302 as a result of the requested withdrawal.

Water level data from six nearby wells were selected for evaluation based on proximity and similar construction. Water levels in one well (CLAC 57020) declined approximately 20 feet from 2002 through 2008. The other wells have generally stable water levels over the available record, with less than 10 feet of variation observed. Available and applicable groundwater level data suggests that groundwater for the proposed use is not over appropriated.

Permit condition 7RL is recommended to assess potential future injury concerns, and as a means to monitor long-term groundwater conditions in this area.

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	Alluvial	☐	☐
2	Alluvial	☐	☐

Basis for aquifer confinement evaluation: The proposed wells would produce from the Troutdale Gravel Aquifer, including Boring lavas, terrace deposits, and other alluvial deposits. Water levels for nearby similarly constructed wells typically report static water levels above water bearing zone(s), indicating a confined aquifer or series of aquifers. nearby wells typically report fine-grained clay and silt overlying water-bearing zones.

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	Root Creek	600 – 720 ^a	380 – 745 ^b	1,900	☒	☐	☐	☐	☒
2	1	Root Creek	600 – 720 ^a	370 – 745 ^b	2,500	☒	☐	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: ^aThe groundwater elevation was estimated based on information from nearby observation well data. The groundwater elevation range is large because of the substantial topographic variation and proposed range in open interval for the proposed well construction.

^b Estimated ranges of stream surface elevations are based on LIDAR data for respective perennial reaches within approximately 1 mile of the proposed POA (OLC, 2016)

Because the estimated groundwater elevation for the POAs are within the estimated elevation range for SW 1 and SW 2 (Unnamed Tributaries to Parrott Creek), the aquifer system proposed to be accessed by the POAs is hydraulically connected to SW 1.

Water Availability Basin the well(s) are located within: SW 1: WID # 181, Willamette River > Columbia River, 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?	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	☐	☐	NA	NA	☐	4890.0	☐	<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 #		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: C3a: The Hunt 2003 analytical stream depletion model was used to estimate 30-day interference at SW 1 (Root Creek) caused by pumping Well 1, the nearest of the proposed POAs, to estimate the maximum anticipated interference, based on proximity and similar hydrologic conditions. Model parameters are derived from nearby pumping tests and published values (Freeze and Cherry, 1979). Model results indicate that interference is expected to be less than 25% of the maximum allocated pumping rate at 30 days. The model was not applied to the other scenarios because they are farther from respective streams, and thus, given a similar hydrogeologic setting, the estimated 30-day stream depletion percentages would be even less than that estimated for the Well 2/SW 1 scenario

C3b: Not applicable

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.

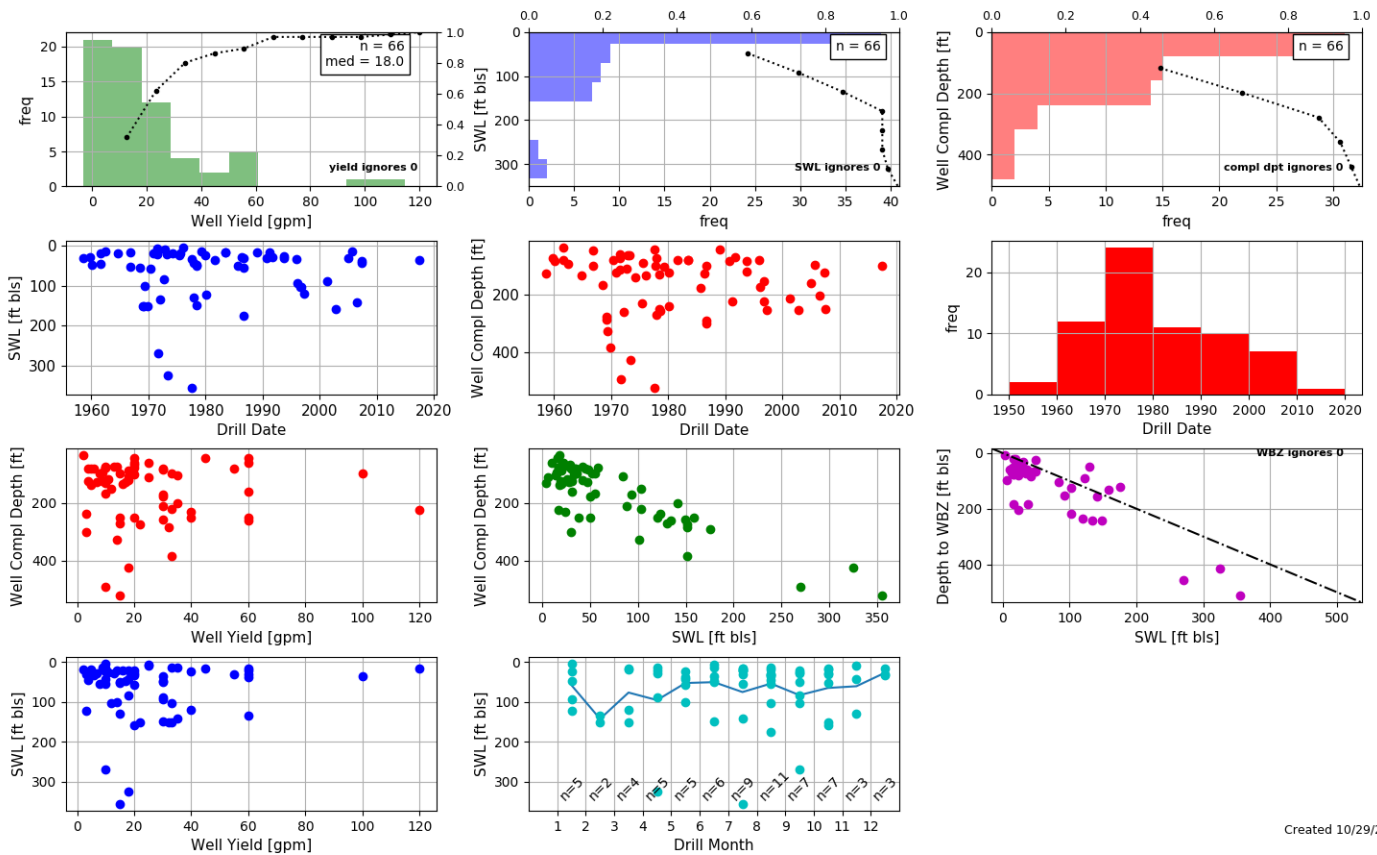
Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
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

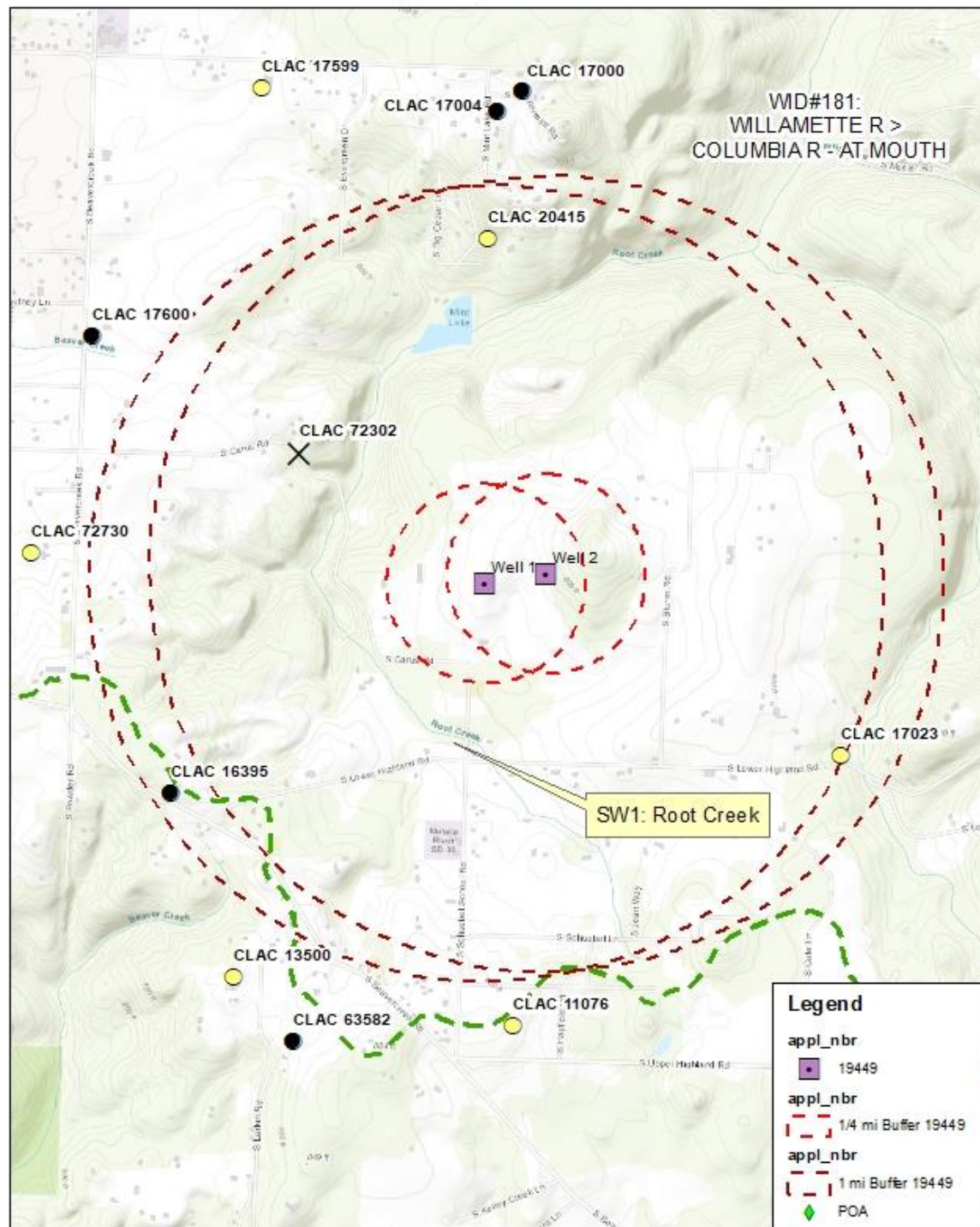
- D1. Well #: _____ Logid: _____
- D2. **THE WELL does not appear to meet current well construction standards based upon:**
- ☐ review of the well log;
 - ☐ field inspection by _____;
 - ☐ report of CWRE _____;
 - ☐ other: (specify) _____
- D3. **THE WELL construction deficiency or other comment is described as follows:** _____
- D4. ☐ **Route to the Well Construction and Compliance Section for a review of existing well construction.**

Well Statistics

Created 10/29/2024

Well Location Map

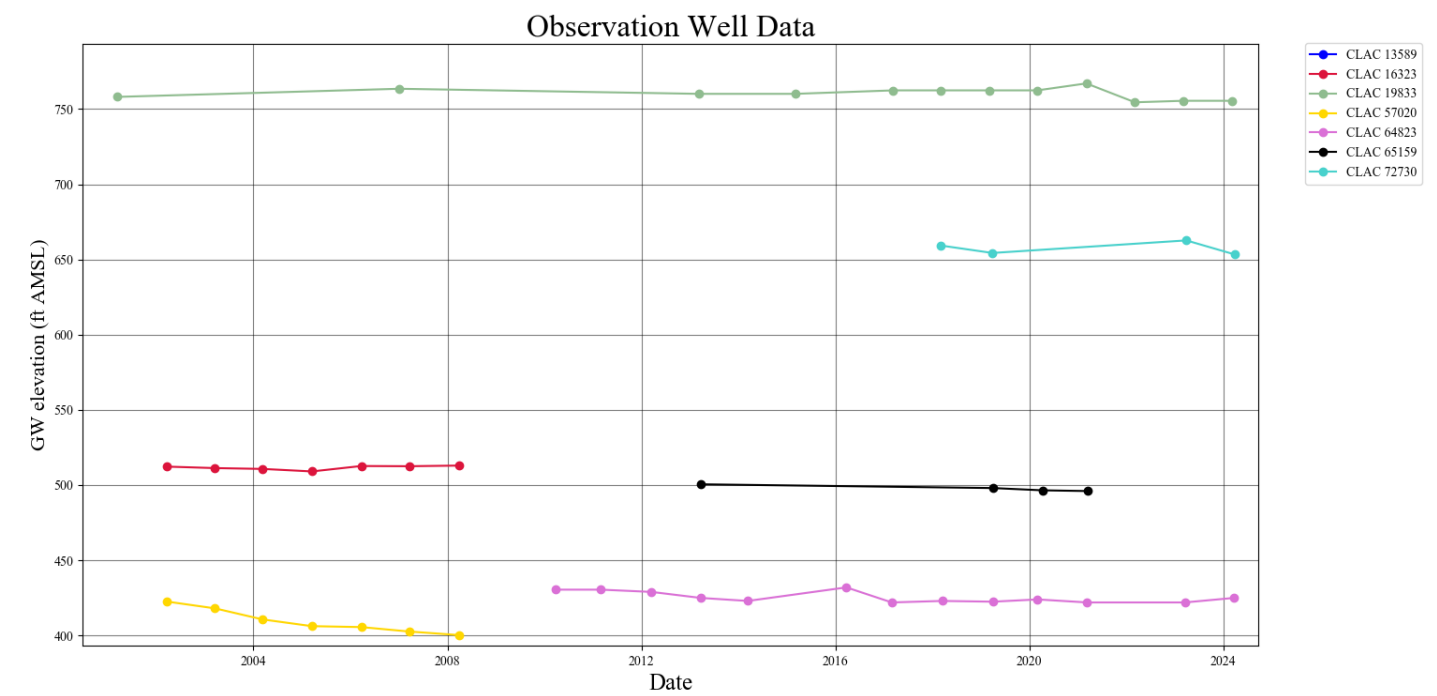
Application G-19449 UU Ranch T3S, R3E, Section 31



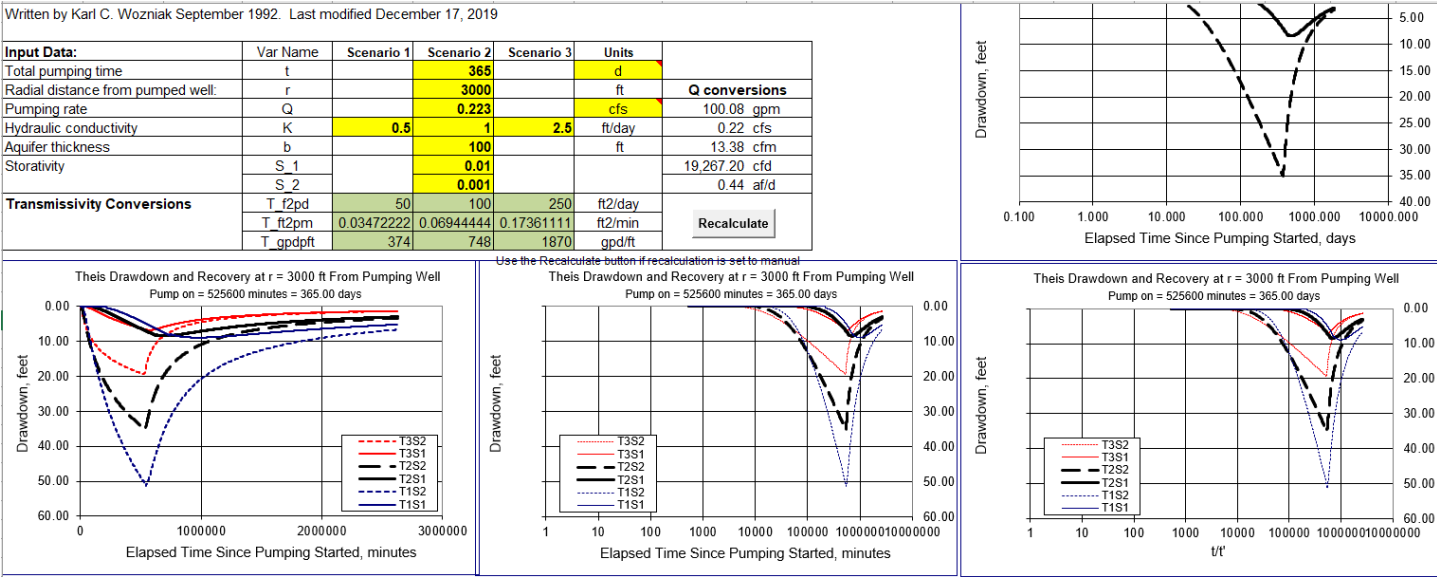
Main Map Scale = 1:24,000

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

Water-Level Measurements in Nearby Wells



Theis Interference Analysis



Water Availability Tables

Water Availability Analysis
Detailed Reports

WILLAMETTE R > COLUMBIA R - AT MOUTH
WILLAMETTE BASIN

Watershed ID #: 181 (Map)
Date: 11/21/2024

Water Availability as of 11/21/2024

Exceedance Level: 80%
Time: 9:30 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	27,500.00	2,710.00	24,800.00	0.00	1,500.00	23,300.00	
FEB	30,000.00	7,970.00	22,000.00	0.00	1,500.00	20,500.00	
MAR	28,500.00	7,550.00	20,900.00	0.00	1,500.00	19,400.00	
APR	25,400.00	7,190.00	18,200.00	0.00	1,500.00	16,700.00	
MAY	20,700.00	4,430.00	16,300.00	0.00	1,500.00	14,800.00	
JUN	11,000.00	2,360.00	8,640.00	0.00	1,500.00	7,140.00	
JUL	6,280.00	2,310.00	3,970.00	0.00	1,500.00	2,470.00	
AUG	4,890.00	2,070.00	2,820.00	0.00	1,500.00	1,320.00	
SEP	4,930.00	1,690.00	3,240.00	0.00	1,500.00	1,740.00	
OCT	5,990.00	729.00	5,260.00	0.00	1,500.00	3,760.00	
NOV	12,700.00	1,040.00	11,700.00	0.00	1,500.00	10,200.00	
DEC	24,800.00	1,360.00	23,400.00	0.00	1,500.00	21,900.00	
ANN	19,700,000.00	2,480,000.00	17,300,000.00	0.00	1,090,000.00	16,200,000.00	

Stream Depletion (Hunt) Model Analysis

