

Groundwater Application Review Summary Form

Application # G- 19261

GW Reviewer J. Hootsmans/T. Brown Date Review Completed: 11/28/2023

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

11/28/2023

TO: Application G- 19261

FROM: GW: J. Hootsmans/T. 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 11/28/2023
 FROM: Groundwater Section J. Hootsmans/T. Brown
 Reviewer's Name
 SUBJECT: Application G- 19261 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: Ali Emami County: Lane

A1. Applicant(s) seek(s) 0.025¹ cfs from 1 well(s) in the Willamette Basin,
 _____ subbasin

A2. Proposed use Garlic Nursery Seasonality: Year Round

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 374	1	Bedrock	0.025	18S/3W S26 SWSE	1100' N, 2200' W fr SE cor S 26
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		0-18						
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	522					
2						
3						
4						

Use data from application for proposed wells.

A4. **Comments:** ¹Applicant is requesting 5 acre-feet/acre annually, but did not provide a maximum rate requested. 5 acre-feet/acre annually is approximately 0.0137 acre feet per day --> x (1000/4.42) = 3.09 gallons per minute (GPM) --> 1 cubic feet per second (cfs)/448.8 GPM = 0.0069 cfs for an average annual rate. For the purposes of this application, the maximum instantaneous rate based on acreage will be evaluated. In the Willamette Basin, it's 1/40 cfs per acre (0.025 cfs/acre) for containerized/greenhouse Nursery Use.

A5. ☐ **Provisions of the** Willamette (OAR 690-502-0240) 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 are further than ¼ mile from the nearest surface water source. Therefore, the relevant 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; 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 _____ 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 (PROP 374) has not been drilled. According to the applicant, the target aquifer is in alluvium and total depth will be when they reach first water. Based on geologic mapping in the area and nearby well logs, the POA is situated in Quaternary Surficial Deposits at ground surface (See Cross Section; Geologic Map of Oregon, 2023). However, the nearby well logs in the area mapped as “HA” by McClaughry et al. 2010, indicate that the surficial alluvium is not likely to be water bearing, and/or uniform across the surficial units. More specifically, the POA will most likely be completed below in the underlying consolidated marine sediments, Eugene Formation, where first water is likely to be encountered. Wells in the vicinity of the POA appear to encounter first water in the underlying claystone and sandstone layers, as identified on the well logs. Permeability in the Eugene Formation is typically fracture-dominated with a high level of spatial variability and lack of lateral uniformity in the aquifer system. Between the surficial alluvium and the Eugene Formation, there is also a mapped volcanoclastic unit, the Mehama Formation (McClaughry et al., 2010).

Groundwater elevations in the bedrock aquifer wells nearby to the POA have remained relatively stable over time, based on limited data, indicating a hydraulic connection to the nearby surface water bodies (see Observation Well Data). **Although data is limited, nearby observation wells indicate stable water levels; therefore, the aquifer system is likely not over appropriated.**

Claim 3629 (Well LANE 16520) is the closest groundwater right in the vicinity of the POA. Well-to-well interference is unlikely due to the low pumping rate. **Therefore, injury to prior water rights is not expected.**

Reported yields from regional wells range from less than 1 to ~450 gpm, with a median of 100 gpm (see attached Well Statistics). The requested rate of 0.025 cfs (~10 gpm) therefore represents ~7 percent of the maximum yield reported for water wells in this area, and ~57 percent of the median reported yield. **Therefore, it is likely the applicant will be able to achieve the requested pumping rate with the proposed POA.**

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	Eugene Formation	☒	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: Based on nearby regional well logs and water level data, the target aquifer is confined. The propose POA will drill in an area of Quaternary Surficial Deposits at ground surface. More specifically, the POA will most likely be completed in consolidated marine sediments, Eugene Formation, which is typically fracture-dominated.

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	Coast Fork Willamette River	450-550	470-490	8400	☒	☐	☐	☐	☒
1	2	Camas Swale Creek	450-550	500 - 520	5900	☒	☐	☐	☐	☒
1	3	Wild Hog Creek	450-550	490 - 510	5800	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Although the well will be drilled through unconfined alluvium, the well is more than a mile away from any surface water source (Division 09-040). Since the POA depth has not been defined, it is likely the POA will be completed in consolidated marine sediments (Eugene Formation).

Water levels in regional wells are relatively stable, indicating hydraulic connection. In addition, local streams and their tributaries (for example Camas Swale Creek) appear to emerge out of the marine sediments to the west of the POA.

Water Availability Basin the well(s) are located within: COAST FK WILLAMETTE R > WILLAMETTE R - 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?
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

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: There are no hydraulically connected surface water sources within 1 mile of the POA.

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
1	2	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Well Q as CFS		0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
Interference CFS		0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.		0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
(B) = 80 % Nat. Q		955	1080	1080	928	531	216	108	70.5	65.6	86.4	268	761
(C) = 1 % Nat. Q		9.55	10.8	10.8	9.28	5.31	2.16	10.8	0.705	0.656	0.864	2.68	7.61
(D) = (A) > (C)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100		<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%	<<1%

(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: The local surface water bodies, which includes the Coast Fork Willamette River, Camas Swale Creek and Wild Hog Creek all are part of the COAST FK WILLAMETTE R > WILLAMETTE R - AT MOUTH water availability basin (WAB).

Since the rate of appropriation is so small, and only for one acre, a surface water depletion model was not used and 100% of the pumping rate was assumed (0.025). However, the pumping rate has to be prorated over the full year for nursery applications (pumping cycles). Therefore, the interference calculation is – 0.025 cfs/ac max diversion X 0.28 cfs/ac (prorated) = 0.007 cfs

Regardless of using the requested rate or prorated rate, since the rates are so small, there is no PSI, even at 100% depletion assumed.

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;

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

C6. SW / GW Remarks and Conditions: _____

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

References Used: Application files for G-19261

Geologic Map of Oregon - <https://gis.dogami.oregon.gov/maps/geologicmap/>

DOGAMI Open-File Report O-10-03, Digital geologic map of the southern Willamette Valley, Benton, Lane, Linn, Marion, and Polk Counties, Oregon, by Jason D. McClaughry, Thomas J. Wiley, Mark L. Ferns, and Ian P. Madin.

D. WELL CONSTRUCTION, OAR 690-200

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

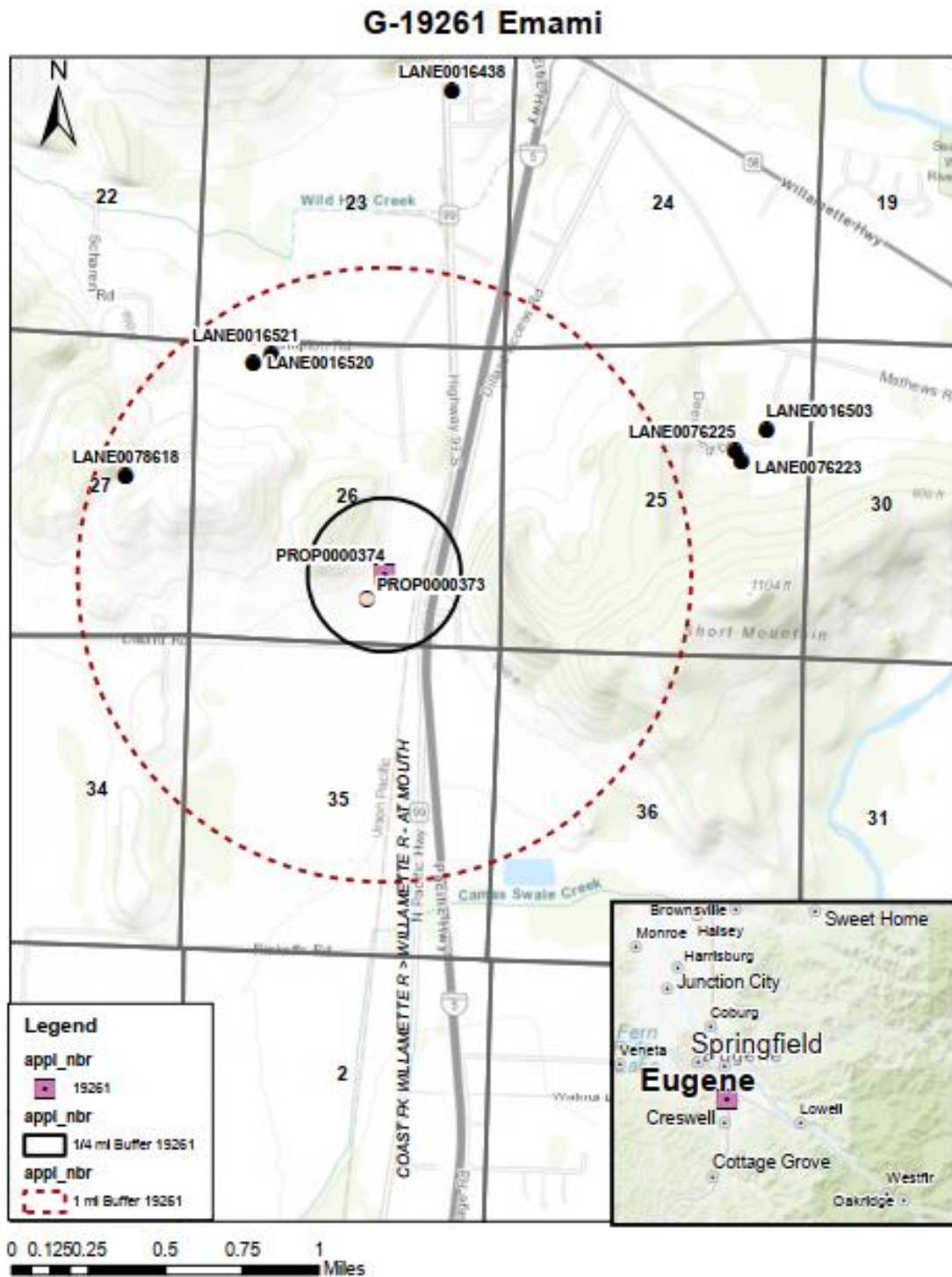
D2. **THE WELL does not appear to meet current well construction standards based upon:**

- 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



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

Water Availability Tables

Water Availability Analysis
Detailed Reports

COAST FK WILLAMETTE R > WILLAMETTE R - AT MOUTH
WILLAMETTE BASIN
Water Availability as of 11/16/2023

Watershed ID #: 532 [\(Map\)](#)
Date: 11/16/2023

Exceedance Level: 80%
Time: 3:36 PM

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

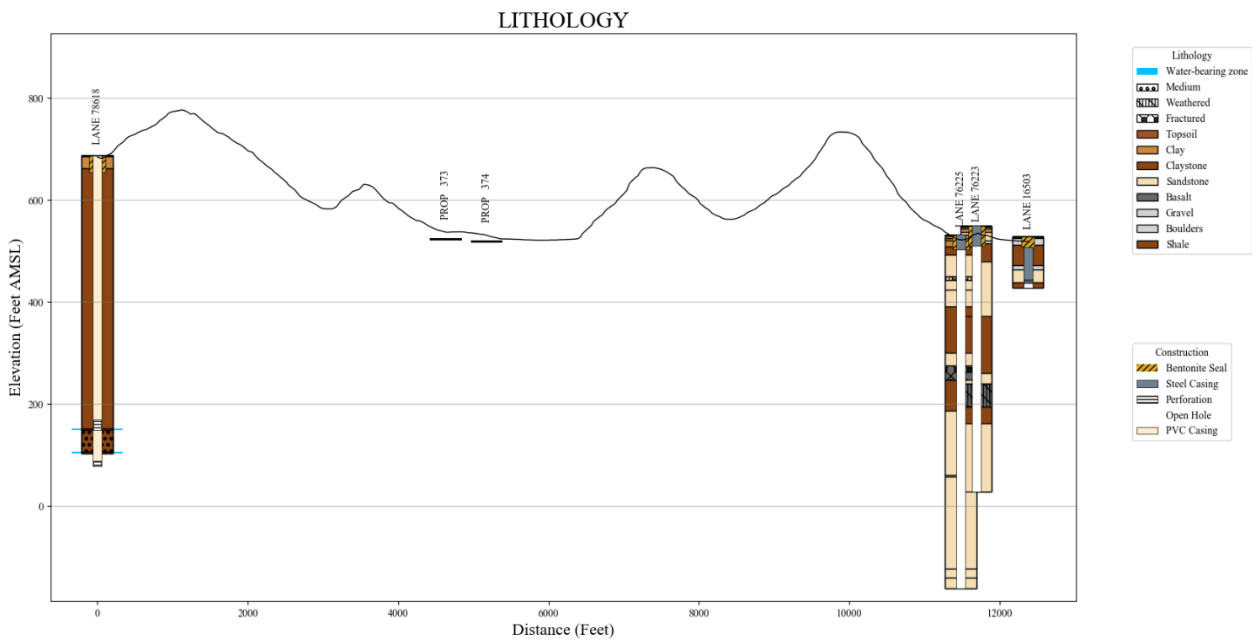
Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

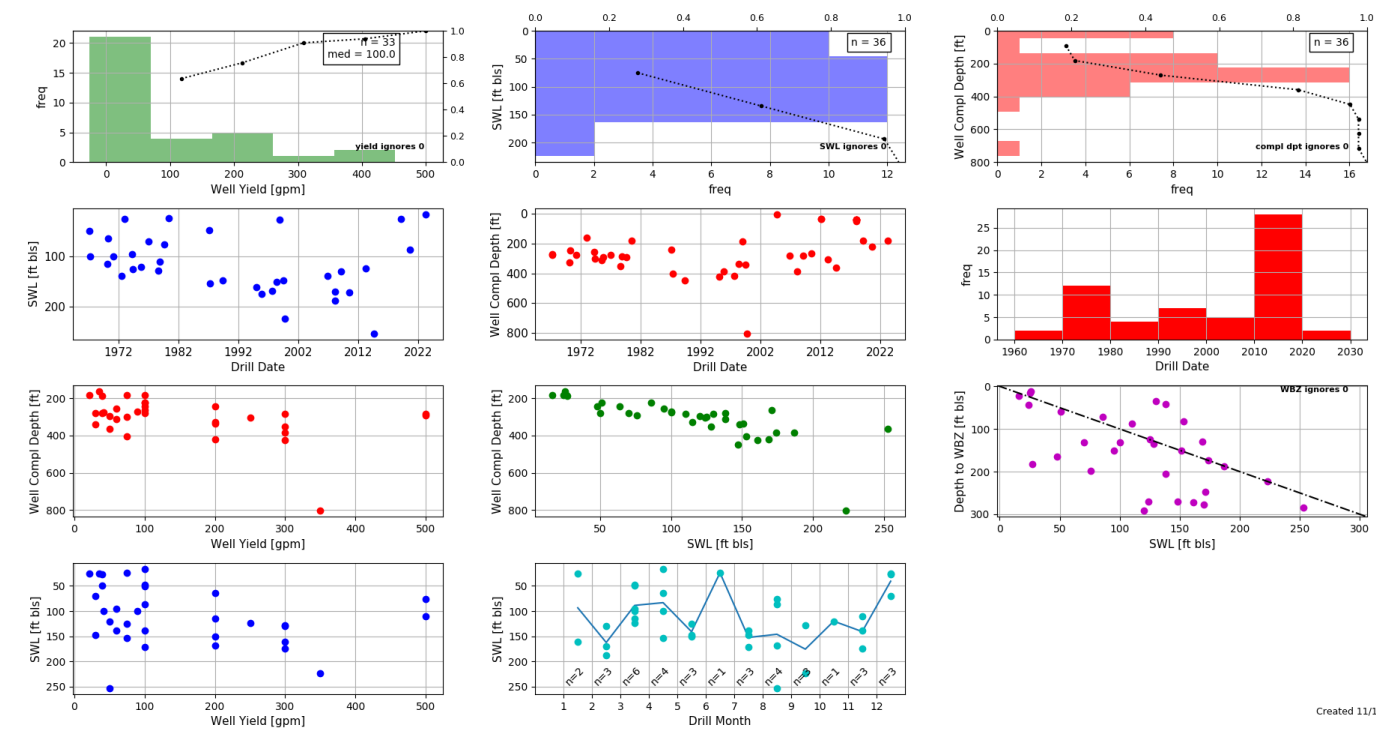
Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	955.00	123.00	832.00	0.00	200.00	632.00
FEB	1,080.00	297.00	783.00	0.00	200.00	583.00
MAR	1,080.00	467.00	613.00	0.00	200.00	413.00
APR	928.00	369.00	559.00	0.00	40.00	519.00
MAY	531.00	236.00	295.00	0.00	40.00	255.00
JUN	216.00	28.60	187.00	0.00	40.00	147.00
JUL	108.00	37.30	70.70	0.00	40.00	30.70
AUG	70.50	33.10	37.40	0.00	40.00	-2.58
SEP	65.60	24.70	40.90	0.00	40.00	0.86
OCT	86.40	8.14	78.30	0.00	40.00	38.30
NOV	268.00	93.70	174.00	0.00	200.00	-25.70
DEC	761.00	9.04	752.00	0.00	200.00	552.00
ANN	754,000.00	104,000.00	651,000.00	0.00	77,000.00	574,000.00

Download Data ([Text - Formatted](#) , [Text - Tab Delimited](#) , [Excel](#))

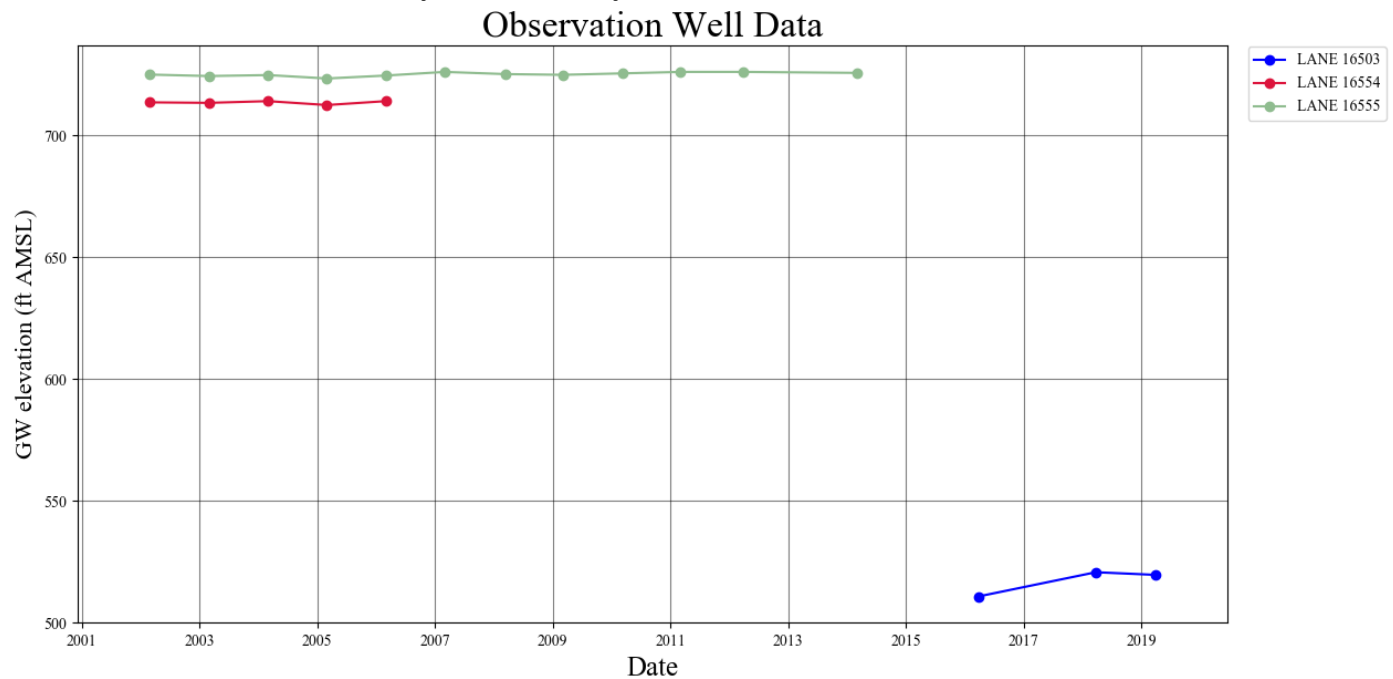
Cross-Section



Well Statistics



Created 11/17/2023

Water-Level Measurements in Nearby Wells – January to March Data**Water-Level Measurements in Nearby Wells – All Data**