

Groundwater Application Review Summary Form

Application # G- 19395

GW Reviewer Stacey Garrison Date Review Completed: 4/27/2024

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

April 27 2024

TO: Application G- 19395

FROM: GW: Stacey Garrison
(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 4/27/2024
 FROM: Groundwater Section Stacey Garrison
 Reviewer's Name
 SUBJECT: Application G- 19395 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: Julio and Charlotte Pantoja County: Clackamas

A1. Applicant(s) seek(s) 0.178 cfs from 2 well(s) in the Willamette Basin,
Molalla-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 469	1	Alluvial	0.178	5S/1E-2 NW-NW	60'S, 240' E fr NW cor S 2
2	PROP 470	2	Alluvial	0.178	5S/1E-2 NW-NW	60' S, 910' E fr NW cor S 2

* 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	0-30	0-300	NA	TBD	NA	NA	NA
2	300	0-30	0-300	NA	TBD	NA	NA	NA

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	249	NA	NA	NA	30 ^a	3/5/2013 ^a
2	253	NA	NA	NA	34 ^a	3/5/2013 ^a

Use data from application for proposed wells.

A4. **Comments:** The proposed POAs/POU are 2 miles northwest of Molalla, Oregon.
^a Reference level extrapolated from nearby well CLAC 66672.

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 aquifer is confined. Per OAR 690-502-0240, 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) 7RLA, 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 alluvial 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 are on the Troutdale Formation, a late-Tertiary deposit of fluvial and lacustrine origin, composed primarily of conglomerate and tuffaceous sandstone (Trimble, 1963; Hampton, 1972). This Quaternary-to-late-Tertiary Sedimentary (QLTS) unit is part of the Willamette aquifer (O'Connor et al., 2001; Hampton, 1972). The Troutdale formation is reportedly over 400 ft thick in this area (O'Connor et al., 2001; Hampton, 1972) and nearby well logs confirm it is at least 300 ft thick (CLAC 12773, CLAC 66672, CLAC 60032). The Troutdale formation consists of layers of sand, gravel, sandstone, conglomerate, siltstone, and mudstone; although this area is above the elevation where the Missoula Flood silts were deposited, there is a 20 to 36 ft thick layer of clay near the surface, creating confined conditions to the underlying aquifers (O'Connor et al., 2001). A review of well logs within one mile of the POAs indicates that there are multiple confined alluvial water-bearing zones (WBZs) ranging in depth from 51 to 351 ft deep [31 to -95 ft amsl]; the deeper WBZs range in thickness from 40 to 140 ft. A review of statistics for nearby well records was completed and compared with the proposed rate of 0.178 cfs (~79.7 gpm) for this application (see Well Statistics). The median reported well yield is 255 gpm and the maximum reported well yield is 1,250 gpm. The proposed rate for this application is 31% of the median and 6% of the maximum reported yield. The proposed rate of use of 0.178 cfs (79.7 gpm) is likely within the capacity of the groundwater resource. Water levels are stable (see Water Level Measurements in Nearby Wells). For the ten QLTS-observation wells within two miles of the proposed POA: nine are current POAs on groundwater water rights and seven have water level measurements within the last three years. Of the seven with recent water levels six demonstrate declines less than two feet within the last five years; the seventh well (CLAC 76245) shows an increase in water levels. Overall, water levels are steady. There are 17 POAs for 11 groundwater rights within one mile of the POA, however, the overall steady water levels described above indicate that there is a low likelihood of interference with other groundwater users. The groundwater resource is not likely over-appropriated.
- The nearest groundwater user to POA 1 is the domestic well serving tax lot 100 at 30011 S Dryland Rd, 483 ft west of the POA at an elevation of 243 ft amsl. The approximate center of the developed portion of the tax lot was selected as the likely

location of a well. It is likely the proposed use would cause some degree of well-to-well interference with the well that serves tax lot 100. To assess the degree of drawdown, a Theis drawdown analysis was conducted for the proposed use (see attached Theis Drawdown Analysis-POA 1). Results indicate that the proposed use is not likely to cause well-to-well interference with the well that serves tax lot 100 that exceeds the threshold under the standard condition for alluvial aquifers in the Willamette Basin.

The nearest groundwater user to POA 2 is the domestic use well that serves tax lot 900 at 10320 S Barnards Rd, 743 ft southeast of the POA at an elevation of 257 ft msl. The approximate center of the developed portion of the tax lot was selected as the likely location of a well. It is likely the proposed use would cause some degree of well-to-well interference with the well that serves tax lot 900. To assess the degree of drawdown, a Theis drawdown analysis was conducted for the proposed use (see attached Theis Drawdown Analysis-POA 2). Results indicate that the proposed use is not likely to cause well-to-well interference with the well that serves tax lot 900 that exceeds the threshold under the standard condition for alluvial aquifers in the Willamette Basin.

Based on this analysis of the available data and under the assumptions previously identified, groundwater for the proposed use is likely within the capacity of the resource; if a permit is issued for this application, the conditions in B1(d)(i) and B2(c) are recommended to protect senior users and the groundwater resource.

NOTE: This evaluation considers a conservative scenario for the nearest authorized POA not owned by the applicant. Other authorized POAs in the area may also experience an increase in interference as a result of this application, although to a lesser extent than the scenario evaluated here.

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: Static water levels in well logs within a mile of the POAs are above the top of the WBZ, indicating confined conditions*. Aquifers are confined by at least 20 ft of fine-grained sediments.

*Groundwater elevation calculated from static water level and WBZs reported in well logs and/or latest static water level reported for CLAC 12793, CLAC 12801, CLAC 2237, CLAC 12775, CLAC 12796, CLAC 18360, CLAC 60032, CLAC 2229, CLAC 17695, CLAC 66672, CLAC 2240, CLAC 70590, CLAC 12773, CLAC 76245, CLAC 66135, CLAC 66550, CLAC 2247, CLAC 11932, CLAC 12800.

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 ^a	SW Elev ft msl ^b	Distance (ft)	Hydraulically Connected?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Wheeler Creek	183 to 237	187 to 264	2,370	☒	☐	☐	☐	☒
2	1	Wheeler Creek	183 to 237	187 to 264	1,835	☒	☐	☐	☐	☒
1	1	Bear Creek	183 to 237	168 to 234	2,830	☒	☐	☐	☐	☒
2	1	Bear Creek	183 to 237	168 to 234	2,920	☒	☐	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: The groundwater elevations within a mile of the proposed POAs are between 183 and 237 ft amsl^a. Within a mile of the POAs, the local streambed of SW 1 (Wheeler Creek) is between 187 and 264 ft amsl and of SW 2 (Bear Creek) is 168 to 234 ft amsl. The groundwater elevation is coincident with surface water elevations, indicating local groundwater is likely discharging to surface water, consistent with Woodward et al (1998) findings that groundwater discharges to surface water. Upstream bends in groundwater elevation contour lines near the proposed wells indicate groundwater discharge to streams (Woodward et al 1998). Hydraulic connection to nearby streams is likely but expected to be limited by the confining layer(s) of clay.

^a Groundwater elevation calculated from static water level and WBZs reported in well logs and/or latest static water level reported for CLAC 12793, CLAC 12801, CLAC 2237, CLAC 12775, CLAC 12796, CLAC 18360, CLAC 60032, CLAC 2229, CLAC 17695, CLAC 66672, CLAC 2240, CLAC 70590, CLAC 12773, CLAC 76245, CLAC 66135, CLAC 66550, CLAC 2247, CLAC 11932, CLAC 12800.

^b Surface water elevations were estimated from land surface elevations along stream reaches (Watershed Sciences, 2009; USGS, 2013).

Water Availability Basin the well(s) are located within: 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	☐	☐	NA	NA	☐	67.3	☐	<25%	☐

2	1	☐	☐	NA	NA	☐	67.3	☐	<25%	☐
1	2	☐	☐	NA	NA	☐	67.3	☐	<25%	☐
2	2	☐	☐	NA	NA	☐	67.3	☐	<25%	☐

Comments: Potential depletion (interference with) SW 1 (Wheeler Creek) by proposed pumping at proposed POA 2 was estimated using Hunt 2003 analytical model. Hydraulic parameters used for the model were derived from regional data or studies of the hydrogeologic regime (OWRD Well Log Query Report; Conlon et al., 2003, 2005) or are within a typical range of values for the parameter within the hydrogeologic regime (Domenico and Schwartz, 1999). See attached "Stream Depletion Analysis – SW 1" for the specific parameters used in the analysis. The Hunt 2003 analytical model results indicate that depletion of (interference with) SW 1 due to pumping at proposed POA 2 is anticipated to be much less than 25 percent of the well discharge at 30 days of continuous pumping.

Because only the distance is expected to vary between the POA and surface water sources, only the POA-SW pair with the shortest distance (in this case, POA 2 and SW 1) was analyzed quantitatively for interference (stream depletion). All other POA-SW pairs would presumably result in less interference due to their greater separation relative to POA 2 and SW 1. Therefore, the interference of both proposed POA with all surface water sources within 1 mile are anticipated to result in much less than 25 percent of the well discharge at 30 days of continuous pumping.

- 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: N/A-Q is not distributed.

- 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: N/A-streams within 1 mile evaluated above.

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: _____

Application File: G-19395

Pumping Test Files: CLAC 18102, CLAC 2454, CLAC 12539, CLAC 20346, CLAC 18557, CLAC 2049, CLAC 51664, CLAC 2240, CLAC 18601, CLAC 52842, CLAC 18360, CLAC 54578, CLAC 2060, CLAC 12567, CLAC 12545, CLAC 57287, CLAC 2473, CLAC 12566, CLAC 12546, CLAC 60032 CLAC 70809

Well Reports: CLAC 12793, CLAC 12801, CLAC 2237, CLAC 12775, CLAC 12796, CLAC 18360, CLAC 60032, CLAC 2229, CLAC 17695, CLAC 66672, CLAC 2240, CLAC 70590, CLAC 12773, CLAC 76245, CLAC 66135, CLAC 66550, CLAC 2247, CLAC 11932, CLAC 12800.

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*, Scientific Investigations Report 2005-5168: U. S. Geological Survey, Reston, VA.

Domenico, P.A. and Schwartz, F.W., 1990. Physical and Chemical Hydrogeology, John Wiley and Sons, New York, 824p.

Freeze, R.A. and J.A. Cherry, 1979. Groundwater, Prentice Hall, Englewood Cliffs, New Jersey, 604p.

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.

Heath, R.C., 1983. Basic ground-water hydrology, U.S. Geological Survey Water-Supply Paper 2220, 86p.

Hunt, B., 2003, *Unsteady stream depletion when pumping from semiconfined aquifer: Journal of Hydrologic Engineering*, January/February, 2003.

Theis, C.V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using ground-water storage: American Geophysical Union transactions, v. 16, p. 519-524.

United States Geological Survey, 2013, National Elevation Dataset (NED) [DEM geospatial data]. 1/9th arc-second, updated 2013.

Watershed Sciences, 2009, LIDAR remote sensing data collection, Department of Geology and Mineral Industries, Willamette Valley Phase I, Oregon: Portland, OR, December 21.

Woodward, D.G., Gannett, M.W., and Vaccaro, J.J., 1998, Hydrogeologic framework of the Willamette Lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-B, 82 p.

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**

 Oregon Water Resources Department
Water Availability Analysis

Main Help
Return Contact Us

Water Availability Analysis
Detailed Reports

PUDDING R > MOLALLA R - AB MILL CR
WILLAMETTE BASIN
Water Availability as of 4/10/2024

Watershed ID #: 151 (Map)
Date: 4/10/2024

Exceedance Level: 80%
Time: 4:06 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	1,040.00	125.00	915.00	0.00	36.00	879.00
FEB	1,180.00	114.00	1,070.00	0.00	36.00	1,030.00
MAR	1,010.00	76.50	934.00	0.00	36.00	898.00
APR	787.00	52.40	735.00	0.00	36.00	699.00
MAY	425.00	50.90	374.00	0.00	36.00	338.00
JUN	224.00	73.00	151.00	0.00	36.00	115.00
JUL	109.00	115.00	-5.87	0.00	36.00	-41.90
AUG	71.00	94.10	-23.10	0.00	36.00	-59.10
SEP	67.30	53.40	13.90	0.00	36.00	-22.10
OCT	91.60	11.50	80.10	0.00	36.00	44.10
NOV	363.00	48.50	314.00	0.00	36.00	278.00
DEC	957.00	118.00	839.00	0.00	36.00	803.00
ANN	705,000.00	56,300.00	650,000.00	0.00	25,100.00	626,000.00

Download Data (Text - Formatted , Text - Tab Delimited , Excel)

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PUDDING R > MOLALLA R - AB MILL CR
WILLAMETTE BASIN
Water Availability as of 4/10/2024

Watershed ID #: 151 (Map)
Date: 4/10/2024

Exceedance Level: 80%
Time: 4:06 PM

Water Availability Calculation

Water Rights

Consumptive Uses and Storages

Instream Flow Requirements

Watershed Characteristics

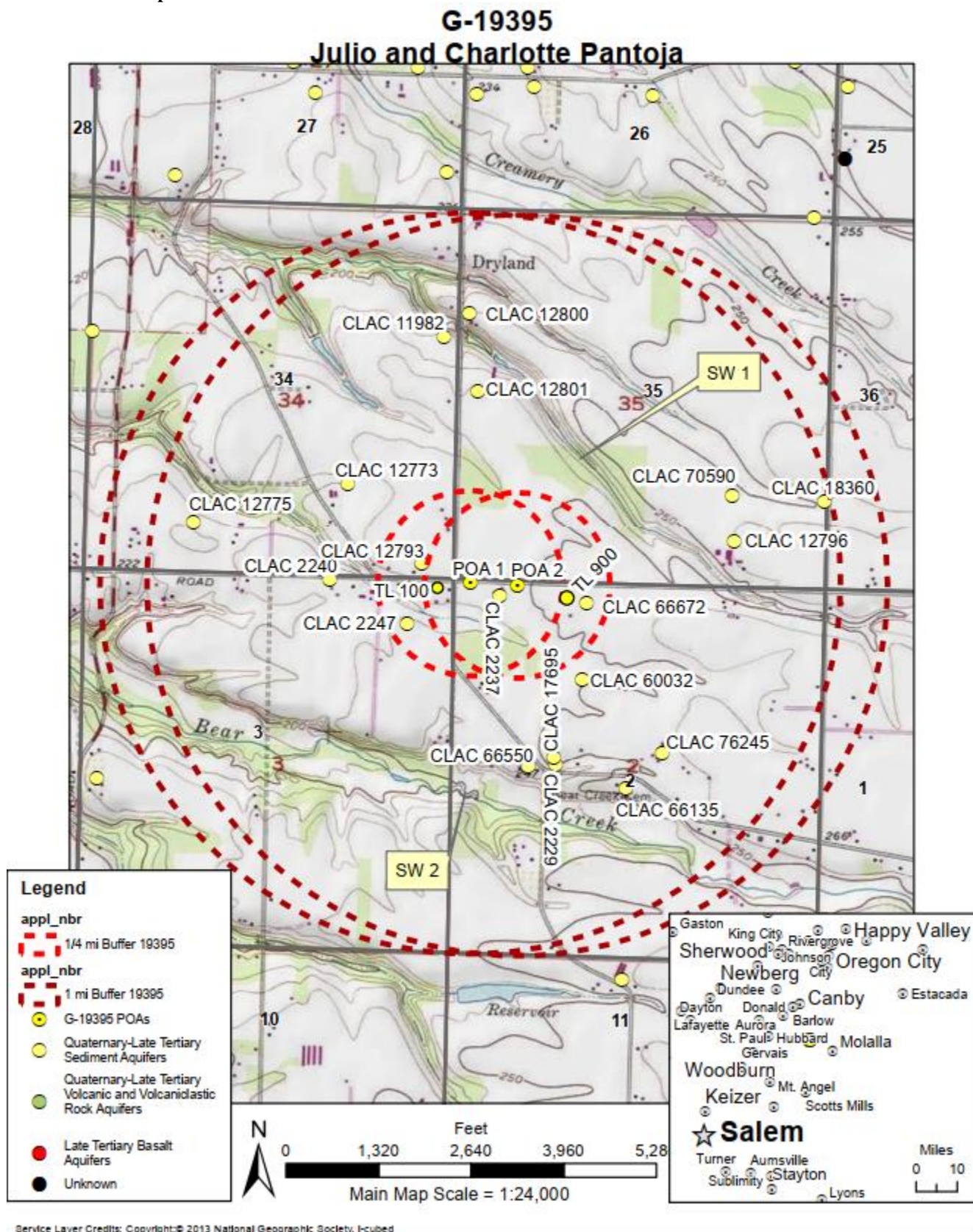
Reservations

Detailed Report of Instream Flow Requirements
Instream Flow Requirements in Cubic Feet per Second

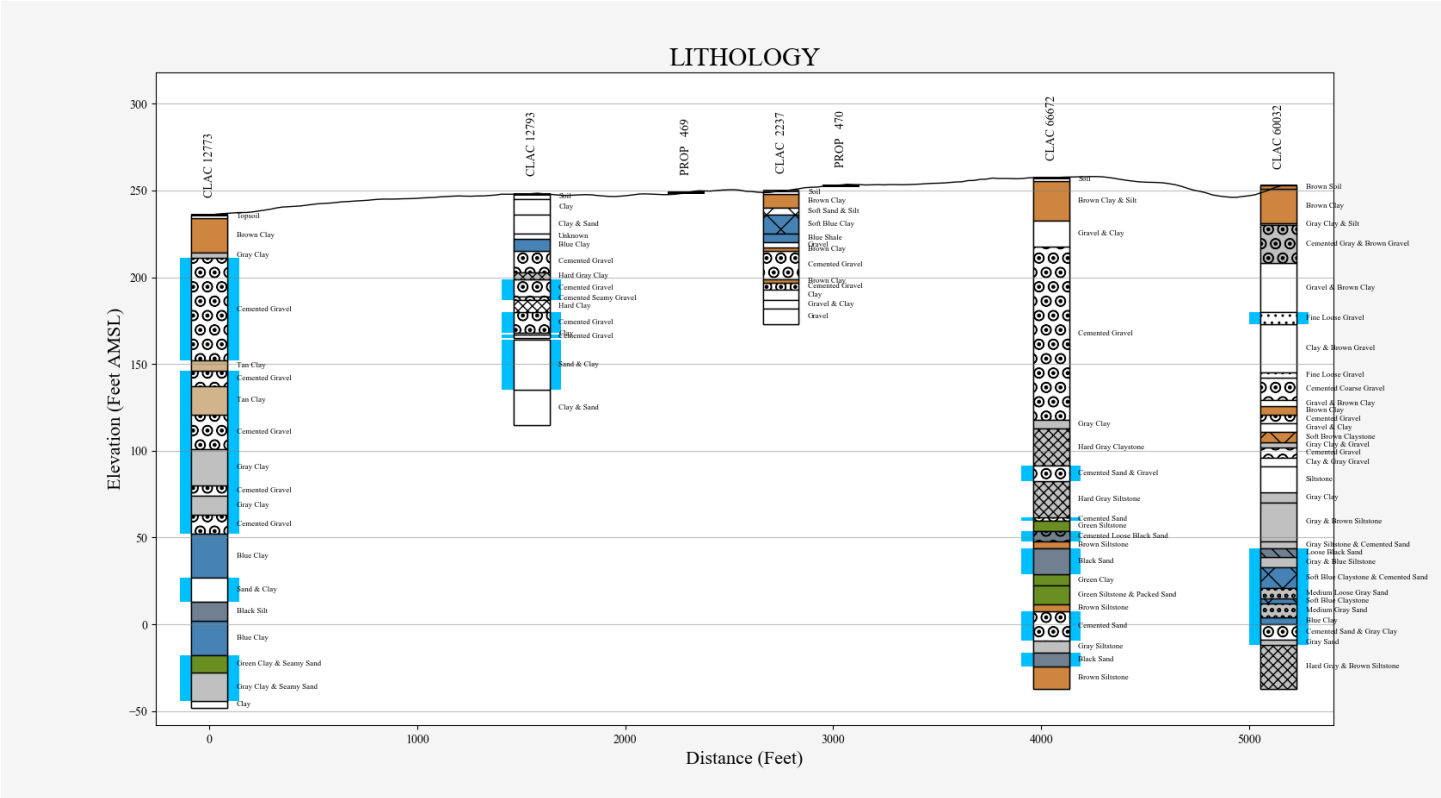
Application#	Status	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
MP151A	CERTIFICATE	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
IS73532B	CERTIFICATE	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00
IS73533A	CERTIFICATE	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
IS73534A	CERTIFICATE	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
Maximum		36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00

Download Data (Text - Formatted , Text - Tab Delimited , Excel)

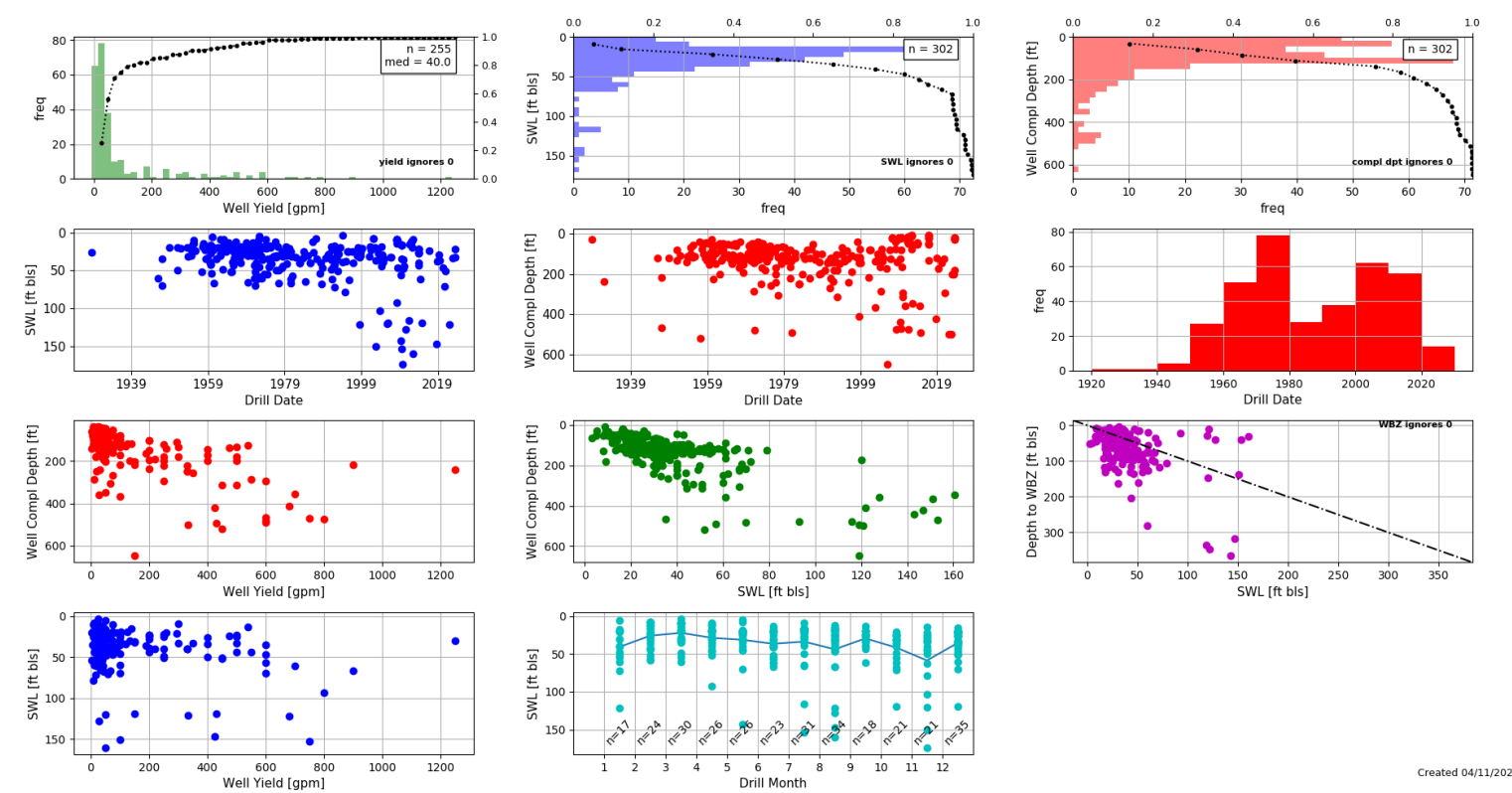
Well Location Map



Cross-Section

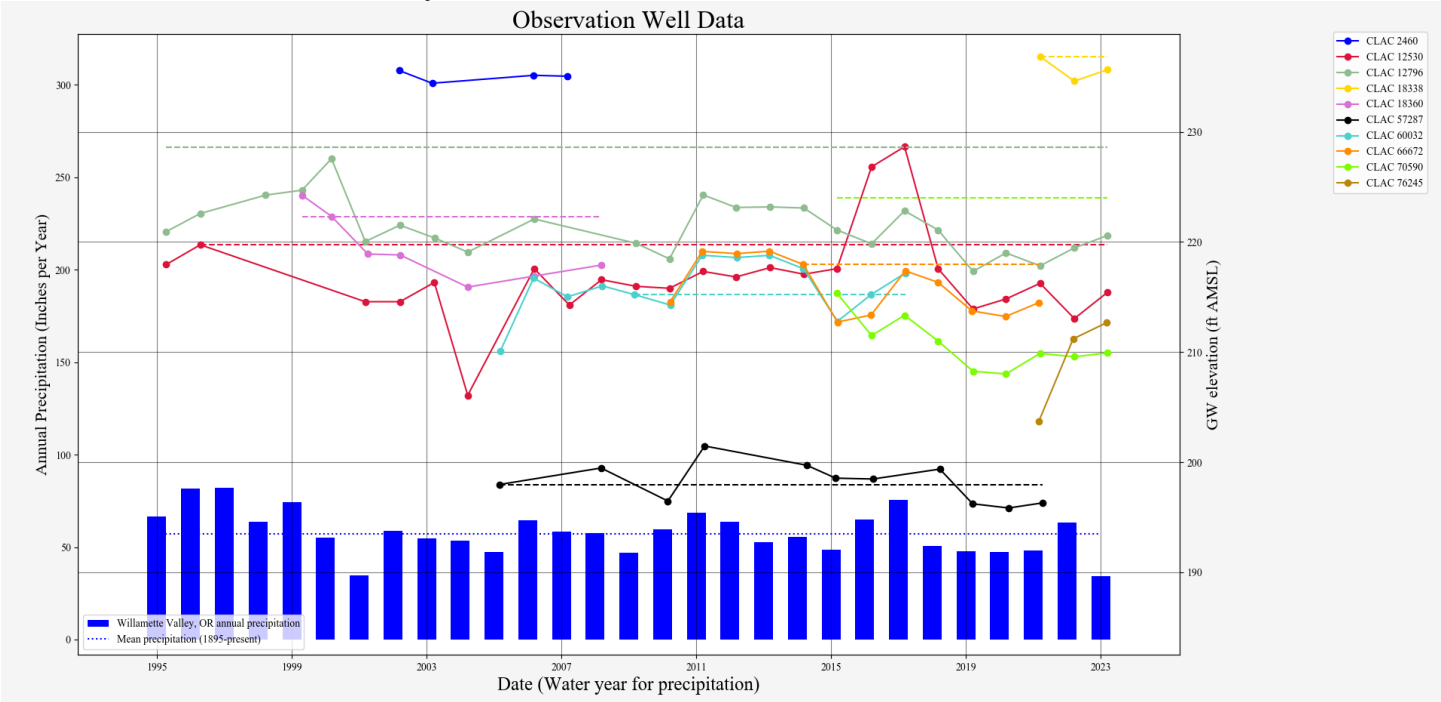


Well Statistics

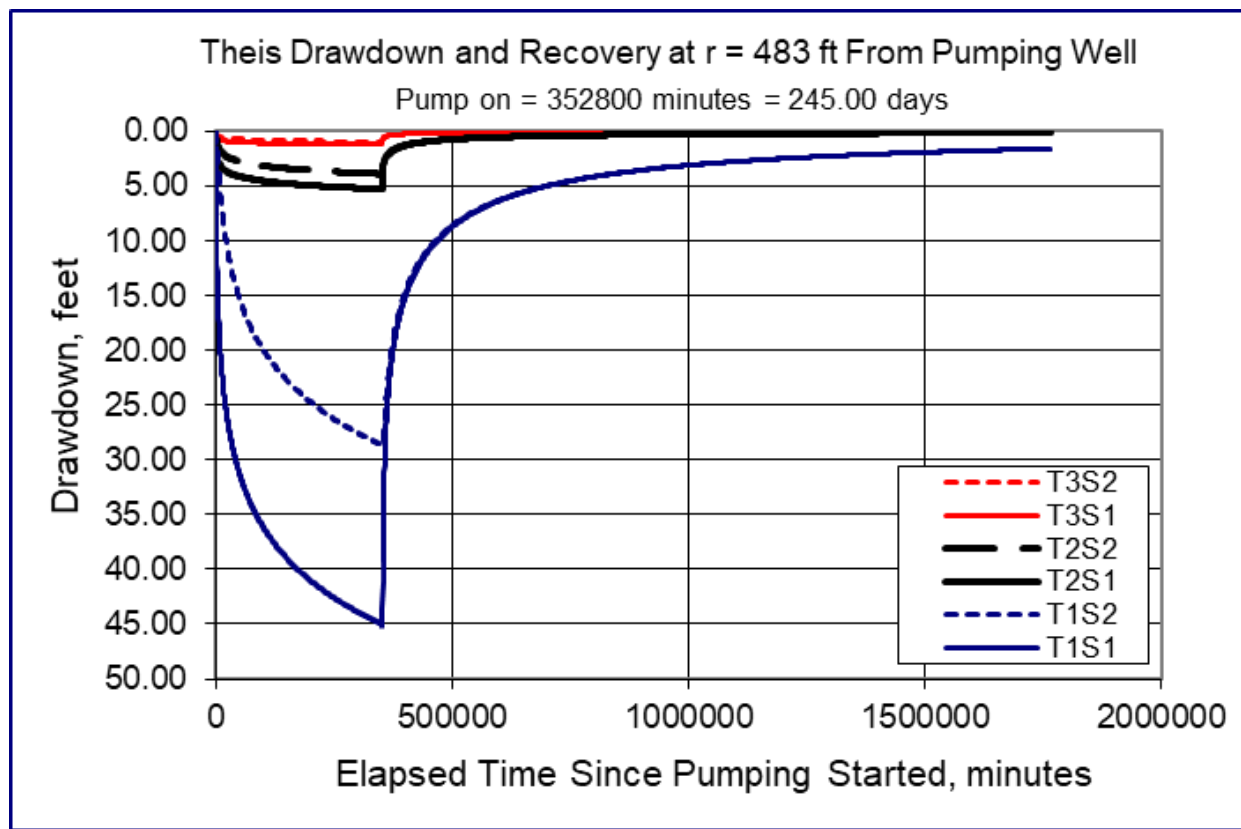


Created 04/11/2024

Water-Level Measurements in Nearby Wells



Theis Interference Analysis
POA 1



Radial distance from pumping well (r)=483 ft [estimated radial distance to nearest groundwater user, tax lot 100]

Pumping Rate (Q)= 0.073 cfs (~32.8 gpm)*

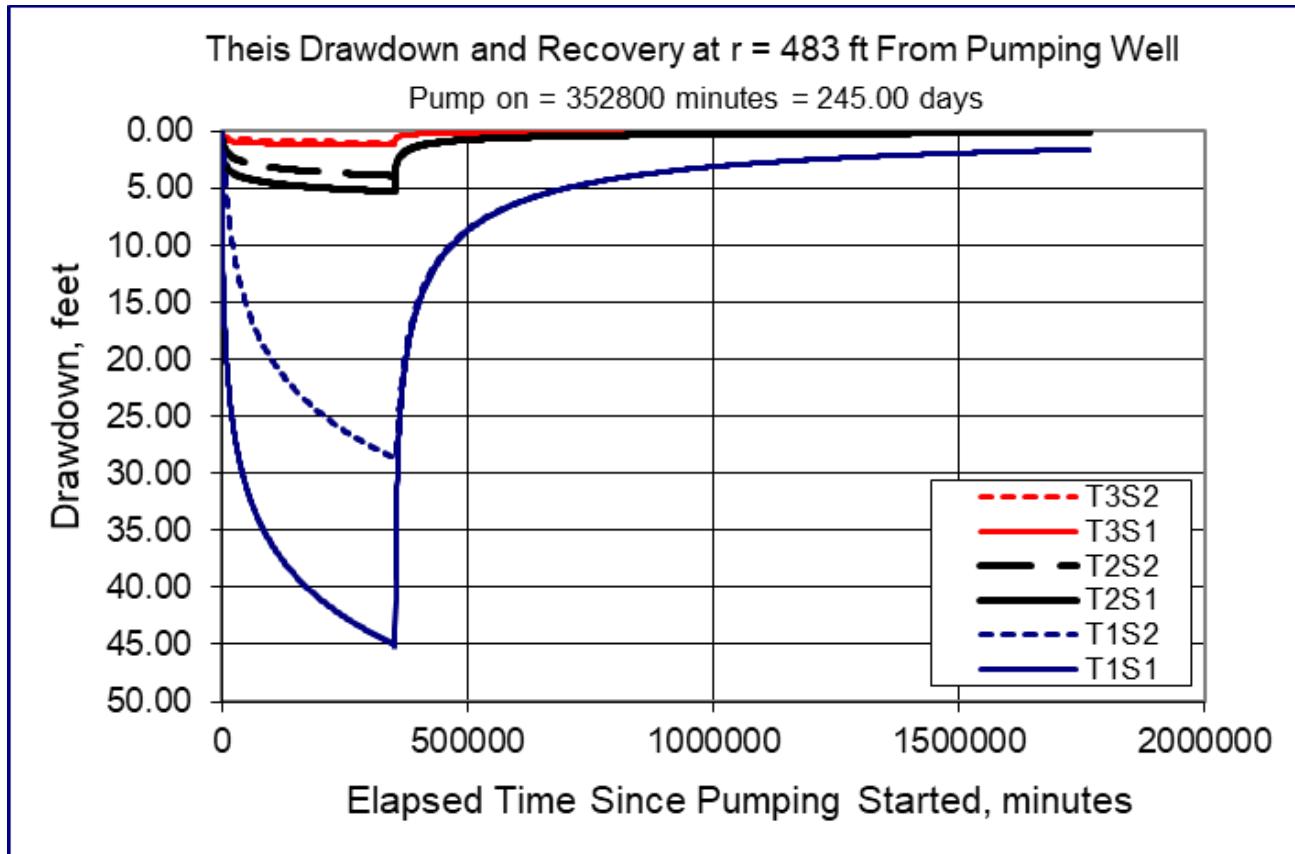
Aquifer Transmissivity (T_1)= 526 gpd/ft (70.4 ft²/day), (T_2)= 6,253 gpd/ft (836 ft²/day), (T_3)= 32,056 gpd/ft (4,286 ft²/day)

Storativity (s_1) = 0.0003, (s_2) = 0.003 [Conlon et al 2005, Table 1 values for Middle Sedimentary Unit, MSU]

Total pumping time=245

*The full pumping rate could not be utilized continuously for the entire 245-day period of use without exceeding the 35.5 ac-ft maximum allowed duty. For the maximum allowed duty of 35.5 ac-ft, continuous pumping would occur for 245 days at a rate of 0.073 cfs (~32.8 gpm).

POA 2



Radial distance from pumping well (r)=743 ft [estimated radial distance to nearest groundwater user, tax lot 900]

Pumping Rate (Q)= 0.073 cfs (~32.8 gpm)*

Aquifer Transmissivity (T_1)= 526 gpd/ft (70.4 ft²/day), (T_2)= 6,253 gpd/ft (836 ft²/day), (T_3)= 32,056 gpd/ft (4,286 ft²/day)

Storativity (s_1) = 0.0003, (s_2) = 0.003 [Conlon et al 2005, Table 1 values for Middle Sedimentary Unit, MSU]

Total pumping time=245

*The full pumping rate could not be utilized continuously for the entire 245-day period of use without exceeding the 35.5 ac-ft maximum allowed duty. For the maximum allowed duty of 35.5 ac-ft, continuous pumping would occur for 245 days at a rate of 0.073 cfs (~32.8 gpm).

Stream Depletion (Hunt) Model Analysis

		Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Application type:	G	Distance from well to stream	a	1835.0	1835.0	1835.0	ft
Application number:	19395	Aquifer transmissivity	T	70.4	836	4285.6	ft ² /day
Well number:	2	Aquifer storativity	S	0.0003	0.00135	0.003	-
Stream Number:	1	Aquitard vertical hydraulic conductivity	Kva	3e-6	0.0007	0.0013	ft/day
Pumping rate (cfs):	0.178	Aquitard saturated thickness	ba	25.0	25.0	25.0	ft
Pumping duration (days):	245.0	Aquitard thickness below stream	babs	15.0	15.0	15.0	ft
Pumping start month number (3=March)	3.0	Aquitard specific yield	Sya	0.01	0.01	0.01	-
		Stream width	ws	60.0	60.0	60.0	ft

Stream depletion for Scenario 2:

Days	10	330	360	30	60	90	120	150	180	210	240	270	300
Depletion (%)	0	0	0	0	1	1	1	1	1	1	1	0	0
Depletion (cfs)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

