

Groundwater Application Review Summary Form

Application # G- 19391

GW Reviewer Steve Ahlquist / Travis Brown Date Review Completed: 5/29/2024

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

5/29/2024

TO: Application G- 19391

FROM: GW: Steve Ahlquist / Travis 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 5/29/2024
 FROM: Groundwater Section Steve Ahlquist / Travis Brown
 Reviewer's Name
 SUBJECT: Application G- 19391 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: Antica Terra Vineyards County: Yamhill

A1. Applicant(s) seek(s) 0.054 cfs from 2 well(s) in the Willamette Basin,
Yamhill subbasin

A2. Proposed use: Irrigation (42.1 Acres, 19.41 AF) / Commercial (up to 38.98 AF); Total Combined Annual Volume = 38.98 AF
 Seasonality: 4/1 – 9/30 (Irrigation); Year-round (commercial).

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	YAMH 604	Well 1	Bedrock	0.045	5S/4W-NWSE-21	2840' S, 1315' W fr NE cor S 21
2	YAMH 7059	Well 2	Bedrock	0.009	5S/4W-NESE-21	3185' S, 2045' W fr NE cor S 21

* 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	115	0 - 26	+2 - 26	0 - 112	80 - 112	20	NA	NA
2	651	0 - 38	+2 - 38	10 - 651	150 – 170 210 – 230 290 – 310 370 – 410 510 – 530 630 - 650	4.75	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	229	90	30	1/24/1989	TBD	TBD
2	338	150	68	9/8/2011	TBD	TBD

Use data from application for proposed wells.

A4. **Comments:** The application is for seasonal irrigation of 42.1 acres and commercial use of groundwater in Yamhill County. Proposed POAs are approximately 1/2-mile east of the City of Amity. Applicant has requested a total combined annual volume of 38.98 AF and well-specific rates for the proposed POAs: 0.045 cfs from POA 1 (YAMH 604) and 0.009 cfs from POA 2 (YAMH 7059).

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 1/4 mile from the nearest surface water source and are completed in the semi-confined Tertiary Marine Volcanic and Sedimentary Aquifer; therefore, the relevant 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: _____

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 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 POAs are completed in the Basement Confining Unit (BCU) aquifer system (Gannett and Caldwell, 1998; Woodward et al., 1998). The target aquifer is further classified as the Tertiary Marine Volcanics and Sedimentary Aquifer (TMVS). The BCU is characterized as a low permeability and low porosity hydrogeologic unit with most of the available pore space occurring in fractures (Conlon et al., 2005). Surficial geology in the area consists primarily of tuffaceous marine and sedimentary deposits, poorly sorted alluvial deposits to the west, and Columbia River Basalt (upgradient) to the east. Inferred normal faults occur within one half mile of the POAs to the north and east (Schlicker and Brownfield, 1981). The nearest perennial surface water bodies are Salt Creek to the west and Ash Swale to the south, with several intermittent streams within one mile of the POAs. The BCU aquifer is mostly recharged through precipitation and infiltration where the hydrostratigraphic unit is exposed at land surface (Woodward et al., 1998).

The OWRD well report database contains records for 32 water wells near the proposed POAs (Sec. 21, T5S R4W), most of which are completed in the TMVS aquifer. According to the well reports, the median and maximum yields are 100 and 10.5 gpm, respectively, and most wells exhibit confined aquifer conditions (See attached Well Statistics).

There are 116 wells completed within approximately 1 mile of the proposed POAs. Most of these wells are exempt or domestic use, except for thirteen existing irrigation water rights in the area. The nearest well with a known location completed in the same aquifer as the proposed POAs is YAMH 55658, 1,110 feet southeast of POA 1, and 1000 feet south of POA 2. The nearest residences with possible domestic wells without a known latitude and longitude that are likely completed in the same aquifer are located at 5001 SE Rice Lane (700 feet northwest of POA 1; 1200 west of POA 2) and 5225 SE Rice Lane (880 feet north of POA 1; 660 feet northwest of POA 2).

Theis (1935) drawdown analyses were conducted to assess potential well-to-well interference at the residential properties listed above due to pumping at the proposed POAs. Hydraulic parameters used in the Theis analyses are from pumping tests

performed on nearby wells and from regional studies (Pumping Tests; Conlon et al., 2005). Given rates of 0.045 cfs and 0.009 cfs for POA 1 and POA 2, respectively, nearby wells are estimated to experience less than 15 feet of drawdown from the combined effects of pumping at POA 1 and POA 2 during a 365-day pumping period (see attached Theis Interference Analyses).

Water level data is limited in this area but hydrographs for wells completed in tertiary marine sedimentary rock within 3 miles of the proposed POAs show relatively stable water levels over their period of record and do not suggest long-term decline (see attached Water-Level Measurements in Nearby Wells).

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	Tertiary Marine Volcanic and Sedimentary Aquifer	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Tertiary Marine Volcanic and Sedimentary Aquifer	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: Static water levels measured in the applicants wells and nearby wells completed in the TMVS aquifer are above the water-bearing units listed on the well logs, indicating confined conditions in the aquifer.

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	Ash Swale Tributary	~199 ^a	140-152	4,925 - 5,275	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	Ash Swale Tributary	~270 ^b	150-152	5,100 – 5,275	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	2					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: Groundwater elevations in the applicants wells and nearby wells are above the surface water elevations of Ash Swale, indicating groundwater flow is towards the stream. The hydraulic connection is likely very weak due to the low permeability of the marine sedimentary bedrock underlying the stream.

a. Groundwater elevation obtained from Water Well Report YAMH 604

b. Groundwater elevation obtained from Water Well Report YAMH 55992 (Alteration)

Water Availability Basin the well(s) are located within: SALT CR > S YAMHILL R – AT MOUTH (WID 73562)

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"/>	N/A	N/A	<input type="checkbox"/>	9.76	<input type="checkbox"/>	See Below	<input type="checkbox"/>
2	1	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	<input type="checkbox"/>	9.76	<input type="checkbox"/>	See Below	<input type="checkbox"/>

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 #	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	<input type="checkbox"/>	N/A	N/A	<input type="checkbox"/>	9.76	<input type="checkbox"/>	See Below	<input type="checkbox"/>
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

Comments: There is no model readily available for accurately estimating stream interference in the fractured bedrock aquifer system. Stream interference at 30 days was not calculated but is expected to be very low (<<25%) due to the low permeability and porosity of the marine sedimentary bedrock aquifer system.

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: The requested maximum pumping rate (0.054 cfs) is less than 1% of the minimum natural streamflow in Salt Creek (0.0976 cfs for September). Therefore, interference is expected to be less than 1% of the natural streamflow throughout the year.

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) _____;

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: _____ Logid: _____

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

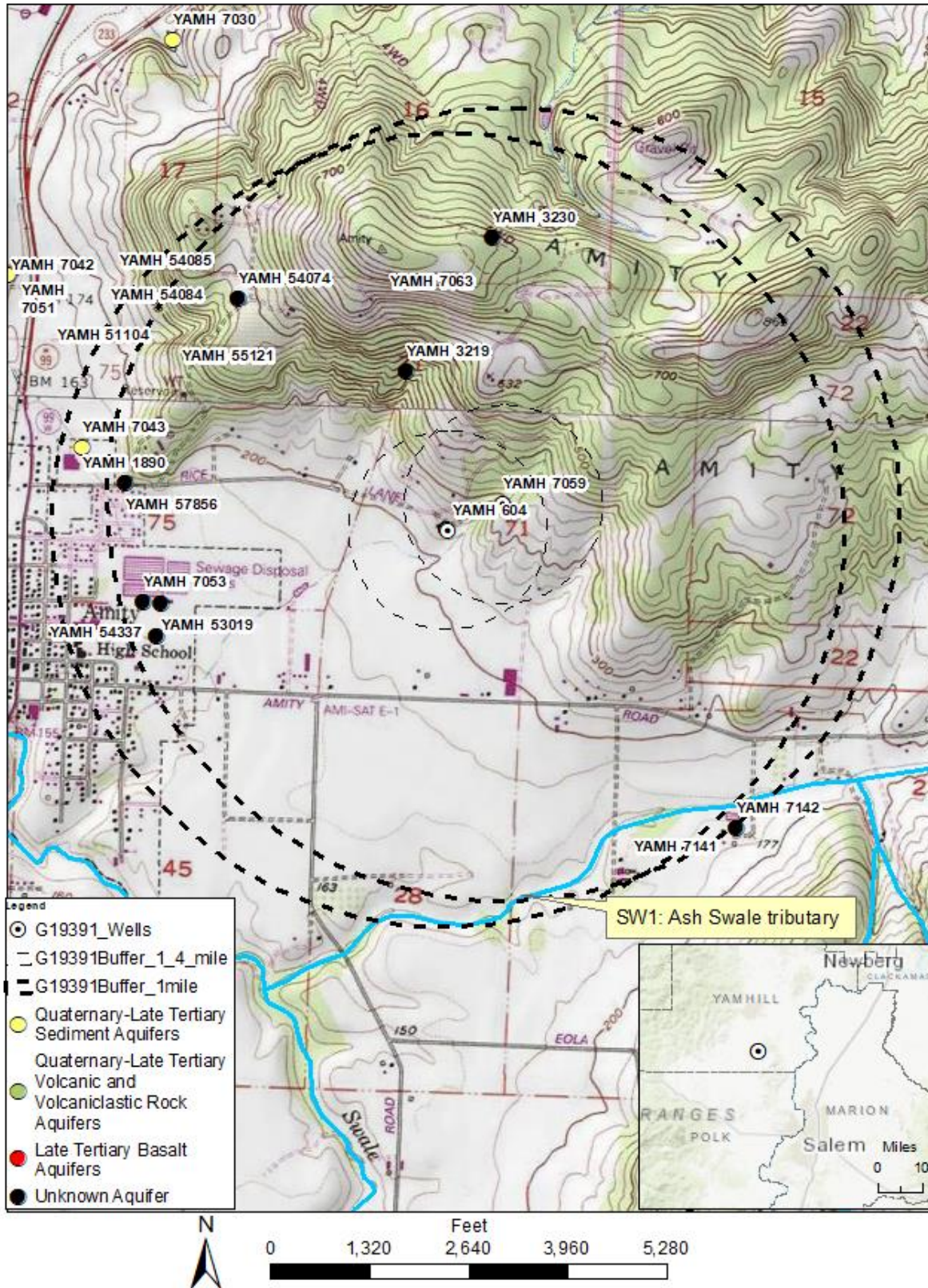
- a. review of the well log;
- b. field inspection by _____;
- c. report of CWRE _____;
- d. other: (specify) _____

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

G-19391 Antica Terra Vineyards



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
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Water Availability Tables

SALT CR > S YAMHILL R - AT MOUTH
WILLAMETTE BASIN

Water Availability as of 3/15/2024

Watershed ID #: 73562 (Map)
Date: 3/15/2024

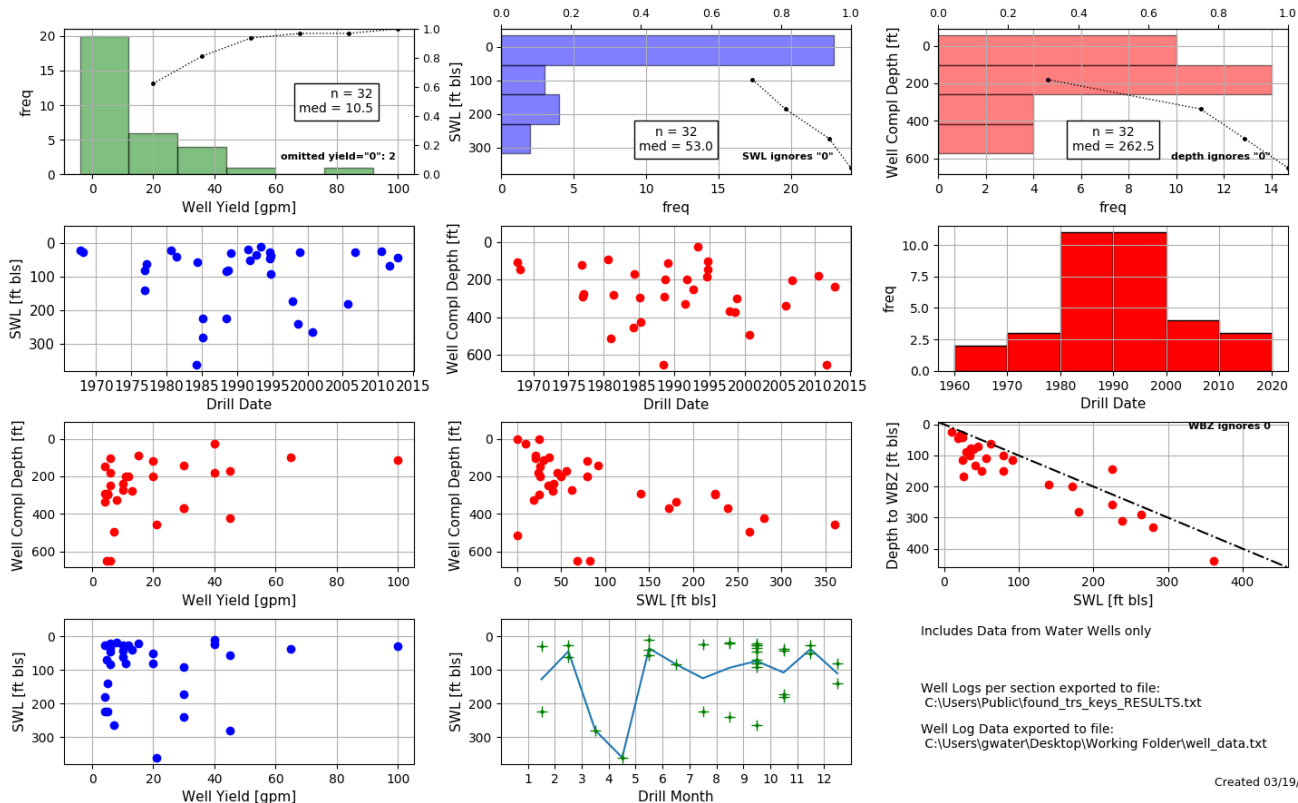
Exceedance Level: 80%
Time: 11:34 AM

Water Availability Calculation

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

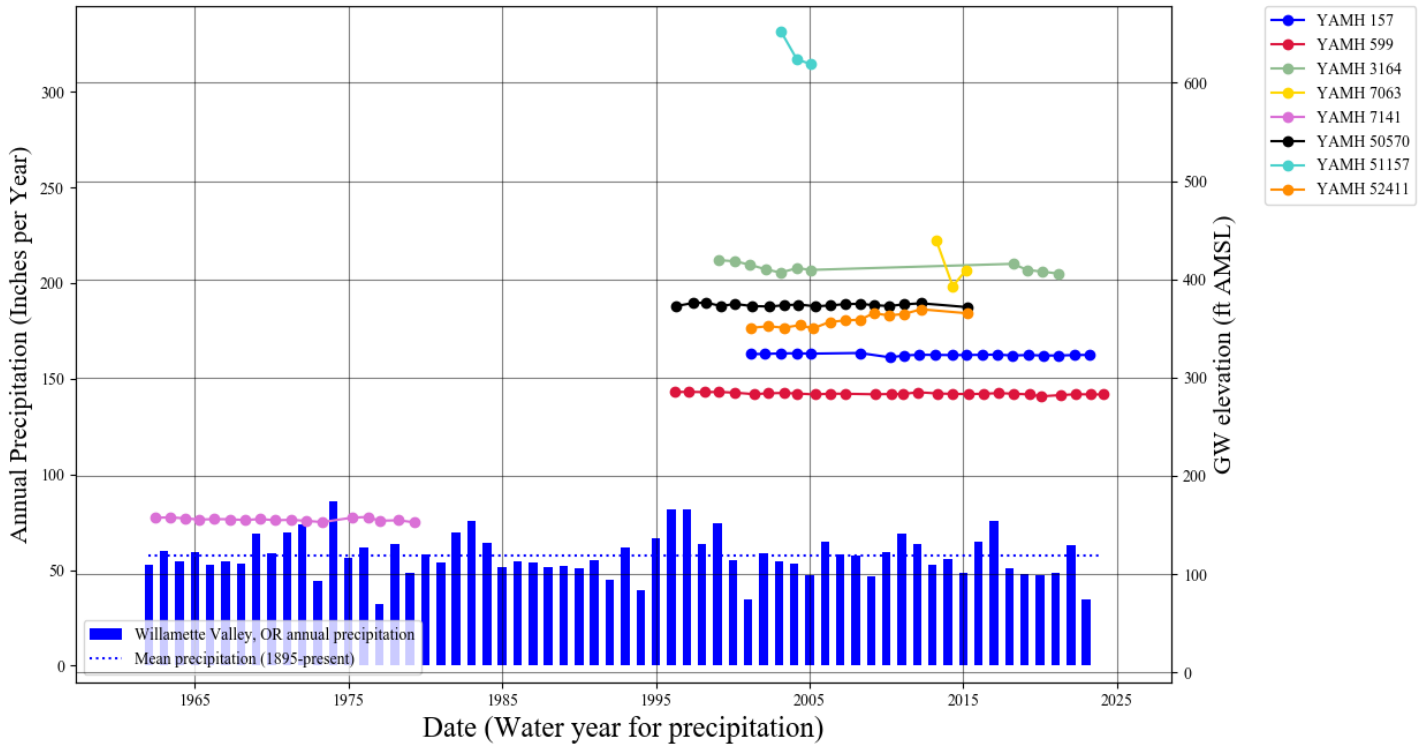
Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	154.00	18.50	136.00	0.00	0.40	135.00
FEB	168.00	16.10	152.00	0.00	0.40	152.00
MAR	143.00	13.50	129.00	0.00	0.40	129.00
APR	75.10	5.73	69.40	0.00	0.40	69.00
MAY	43.90	7.30	36.60	0.00	0.40	36.20
JUN	27.30	14.90	12.50	0.00	0.40	12.10
JUL	18.30	18.40	-0.06	0.00	0.40	-0.46
AUG	12.90	14.70	-1.79	0.00	0.40	-2.19
SEP	9.76	7.39	2.37	0.00	0.40	1.97
OCT	10.00	1.19	8.83	0.00	0.40	8.43
NOV	22.40	4.37	18.10	0.00	0.40	17.70
DEC	107.00	17.00	89.90	0.00	0.40	89.50
ANN	92,900.00	8,390.00	84,600.00	0.00	290.00	84,400.00

Well Statistics for Water Wells in T5S R4W S21



Water-Level Measurements in Nearby Wells

Observation Well Data

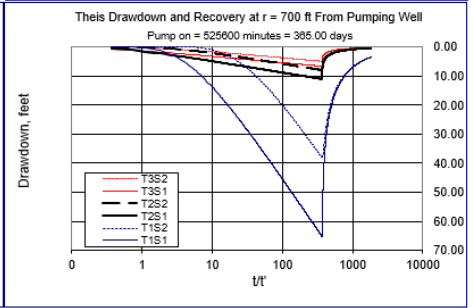
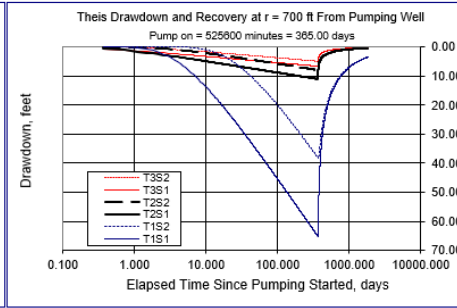
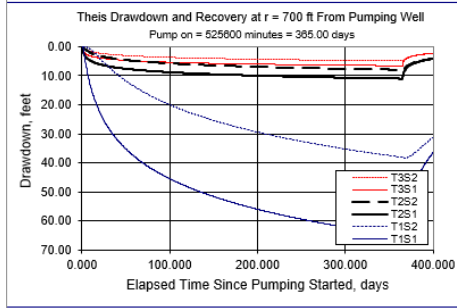
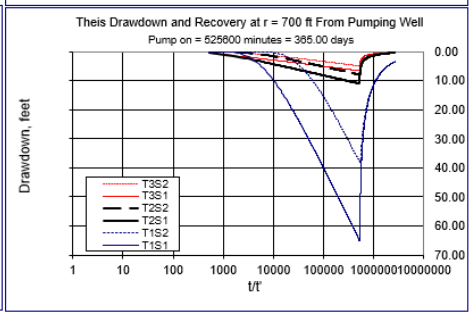
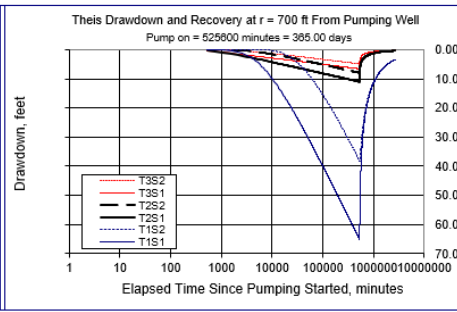
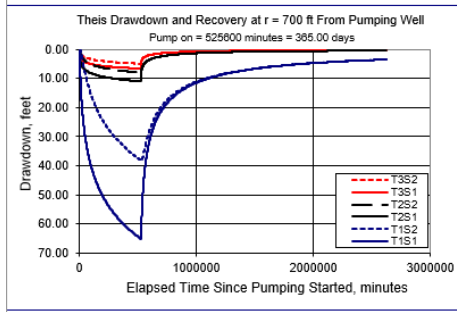
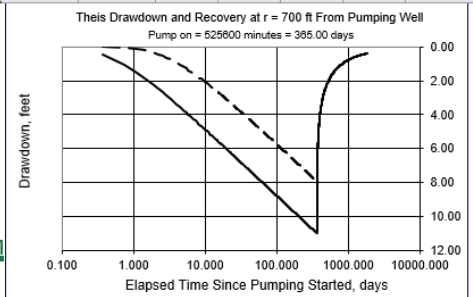


This Interference Analysis

This Time-Drawdown Worksheet v.5.00
 Calculates This nonequilibrium drawdown and recovery at any arbitrary radial distance, r, from a pumping well for 3 different T values and radial distance, r, from a pumping well for 3 different T values and 2 different S values.
 Written by Karl C. Wozniak September 1992. Last modified December 17, 2019

Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units
Total pumping time	t		365		d
Radial distance from pumped well:	r		700		ft
Pumping rate	Q		0.045		cfs
Hydraulic conductivity	K	0.2	1.8	3.3	ft/day
Aquifer thickness	b		100		ft
Storativity	S_1		0.0005		3,888.00 cfd
	S_2		0.003		0.09 af/d
Transmissivity Conversions	T_ft2pd	20	180	330	ft ² /day
	T_ft2pm	0.0138889	0.125	0.2291667	ft ² /min
	T_gpdpft	149.6	1346.4	2468.4	gpd/ft

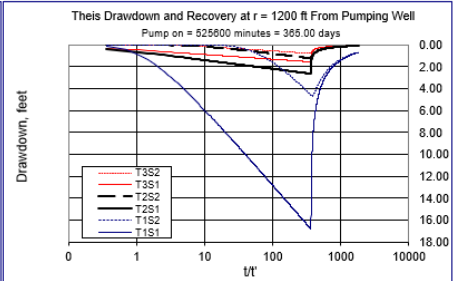
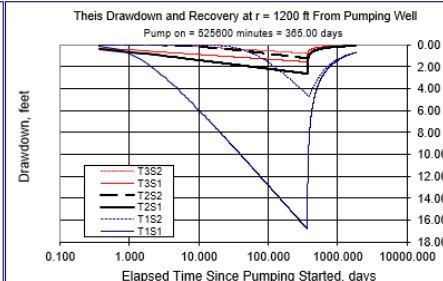
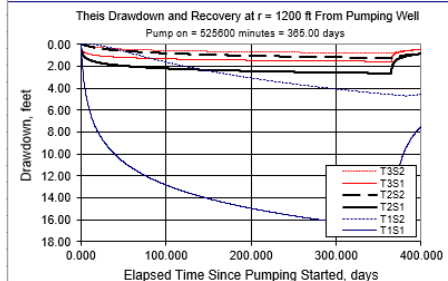
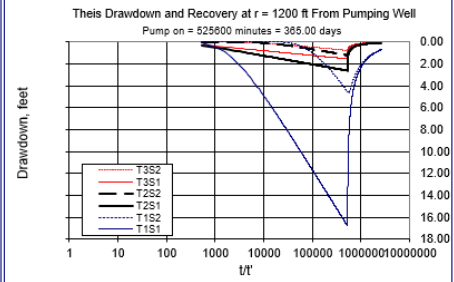
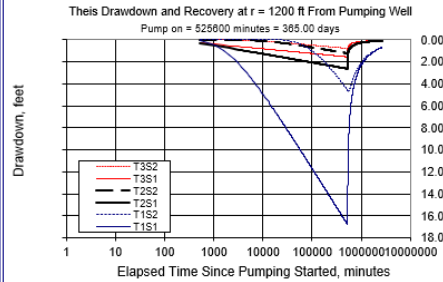
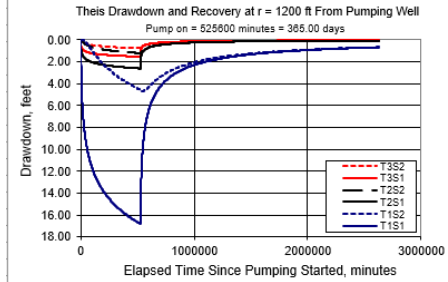
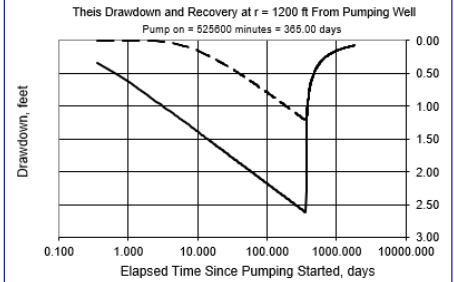
Use the Recalculate button if recalculation is set to manual



This Time-Drawdown Worksheet v.5.00
 Calculates This nonequilibrium drawdown and recovery at any arbitrary radial distance, r, from a pumping well for 3 different T values and radial distance, r, from a pumping well for 3 different T values and 2 different S values.
 Written by Karl C. Wozniak September 1992. Last modified December 17, 2019

Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units	
Total pumping time	t		365		d	
Radial distance from pumped well:	r		1200		ft	Q conversions
Pumping rate	Q		0.009		cfs	4.04 gpm
Hydraulic conductivity	K	0.2	1.8	3.3	ft/day	0.01 cfs
Aquifer thickness	b		100		ft	0.54 cfm
Storativity	S_1		0.00005			777.60 cfd
	S_2		0.003			0.02 afd
Transmissivity Conversions	T_ftpd	20	180	330	ft ² /day	
	T_ft2pm	0.013889	0.125	0.229167	ft ² /min	
	T_gpdpft	149.6	1346.4	2468.4	gpd/ft	

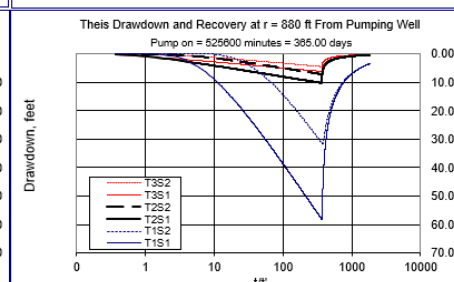
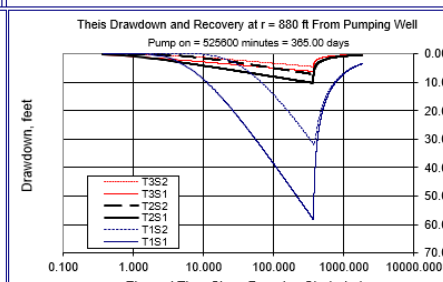
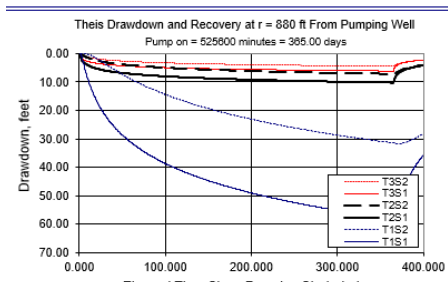
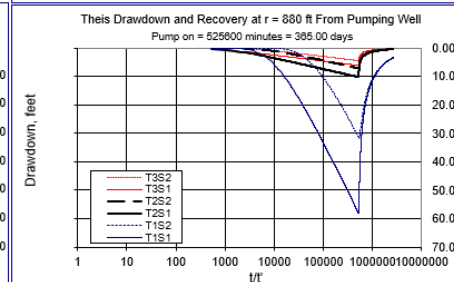
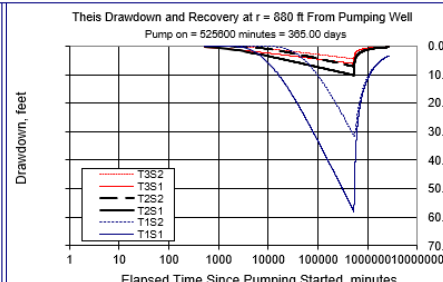
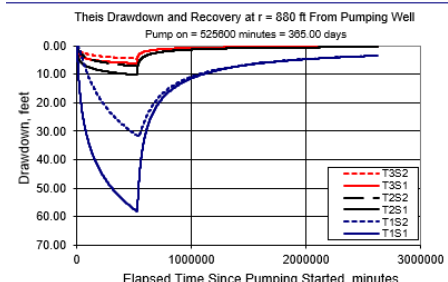
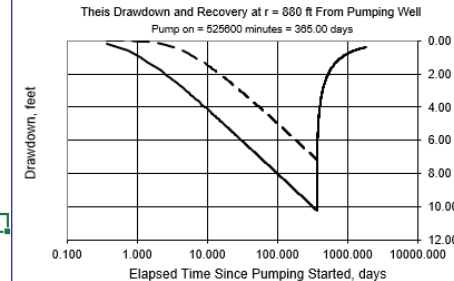
Use the Recalculate button if recalculation is set to manual



This Time-Drawdown Worksheet v.5.00
 Calculates This nonequilibrium drawdown and recovery at any arbitrary radial distance, r, from a pumping well for 3 different T values and radial distance, r, from a pumping well for 3 different T values and 2 different S values.
 Written by Karl C. Wozniak September 1992. Last modified December 17, 2019

Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units	
Total pumping time	t		365		d	
Radial distance from pumped well:	r		880		ft	Q conversions
Pumping rate	Q		0.045		cfs	20.20 gpm
Hydraulic conductivity	K	0.2	1.8	3.3	ft/day	0.05 cfs
Aquifer thickness	b		100		ft	2.70 cfm
Storativity	S_1		0.0005			3.888.00 cfd
	S_2		0.003			0.09 afd
Transmissivity Conversions	T_ftpd	20	180	330	ft ² /day	
	T_ft2pm	0.013889	0.125	0.229167	ft ² /min	
	T_gpdpft	149.6	1346.4	2468.4	gpd/ft	

Use the Recalculate button if recalculation is set to manual



Theis Time-Drawdown Worksheet v.5.00

Calculates Theis nonequilibrium drawdown and recovery at any arbitrary radial distance, r, from a pumping well for 3 different T values and radial distance, r, from a pumping well for 3 different T values and 2 different S values.
 Written by Karl C. Wozniak September 1992. Last modified December 17, 2019

Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units	
Total pumping time	t		365		d	
Radial distance from pumped well:	r		660		ft	
Pumping rate	Q		0.009		cfs	Q conversions 4.04 gpm
Hydraulic conductivity	K	0.2	1.8	3.3	ft/day	0.01 cfs
Aquifer thickness	b		100		ft	0.54 cfm
Storativity	S_1		0.00005			777.60 cfd
	S_2		0.003			0.02 afd/d
Transmissivity Conversions	T_f2pd	20	180	330	ft ² /day	
	T_ft2pm	0.013889	0.125	0.229167	ft ² /min	
	T_gpdft	149.6	1346.4	2468.4	gpd/ft	
						Recalculate

Use the Recalculate button if recalculation is set to manual

