Groundwater Transfer Review Summary Form

Transfer/PA # T- _14769_

GW Reviewer _Stacey Garrison_ Date Review Completed: _2/3/2026_

Summary of Same Source Review:

☐ The proposed change in point of appropriation is not within the same aquifer as per OAR 690-380-2110(2).

Summary of Water Level Decline Condition Review:

☐ Water levels at the original point(s) of appropriation have exceeded the allowed decline threshold defined by conditions in the originating water right.

Summary of Injury Review:

☐ The proposed transfer will result in another, existing water right not receiving previously available water to which it is legally entitled or result in significant interference with a surface water source as per 690-380-0100(3).

Summary of GW-SW Transfer Similarity Review:

☐ The proposed SW-GW transfer doesn't meet the definition of "similarly" as per OAR 690-380-2130.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations.

OREGON WATER RESOURCES DEPARTMENT

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Ground Water Review Form:

☐ **Water Right Transfer**
☐ **Permit Amendment**
☒ **GR Modification**
☐ **Other**

Application: T-14769 Applicant Name: City of Sublimity

Proposed Changes: ☐ POA ☒ APOA ☐ SW→GW ☐ RA
☐ USE ☐ POU ☐ OTHER

Reviewer(s): Stacey Garrison Date of Review: 2/3/2026

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 3/13/26

The information provided in the application is insufficient to evaluate whether the proposed transfer may be approved because:

☐ The water well reports provided with the application do not correspond to the water rights affected by the transfer.

☐ The application does not include water well reports or a description of the well construction details sufficient to establish the ground water body developed or proposed to be developed.

☐ Other _____

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1. Basic description of the changes proposed in this transfer: Applicant proposes to add APOA, Well #5 (**MARI 9170/9160**), to **Claim GR 323**. **Claim GR 323** authorizes POA #1 (**MARI 9149**) for year-round municipal use at a maximum rate of 0.201 cfs (90 gpm). The APOA, Well #5 (**MARI 9170/9160**), is also authorized under other existing water rights, listed in the table below. This review uses the full, combined authorized rate.

Rates and Duties	Water Rights	POA 2/Well #5/Well 3 (MARI 9170/9160)
POU (ac)	This transfer, T-14769/ Claim GR 323	City of Sublimity
	Inchoate T-7285/T-8179	9 ac
	T-12456/T-12721/T-13191/Claim GR 2353	0.2 ac
	Certificate 94088 (supplemental)	5.4 ac
	Total	**14.6 ac & City of Sublimity**
Authorized duty (AF/year)	This transfer, T-14769/ Claim GR 323	144.8 AF[a]
	Inchoate T-7285/T-8179	22.5 AF
	T-12456/T-12721/T-13191/Claim GR 2353	0.4
	Certificate 94088 (supplemental)	13.5 AF
	Total	**181.2 AF**
Flow rate CFS (gpm)	This transfer, T-14769/ Claim GR 323	0.2 cfs (90 gpm)
	Inchoate T-7285/T-8179	0.11 cfs (49 gpm)
	T-12456/T-12721/T-13191/Claim GR 2353	0.00089
	Certificate 94088 (supplemental)	0.07 cfs (31.4 gpm)
	Total	**0.38089 cfs (171 gpm)**

[a] A duty is not assigned in Claim GR 323, however, the maximum volume possible for pumping at the authorized rate of 0.2 cfs (90 gpm) for the 365-day municipal use has been calculated and included.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
☒ Yes ☐ No Comments: The authorized and proposed POAs develop groundwater from multiple water-bearing zones, WBZs, within the Columbia River Basalt Group, CRBG (Gannett and Caldwell, 1998; Woodward et al., 198). The authorized POA, POA #1 (**MARI 9149**), develops a WBZ from 212 to 270 ft bls [28 to 346 ft amsl] with a most recent static water level, SWL, of 155 ft bls [403 ft amsl] in 2007. The proposed APOA, Well #5 (**MARI 9170/9160**), develops three WBZs from 344 to 455.5 ft bls [94.5 to 206 ft amsl] with the most recent SWL of 145.83 ft bls [404.17 ft amsl] in 2026. Despite the differences in construction and elevations of WBZs, the SWLs are similar and these wells demonstrate an equilibration of WBZ heads such that the CRBG aquifer system now effectively behaves hydraulically as a single source (see attached Hydrograph). The APOA develops the same source as the authorized POA.

3. a) Is the existing authorized POA subject to a water level decline condition?
☐ Yes ☒ No Comments: _____

b) If yes, for each POA identify the reference level, most recent spring-high water level, and whether an applicable permit decline condition has been exceeded: N/A

4. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
☐ Yes ☒ No Comments: Only the CRBG source is developed.

b) If yes, estimate the portion of the right supplied by each of the sources and describe any limitations that will need to be placed on the proposed change (rate, duty, etc.): N/A

5. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another ground water right**?

☒ Yes ☐ No Comments: The APOA, Well #5 (**MARI 9170/9160**), is closer to **MARI 9166** and **MARI 9167**, both POAs on multiple water rights. The reduced intervening distance is likely to result in an increase in interference with **MARI 9166** and **MARI 9167**

b) If yes, would this proposed change, at its maximum allowed rate of use, likely result in another groundwater right not receiving the water to which it is legally entitled?

☐ Yes ☒ No If yes, explain: The Theis (1935) solution for drawdown was used to assess the potential for injury to **MARI 9166** and **MARI 9167** from the proposed changes (see attached Theis Interference Analysis). Pumping by the APOA, Well#5 (**MARI 9170**), is not likely to result in **MARI 9166** or **MARI 9167** not receiving the water to which they are legally entitled.

6. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another surface water source**?

☒ Yes ☐ No Comments: The APOA, Well #5 (**MARI 9170/9160**), is closer to Beaver Creek. The reduced intervening distance is likely to result in an increase in interference with Beaver Creek.

b) If yes, at its maximum allowed rate of use, what is the expected change in degree of interference with any **surface water sources** resulting from the proposed change?

Stream: Beaver Creek ☒ Minimal ☐ Significant

Provide context for minimal/significant impact: Beaver Creek does not incise to the elevation of the WBZs or SWLs of the authorized POA, POA #1 (**MARI 9149**), or proposed APOA, Well #5 (**MARI 9170/9160**). It is likely that the change in degree of interference with Beaver Creek will be minimal.

7. For SW-GW transfers, will the proposed change in point of diversion affect the surface water source similarly (as per OAR 690-380-2130) to the authorized point of diversion specified in the water use subject to transfer?

☐ Yes ☐ No Comments: N/A

8. What conditions or other changes in the application are necessary to address any potential issues identified above:

9. Any additional comments: **The proposed APOA for GR-323, MARI 9170/9160 is a current OWRD state observation wells**. This is particularly valued by OWRD as an observation well because: 1) they are near the center of the Stayton-Sublimity Groundwater Limited Area; 2) they are on the current outskirts of the City of Sublimity, where the City's large-scale municipal wells are pumped, and in between the City and other irrigation wells and surface waters located to the north and northeast.

If this transfer is approved, OWRD requests continued access to MARI 9170/9160 for periodic monitoring as long as it remains possible to do so (e.g., up until, or if, MARI 9170/9160 is eventually abandoned).

References

Transfer File: T-14769, T-12721

Pumping Test Files: MARI 45, MARI 62468

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 Mifflin, 1965, Water from low-permeability sediments and land subsidence: Water Resource Research, v. 1, no. 4, p. 563-576.

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

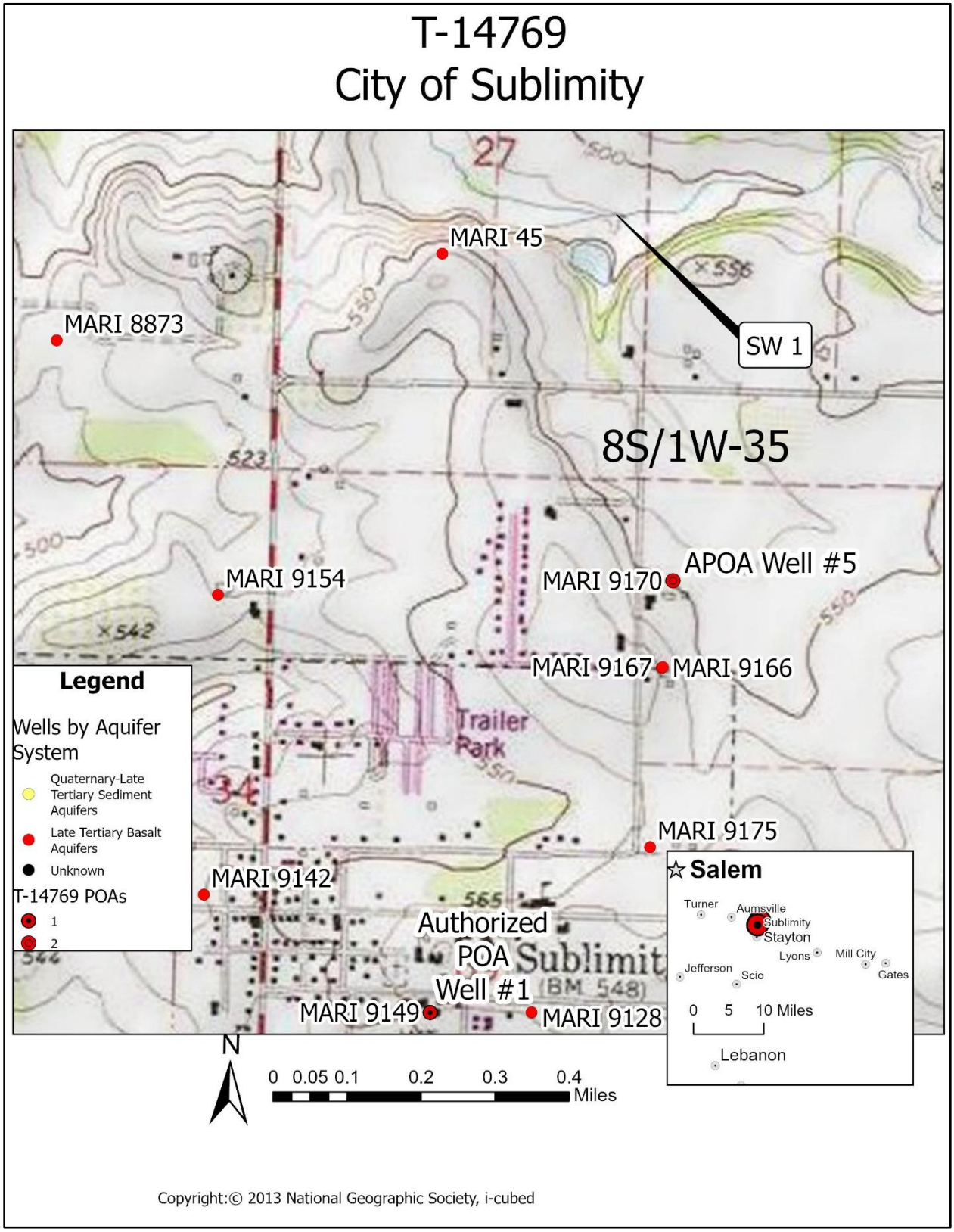
Theis, C.V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage, American Geophysical Union Transactions, vol. 16, p. 519-524.

Tolan, Terry L. and Beeson, Marvin H., 1999, Geologic Map of the Silverton and Scotts Mills NE 7.5 Minute Quadrangles, Northwest Oregon [map], 1:24,000, Open File Report 99-141: U.S. Geological Survey, Reston, VA.

Tolan, Terry L. and Beeson, Marvin H., 1999, Geologic Map of the Scotts Mills, Silverton, and Stayton Northeast 7.5 Minute Quadrangles, Oregon [pamphlet], Open File Report 99-141: U.S. Geological Survey, Reston, VA.

Tolan, Terry L. and Beeson, Marvin H., 1999, Geologic Map of the Stayton NE 7.5 Minute Quadrangles, Northwest Oregon [map], 1:24,000, Open File Report 99-141: U. S. Geological Survey, Reston, VA.

Map


T-14769
City of Sublimity
MARI 45
MARI 8873
SW 1
8S/1W-35
MARI 9154
MARI 9170
APOA Well #5
MARI 9167
MARI 9166
Trailer Park
MARI 9175
MARI 9142
Authorized POA Well #1
MARI 9149
MARI 9128
Legend
Wells by Aquifer System
Quaternary-Late Tertiary Sediment Aquifers
Late Tertiary Basalt Aquifers
Unknown
T-14769 POAs
1
2
Salem
Turner
Aumsville
Sublimity
Stayton
Lyons
Mill City
Jefferson
Scio
Gates
0 5 10 Miles
Lebanon
N
0 0.05 0.1 0.2 0.3 0.4 Miles
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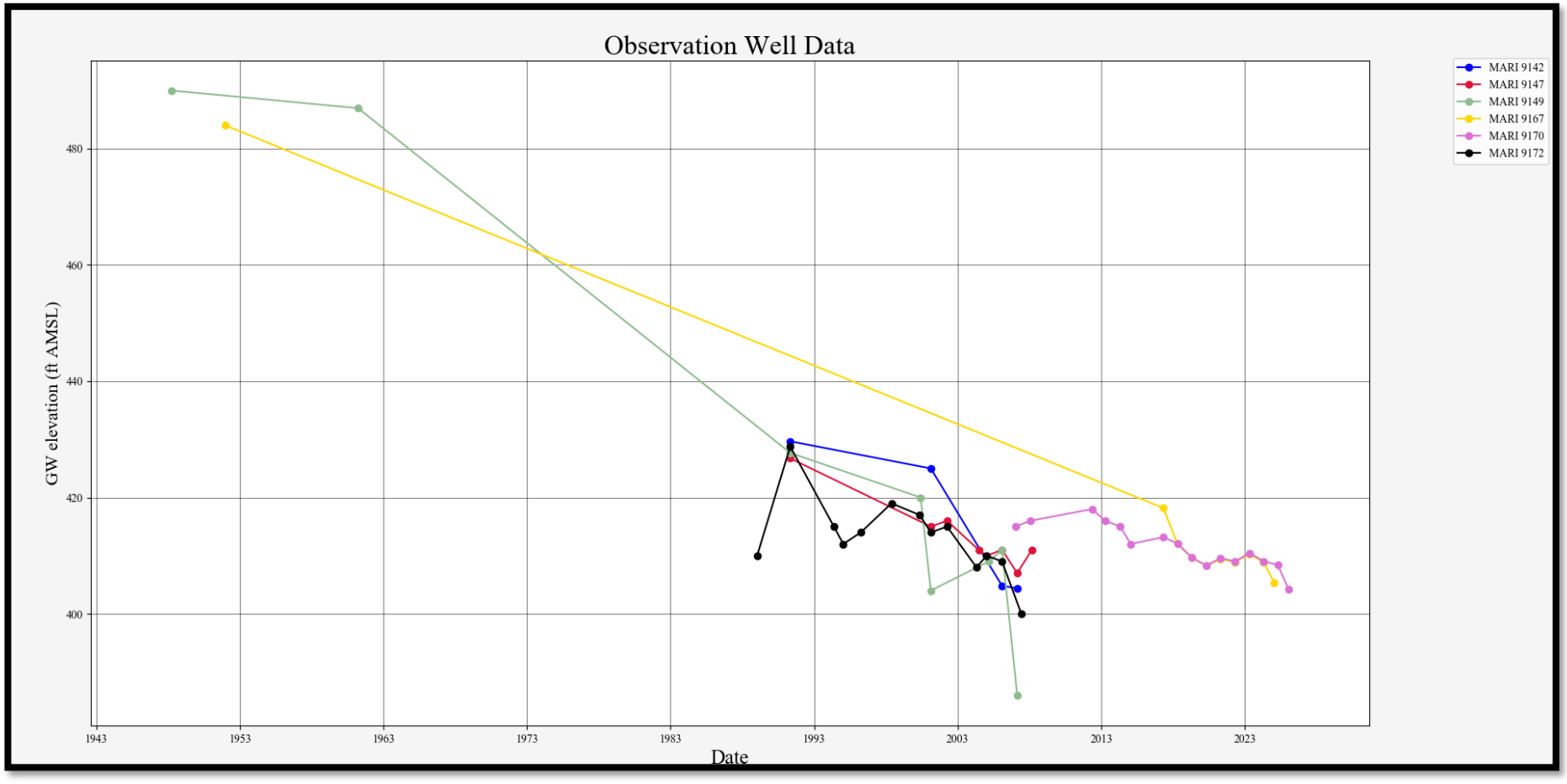
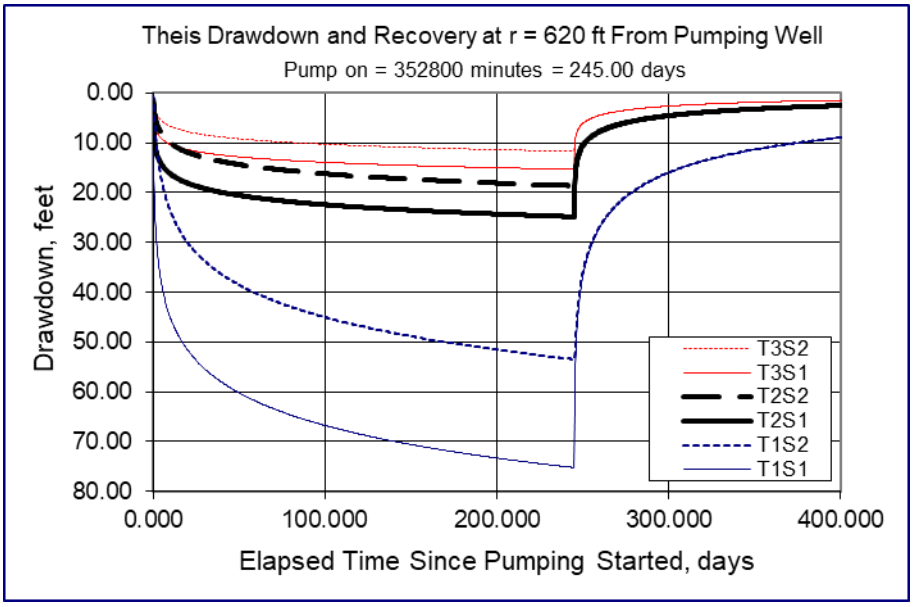
Hydrograph


Observation Well Data
GW elevation (ft AMSL)
480
460
440
420
400
1943
1953
1963
1973
1983
1993
2003
2013
2023
Date
MARI 9142
MARI 9147
MARI 9149
MARI 9167
MARI 9170
MARI 9172

Theis Interference Analysis

Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units	
Total pumping time	t		245		d	
Radial distance from pumped well:	r		620		ft	Q conversions
Pumping rate	Q		0.274905		cfs	123.38 gpm
Hydraulic conductivity	K	4	14	24	ft/day	0.27 cfs
Aquifer thickness	b		50		ft	16.49 cfm
Storativity	S_1		0.0001			23,751.79 cfd
	S_2		0.001			0.55 af/d
Transmissivity Conversions	T_f2pd	200	700	1200	ft2/day	
	T_ft2pm	0.13888889	0.48611111	0.83333333	ft2/min	Recalculate
	T_gpdpft	1496	5236	8976	gpd/ft	



*The max rates on the non-subject water rights could not be used for the entire irrigation season because the maximum duties would be used up. The individual duties of 22.5 AF, 0.4 AF, and 13.5 AF could be used over the 245-day irrigation season at respective average rates of 0.0463 cfs, 0.000823 cfs, and 0.027781 cfs. Adding the subject water right rate of 0.2 cfs, the combined rate used is 0.2749 cfs (123.4 gpm).

SWL	84, 83	ft bls	MARI 9166, MARI 9167
Aquifer Bottom	470	ft bls	MARI 9170
Available Water Column	386 and 387	ft	Aquifer bottom-SWL
Pump Height Above Bottom	5	ft	Estimate
NPSHa	5	ft	Estimate
Drawdown	64	ft	Estimated from MARI 9166
Minimum Water Column	74	ft	Estimated Drawdown + NPSHa + Pump Height
Injury	312 and 313	ft	Available Water Column-Minimum Water Column for MARI 9166 and MARI 9167