Groundwater Application Review Summary Form

Application # G- _19339_

GW Reviewer _Gabriela Ferreira / Dennis Orlowski_ Date Review Completed: _February 6, 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 **_February 6, 2023_**

TO: **Application** G-**_19339_**

FROM: **GW:** **_Gabriela Ferreira / Dennis Orlowski_**
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

☐ **YES**
☒ **NO** The source of appropriation is hydraulically connected to a State Scenic Waterway or its tributaries

☐ **YES**
☒ **NO** Use the Scenic Waterway Condition (Condition 7J)

☐ 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
M

TO: Water Rights Section Date February 6, 2023
FROM: Groundwater Section Gabriela Ferreira / Dennis Orlowski
Reviewer's Name
SUBJECT: Application G- **19339** 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: **Michael Robidau c/o Patrick Maher** County: **Multnomah**

A1. Applicant(s) seek(s) 0.25 cfs from one well(s) in the Willamette Basin, Columbia subbasin

A2. Proposed use Nursery (20.05 acres) Seasonality: Year-round

A3. Well and aquifer data **(attach and number logs for existing wells; mark proposed wells as such under logid)**:

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	Well 1	Alluvial	0.25[a]	2N/1W – 21 NW-NW	840' E, 1300' S fr NW cor S 21

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	20[b]		10 – 20 (est.)	N/A	125	0 – 75	0 – 125	TBD	75 – 125	TBD	TBD	TBD

Use data from application for proposed wells.

A4. **Comments:** The proposed POA/POU is located near the southwest margin of Sauvie Island, approximately 2 miles downstream from where the Multnomah Channel diverges from the Willamette River. Applicant proposes nursery use on 20.05 acres. Applicant proposes installation of one new well for development.

[a]The proposed POA was evaluated at a total rate of 0.25 cfs (112 gpm) and 50 acre-feet per year.

[b] Land surface elevation estimated to nearest 5-foot interval from LIDAR at the proposed well site (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 POA is within ¼-mile from the nearest stream or surface water source (Multnomah Channel) and produces groundwater from an unconfined alluvial aquifer; therefore, the relevant Willamette Basin rules (OAR 690-502-0150) are activated. **The proposed use, nursery, is not classified for surface waters of the Multnomah Channel (OAR 690-502-0150(3).**

A6. ☐ **Well(s) #** _____ , _____ , _____ , _____ , _____ , tap(s) an aquifer limited by an administrative restriction.
Name of administrative area: **N/A**
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) **7c**;

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 POA is located within the Unconsolidated Sedimentary Aquifer (USA), which is approximately 125 feet thick in the vicinity of the proposed POA and underlain by an undifferentiated fine-grained unit. The Columbia River Basalt Group is encountered approximately 260 feet below land surface (bls) (Swanson and others, 1993; Gannett and Caldwell, 1998; Conlon and others, 2005; Wells and others, 2020). Sauvie Island is an alluvial deposit immediately downstream of the confluence of the Willamette River and the Columbia River. The island is maintained by a flood levee.

Within two miles of the POA, there are approximately 20 water rights for irrigation and nursery use, with several other domestic wells also nearby. Most wells near the proposed POA also produce from the USA. Reported maximum yields in nearby alluvial wells range from 20 to 200 gpm, with one well reportedly producing 600 gpm (well statistics attached). Well logs for nearby wells (MULT 609, MULT 1684, MULT 1685, and MULT 1707) generally report fine-grained sandy or silty clay near surface to depths between 20 and 75 feet bls, underlain by sand and gravel to total depth. Water levels for these nearby wells are between 13 and 40 feet bls.

Water level data from the alluvial aquifer is provided in the attached hydrograph for COLU 3104 (8 miles north), COLU 3379 (9 miles north), MULT 1597 (5 miles southwest) and MULT 1644 (2.4 miles east). The water levels for all three wells are very stable with seasonal variation of ~5 to 7 feet. Similar stability is expected for groundwater levels closer to the proposed POA, based on the effective hydraulic connection with the Multnomah Channel and large storage capacity and permeability of the USA (primarily sand and gravel). In order to support future understanding and management of the groundwater resource in this area, the conditions listed in Item B1(d)(i) and Item B2(c) are recommended.

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**	☐	☒

Basis for aquifer confinement evaluation: Water level elevations for nearby wells are generally near depth to the water-bearing zone as shown on the attached well statistics for alluvial wells in the vicinity of the proposed POA. Well logs for nearby wells (MULT 609, MULT 1684, MULT 1685, and MULT 1707) do not report extensive confining units; minor amounts of sandy or silty clay are present near surface but do not appear to significantly produce aquifer confinement.

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? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	**1**	**Multnomah Channel**	**0 - 10**	**5 - 8**	**18**	☒	☐	☒	☒	☐
1	**2**	**Gilbert River**	**0 - 10**	**5 - 13**	**2,700**	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation:

[a] The range of groundwater elevations was estimated based on information provided in the application and from nearby groundwater level data.

[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)

Based on the lack of aquifer confinement of the USA and similar elevations between Well 1 and SW#1 and SW#2, hydraulic connection is likely. Furthermore, hydraulic connection was assumed for SW #1 according to rules because Well 1 is less than ¼ mile from the SW#1 and in an unconfined aquifer.

Water Availability Basin the well(s) are located within: None established.

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**	☒	☐	**N/A**	**N/A**	☐		☐		☒
1	**2**	☐	☐	**N/A**	**N/A**	☐		☐		☐

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?
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments: No WAB is established for the location of the proposed POA, so potential for substantial interference was not evaluated using Division 9 criteria. The finding of "assumed potential for substantial interference" is based on the proposed POA producing from an unconfined aquifer within ¼ mile of SW#1.

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: _____

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-19339

OWRD groundwater review: Application G-18588

OWRD water well reports and water level data: MULT 609, MULT 1684, MULT 1685, MULT 1707, COLU 3104, COLU 3379

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.

Oregon Lidar Consortium (OLC), 2016, OLC metro 2014 lidar project, Oregon Department of Geology & Mineral Industries, Portland, OR, November 30.

Swanson, R. D., McFarland, W. D., Gonthier, J. B., and Wilkinson, J. M., 1993, A description of hydrogeologic units in the Portland Basin, Oregon and Washington, Water-Resources Investigations Report 90-4196, 56 p.: U. S. Geological Survey, Reston, VA.

United States Geological Survey, 2014, National Hydrography Dataset (NHD), 1:24,000, U. S. Department of the Interior, Reston, VA.

Wells, R.E., Haugerud, R.A., Niem, A.R., Niem, W.A., Ma, L., Evarts, R.C., O'Connor, J.E., Madin, I.P., Sherrod, D.R., Beeson, M.H., Tolan, T.L., Wheeler, K.L., Hanson, W.B., and Sawlan, M.G., 2020, Geologic map of the greater Portland metropolitan area and surrounding region, Oregon and Washington: U.S. Geological Survey Scientific Investigations Map 3443, pamphlet 55 p., 2 sheets, scale 1:63,360, https://doi.org/10.3133/sim3443.

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:** _____

_____

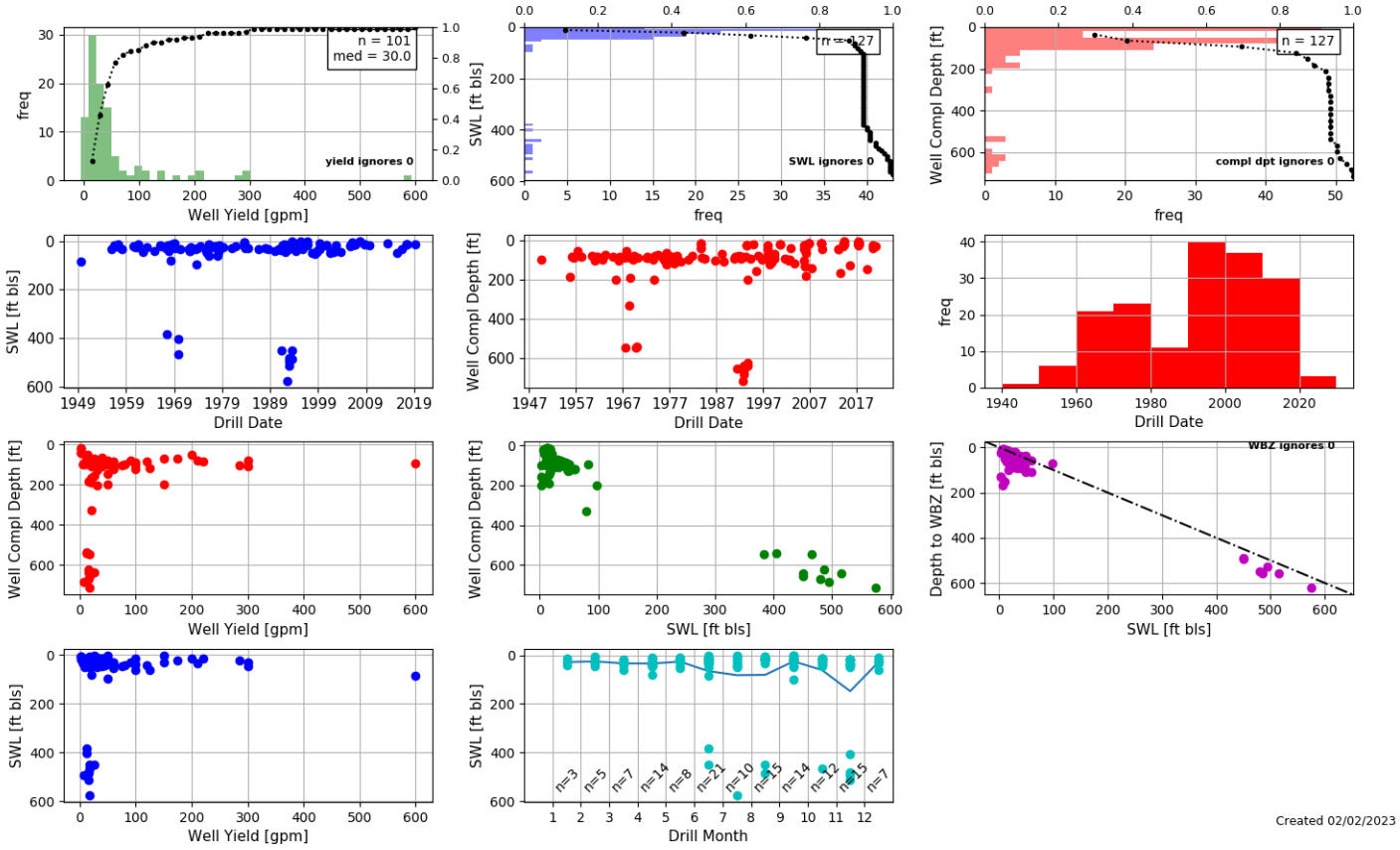
_____

_____

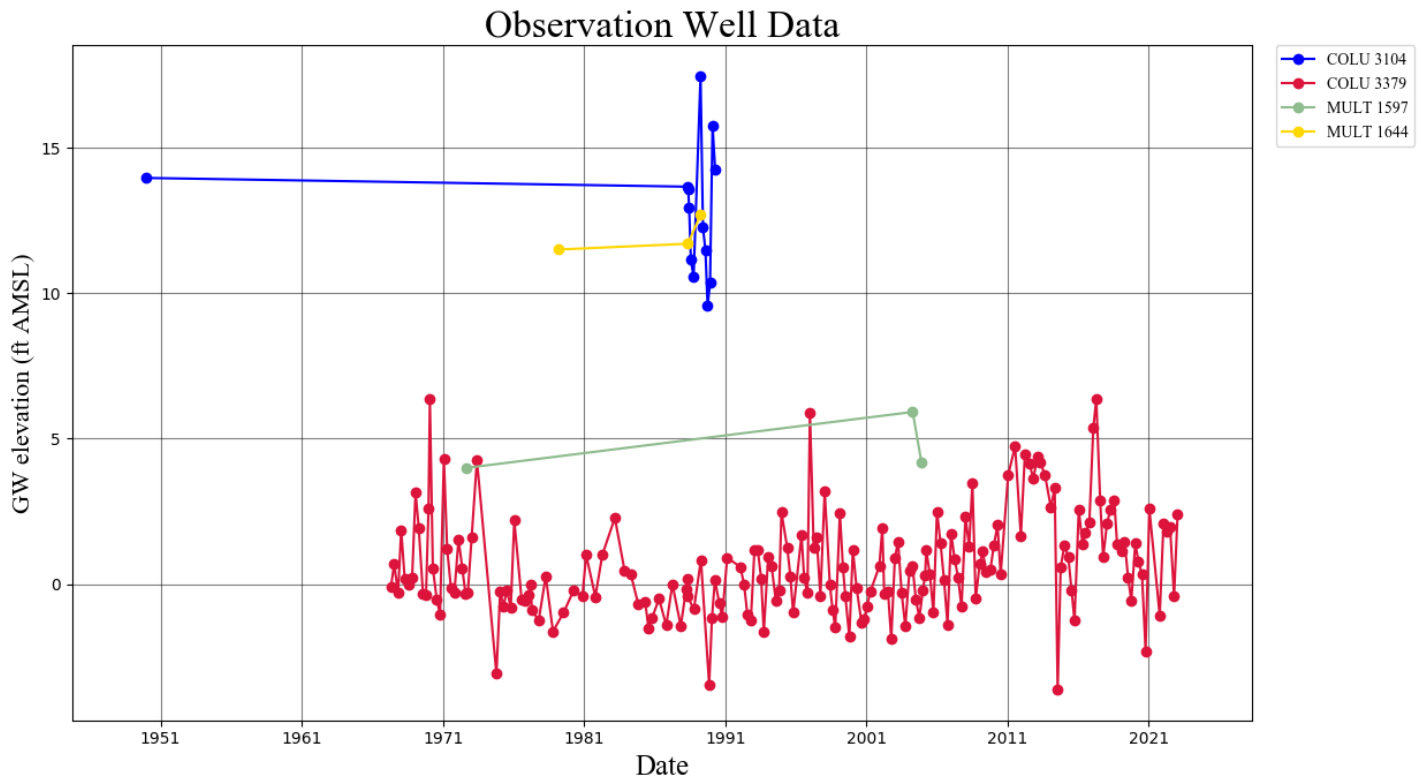
_____

D4. ☐ **Route to the Well Construction and Compliance Section for a review of existing well construction.**

Well Statistics

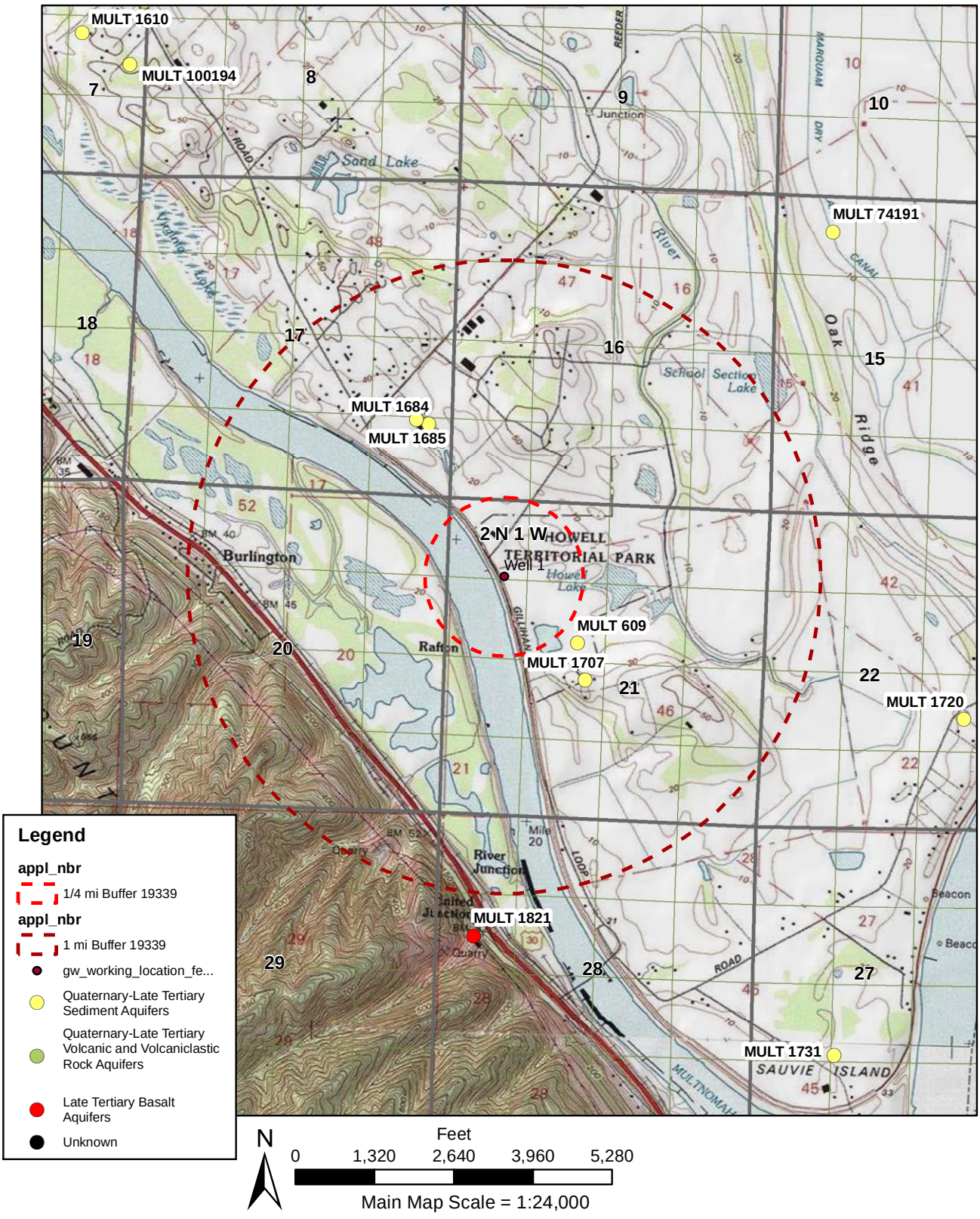


Water-Level Measurements in Nearby Wells



Well Location Map

G-19339
Michael Robidau c/o Patrick Maher



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