

# Groundwater Application Review Summary Form

Application # G- 18862

GW Reviewer Karl Wozniak Date Review Completed: 11/19/2019

## 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.

*on 11/20/19*

*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**

**November 19, 2019**

**TO:** Application G- G-18862

**FROM:** GW: Karl Wozniak  
(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 \_\_\_\_\_ 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 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |     |     |     |     |     |

# MEMO

**To:** Kristopher Byrd, Well Construction and Compliance Section Manager  
**From:** Joel Jeffery, Well Construction Program Coordinator  
**Subject:** Review of Water Right Application G-18862  
**Date:** November 20, 2019

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Karl Wozniak reviewed the application. Please see Karl's Groundwater Review and the Well Log.

Applicant's Well #1 (YAHM 58006) Based on a review of the Well Report, Applicant's Well #1 seems to protect the groundwater resource.

The construction of Applicant's Well #1 may not satisfy hydraulic connection issues.

Applicant's Well #2 is a proposed well and has not yet been constructed. Therefore a review cannot be completed.



STATE OF OREGON  
 WATER SUPPLY WELL REPORT  
 (as required by ORS 537.765 & OAR 690-205-0210)

Arrow 18-29-1  
**YAMH 58006**

WELL I.D. LABEL# L 128525  
 START CARD # 1039891  
 ORIGINAL LOG #

YAMH 58006

(1) LAND OWNER:  
 Owner Well I.D. \_\_\_\_\_  
 First Name: Jerry and Julie Last Name Coles  
 Company \_\_\_\_\_  
 Address: 369 Paseo de Playa #112  
 City: Ventura State: CA Zip: 93001

(2) TYPE OF WORK:  New Well  Deepening  Conversion  
 Alteration (complete 2a & 10)  Abandonment (complete 5a)

(2a) PRE-ALTERATION  
 Dia + From To Gauge Std Plstc Wld Thrd  
 Casing: \_\_\_\_\_  
 Material From To Amt sacks/lbs  
 Seal: \_\_\_\_\_

(3) DRILL METHOD:  
 Rotary Air  Rotary Mud  Cable  Auger  Cable Mud  
 Reverse Rotary  Other \_\_\_\_\_

(4) PROPOSED USE:  Domestic  Irrigation  Community  
 Industrial/Commercial  Livestock  Dewatering  
 Thermal  Injection  Other \_\_\_\_\_

(5) BORE HOLE CONSTRUCTION: Special Standard  (attach copy)  
 Depth of Completed Well 201 ft.

| BOREHOLE |      |     |           | SEAL |            |     |           |
|----------|------|-----|-----------|------|------------|-----|-----------|
| Dia      | From | To  | Material  | From | To         | Amt | sacks/lbs |
| 10       | 0    | 117 | bentchips | 0    | 117        | 46  | sks       |
| 6"       | 117  | 201 |           |      | Calculated | 42  | sks       |
|          |      |     |           |      | Calculated |     |           |

How was seal placed: Method  A  B  C  D  E  
 Other Poured-probed-hydrated  
 Backfill placed from \_\_\_\_\_ ft to \_\_\_\_\_ ft Material \_\_\_\_\_  
 Filter pack placed from \_\_\_\_\_ ft to \_\_\_\_\_ ft Material \_\_\_\_\_ Size \_\_\_\_\_  
 Explosives Used  Yes Type \_\_\_\_\_ Amount \_\_\_\_\_

(5a) ABANDONMENT USING UNHYDRATED BENTONITE  
 Proposed Amount \_\_\_\_\_ Actual Amount \_\_\_\_\_

(6) CASING/LINER:

| Casing/Liner                        | Dia    | + | From                                   | To   | Gauge  | Std Plstc                           | Wld Thrd                            |
|-------------------------------------|--------|---|--|------|--------|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | 6"     |   | <input checked="" type="checkbox"/> 3' | 117' | .250   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/>            | 4 1/2" |   | <input type="checkbox"/> 21'           | 201' | scl 40 | <input type="checkbox"/>            | <input type="checkbox"/>            |
| <input type="checkbox"/>            |        |   |  |      |        | <input type="checkbox"/>            | <input type="checkbox"/>            |
| <input type="checkbox"/>            |        |   |  |      |        | <input type="checkbox"/>            | <input type="checkbox"/>            |
| <input type="checkbox"/>            |        |   |  |      |        | <input type="checkbox"/>            | <input type="checkbox"/>            |

Shoe  Inside  Outside  Other Location of Shoe(s): 117'  
 Temp casing  Yes Dia: 10" From: 0 To: 6'

(7) PERFORATIONS/SCREENS:

| Perf/Screen | Casing/Liner Dia | Screen Dia | From | To  | Scr/slot width | Slot length | #of slots | Tele/pipe size |
|-------------|------------------|------------|------|-----|----------------|-------------|-----------|----------------|
| S           | L                | 4 1/2      | 161  | 201 | 032            |             |           | P              |

(8) WELL TESTS: Minimum testing time is 1 hour

| Yield gpm | Pump/Bailer   | Drawdown | Drill Stem/pump depth | Duration (hr) |
|-----------|---|----------|-----------------------|---------------|
| 80        | <input type="checkbox"/> Pump <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Air | N/A      | 200'                  | 1.5hrs        |

Temperature of water 55 °F Lab analysis  Yes By \_\_\_\_\_  
 Water quality concerns?  Yes (describe below) TDS amount 146  
 From \_\_\_\_\_ To \_\_\_\_\_ Description \_\_\_\_\_ Amount \_\_\_\_\_ Units \_\_\_\_\_

(9) LOCATION OF WELL by legal description:  
 County: Yamh Twp: 3S Range: 5W  
 Sec: 01 SW 1/4 of the SW 1/4 Tax Lot: 2300  
 Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
 Block: \_\_\_\_\_ Subdivision: \_\_\_\_\_  
 Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
 Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD

Street Address of Well  Nearest Address  
16735 Rockyford rd. Yamhill, OR 97144

(10) STATIC WATER LEVEL:

| Description   | Date   | SWL(psi) | + SWL (ft)                   |
|---------------|--------|----------|------------------------------|
| Sat overnight | 8-9-18 |          | <input type="checkbox"/> 47' |

Flowing Artesian?  Dry Hole?   
 WATER BEARING ZONES: Depth at which water was first found 95'

| SWL Date | From | To  | Est. Flow | SWL(psi) | + SWL(ft) |
|----------|------|-----|-----------|----------|-----------|
| 8-8-18   | 95   | 98  | 8.3       |          | 71'       |
| 8-8-18   | 182  | 199 | 80        |          | 47'       |

(12) WELL LOG: Ground Elevation: \_\_\_\_\_

| Material  | From | To  | SWL |
|---|------|-----|-----|
| Top soil  | 0    | 1   |     |
| Clay brwn/gray fract                            | 1    | 34  |     |
| shale brwn/gray fract                           | 34   | 43  |     |
| shale gray firm to hrd                          | 43   | 49  |     |
| shale dark gray med firm with light gray lenses | 49   | 113 |     |
| shale gray hrdr                                 | 113  | 125 |     |
| shale gray med                                  | 125  | 160 |     |
| siltstone, shale, claystone, conglomerate       | 160  | 182 |     |
| Marine rock gray                                | 182  | 199 |     |
| shale brwn firm                                 | 199  | 201 |     |

RECEIVED  
 AUG 31 2018  
 OWRD

Date Started: 8-8-18 Completed: 8-9-18  
 (unbonded) Water Well Constructor Certification:  
 I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

License Number \_\_\_\_\_ Date \_\_\_\_\_

Signed \_\_\_\_\_  
 (bonded) Water Well Constructor Certification:  
 I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

License Number 1483 Date 8-27-18

Signed John R. St...  
 Contact Info (optional) ARROW DRILLING 503-538-4422

RECEIVED  
 OCT 01 2018



PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date November 19, 2019  
 FROM: Groundwater Section Karl Wozniak Reviewer's Name  
 SUBJECT: Application G- 18862 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: Rockyford Yamhill 2, LLC County: Yamhill

A1. Applicant(s) seek(s) 1.57 cfs from 2 well(s) in the Willamette Basin,  
North Yamhill River subbasin

A2. Proposed use Irrigation & Pond Maintenance Seasonality: March 1 – October 31

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    | YAMH 58006 | 1                  | Low-yield bedrock | 1.57               | 3S/5W-1 SE/SW         | 700' N, 1365' E fr SW cor S 1                                    |
| 2    | Proposed   | 2                  | Low-yield bedrock | 1.57               | 3S/5W-1 SW/SW         | 1215' N, 880' E fr SW cor S 1                                    |
| 3    |            |                    |                   |                    |                       |  |
| 4    |            |                    |                   |                    |                       |  |
| 5    |            |                    |                   |                    |                       |  |

\* 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    | 443              | 95                 | 47         | 08/09/2018 | 201             | 117                | 117                   | 21-201               | 161-201                      | 80               | NA             | A         |
| 2    | 513              |                    |            |            | 200             | 120                | 120                   | TBD                  | TBD                          |                  |                |           |
|      |                  |                    |            |            |                 |                    |                       |                      |                              |                  |                |           |
|      |                  |                    |            |            |                 |                    |                       |                      |                              |                  |                |           |

Use data from application for proposed wells.

A4. **Comments:** The applicant seeks 1.57 cfs from 1 existing and 1 proposed well for primary irrigation of 125.7 acres and maintenance of a 1.6 acre pond. The proposed maximum rate of 1.57 cfs (705 gpm) is evaluated at each well.

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 wells produce from a confined aquifer so the pertinent 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) 7N, medium water-use reporting, 1 acre foot/acre duty ;
  - 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:**

**Special Permit Conditions:**

- 1. Irrigation under this permit shall be by drip irrigation or by an equally efficient method.
- 2. The maximum rate under this permit shall be limited to 0.166 cfs (74.5 gpm).

The applicant seeks 1.57 cfs (705 gpm) from 1 existing well (YAMH 58006) and 1 proposed well for primary irrigation of 125.7 acres and maintenance of a 1.6 acre pond. The wells are located on bedrock uplands west of the North Yamhill River and north of Puddy Gulch Creek. The uplands are underlain by the Yamhill Formation, part of the low-yield bedrock aquifer system that consists of Tertiary marine sedimentary and volcanic rocks. Productive zones in the host rocks are likely to be water-bearing fractures as the primary porosity has largely been destroyed by secondary mineralization. The low-yield aquifer system is characterized by low permeability, low porosity, low well yield, considerable anisotropy, and excessive pumping drawdowns; it is generally not capable of producing sustainable yields for irrigation of high water-use crops. The OWRD well log database indicates a median well yield of 12 gpm in sections 1, 2, 11, & 12 (T3S/5W) and a distribution that is highly skewed toward lower values. This statistic does not include a half dozen wells that produced no water and were abandoned immediately after drilling. Actual yields are likely to be lower since most of the reported yields are based on air tests which tend to overestimate yields in completed wells. The well report for YAMH 58006 indicates an air test yield of 80 gpm. The applicant is requesting a maximum rate of 1.57 cfs, the equivalent of 705 gpm, from YAMH 58006 and a proposed well that has a nominal location about 700 feet northwest of YAMH 58006. Considering the general nature of the aquifer system, the low median well yields in the surrounding area, and the likely interference between the two wells, it is extremely



unlikely that two wells will produce anywhere near the requested rate of 705 gpm. This strongly indicates that groundwater for the proposed use, at the requested rate, will not likely be available within the capacity of the resource. However, this finding can be mitigated if the applicant agrees to limit the proposed maximum rate to 0.166 cfs (74.5 gpm) which corresponds to 1% of the lowest monthly 80% natural exceedance flow for the water availability basin.

Water-level trends cannot be confidently evaluated because groundwater-level data is sparse in the general area (see plot below). There are no irrigation wells on active water rights within a mile radius. Tax lot density is relatively low and the OWRD well log database only shows records of about 125 domestic wells in the four adjacent sections.

Because of the nature of the aquifer system, potential water-supply problems from the proposed use are likely to be relatively local. Tax lot maps and OWRD located-well databases indicate that a number of domestic wells occur within ½-mile of the subject wells. Although the likely anisotropy of the aquifer makes it difficult to predict the potential interference with existing wells, the general nature of the aquifer and the relatively large reported yield of YAMH 58006 indicate that it would be prudent to include water-level and water-use monitoring conditions. For the same reasons, conditions are recommended to limit the maximum duty to 1 acre foot per acre per year and a maximum rate of 0.166 cfs if a permit is issued (see OAR 690-502-0040(7)).

**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    | Low-yield bedrock aquifer system | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2    | Low-yield bedrock aquifer system | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|      |                                  | <input type="checkbox"/>            | <input type="checkbox"/> |
|      |                                  | <input type="checkbox"/>            | <input type="checkbox"/> |

**Basis for aquifer confinement evaluation:** Well logs generally indicate static water levels above the producing zones in the low-yield aquifer system. Experience indicates some degree of confinement in fractured bedrock water-bearing zones.

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    | Puddy Gulch Creek   | 396            | 191-464        | 5160          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                | <input checked="" type="checkbox"/> |
| 1    | 2    | Hutchcroft Creek    | 396            | 178-645        | 5640          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                | <input checked="" type="checkbox"/> |
| 1    | 3    | North Yamhill River | 396            | 155-165        | 6500          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                | <input checked="" type="checkbox"/> |
| 2    | 1    | Puddy Gulch Creek   | 396            | 191-464        | 4950          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                | <input checked="" type="checkbox"/> |
| 2    | 2    | Hutchcroft Creek    | 396            | 178-645        | 5280          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                | <input checked="" type="checkbox"/> |
| 2    | 3    | North Yamhill River | 396            | 155-165        | 6700          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                | <input checked="" type="checkbox"/> |
|      |      |                     |                |                |               | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                | <input type="checkbox"/>            |

**Basis for aquifer hydraulic connection evaluation:** Water levels in local wells in the bedrock uplands (above stream levels) show hydraulic heads that are above local stream levels. This is consistent with general observations and published reports in the Willamette basin that indicate that the water table in the low-yield bedrock aquifer system generally mimics topography and discharges to local streams.

**Water Availability Basin the well(s) are located within:** N YAMHILL R > YAMHILL R - AT MOUTH (Watershed ID # 70746).



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 source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and 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"/> |                         |                              | <input type="checkbox"/> | 16.6                   | <input checked="" type="checkbox"/> |                            | <input checked="" type="checkbox"/>     |
| 1    | 2    | <input type="checkbox"/> | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> | 16.6                   | <input checked="" type="checkbox"/> |                            | <input checked="" type="checkbox"/>     |
| 2    | 1    | <input type="checkbox"/> | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> | 16.6                   | <input checked="" type="checkbox"/> |                            | <input checked="" type="checkbox"/>     |
| 2    | 2    | <input type="checkbox"/> | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> | 16.6                   | <input checked="" type="checkbox"/> |                            | <input checked="" type="checkbox"/>     |
|      |      | <input type="checkbox"/> | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> |                        | <input type="checkbox"/>            |                            | <input type="checkbox"/>                |
|      |      | <input type="checkbox"/> | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> |                        | <input type="checkbox"/>            |                            | <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? |
|--|------|--|--------------------------|-------------------------|------------------------------|--------------------------|------------------------|------------------------------|----------------------------|---|
|  |      |  | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> |                        | <input type="checkbox"/>     |                            | <input type="checkbox"/>                |
|  |      |  | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> |                        | <input type="checkbox"/>     |                            | <input type="checkbox"/>                |
|  |      |  | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> |                        | <input type="checkbox"/>     |                            | <input type="checkbox"/>                |
|  |      |  | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> |                        | <input type="checkbox"/>     |                            | <input type="checkbox"/>                |

**Comments:** Interference @ 30 days was not calculated in Table C3a because of the lack of a readily available suitable model for fractured bedrock aquifer systems and a lack of knowledge about likely anisotropy in the low-yield 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 |     |     |     |     |     |     |     |     |     |     |     |     |
|                       |                  | %   | %   | %   | %   | %   | %   | %   | %   | %   | %   | %   | %   |
|                       | Well Q as CFS    |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Interference CFS |     |     |     |     |     |     |     |     |     |     |     |     |
|                       |                  | %   | %   | %   | %   | %   | %   | %   | %   | %   | %   | %   | %   |



|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well Q as CFS       |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Interference CFS    |   |   |   |   |   |   |   |   |   |   |   |   |   |
|                     | % | % | % | % | % | % | % | % | % | % | % | % | % |
| 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:** Impacts to the North Yamhill River were not evaluated in table C4a as the maximum recommended rate of pumping, 0.16 cfs, will not exceed 1% of the natural stream flow in any month of 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) \_\_\_\_\_;  
 ii.  The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions:**

Special Conditions: See recommended condition 2 in section B3.

**References Used:**

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: U.S. Geological Survey Scientific Investigations Report 2005-5168.

Gannett, M.W. and Caldwell, R., 1998, Geologic framework of the Willamette Lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-A, 32 p.

O'Connor, J.E., Sarna-Wojcicki, A., Wozniak, K.C., Polette, D.J., and Fleck, R.J., 2001: U.S. Geological Survey Professional Paper 1620.

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, 82p.

Frank, F.J., and Collins, C.A., 1978, Groundwater in the Newberg area, northern Willamette Valley, Oregon: Oregon Water Resources Department Groundwater Report No. 27, 77p.

**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**

N YAMHILL R > YAMHILL R - AT MOUTH  
WILLAMETTE BASIN

Water Availability as of 11/18/2019

Watershed ID #: 70746 ([Map](#))

Exceedance Level: 80%

Date: 11/18/2019

Time: 9:28 AM

|                                       |                                      |                                   |                     |
|---------------------------------------|--------------------------------------|-----------------------------------|---------------------|
| <b>Water Availability Calculation</b> | <b>Consumptive Uses and Storages</b> | <b>Instream Flow Requirements</b> | <b>Reservations</b> |
| <b>Water Rights</b>                   |                                      | <b>Watershed Characteristics</b>  |                     |

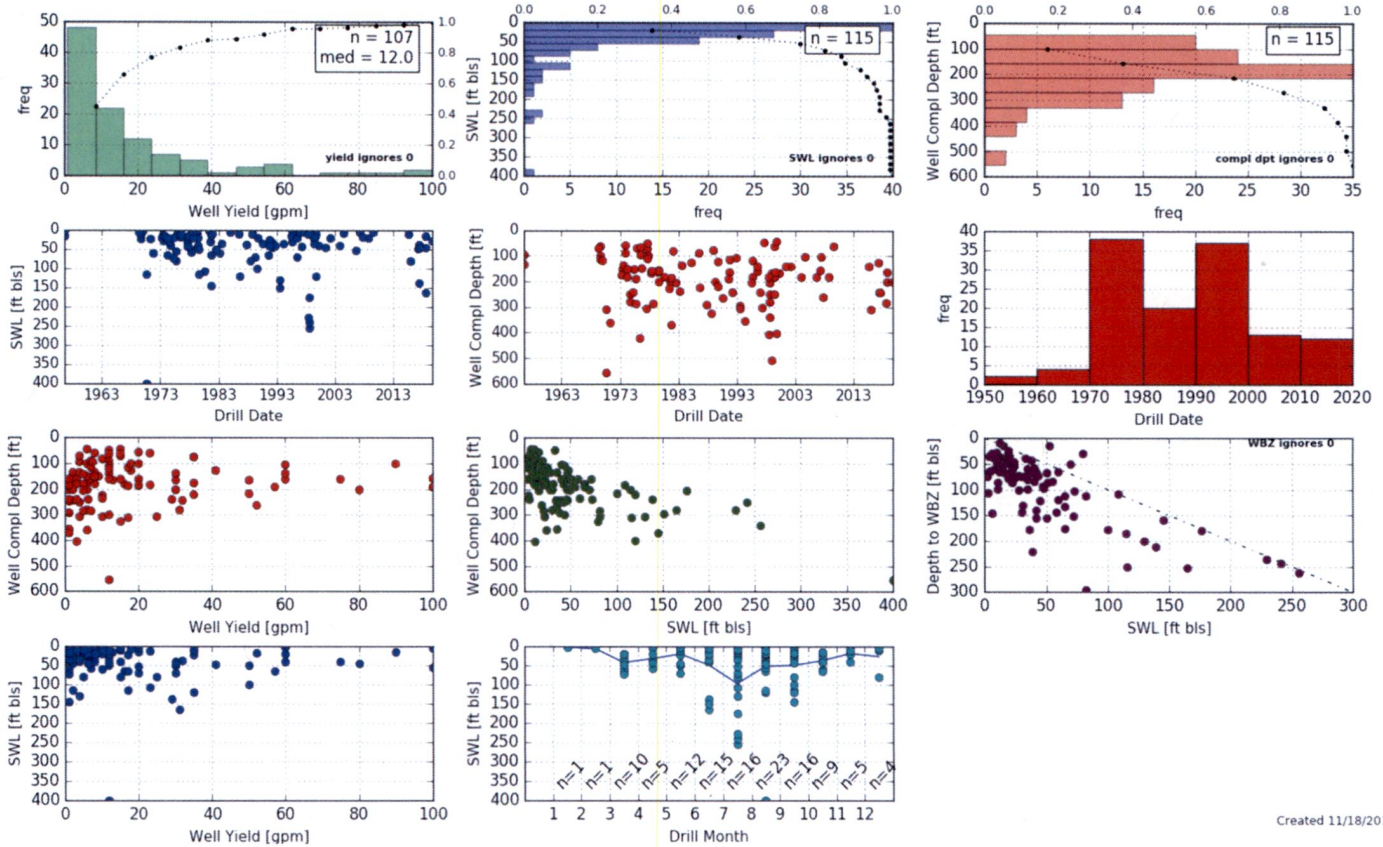
**Water Availability Calculation**

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   | 395.00              | 32.30                         | 363.00               | 0.00                 | 70.00                     | 293.00              |
| FEB   | 485.00              | 32.90                         | 452.00               | 0.00                 | 70.00                     | 382.00              |
| MAR   | 379.00              | 24.50                         | 354.00               | 0.00                 | 70.00                     | 284.00              |
| APR   | 240.00              | 25.40                         | 215.00               | 0.00                 | 70.00                     | 145.00              |
| MAY   | 124.00              | 24.50                         | 99.50                | 0.00                 | 70.00                     | 29.50               |
| JUN   | 63.60               | 27.60                         | 36.00                | 0.00                 | 40.00                     | -4.04               |
| JUL   | 30.70               | 32.00                         | -1.34                | 0.00                 | 15.00                     | -16.30              |
| AUG   | 22.70               | 29.70                         | -7.01                | 0.00                 | 10.00                     | -17.00              |
| SEP   | 17.40               | 23.20                         | -5.78                | 0.00                 | 10.00                     | -15.80              |
| OCT   | 16.60               | 15.40                         | 1.20                 | 0.00                 | 10.00                     | -8.80               |
| NOV   | 68.90               | 22.10                         | 46.80                | 0.00                 | 70.00                     | -23.20              |
| DEC   | 338.00              | 31.70                         | 306.00               | 0.00                 | 70.00                     | 236.00              |
| ANN   | 249,000.00          | 19,400.00                     | 230,000.00           | 0.00                 | 34,600.00                 | 196,000.00          |



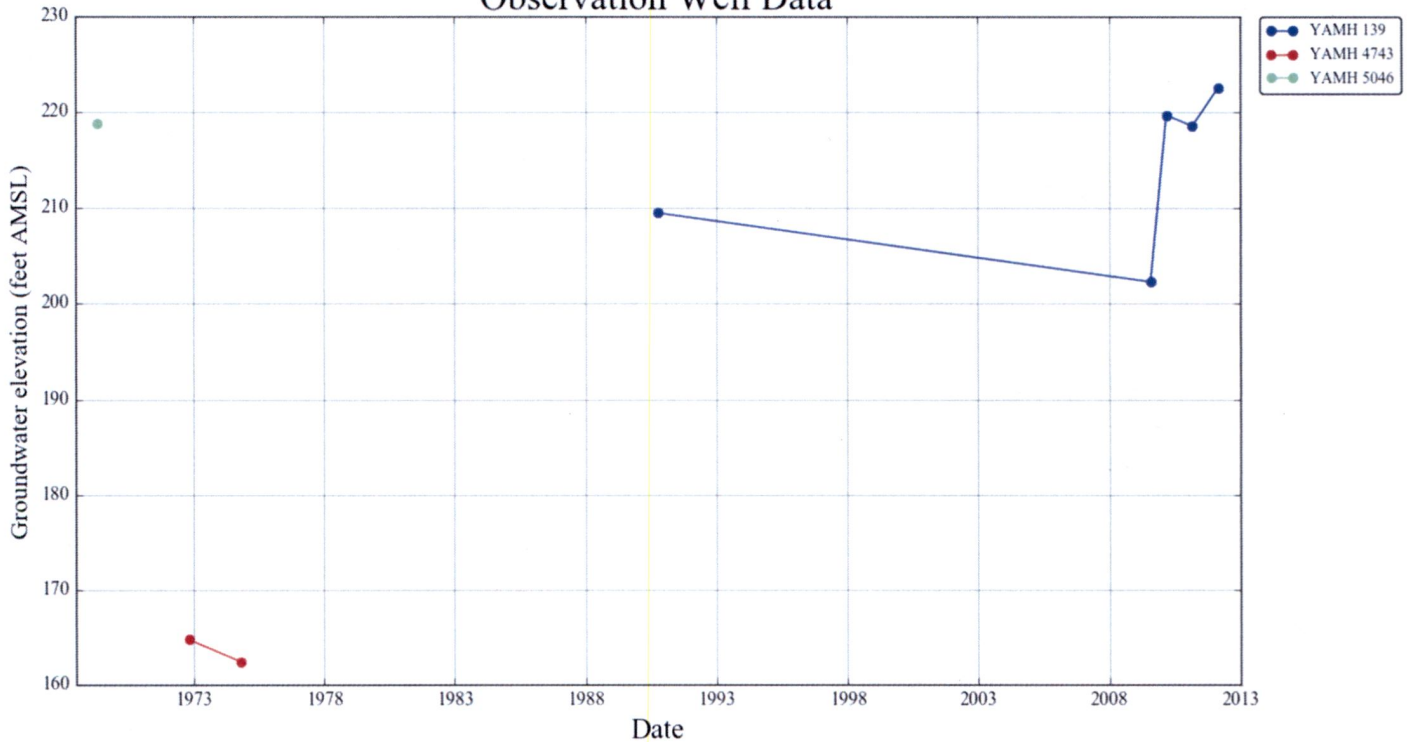
**Well Statistics (Sections 1,2, 11, & 12, T3S/5W)**



Created 11/18/2019

**Water-Level Trends in Nearby Wells**

**Observation Well Data**





### Well Location Map

