

Approved:



# MEMO

**To:** Kristopher Byrd, Well Construction Manager  
**From:** Tommy Laird, Well Construction Program Coordinator  
**Subject:** Review of Water Right Application G-19208  
**Date:** February 5, 2024

The attached application was forwarded to the Well Construction Section by the Groundwater Section. Gabriela Ferreira and Dennis Orłowski reviewed the application. Please see Gabriela's and Dennis' Groundwater Review and the Well Report.

Applicant's Well #1 (COLU 55767): Based on a review of the Well Report, Applicant's Well #1 seems to protect the groundwater resource.

Also, in Section D3 of the groundwater review the GW Section asks the Well Construction Section to confirm the total seal depth for Well #1 (COLU 55767). The Well Construction Section has determined that the well is sealed to a depth of 20 feet below ground surface (bgs). Any bentonite material listed below 20 ft bgs is backfill, and is not part of the seal.

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

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

COLU 55767

8/10/2021

WELL I.D. LABEL# L

START CARD #

ORIGINAL LOG #

Page 1 of 2

142458

1053190

(1) LAND OWNER

Owner Well I.D.

First Name BRYON

Last Name JENSEN

Company

Address 1613 E 4TH WAY

City LA CENTER

State WA

Zip 98629

(2) TYPE OF WORK

☒ New Well ☐ Deepening ☐ Conversion

☐ Alteration (complete 2a & 10) ☐ Abandonment (complete 5a)

(2a) PRE-ALTERATION

Casing: Dia + From To Gauge Stl Plstc Wld Thrd  
Material From To Amt sacks/lbs  
Seal: From To Amt sacks/lbs

(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 211.00 ft.

| BORE HOLE |      |     | SEAL            |      |            | sacks/ |     |
|-----------|------|-----|-----------------|------|------------|--------|-----|
| Dia       | From | To  | Material        | From | To         | Amt    | lbs |
| 10        | 0    | 20  | Bentonite Chips | 0    | 20         | 11     | S   |
| 6         | 20   | 211 |                 |      | Calculated | 10     |     |
|           |      |     |                 |      | Calculated |        |     |

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E

☒ Other POUR

Backfill placed from 20 ft. to 80 ft. Material BENT

Filter pack 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 | Stl                                 | Plstc                               | Wld                                 | Thrd                                |
|-------------------------------------|-------------------------------------|-----|-------------------------------------|------|-----|-------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 6   | <input checked="" type="checkbox"/> | 1.5  | 80  | 250   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/>            | <input type="checkbox"/>            | 4   | <input type="checkbox"/>            | 11   | 211 | 40    | <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"/>            | <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"/>            |

Shoe ☐ Inside ☒ Outside ☐ Other Location of shoe(s) 80

Temp casing ☐ Yes Dia From + To

(7) PERFORATIONS/SCREENS

Perforations Method saw cut

Screens Type

Material

| Perf/  | Casing/ | Screen | Perf/ | Casing/ | Screen    | Perf/  | Casing/ | Screen    | Perf/  | Casing/ | Screen |
|--------|---------|--------|-------|---------|-----------|--------|---------|-----------|--------|---------|--------|
| Screen | Liner   | Dia    | From  | To      | Scrn/slot | Slot   | # of    | Tele/     | Screen | Liner   | Dia    |
| Perf   | Liner   | 4      | 11    | 211     | width     | length | slots   | pipe size | Perf   | Liner   | 4      |
|        |         |        |       |         |           |        |         |           |        |         |        |
|        |         |        |       |         |           |        |         |           |        |         |        |
|        |         |        |       |         |           |        |         |           |        |         |        |

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

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

| Yield gal/min | Drawdown | Drill stem/Pump depth | Duration (hr) |
|---------------|----------|-----------------------|---------------|
| 150           |          | 200                   | 1             |
|               |          |                       |               |
|               |          |                       |               |

Temperature 42 °F Lab analysis ☐ Yes By

Water quality concerns? ☐ Yes (describe below) TDS amount 46 ppm  
From To Description Amount Units

(9) LOCATION OF WELL (legal description)

County COLUMBIA Twp 7.00 N N/S Range 3.00 W E/W WM

Sec 16 NE 1/4 of the NW 1/4 Tax Lot 300

Tax Map Number Lot

Lat ° ' " or 46.09592333 DMS or DD

Long ° ' " or -123.06629446 DMS or DD

☐ Street address of well ☒ Nearest address

NEXT TO: 24268 HWY 30, CLATSKANIE, OR

(10) STATIC WATER LEVEL

|                                                                               | Date      | SWL (psi) | + | SWL (ft) |
|-------------------------------------------------------------------------------|-----------|-----------|---|----------|
| Existing Well / Pre-Alteration                                                |           |           |   |          |
| Completed Well                                                                | 7/30/2021 |           |   | 43       |
| Flowing Artesian? <input type="checkbox"/> Dry Hole? <input type="checkbox"/> |           |           |   |          |

WATER BEARING ZONES

Depth water was first found 200.00

| SWL Date  | From | To  | Est Flow | SWL (psi) | + | SWL (ft) |
|-----------|------|-----|----------|-----------|---|----------|
| 7/30/2021 | 200  | 211 | 150      |           |   | 43       |
|           |      |     |          |           |   |          |
|           |      |     |          |           |   |          |
|           |      |     |          |           |   |          |

(11) WELL LOG

Ground Elevation

| Material                               | From | To  |
|----------------------------------------|------|-----|
| tan clay                               | 0    | 15  |
| brn claystone                          | 15   | 30  |
| brn sandstone w/light brn layers       | 30   | 50  |
| white seams claystone in brn claystone | 50   | 70  |
| brn gray basalt soft                   | 70   | 111 |
| gray & blue claystone                  | 111  | 115 |
| brn & yellow clay stone                | 115  | 118 |
| gray basalt w/ green seams             | 118  | 130 |
| gray basalt w/ brn seams               | 130  | 160 |
| black basalt                           | 160  | 165 |
| gray & brn basalt                      | 165  | 170 |
| black basalt w/ green seams            | 170  | 185 |
| gray brn siltstone                     | 185  | 190 |
| blu gray sandstone                     | 190  | 200 |
| black basalt                           | 200  | 211 |
|                                        |      |     |
|                                        |      |     |
|                                        |      |     |
|                                        |      |     |

Date Started 7/28/2021

Completed 7/31/2021

(unbonded) Water Well Constructor Certification

I certify that the work I performed on the construction, deepening, 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 1975

Date 8/4/2021

Signed AARON MORLEY (E-filed)

(bonded) Water Well Constructor Certification

I accept responsibility for the construction, deepening, 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 1480

Date 8/10/2021

Signed ARTHUR MCMULLEN (E-filed)

Contact Info (optional) 503 397 2356

ORIGINAL - WATER RESOURCES DEPARTMENT

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK Form Version:

WATER SUPPLY WELL REPORT - Map with location identified must be attached and shall include an approximate scale and north arrow

COLU 55767

8/10/2021

## Map of Hole



# Groundwater Application Review Summary Form

Application # G- 19208

GW Reviewer Gabriela Ferreira / Dennis Orłowski Date Review Completed: July 24, 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.

**The proposed POA (COLU 55767) appears to meet minimum well construction standards. However, there is a question pertaining to the seal depth reported on the well log that has implications related to potential PSI, as discussed in Section D3 of this review.**

*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

July 24, 2023

TO: Application G- 19208

FROM: GW: Gabriela Ferreira / Dennis Orlowski  
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

☐ YES The source of appropriation is hydraulically connected to a State Scenic  
☒ NO 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

TO: Water Rights Section Date July 24, 2023  
 FROM: Groundwater Section Gabriela Ferreira / Dennis Orlowski  
 Reviewer's Name  
 SUBJECT: Application G- 19208 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: Bryon Jensen County: Columbia

A1. Applicant(s) seek(s) 0.0625<sup>a</sup> cfs from one well(s) in the North Coast Basin,  
 \_\_\_\_\_ subbasin

A2. Proposed use: Irrigation (5 acres); Commercial and Storage  
 Seasonality: March 1 to October 31 (Irrigation); January to December (Commercial and Storage)

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    | COLU 55767 | 1                  | Bedrock           | 0.0625              | 7 N / 3 W - 16 NE-W   | 810' W, 1460' N fr C S 16 <sup>b</sup>                           |

\* 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    | 485 <sup>c</sup> | 43                 | 43         | 7/30/2021 | 211             | 0-20               | 0-80                  | 11-211               | -- <sup>d</sup>              | 150              | N/A            | Air       |

Use data from application for proposed wells.

A4. **Comments:** The proposed POA/POU is located approximately 6 miles east of Clatskanie, Oregon in the foothills of the Coast Range. The applicant proposes use of one existing well, COLU 55767, for primary irrigation of 5 acres, in addition to commercial and storage uses. The applicant filed a concurrent application for surface water use to fill storage ponds.  
<sup>a</sup> The application requested a maximum instantaneous pumping rate of 100 gpm, or approximately 0.223 cfs. However, the maximum allowable rate of 1/80 cfs per acre for irrigation of 5.0 acres yields an instantaneous rate of 0.0625 cfs.  
**Consequently, this review evaluates seasonal irrigation use based on 0.0625 cfs (~28 gpm).**  
The requested irrigation season volume is 12 acre-feet per year, which is just below the maximum 12.50 acre-feet permissible for 5 irrigated acres.  
<sup>b</sup> The metes and bounds as described in the application map to a location approximately 250 feet southwest of the location shown on the application map and latitude and longitude provided in the well construction report. This review is based on the location shown on the application map.  
<sup>c</sup> Land surface elevation from LIDAR at the proposed well location (OLC, 2016).  
<sup>d</sup> The liner is perforated from 11-211; however, the well is effectively open to the aquifer from 20 to 211 feet bls.

A5. ☒ **Provisions of the** North Coast 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: North Coast Basin rules have no such provision.

A6. ☐ **Well(s) #** \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, tap(s) an aquifer limited by an administrative restriction.  
 Name of administrative area: \_\_\_\_\_  
 Comments: N/A

**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) 7E, Static Water Level Condition;
  - 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): \_\_\_\_\_

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- B3. **Groundwater availability remarks:** The proposed POA is located on the northern foothills of the Coast Range, between the Coast Range and the Columbia River. The Coast Range is composed of uplifted Tertiary marine sedimentary rocks and related marine volcanic intrusive rocks, considered the basement confining unit in Conlon et al., 2005. Significant faulting and structural deformation within the Coast Range has produced compartmentalized aquifers. Geologic mapping in the area suggests the Columbia River Basalt group may be present at surface, although the well report for the proposed POA indicates clay and claystones are present near surface, with basalt first encountered at 70 feet bls. The well is completed within Grays River volcanic rocks, upper Eocene ocean basalt with interbedded siltstones and sandstones (Walsh, 1987). The basement confining unit is characterized by low porosity, low permeability, and low yields which are typically suitable only for domestic uses. Localized fracture zones may increase yields but the overall hydraulic conductivity is low.

Nineteen well reports were identified within township 7 north, range 3 west, section 16. Well logs for most of the wells indicate yields between 7 and 60 gpm, with the proposed POA reported yield of 150 gpm being the only reported yield above 60 gpm. Most of the identified wells are used for domestic purposes. No deepenings were reported. Three groundwater rights were identified within two miles of the proposed POA for group domestic, irrigation, and industrial purposes.

No observation wells are located near the proposed POA. Three observation wells completed in Tertiary marine sedimentary rocks ranging from 3 to 9 miles in distance to the proposed POA were selected for evaluation of water level data. Although these wells are not directly representative of groundwater conditions near the proposed POA, the data from these observation wells are analogous for similar Tertiary marine sedimentary and volcanic aquifers in the region. One well with long-term data

located approximately 9 miles away (COLU 2270), shows a steady decline of approximately 25 feet over the past ~35 years. The other two wells have shorter data records and show stable or rising groundwater conditions. Based on the relatively low requested rate (0.0625 cfs) and overall relatively low appropriation of groundwater in the area, groundwater use is not over appropriated. No nearby wells fully penetrate the bedrock aquifer in this area, and thus potential injury to nearby groundwater users was not assessed for this review. Permit condition 7E, Static Water Level Condition is recommended to assess future injury concerns and long-term groundwater conditions in the area.

**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    | Bedrock                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Basis for aquifer confinement evaluation:** The water level rose to 43 feet bgs at time of drilling, which suggests confining conditions likely caused by the presence of approximately near-surface clays and claystone.

**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<br>ft msl <sup>a</sup> | SW Elev<br>ft msl <sup>b</sup> | Distance<br>(ft) | Hydraulically<br>Connected?<br>YES NO ASSUMED |                          |                          | Potential for<br>Subst. Interfer.<br>Assumed?<br>YES NO |                                     |
|------|------|--------------------|--------------------------------|--------------------------------|------------------|-----------------------------------------------|--------------------------|--------------------------|---------------------------------------------------------|-------------------------------------|
| 1    | 1    | Beaver Creek       | 440                            | 420-460                        | 1,500            | <input checked="" type="checkbox"/>           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                                | <input checked="" type="checkbox"/> |

**Basis for aquifer hydraulic connection evaluation:** <sup>a</sup> The groundwater elevation was estimated based on information provided in the well report.

<sup>b</sup> 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)

The following factors indicate that the aquifer tapped by the proposed POA is hydraulically connected to SW 1 (Beaver Creek): (1) the estimated groundwater elevation for the POA is within the estimated elevation range for SW 1; (2) though cased to 80 ft bls, the proposed POA is reportedly sealed from only 0-20 ft bls (elevation ~490-470 ft msl), in which case the majority of the borehole is open to the aquifer that also includes the estimated range of SW 1 elevations from 420-460 ft msl; and (3) the yield reported on the COLU 55767 log (150 gpm) is remarkably high for this type of aquifer system, suggesting an efficient connection with a replenishing surface water source (see additional related remarks in Sections C6 and D3 of this review).

**Water Availability Basin the well(s) are located within:** SW1, SW2: WID#70953, Beaver Cr > Dobbins Sl – At Mouth

**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 <<br>¼ mile?        | Qw ><br>5 cfs?           | Instream<br>Water<br>Right<br>ID | Instream<br>Water<br>Right Q<br>(cfs) | Qw ><br>1%<br>ISWR?                 | 80%<br>Natural<br>Flow<br>(cfs) | Qw > 1%<br>of 80%<br>Natural<br>Flow? | Interference<br>@ 30 days<br>(%) | Potential<br>for Subst.<br>Interfer.<br>Assumed? |
|------|------|--------------------------|--------------------------|----------------------------------|---------------------------------------|-------------------------------------|---------------------------------|---------------------------------------|----------------------------------|--------------------------------------------------|
| 1    | 1    | <input type="checkbox"/> | <input type="checkbox"/> | MF3A                             | 5.00                                  | <input checked="" type="checkbox"/> | 9.84                            | <input type="checkbox"/>              | N/A                              | <input checked="" 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 # |  | Q <sub>w</sub> > 5 cfs?  | Instream Water Right ID | Instream Water Right Q (cfs) | Q <sub>w</sub> > 1% ISWR? | 80% Natural Flow (cfs) | Q <sub>w</sub> > 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"/>                |

**Comments:** C3a: PSI was determined because the maximum permissible instantaneous pumping rate used for this review (0.0625 cfs, established as explained in Section A4) exceeds 1% of the applicable ISWR (equal to 0.05 cfs). **However, if the requested allocation were to be reduced to less than 0.05 cfs, then a PSI finding would not have been determined.**

Interference at 30 days cannot be appropriately modeled within a fractured bedrock aquifer.

C3b: Not applicable

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:
- ☐ The permit should contain condition #(s)\_\_\_\_\_;
  - ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

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

PSI was determined because the maximum permissible instantaneous pumping rate used for this review (0.0625 cfs, established as explained in Section A4) exceeds 1% of the applicable ISWR (1% flow is equal to 0.05 cfs). **However, if the requested allocation were to be reduced to less than 0.05 cfs, then a PSI finding would not have been determined.**

Furthermore, there is a question pertaining to the actual seal depth reported for the proposed POA (COLU 55767) that is presented in Section D3 of this review; the answer to that question could also have implications related to the PSI finding (i.e., a seal depth to 80 ft bls would remove one of the three factors used to establish hydraulic connection with SW 1).

**Regardless of the well seal question, the PSI finding can be overcome by reducing the requested maximum rate to less than 0.05 cfs.**

**References Used:**

Application File G-19208, G-18222

Water well reports: COLU 939, COLU 2270, COLU 55079, COLU 55767

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.

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

Walsh, T.J., 1987, Geologic map of the Astoria and Ilwaco Quadrangles, Washington and Oregon, Washington Division of Geology and Earth Resources Open File Report 87-2.

**D. WELL CONSTRUCTION, OAR 690-200**

- D1. Well #: 1 Logid: COLU 55767
- 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:**  
The proposed POA (COLU 55767) is cased to 80 ft bls (total depth 211 ft). The COLU 55767 log indicates a bentonite chip seal from 0-20 ft bls. However, the log also indicates that bentonite was used as “backfill” from 20-80 ft bls.
- It is uncertain why a distinction was made between the bentonite placed from 0-20 ft bls (“seal”) and 20-80 ft bls (“backfill”), and whether or not the well can be considered sealed entirely between 0 and 80 ft bls, or only to 20 ft bls?
- Please confirm the total seal depth for COLU 55767 given this context.**
- D4. ☒ **Route to the Well Construction and Compliance Section for a review of existing well construction.**

**Water Availability Tables**

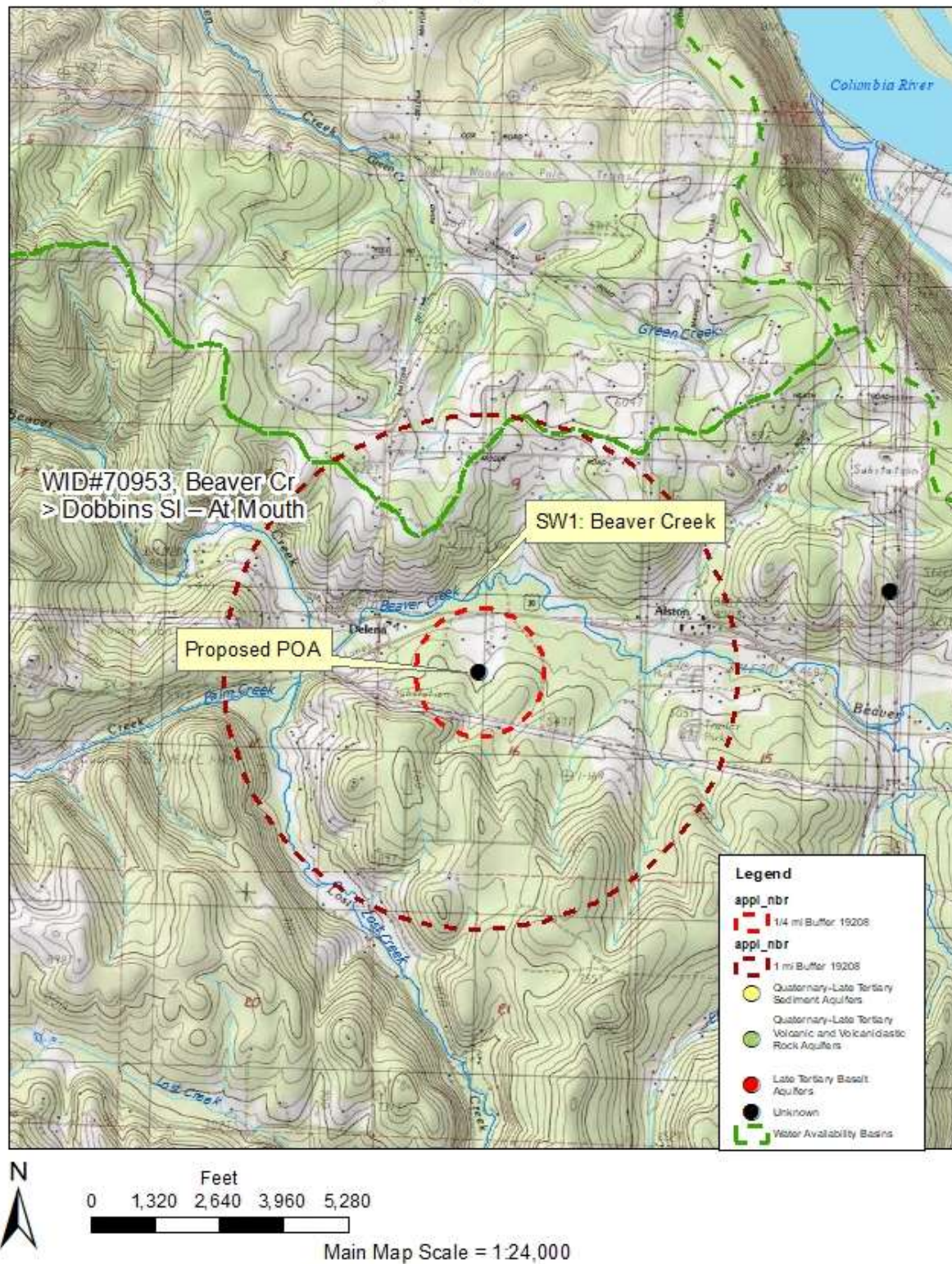
| Water Availability Analysis<br>Detailed Reports                                                                                                                                                                     |                     |                               |                      |                      |                           |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------|----------------------|----------------------|---------------------------|---------------------|
| BEAVER CR > DOBBINS SL - AT MOUTH<br>NORTH COAST BASIN                                                                                                                                                              |                     |                               |                      |                      |                           |                     |
| Watershed ID #: 70953 ( <a href="#">Map</a> )                                                                                                                                                                       |                     |                               |                      |                      |                           |                     |
| Date: 7/11/2023                                                                                                                                                                                                     |                     |                               |                      |                      |                           |                     |
| Water Availability as of 7/11/2023                                                                                                                                                                                  |                     |                               |                      |                      |                           |                     |
| Exceedance Level: 80% <span>▼</span>                                                                                                                                                                                |                     |                               |                      |                      |                           |                     |
| Time: 11:04 AM                                                                                                                                                                                                      |                     |                               |                      |                      |                           |                     |
| <div><div>Water Availability Calculation</div><div>Water Rights</div><div>Consumptive Uses and Storages</div><div>Instream Flow Requirements</div><div>Watershed Characteristics</div><div>Reservations</div></div> |                     |                               |                      |                      |                           |                     |
| <b>Water Availability Calculation</b>                                                                                                                                                                               |                     |                               |                      |                      |                           |                     |
| 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                                                                                                                                                                                                                 | 96.90               | 0.57                          | 96.30                | 0.00                 | 88.00                     | 8.33                |
| FEB                                                                                                                                                                                                                 | 101.00              | 0.57                          | 100.00               | 0.00                 | 88.00                     | 12.40               |
| MAR                                                                                                                                                                                                                 | 71.50               | 0.50                          | 71.00                | 0.00                 | 88.00                     | -17.00              |
| APR                                                                                                                                                                                                                 | 52.60               | 0.55                          | 52.00                | 0.00                 | 76.70                     | -24.70              |
| MAY                                                                                                                                                                                                                 | 37.20               | 0.71                          | 36.50                | 0.00                 | 48.00                     | -11.50              |
| JUN                                                                                                                                                                                                                 | 19.10               | 0.76                          | 18.30                | 0.00                 | 29.90                     | -11.60              |
| JUL                                                                                                                                                                                                                 | 12.30               | 0.87                          | 11.40                | 0.00                 | 17.60                     | -6.17               |
| AUG                                                                                                                                                                                                                 | 11.50               | 0.82                          | 10.70                | 0.00                 | 13.80                     | -3.12               |
| SEP                                                                                                                                                                                                                 | 11.30               | 0.65                          | 10.60                | 0.00                 | 13.20                     | -2.55               |
| OCT                                                                                                                                                                                                                 | 9.84                | 0.50                          | 9.34                 | 0.00                 | 10.00                     | -0.66               |
| NOV                                                                                                                                                                                                                 | 10.40               | 0.49                          | 9.91                 | 0.00                 | 30.00                     | -20.10              |
| DEC                                                                                                                                                                                                                 | 46.10               | 0.51                          | 45.60                | 0.00                 | 88.00                     | -42.40              |
| ANN                                                                                                                                                                                                                 | 45,400.00           | 453.00                        | 45,000.00            | 0.00                 | 35,600.00                 | 10,000.00           |

Download Data ( [Text - Formatted](#), [Text - Tab Delimited](#), [Excel](#) )

## Well Location Map

# Application G-19208 Byron Jensen

## T7N, R3W, Section 16



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