

Approved: 

# MEMO

**To:** Kristopher Byrd, Well Construction and Compliance Section Manager  
**From:** Travis Kelly, Well Construction Program Coordinator  
**Subject:** Re-Review of Water Right Application LL-1783  
**Date:** June 25, 2020

The attached application was forwarded to the Well Construction and Compliance Section by the Groundwater Section. Ben Scandella and Jen Woody reviewed the application. Please see Ben and Jen's review and the Well Reports.

Applicant's Well #1 (YAMH 704): A review of the well report for this well appears to show that the construction does not meet minimum well construction standards based on the reported lithology. Because of this reported lithology, the well construction and compliance section (WCC) previously found that the well must be cased and sealed to a minimum depth of 38 feet bgs, however, since WCC's previous review, the Groundwater Section has performed a re-review that indicates the reported clay on the report is actually a claystone that is a confining unit. Based on this re-review by the Groundwater Section, WCC re-reviewed the construction of Applicant's Well #1 and has determined that the construction of 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 (YAMH 57912): Based on a review of the Well Report, Applicant's Well #2 seems to protect the groundwater resource.

The construction of Applicants Well #2 may not satisfy hydraulic connection issues.

Applicant's Well #3 (YAMH 57913): Based on a review of the Well Report, Applicant's Well #3 seems to protect the groundwater resource.

The construction of Applicants Well #3 may not satisfy hydraulic connection issues.

#16

APR 17 1991

YAMH 704  
YAMH 704

L-127717  
35/30/19ac

STATE OF OREGON WATER RESOURCES DEPT.  
WATER WELL REPORT SALEM, OREGON  
(as required by ORS 537.765)

(START CARD) # 17468

(1) OWNER: Name MR & Mrs C. I. Egan  
Address 10280 Oak Spring Farms Rd  
City Carlton State OR Zip 97111

(9) LOCATION OF WELL by legal description:  
County Yamhill Latitude Longitude  
Township 35 N or S, Range 3 W E or W, WM.  
Section 19 SW 1/4 NE 1/4  
Tax Lot Lot Block Subdivision  
Street Address of Well (or nearest address) Same

(2) TYPE OF WORK:  
 New Well  Deepen  Recondition  Abandon

(3) DRILL METHOD  
 Rotary Air  Rotary Mud  Cable  
 Other

(4) PROPOSED USE:  
 Domestic  Community  Industrial  Irrigation  
 Thermal  Injection  Other

(10) STATIC WATER LEVEL:  
2 ft. below land surface. Date 3/25/91  
Artesian pressure lb. per square inch. Date

(5) BORE HOLE CONSTRUCTION:  
Special Construction approval Yes No  
Explosives used Yes No Type Amount

(11) WATER BEARING ZONES:  
Depth at which water was first found

HOLE		SEAL		Amount sacks or pounds
Diameter	From To	Material	From To	
6	0 33	Cement	0 33	17
	33 120			

From	To	Estimated Flow Rate	SWL
110	120	30	2

How was seal placed: Method  A  B  C  D  E  
Backfill placed from ft. to ft. Material  
Gravel placed from ft. to ft. Size of gravel

(12) WELL LOG: Ground elevation 450

(6) CASING/LINER:  
Casing: Diameter 6 From 41 To 39 Gauge 1.250 Steel Plastic Welded Threaded  
Liner: 4" 5 120 Steel Plastic Welded Threaded

Material	From	To	SWL
Topsoil	0	1	
Clay Red	1	4	
Clay Tan	4	33	
Sandstone Gray	33	120	7

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:  
 Perforations Method SKILL Saw  
 Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
110	120	6"	27	1/16		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Date started 3/23/91 Completed 3/25/91

(8) WELL TESTS: Minimum testing time is 1 hour  
 Pump  Bailer  Air  Flowing Artesian  
Yield gal/min Drawdown Drill stem at Time

(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 well construction standards. Materials used and information reported above are true to my best knowledge and belief.

Temperature of water 51 Depth Artesian Flow Found  
Was a water analysis done? No Yes By whom  
Did any strata contain water not suitable for intended use? No Too little  
 Salty  Muddy  Odor  Colored  Other  
Depth of strata:

Signed \_\_\_\_\_ Date \_\_\_\_\_ WWC Number \_\_\_\_\_

(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 well construction standards. This report is true to the best of my knowledge and belief.  
Signed Tom Bryant WWC Number 703 Date 3/25/91



Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem Oregon 97301
(503) 986-0900
www.wrd.state.or.us

Application for
Well ID Number

Do not complete if the well already has a Well Identification Number.

I. OWNER INFORMATION

Current Owner Name (please print): Daniel & Sandi Wilkens
Mailing Address: 10280 NE OAK SPRINGS FARM RD.
City, State, Zip: CARLTON, OR 97111
Main Well ID Tag to: [X] SAME AS ABOVE [ ] In Care Of (C/O)
Name & Address: Using tag from Blue Water Drilling inventory
City, State, Zip:

II. WELL LOCATION INFORMATION (Please fill out as completely as possible)

Township: 3 (North/South) Range: 3 (East/West) Section: 19 SE 1/4 of the SW 1/4
Tax Lot (usually last 3-5 numbers of Tax Map #): R33-19-300 County Yamhill
GPS Coordinates:
Street Address of Well, City: 10280 NE OAK SPRINGS FARM RD, CARLTON
If the property had a different street address in the past:

III. GENERAL WELL INFORMATION (Please fill out as completely as possible, AND attach copy of Well Log, if available)

Use of Well (domestic, irrigation, commercial, industrial, monitoring): domestic
Date Well Constructed (or property built): 3/25/91 Total Well Depth: 120 Casing Diameter: 6
Owner at time the well was constructed (if known): Cloepfil Well Log # (if known): YAMH 704
Other Information:

SUBMITTED BY (please print): David Paysinger NWC #1438
PHONE: 503 868 7878 EMAIL &/or FAX: bluewaterdrilling@gmail.com

Send application to: Oregon Water Resources Department 725 Summer St NE, Suite A, Salem, Oregon 97301; or fax to (503) 986-0902.
Applications are processed in the order they are received, and Well ID Numbers are mailed within 4-5 business days.

For Official Use Only by the Oregon Water Resources Department:
Received Date: Well Log Number: L127717 Well Identification #:
RECEIVED

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

YAMH 57912
4/23/2018

WELL I.D. LABEL# L 127721
START CARD # 1038414
ORIGINAL LOG #

(1) LAND OWNER Owner Well I.D. 3125 (#2)
First Name DANIEL AND SANDI Last Name WILKINS
Company
Address 10280 NE OAK SPRINGS FARM RD
City CARLTON State OR Zip 97111

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

(2a) PRE-ALTERATION
Dia + From To Gauge Stl Plstc Wld Thrd
Casing: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
Material From To Amt sacks/lbs
Seal: [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

(3) DRILL METHOD
[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger [ ] Cable Mud
[ ] Reverse Rotary [ ] Other

(4) PROPOSED USE [X] Domestic [ ] Irrigation [ ] Community
[ ] Industrial/ Commercial [ ] Livestock [ ] Dewatering
[ ] Thermal [ ] Injection [ ] Other

(5) BORE HOLE CONSTRUCTION Special Standard [ ] (Attach copy)
Depth of Completed Well 222.00 ft.

Table with columns: Dia, From, To, Material, SEAL, Amt, lbs. Rows include Bentonite Chips and Calculated values.

How was seal placed: Method [ ] A [ ] B [ ] C [ ] D [ ] E
[X] Other POUR/PROBE/HYDRATE
Backfill placed from \_\_\_ ft to \_\_\_ ft. Material \_\_\_
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
[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
Shoe [ ] Inside [X] Outside [ ] Other Location of shoe(s) 76.5
Temp casing [X] Yes Dia 10 From + [X] 1 To 19

(7) PERFORATIONS/SCREENS
Perforations Method
Screens Type machine slotted Material PVC
Perf/ Casing/Screen Dia From To Scrn/slot Slot # of Tel/
Screen Liner Dia From To width length slots pipe size

(8) WELL TESTS: Minimum testing time is 1 hour
[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)
51 220 1
51 205 3
Temperature 54 °F Lab analysis [ ] Yes By
Water quality concerns? [ ] Yes (describe below) TDS amount 58 ppm
From To Description Amount Units

(9) LOCATION OF WELL (legal description)
County YAMHILL Twp 3.00 S N/S Range 3.00 W E/W WM
Sec 19 SE 1/4 of the SW 1/4 Tax Lot 300
Tax Map Number Lot
Lat ' ' " or 45.28926469 DMS or DD
Long ' ' " or -123.10517281 DMS or DD
[ ] Street address of well [ ] Nearest address
10501 NE ABBEY RD. CARLTON

(10) STATIC WATER LEVEL
Date SWL(psi) + SWL(ft)
Existing Well / Pre-Alteration
Completed Well 4/19/2018 14.5
Flowing Artesian? [ ] Dry Hole? [ ]

Table: WATER BEARING ZONES. Depth water was first found 29.00. Columns: SWL Date, From, To, Est Flow, SWL(psi), + SWL(ft). Rows: 4/18/2018, 4/19/2018.

(11) WELL LOG
Ground Elevation
Material From To
Top Soil 0 3
Clay, Red/Brown 3 16
Sandstone, wx brown/red decay 16 23
Sandstone/coarse compacted sand, gray 23 29
Clay, Dark red w/brown sandstone 29 45
Sandstone, gray fine 45 111
Sandstone/Siltstone gray, many layers 111 135
Sandstone, blue/green/gray coarse 135 211
Clay, Light gray marine 211 222

Date Started 4/18/2018 Completed 4/19/2018

(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 Date
Signed

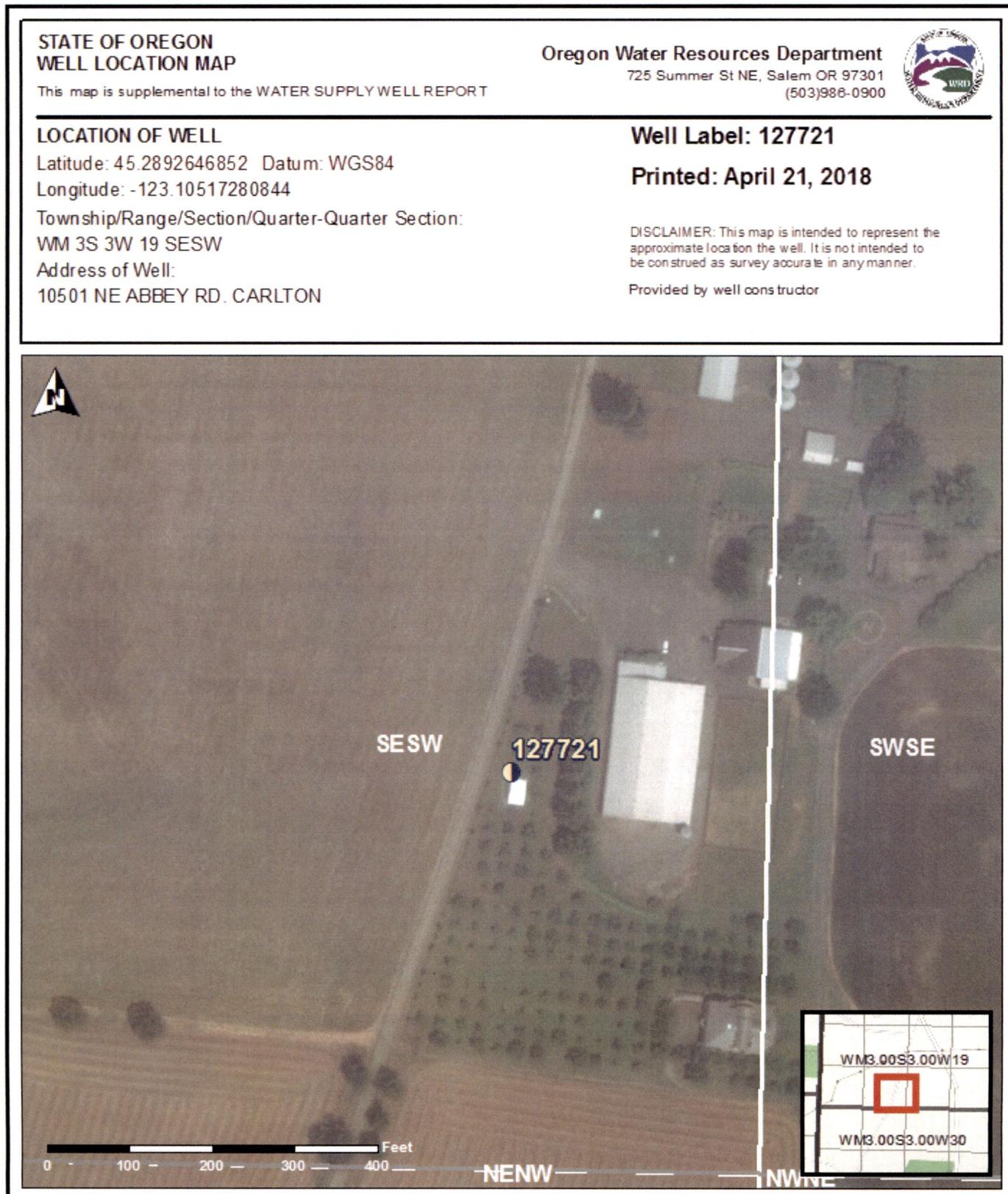
(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
License Number 1438 Date 4/23/2018
Signed DAVID PAYSINGER (E-filed)
Contact Info (optional) bluewaterdrilling.com || 503.868.7878

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

YAMH 57912

4/23/2018

### Map of Hole



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

YAMH 57913  
4/23/2018

WELL I.D. LABEL# L 127722  
START CARD # 1038436  
ORIGINAL LOG #

(1) LAND OWNER Owner Well I.D. 3126 (#3)  
First Name DANIEL AND SANDI Last Name WILKINS  
Company  
Address 10501 NE ABBEY RD. CARLTON  
City CARLTON State OR Zip 97111

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

(2a) PRE-ALTERATION  
Dia + From To Gauge Stl 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 222.00 ft.

BORE HOLE SEAL sacks/lbs

Dia	From	To	Material	From	To	Amt	lbs
10	0	38	Bentonite Chips	0	38	21	S
6	38	222			Calculated	18	
					Calculated		

How was seal placed: Method  A  B  C  D  E  
 Other POUR/PROBE/HYDRATE  
Backfill placed from ft to ft. Material  
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  
Shoe  Inside  Outside  Other Location of shoe(s) 38  
Temp casing  Yes Dia 10 From + 1 To 19

(7) PERFORATIONS/SCREENS  
Perforations Method  
Screens Type machine slotted Material PVC  
Perf/ Casing/ Screen Dia From To Scrn/slot Slot # of Tele/  
Screen Liner Dia From To width length slots pipe size

Perf/ Screen	Casing/ Liner	Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/ pipe size
Screen	Liner	4	104	222	.032			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)  
Temperature 54 °F Lab analysis  Yes By  
Water quality concerns?  Yes (describe below) TDS amount 76 ppm  
From To Description Amount Units

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
21		220	1
21		210	3

(9) LOCATION OF WELL (legal description)  
County YAMHILL Twp 3.00 S N/S Range 3.00 W E/W WM  
Sec 19 SE 1/4 of the SW 1/4 Tax Lot 300  
Tax Map Number Lot  
Lat " or 45.28838911 DMS or DD  
Long " or -123.10557648 DMS or DD  
 Street address of well  Nearest address  
10501 NE ABBEY RD. CARLTON, CARLTON, OR 97111

(10) STATIC WATER LEVEL  
Date SWL (psi) + SWL (ft)  
Existing Well / Pre-Alteration  
Completed Well 4/20/2018 24  
Flowing Artesian?  Dry Hole?

WATER BEARING ZONES Depth water was first found 131.00

SWL Date	From	To	Est Flow	SWL (psi)	+ SWL (ft)
4/20/2018	131	209	21		24

(11) WELL LOG Ground Elevation

Material	From	To
Top Soil	0	2
Clay, Red/Brown	2	7
Claystone, gray/brown	7	13
Sandstone, Weathered brown	13	19
Sandstone, gray fine	19	50
Sandstone, medium hard coarse gray	50	93
Sandstone, hard gray fine to med coarse	93	106
Sandstone, same w/occ claystone layers	106	131
Sandstone, LT/DK gray layers, hard	131	209
Clay, Light gray soft	209	222

Date Started 4/20/2018 Completed 4/20/2018

(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 Date  
Signed

(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 1438 Date 4/23/2018  
Signed DAVID PAYSINGER (E-filed)  
Contact Info (optional) bluewaterdrilling.com || 503.868.7878

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

YAMH 57913

4/23/2018

Map of Hole

<b>STATE OF OREGON WELL LOCATION MAP</b>	<b>Oregon Water Resources Department</b>	
This map is supplemental to the WATER SUPPLY WELL REPORT	725 Summer St NE, Salem OR 97301 (503)986-0900	
<b>LOCATION OF WELL</b>	<b>Well Label: 127722</b>	
Latitude: 45.2883891063 Datum: WGS84	<b>Printed: April 23, 2018</b>	
Longitude: -123.10557648089	DISCLAIMER: This map is intended to represent the approximate location the well. It is not intended to be construed as survey accurate in any manner.	
Township/Range/Section/Quarter-Quarter Section:	Provided by well constructor	
WM 3S 3W 19 SESW		
Address of Well:		
10501 NE ABBEY RD. CARLTON, CARLTON, OR 97111		



# Groundwater Application Review Summary Form

Application # LL- 1783

GW Reviewer Ben Scandella, Jen Woody Date Review Completed: 6/16/2020

## 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**

**June 16**, **2020**

**TO:** Application LL- 1783

**FROM:** GW: Ben Scandella, Jen woody  
(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

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 6/16/2020  
 FROM: Groundwater Section Benjamin Scandella, Jen Woody  
 Reviewer's Name  
 SUBJECT: Application LL-1783 Supersedes review of 6/7/2019  
 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: EMILY EVERETT; SANDAN, LLC County: YAMHILL

- A1. Applicant(s) seek(s) 0.067 cfs (30 gpm) from 3 well(s) in the Willamette Basin,  
Chehalem Creek subbasin
- A2. Proposed use IRRIGATION OF VINEYARD Seasonality: JANUARY 1 THROUGH DECEMBER 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 704	1	Bedrock	0.067	3S/3W-19 SE-SW	660' N, 2950' W fr SE cor S 19
2	YAMH 57912	2	Bedrock	0.067	3S/3W-19 SE-SW	490' N, 3015' W fr SE cor S 19
3	YAMH 57913	3	Bedrock	0.067	3S/3W-19 SE-SW	160' N, 32770' W fr SE cor S 19
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	375	110	2	3/25/1991	120	0-33	+1-39	5-120	110-120	30	90	Bail
2	385	29	14.5	4/19/2018	222	0-76	+1.5-76.5	2-122	122-222	51	N/A	Air
3	390	131	24	4/20/2018	222	0-38	+2-38	4-104	104-222	21	N/A	Air

Use data from application for proposed wells.

- A4. **Comments:** The applicant's wells are located on the southern edge of the Chehalem Valley, about 3 miles north of Lafayette. The applicants requested a total annual volume of 2.5 acre-feet, which would be reached after 19 days of continuous pumping at the requested rate. This review assumes that the total annual volume does not exceed 2.5 acre-feet.
- 
- 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 applicant's well will produce from a confined aquifer, so the pertinent basin rules (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 (Annual Measurement), Large Water Use Reporting ;
  - ii.  The permit should be conditioned as indicated in item 2 below.
  - iii.  The permit should contain special condition(s) as indicated in item 3 below;

- B2. a.  Condition to allow groundwater production from no deeper than \_\_\_\_\_ ft. below land surface;
- b.  Condition to allow groundwater production from no shallower than \_\_\_\_\_ ft. below land surface;
- c.  Condition to allow groundwater production only from the \_\_\_\_\_ groundwater reservoir between approximately \_\_\_\_\_ ft. and \_\_\_\_\_ ft. below land surface;
- d.  Well reconstruction is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.

**Describe injury** –as related to water availability– that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

B3. **Groundwater availability remarks:** Groundwater for the proposed use cannot be determined to be over-appropriated due to insufficient available data regarding rates of recharge and the current quantity of groundwater withdrawals from the aquifer system.

The subject wells are all completed in the low-yield bedrock aquifer system, which is composed of Tertiary marine sedimentary and volcanic rocks. This system generally has low porosity, low permeability, and low well yield. Most of the available pore space in this unit is likely to occur in fractures where groundwater is confined by the low-permeability matrix (Conlon, 2005; Woodward et al., 1998). The applicant is requesting a rate of 30 gpm, which is high relative to typical well yields in the area but may be achieved with the combination of 3 proposed wells.

Limited water-level data in the area show no evidence of long-term declines. Domestic and irrigation well densities are quite low in the area. The nearest domestic wells appear to be at least ¼-mile from the subject wells (based on tax lot data and 2018 Oregon Statewide Imagery digital imagery) but precise locations are unknown. The nearest irrigation wells are at distances greater than 2200 feet.

There is a permitted spring with a certificated water right (Certificate 11154) within 1,700 feet of the subject wells and at an elevation consistent with their water levels. Another certificated spring (Certificate 61841) is also located within ½ mile. The proximity of these springs suggests that they may be vulnerable to injury, but estimating the magnitude of interference from the proposed use is difficult due to the fractured hydrogeology with a wide range of transmissivity estimates and unknown anisotropy. Furthermore, the sensitivity of the springs' flow to interference is unknown. Given the close proximity of the certificated springs and the general properties of the aquifer, it would be prudent to include water-level and water-use

monitoring conditions if the Department issues a Limited License. In addition, the potential for injury at the proposed rate indicates that the Limited License should include the following shut-off condition:

Special Condition: water use from all wells on this Limited License shall be shut off if either Certificate 11154 or Certificate 61841 does not receive the water to which it is legally entitled. The wells shall remain shut off until the following December, unless their use is specifically re-authorized by the Director.

This special condition would be unnecessary if the rate is reduced to 0.0039 cfs (1.8 gpm), the maximum rate allowed without PSI in the Chehalem WAB.

**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"/>
2	Bedrock	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Bedrock	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Basis for aquifer confinement evaluation:** General experience indicates that the low-yield bedrock aquifer is typically confined. Also, the well logs for all 3 wells show static water levels significantly above the top of the water-bearing zones accessed by the wells, and such observations are consistent with confined conditions.

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	Unnamed trib. Chehalem Cr	370	220-250	1930	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Unnamed trib. Hawn Cr	370	182-230	3000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	3	Unnamed trib. Millican Cr	370	175-310	3700	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	Unnamed trib. Chehalem Cr	370	220-250	2090	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	2	Unnamed trib. Hawn Cr	370	182-230	2800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	3	Unnamed trib. Millican Cr	370	175-310	3600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	1	Unnamed trib. Chehalem Cr	365	220-250	2400	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	2	Unnamed trib. Hawn Cr	365	182-230	2600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	3	Unnamed trib. Millican Cr	365	175-310	3600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Basis for aquifer hydraulic connection evaluation:** Surface water elevations reflect the range of elevations within 1 mile of any of the proposed POAs. Water-table maps, where they exist in the marine sedimentary aquifer system, generally show flow paths that converge on local perennial streams. Groundwater elevations at the subject wells are coincident or above nearby springs and surface water, and therefore likely discharge to springs and provide base flow to streams. Therefore, all 3 wells are likely connected to all 3 surface water sources. Although the wells are physically located within the Chehalem Creek watershed, they occur at the drainage divide with the Yamhill River watershed and have the potential to impact streamflow in both watersheds. Impacts are only assessed against the Chehalem Creek Water Availability Basin in the following tables since it is the limiting watershed with the lowest natural streamflows.

**Water Availability Basin the well(s) are located within:** Chehalem Cr. > Willamette R. (WID 30200707); YAMHILL R > WILLAMETTE R - AB PALMER CR (WID 188)

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"/>	0.39	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
1	2	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	56.30	<input type="checkbox"/>		<input type="checkbox"/>
1	3	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	56.30	<input type="checkbox"/>		<input type="checkbox"/>
2	1	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	0.39	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
2	2	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	56.30	<input type="checkbox"/>		<input type="checkbox"/>
2	3	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	56.30	<input type="checkbox"/>		<input type="checkbox"/>
2	1	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	0.39	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
3	2	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	56.30	<input type="checkbox"/>		<input type="checkbox"/>
3	3	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	56.30	<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:** The requested rate exceeds 1% of the 80% Natural Flow in the Chehalem Creek WAB, so PSI was assumed for all the wells to SW #1. The finding of PSI would be reversed if the rate was set at or below 0.0039 cfs (1.8 gpm). Interference @ 30 days was not calculated in Table C3a or C3b because of the lack of a readily available suitable model for fractured bedrock aquifer systems and a lack of knowledge about 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												

(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:** N/A

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:**

Conlon, T.D., 2005. Ground-Water Hydrology of the Willamette Basin, Oregon. Reston, Va.: U.S. Dept. of the Interior, U.S. Geological Survey. <http://purl.access.gpo.gov/GPO/LPS100769>. Accessed 7 Jun 2018.

Wells, R.E., A.R. Niem, N.S. MacLeod, P.D. Snively, and W.A. Niem, 1983. Preliminary Geologic Map of the West Half of the Vancouver (Wa.-Ore.) 1 Degree X 2 Degree Quadrangle, Oregon. [https://ngmdb.usgs.gov/Prodesc/prodesc\\_14118.htm](https://ngmdb.usgs.gov/Prodesc/prodesc_14118.htm). Accessed 16 Jun 2020.

Woodward, D.G., M.W. Gannett, and J.J. Vaccaro, 1998. Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington. U.S. G.P.O. ; For sale by U.S. Geological Survey, Information Services, Washington : Denver, CO.

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

D1. **Well #:** 1 **Logid:** YAMH 704

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:** According to the state geologic map, the subject wells penetrate either the Spencer Formation or the Pittsburg Bluff Formation. In either case, these are lithified marine sedimentary rocks, notwithstanding how the driller described them on the well logs. The newer well logs (YAMH 57912 & 57913) report claystone or sandstone beginning at relatively shallow depths (16 feet and 7 feet, respectively). This is consistent with the description of these units from the original source for the state geologic map in this area (Wells et al., 1983), which describes the Pittsburg Bluff Formation as siltstones and sandstones and the Spencer Formation as friable sandstone, siltstone, and claystone. Therefore, while well log for YAMH 704 (about 180 feet north of YAMH 57912) describes clay from 1-44 feet, the geologic context suggests that this shallow lithology is actually claystone.

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

Water Availability Tables

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION  
 Water Availability as of 10/19/2004 for  
 CHEHALEM CR > WILLAMETTE R - AT MOUTH

Watershed ID #: 30200707 Basin: WILLAMETTE Exceedance Level: 80  
 Time: 15:19 Date: 10/19/2004

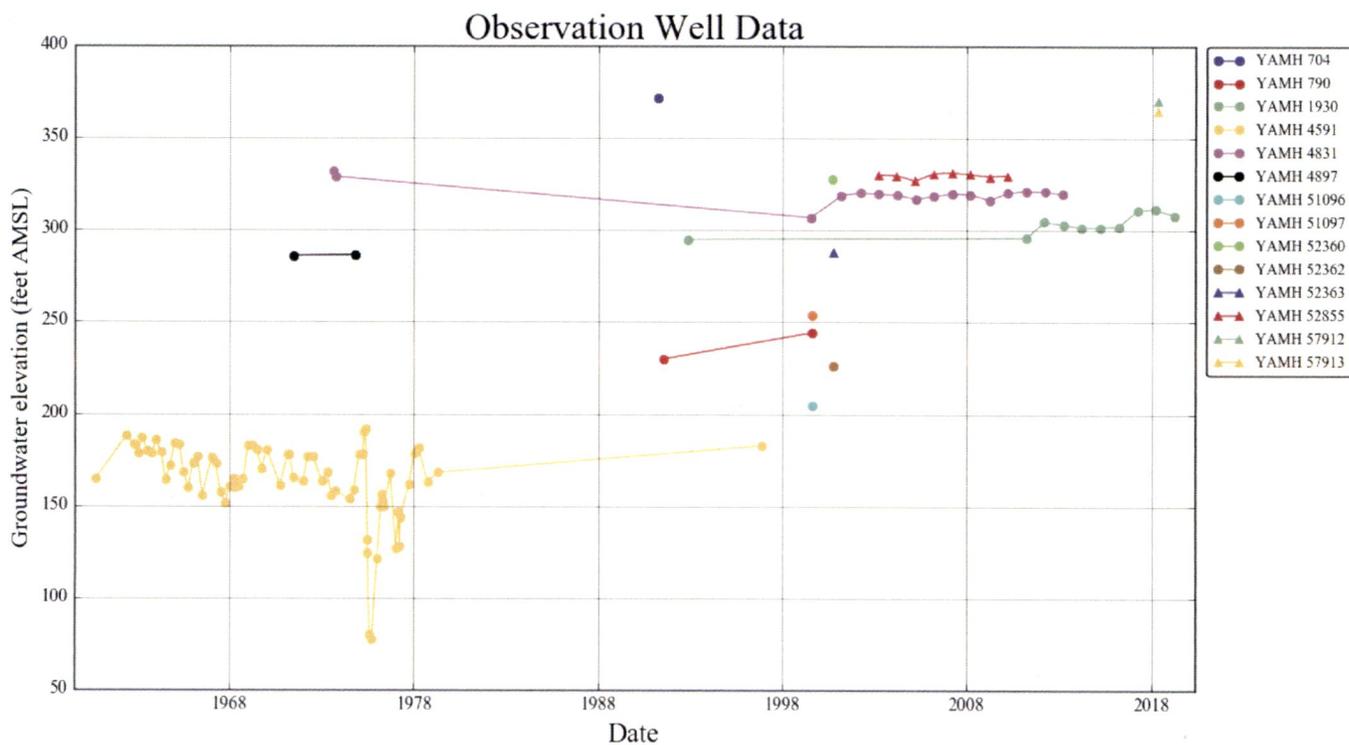
Month	Natural Stream Flow	CU + Stor Prior to 1/1/93	CU + Stor After 1/1/93	Expected Stream Flow	Reserved Stream Flow	Instream Water Rights	Net Water Available
1	101.00	3.11	0.00	97.90	0.00	0.00	97.90
2	115.00	2.97	0.00	112.00	0.00	0.00	112.00
3	80.60	2.20	0.00	78.40	0.00	0.00	78.40
4	33.00	1.31	0.00	31.70	0.00	0.00	31.70
5	14.90	1.87	0.00	13.00	0.00	0.00	13.00
6	8.48	3.14	0.00	5.34	0.00	0.00	5.34
7	2.13	4.69	0.00	-2.56	0.00	0.00	-2.56
8	0.59	3.87	0.00	-3.28	0.00	0.00	-3.28
9	0.39	2.26	0.00	-1.87	0.00	0.00	-1.87
10	3.05	0.61	0.00	2.44	0.00	0.00	2.44
11	11.50	0.90	0.00	10.60	0.00	0.00	10.60
12	66.20	2.44	0.00	63.80	0.00	0.00	63.80
Stor	48900	1770	0	47300	0	0	47300

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

Watershed ID #: 188 Basin: WILLAMETTE Exceedance Level: 80  
 Time: 3:09 PM Date: 06/03/2019

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net water Available
Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft.						
JAN	1,780.00	57.80	1,720.00	0.00	31.00	1,690.00
FEB	2,010.00	55.80	1,950.00	0.00	31.00	1,920.00
MAR	1,710.00	34.10	1,680.00	0.00	31.00	1,640.00
APR	1,030.00	41.40	989.00	0.00	31.00	958.00
MAY	512.00	56.00	456.00	0.00	31.00	425.00
JUN	229.00	75.20	154.00	0.00	31.00	123.00
JUL	107.00	95.50	11.50	0.00	31.00	-19.50
AUG	66.60	84.50	-17.90	0.00	31.00	-48.90
SEP	56.30	53.80	2.45	0.00	31.00	-28.50
OCT	72.70	14.90	57.80	0.00	31.00	26.80
NOV	465.00	31.10	434.00	0.00	31.00	403.00
DEC	1,640.00	54.90	1,590.00	0.00	31.00	1,550.00
ANN	1,150,000	39,600	1,110,000	0	22,500	1,090,000

Water-Level Measurements in Nearby Wells



Well Location Map

# LL-1783 (Sandán, LLC) 3S/3W-19

