Groundwater Application Review Summary Form

Application # G- 18574

GW Reviewer DENNIS ORLOWSKI **Date Review Completed:** 8/16/18

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.
DO 8/17/18

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).

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager

From: Joel Jeffery, Well Construction Program Coordinator

Subject: Review of Water Right Application G-18574

Date: August 21, 2018

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Dennis Orlowski reviewed the application. Please see Dennis's Groundwater Review and the Well Logs.

Applicant's Well #1 (POLK 52023): 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 (POLK 3227): Based on a review of the well report, Applicant's Well #2 does not appear to comply with current minimum well construction standards (See OAR 690 Division 210). The well report indicates that the well is currently sealed to a depth of 25 feet below ground surface. In order to meet minimum well construction standards the well must be continuously cased and continuously sealed to a minimum depth of 39 feet below land surface.

My recommendation is that the Department **not issue** a permit for Applicant's Well #2 (POLK 3227) unless it is brought into compliance with current minimum well construction standards or information is provided showing that it is in compliance with current minimum well construction standards.

Bringing Applicant's Well #2 into compliance with minimum well construction standards may not satisfy hydraulic connection issues.

Applicant's Well #3 (POLK 375): Based on a review of the well report, Applicant's Well #3 does not appear to comply with current minimum well construction standards (See OAR 690 Division 210). The well report indicates that the well is currently sealed to a depth of 18 feet below ground surface. In order to meet minimum well construction standards the well must be continuously cased and continuously sealed to a minimum depth of 50 feet below land surface.

My recommendation is that the Department **not issue** a permit for Applicant's Well #3 (POLK 375) unless it is brought into compliance with current minimum well construction standards or information is provided showing that it is in compliance with current minimum well construction standards.

Bringing Applicant's Well #3 into compliance with minimum well construction standards may not satisfy hydraulic connection issues.

16

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765)

POIR 375

RECEIVED
NOV - 4 1991
WATER RESOURCES DEPT
SALEM, OREGON

8s/4W-18bb

(START CARD) # 29823

(1) OWNER: Well Number:
Name Willamette Pollen (Miles Inc/Hallmark Steel)
Address P.O. Box 447
City Monmouth State Oregon Zip 97361

(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

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes ☐ No ☑ Depth of Completed Well 95 ft.
Explosives used Yes ☐ No ☐ Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
12	0	18	bentonite	0	18	10
8	18	95				

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

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8"	+1	92'	250	☑	☐	☑	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:
☑ Perforations Method mill knife
☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
63	78	.25"	60	1/4"	8"	☑	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☑ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
			1 hr.
36 gpm	60'		2hr.

Temperature of water 52° Depth Artesian Flow Found
Was a water analysis done? ☐ Yes By whom
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County Polk Latitude Longitude
Township 8 N or S Range 4 E or W WM.
Section 18 NW ¼ NW ¼
Tax Lot Lot Block Subdivision
Street Address of Well (or nearest address) 3395 S. Pacific Hwy Independence, Ore 97351

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

(11) WATER BEARING ZONES:
Depth at which water was first found 57'

From	To	Estimated Flow Rate	SWL
57'	90	36 gpm	30'

(12) WELL LOG: Ground elevation

Material	From	To	SWL
Topsoil	0	1.5	—
brown clay	1.5	18.5	—
Gray Clay w/ medium gravel	18.5	31	—
Sandy blue Clay	31	34	—
Cement gravel in gray clay	34	45	—
Gray Clay	45	57	—
blue gray clay w/ open gravel + fine sand	57	90	30
sandy blue gray Clay	90	95	30

Date started 10/8/91 Completed 10/26/91

(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.
WWC Number
Signed Dickerson Well Drilling, Inc Date

(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.
WWC Number 1511
Signed William R. Blair Date 10/26/91

ORIGINAL & FIRST COPY - WATER RESOURCES DEPARTMENT SECOND COPY - CONSTRUCTOR THIRD COPY - CUSTOMER 9809C 3/88

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
WATER RESOURCES DEPARTMENT,
SALEM, OREGON 97310
within 30 days from the date of well completion.

WATER WELL REPORT

STATE OF OREGON
(Please type or print)
(Do not write above this line)

Polk 3227

State Well No. 8S/5W-12

State Permit No. .....

(1) OWNER:
Name Willamette Pollen
Address 3395 Pacific Hwy Monmouth

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☒ Test Well ☐ Other ☐

(5) CASING INSTALLED:
Threaded ☐ Welded ☒
10" Diam. from +1 ft. to 76 ft. Gage .250
....." Diam. from ..... ft. to ..... ft. Gage .....
....." Diam. from ..... ft. to ..... ft. Gage .....

(6) PERFORATIONS:
Perforated? ☒ Yes ☐ No.
Type of perforator used torch
Size of perforations 1/4 in. by 6 in.
40 perforations from 55 ft. to 75 ft.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name .....
Type ..... Model No. .....
Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.
Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: ..... gal./min. with ..... ft. drawdown after ..... hrs.
" " " "
" " " "
Bailer test 40 gal./min. with 52 ft. drawdown after 1 hrs.
Artesian flow ..... g.p.m.
Temperature of water ..... Depth artesian flow encountered ..... ft.

(9) CONSTRUCTION:
Well seal—Material used cement grout
Well sealed from land surface to 25 ft.
Diameter of well bore to bottom of seal 14 in.
Diameter of well bore below seal 10 in.
Number of sacks of cement used in well seal 10 sacks
How was cement grout placed? pumped
Was a drive shoe used? ☒ Yes ☐ No Plugs ..... Size: location ..... ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? ..... depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel: .....
Gravel placed from ..... ft. to ..... ft.

(10) LOCATION OF WELL:
County Polk Driller's well number
¼ ¼ Section 12 T. 8S R. 5W W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 60 ft.
Static level 18 ft. below land surface. Date July 9, 80
Artesian pressure ..... lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing .....
Depth drilled ..... ft. Depth of completed well ..... ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
brown clay	0	22'	
brown clay-gravels	22'	34'	
blue-green layers of clay	34	55'	
blue-gray clay with layers of pea gravels and gray sand	55'	80'	18'

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JUL 16 1980
WATER RESOURCES DEPT
SALEM, OREGON

Work started July 1 1980 Completed July 9 1980
Date well drilling machine moved off of well July 9 1980

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Thomas Reed (Drilling Machine Operator) Date July 9, 1980
Drilling Machine Operator's License No. 924

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name EOLA WELL DRILLING (Person, Firm or Corporation) (Type or print)
Address 4510 DALLAS HWY. N.W. SALEM, OR 97304
[Signed] Kenneth K. Bennett (Water Well Contractor)
Contractor's License No. 619 Date 7-14-, 1980

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

POLK 52023

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)
Instructions for completing this report are on the last page of this form.

(WELL I.D.)# L 65554
(START CARD) # 168050

(1) OWNER: Well Number 1
Name Don & Sharon Roberts - Clay & Rhonda Johnson
Address 3395 Pacific Hwy
City Independence, State OR Zip 97351

(2) TYPE OF WORK
☑ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:
☑ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger
☐ Other

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

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☑ No Depth of Completed Well 260 ft.
Explosives used ☐ Yes ☑ No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
10"	0	18	Bentonite	0	18	9 bags
6"	18	260				

How was seal placed: Method ☐A ☐B ☐C ☐D ☐E
☑ Other Filled to top with dry bentonite
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6"	+1	61	250	☑	☐	☑	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) 61'

(7) PERFORATIONS/SCREENS:
☑ Perforations Method down hole perforator
☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
22	30	.250	120	1" long	6"	☑	☐
40	50	.250	120	1" long	6"	☑	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☑ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
20		60'	1 hr.

Temperature of water 53* Depth Artesian Flow Found
Was a water analysis done? ☐ Yes By whom
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County Polk Latitude Longitude
Township 8 S Range 4 W WM.
Section 18 NE 1/4 SW 1/4
Tax Lot 202 Lot Block Subdivision
Street Address of Well (or nearest address) Same

(10) STATIC WATER LEVEL:
12' ft. below land surface. Date 8/12/2004
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:
Depth at which water was first found 22'

From	To	Estimated Flow Rate	SWL
22	33	3 GPM	12
40	50	7 GPM	12
63	71	10 GPM	

(12) WELL LOG:
Ground Elevation

Material	From	To	SWL
Brown clay - gray blue clay sandy	0	3	
Gravels - sandy gray blue clay - small	3	22	12
Gravels - sandy blue clay small	22	33	
Gray blue clay black sand	33	52	
Gray blue clay sandy	52	63	
Sand blue black pea gravel	63	71	
Gray brown clay firm	71	260	

Ron Robinson Well Drilling
4520 Salem Dallas Hwy NW
Salem, OR 97304
503.371.1844

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AUG 23 2004
WATER RESOURCES DEPT
SALEM, OREGON

Date started 8/9/2004 Completed 8/12/2004

(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.
WWC Number
Signed Date

(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.
WWC Number 1585
Signed Date 8/13/2004

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

RECEIVED
OVER THE COUNTER

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date August 16, 2018
FROM: Groundwater Section Dennis Orlowski
Reviewer's Name
SUBJECT: Application G- 18574 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: **Bob Holding Co. LLC** County: **Polk**

A1. Applicant(s) seek(s) 0.2139 (*see note) cfs from three well(s) in the Willamette Basin, Willamette subbasin

A2. Proposed use Nursery (49.23 acres) Seasonality: 1/1 – 12/31

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	POLK 52023	1	Alluvium	0.0446	T8S/R4W-18 NW-NW	300'S, 937'E fr NW cor S 18
2	POLK 3227	2	Alluvium	0.0891	T8S/R4W-7 SW-SW	835' N, 1080' E fr SW cor S 7
3	POLK 375	3	Alluvium	0.0802	T8S/R4W-7 SW-SW	540' N, 1080' E fr SW cor S 7

* 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	195	22	12	8/12/2004	260	0-18	+1-61	--	22-30, 40-50	20	--	Air
2	205	60	18	7/9/1980	80	0-25	+1-75	--	55-75	40	52	Bail
3	202	57	30	10/26/1991	95	0-18	+1-92	--	63-78	36	60	Bail

Use data from application for proposed wells.

A4. **Comments:** The proposed POU/POA area is approximately 2 miles due north of Monmouth, Oregon.

*Note: Section 3 of the application indicates the following proposed well-specific rates for each of the three proposed POAs:

- Well 1/POLK 52023: 20 gpm (~0.0446 cfs)
- Well 2/POLK 3227: 40 gpm (~0.0891 cfs)
- Well 3/POLK 375: 36 gpm (~0.0802 cfs).

This well-specific distribution is contrary to information currently shown on WRIS, which instead shows the same maximum rate (96 gpm, ~0.2139 cfs) for each of the three proposed POAs. **This review uses the well-specific rates indicated on the application, and as tabulated above.**

A5. ☒ **Provisions of the** Willamette Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water ☐ **are**, *or* ☒ **are not**, activated by this application. (Not all basin rules contain such provisions.)
Comments: The proposed POAs obtain groundwater from a confined aquifer, and thus 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: **None.**
Comments: Not applicable.

B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data**, I have determined that groundwater* for the proposed use:

a. ☐ **is** over appropriated, ☒ **is not** over appropriated, *or* ☐ **cannot be determined to be** over appropriated during any period of the proposed use. * This finding is limited to the groundwater portion of the over-appropriation determination as prescribed in OAR 690-310-130;

b. ☐ **will not** *or* ☐ **will** likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the groundwater portion of the injury determination as prescribed in OAR 690-310-130;

c. ☐ **will not** *or* ☐ **will** likely to be available within the capacity of the groundwater resource; or

d. ☒ **will, if properly conditioned**, avoid injury to existing groundwater rights or to the groundwater resource:
   i. ☒ The permit should contain condition #(s) **7c (7-yrs measurements), medium 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:** The proposed POAs obtain groundwater from water-bearing sand and gravel deposits of the Willamette Aquifer system. In this area the sand and gravel layers typically occur as beds ranging from ~5-20 ft thick, with a total cumulative thickness of ~30-40 feet, and are regularly interspersed with low-permeability silt and clay layers of similar thickness. The uppermost water-bearing layers are overlain by approximately 20-30 ft of silt and clay deposits (Willamette Silt) (Conlon and others, 2005; Gannett and Caldwell, 1998).

Although this area is almost exclusively agricultural, groundwater exploitation appears to be relatively very low. It is possible these local irrigation water needs are met by municipal and/or quasi-municipal supply systems, or from surface water sources. The nearest known permitted groundwater uses are two irrigation POAs located approximately 0.8 miles to the east-northeast (certificate 93430) and southeast (certificate 28369). There are several rural residences within about 0.25 miles of the proposed POA locations, but it is unknown if they possess domestic wells or are instead served by a public source.

Available groundwater level data is very sparse. However, available data indicate general stability, although the most recent measurements are from about 20-25 years ago (see hydrograph). Because groundwater exploitation in the area appears to be quite low, and the shallow aquifer system benefits from relatively-high recharge rates (Conlon and others, 2005), groundwater is likely not over appropriated in this area. Nonetheless, if a permit is granted the recommended permit conditions should be included to monitor and protect the resource and other groundwater rights 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	**Alluvium (Willamette Aquifer system)**	☒	☐
2	**Alluvium (Willamette Aquifer system)**	☒	☐
3	**Alluvium (Willamette Aquifer system)**	☒	☐

Basis for aquifer confinement evaluation: The water-bearing zones in the proposed POAs are overlain by approximately 20-30 feet of low-permeability silts and clays (Willamette Silt) which act as a confining unit. Furthermore, static groundwater levels in nearby wells are above the top of water-bearing units within the aquifer. These factors suggest that the proposed wells will obtain groundwater from a confined aquifer.

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? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	1	**North Fork Ash Creek**	**180-190**	**180-210**	**2330**	☒	☐	☐	☐	☒
2	1	**North Fork Ash Creek**	**180-190**	**180-210**	**2100**	☒	☐	☐	☐	☒
3	1	**North Fork Ash Creek**	**180-190**	**180-210**	**2230**	☒	☐	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: Estimated groundwater elevations in all three proposed POAs are coincident with the estimated elevation range of SW1 within approximately one mile of the POAs. Also, the USGS groundwater map (Gannett and Caldwell, 1998) indicates that groundwater in this area flows towards and thus discharges to SW1 (i.e., a gaining reach). These facts indicate that the alluvial groundwater system is hydraulically connected to SW1.

Water Availability Basin the well(s) are located within: WID 183: Willamette R > Columbia R – above Mill Cr at gage 14191000.

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?
		☐	☐			☐		☐		☐

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.

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	☐	☐	MF183A	1300	☐	3620	☐	<<25%	☐
2	1	☐	☐	MF183A	1300	☐	3620	☐	<<25%	☐
3	1	☐	☐	MF183A	1300	☐	3620	☐	<<25%	☐

Comments: C3a: not applicable because Q distributed amongst wells (per application).

C3b: According to Section 3 of the application, the requested allocation per well is as follows:

- Well 1/POLK 52023: 20 gpm (~0.0446 cfs)
- Well 2/POLK 3227: 40 gpm (~0.0891 cfs)
- Well 3/POLK 375: 36 gpm (~0.0802 cfs).

Relative to the minimum instream and 80% exceedance flows for SW1, the requested allocations are extremely low, such that the estimated interference at 30 days would be much less than 25%.

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: Not applicable.

C4b. **690-09-040 (5) (b) The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.**

C5. ☐ **If properly conditioned**, the surface water source(s) can be adequately protected from interference, and/or groundwater use under this permit can be regulated if it is found to substantially interfere with surface water:

i. ☐ The permit should contain condition #(s)_____;

ii. ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

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

References Used:

Application file: G-18574

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.

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, 82 p.

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** _____ **Logid:** _____

D2. **THE WELL does not appear to meet current well construction standards based upon:**

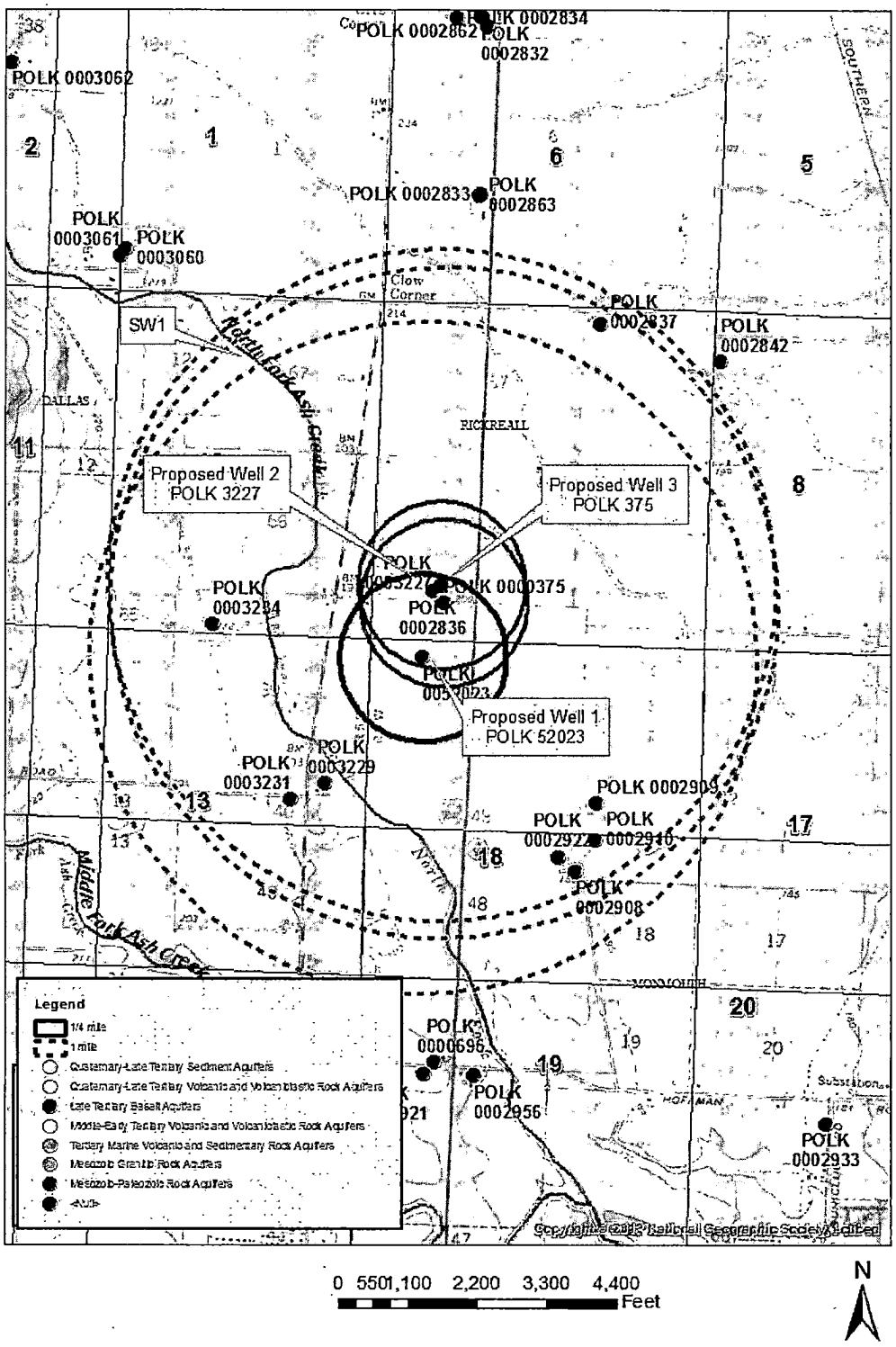
a. ☐ review of the well log;
b. ☐ field inspection by _____;
c. ☐ report of CWRE _____;
d. ☐ other: (specify) _____

D3. **THE WELL construction deficiency or other comment is described as follows:** _____

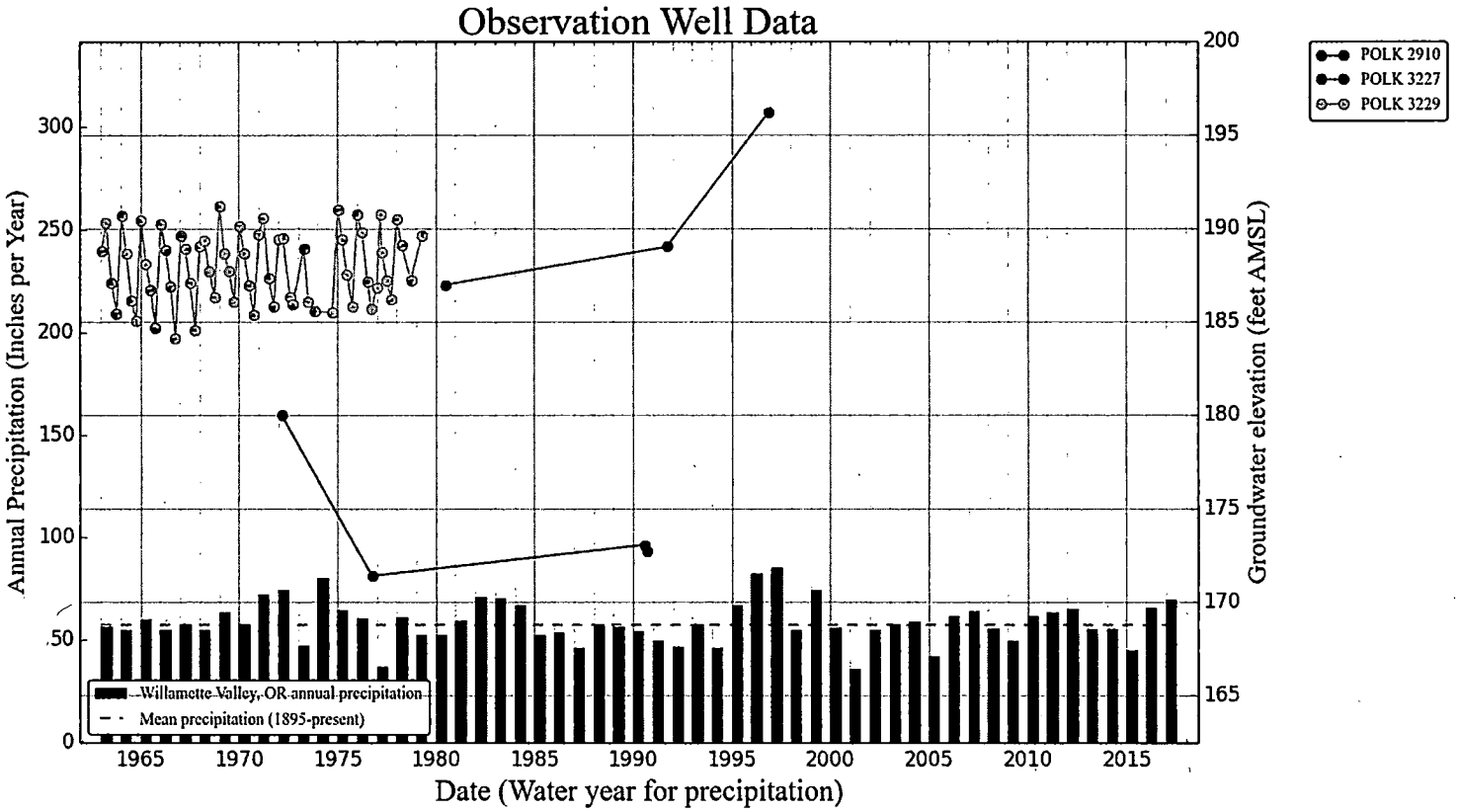
D4. ☐ **Route to the Well Construction and Compliance Section for a review of existing well construction.**

Well Location Map

Application G-18574, Bob Holding Co., LLCd
T8S, R4W - Sections 7, 18



Water-Level Trends in Nearby Wells



Water Availability Tables

Oregon Water Resources Department
Water Availability Analysis

Main Help
Return Contact Us

Water Availability Analysis
Detailed Reports

WILLAMETTE R > COLUMBIA R - AB MILL CR AT GAGE 14191000
WILLAMETTE BASIN
Water Availability as of 8/16/2018

Watershed ID #: 183 (Map)
Date: 8/16/2018

Exceedance Level: 80%
Time: 1:00 PM

Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations | Water Rights | Watershed Characteristics

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	18,400.00	2,240.00	16,200.00	0.00	1,300.00	14,900.00
FEB	20,100.00	7,430.00	12,700.00	0.00	1,300.00	11,400.00
MAR	19,600.00	7,210.00	12,400.00	0.00	1,300.00	11,100.00
APR	18,000.00	6,870.00	11,100.00	0.00	1,300.00	9,830.00
MAY	15,500.00	4,170.00	11,300.00	0.00	1,300.00	10,000.00
JUN	8,310.00	1,680.00	6,630.00	0.00	1,300.00	5,330.00
JUL	4,710.00	1,440.00	3,270.00	0.00	1,300.00	1,970.00
AUG	3,620.00	1,330.00	2,290.00	0.00	1,300.00	994.00
SEP	3,680.00	1,150.00	2,530.00	0.00	1,300.00	1,230.00
OCT	4,650.00	743.00	3,910.00	0.00	1,300.00	2,610.00
NOV	9,400.00	852.00	8,550.00	0.00	1,300.00	7,250.00
DEC	16,700.00	912.00	15,800.00	0.00	1,300.00	14,500.00
ANN	13,580,000.00	2,150,000.00	11,300,000.00	0.00	942,000.00	10,400,000.00

POLK 52023

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)
Instructions for completing this report are on the last page of this form.

(WELL I.D.)# L 65554
(START CARD) # 186050

(1) OWNER: Well Number 1
Name Don & Sharon Roberts - Clay & Rhonda Johnson
Address 3395 Pacific Hwy
City Independence, State OR Zip 97351

(2) TYPE OF WORK
☑ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:
☑ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger
☐ Other

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

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☑ No Depth of Completed Well 260 ft.
Explosives used ☐ Yes ☑ No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
10"	0	18	Bentonite	0	18	9 bags
6"	18	260				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☑ Other Filled to top with dry bentonite
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6"	+1	61	250	☑	☐	☑	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) 61'

(7) PERFORATIONS/SCREENS:
☑ Perforations Method down hole perforator
☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
22	30	.250	120	1" long	6"	☑	☐
40	50	.250	120	1" long	6"	☑	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☑ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
20		60'	1 hr.

Temperature of water 53° Depth Artesian Flow Found
Was a water analysis done? ☐ Yes By whom
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County Polk Latitude Longitude
Township 8 S Range 4 W WM.
Section 18 NE 1/4 SW 1/4
Tax Lot 202 Lot Block Subdivision
Street Address of Well (or nearest address) Same

(10) STATIC WATER LEVEL:
12' ft. below land surface. Date 8/12/2004
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:
Depth at which water was first found 22'

From	To	Estimated Flow Rate	SWL
22	33	3 GPM	12
40	50	7 GPM	12
63	71	10 GPM	

(12) WELL LOG:
Ground Elevation

Material	From	To	SWL
Brown clay - gray blue clay sandy	0	3	
Gravels - sandy gray blue clay - small	3	22	12
Gravels - sandy blue clay small	22	33	
Gray blue clay black sand	33	52	
Gray blue clay sandy	52	63	
Sand blue black pea gravel	63	71	
Gray brown clay firm	71	260	

Ron Robinson Well Drilling
4520 Salem Dallas Hwy NW
Salem, OR 97304
503.371.1844

RECEIVED
AUG 23 2004
WATER RESOURCES DEPT
SALEM, OREGON

Date started 8/9/2004 Completed 8/12/2004

(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.
WWC Number
Signed Date

(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.
WWC Number 1585
Signed Date 8/13/2004

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

RECEIVED
OVER THE COUNTER