Groundwater Application Review Summary Form

Application # G- 18575

GW Reviewer M. Thoma **Date Review Completed:** 02-04-19

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.
JJ 2/5/19

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).

WATER RESOURCES DEPARTMENT

MEMO 02-04 ,20 19

TO: **Application G-** 18575

FROM: **GW:** M. Thoma
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

☒ YES
The source of appropriation is within or above a Scenic Waterway
☐ NO

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

☒ 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 Reggae 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
0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 02/04/2019

FROM: Groundwater Section Joe Kemper / Michael Thoma
Reviewer's Name

SUBJECT: Application G- 18575 Supersedes review of na
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: **Jack Rozewicz/Knownot LLC** County: **Jackson**

A1. Applicant(s) seek(s) 0.10 cfs from 2 well(s) in the Rogue Basin, _____ subbasin

A2. Proposed use Irrigation (8 acres) Seasonality: Year-Round

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

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	JACK 30914	1	Bedrock	0.10	35S/1W-18 SW-NW	1891' S, 153' E fr NW cor S 18
2	PROPOSED	2	Bedrock	0.10	35S/1W-18 SW-NW	1866' S, 1186' E fr NW cor S 18
3						

* 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	1385	112	24	7/9/1991	300	0-18	0-59	NA	NA	20	NA	AIR
2	1400	*	*	*	*	*	*	*	*	*	*	*

Use data from application for proposed wells.

A4. **Comments:** Well 2 is proposed. For the purposes of this review, Well 2 is assumed to have similar construction and access similar hydraulic conditions as Well 1.

A5. ☒ **Provisions of the** Rogue (690-515) 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 Rogue Basin rules contain no such provisions.

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) **7C (7-yr SWL); 7J; 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 applicant's POAs would produce from an aquifer hosted in fractured bedrock of the Payne Cliffs Formation. There are several OWRD observation wells accessing the Payne Cliffs Formation within 1 mile of the proposed POA (see Figure 3). Seasonal and annual water level trends do not conclusively indicate that new use would not be in the Capacity of the Resource.

The proposed POA locations are in an area of high well density. In the last few years, the Department has also received interference complaints in the Constance Creek drainage. However, the applicant's POA locations are far enough from known well/POA locations and the proposed rate is low enough that the proposed use will likely not cause injury to senior users.

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 of Payne Cliffs Fm.**	☐	☒
2	**Bedrock of Payne Cliffs Fm.**	☐	☒
		☐	☐

Basis for aquifer confinement evaluation: The well log for the applicant's well reports "First Water" at 112 feet BLS and a SWL of 24 feet, implying confinement of the local water-bearing zones (fracture sets) encountered by the well and well logs for nearby wells report similar conditions. However, at the regional scale, these water-bearing fracture sets typically extend to near land surface and the aquifer, as a whole, may act more as an unconfined aquifer. It is assumed that Well 2 will encounter similar hydraulic conditions when drilled.

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**	**Constance Creek**	**1361**	**1330**	**8600***	☒	☐	☐	☐	☒
1	**2**	**Rogue River**	**1361****	**1263**	**8250**	☒	☐	☐	☐	☒
2	**1**	**Constance Creek**	**1361**	**1330**	**8050***	☒	☐	☐	☐	☒
2	**2**	**Rogue River**	**1361****	**1275**	**7425**	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Water levels are coincident with or above adjacent streams, indicating that water is flowing towards and discharging to surface water sources.

*Distance reported is to the nearest point where the creek has been determined to be a relevant surface water source for the purposes of OAR 690-009.

**Well 2 is proposed and is assumed to encounter similar hydraulic conditions when drilled.

Water Availability Basin the well(s) are located within: Rogue R > Pacific Ocean - Ab Curry G at Gage #14359000

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.

	SW #		Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
			☐			☐		☐		☐

Comments: No hydraulically-connected surface water sources were evaluated within 1 mile.

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
2	**2**	**See comments below***											
Well Q as CFS		**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**
Interference CFS		**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**
(A) = Total Interf.		**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**
(B) = 80 % Nat. Q		**2180**	**2710**	**2750**	**2810**	**2750**	**1760**	**1330**	**1160**	**1130**	**1160**	**1370**	**1810**
(C) = 1 % Nat. Q		**21.80**	**27.10**	**27.50**	**28.10**	**27.50**	**17.60**	**13.30**	**11.60**	**11.30**	**11.60**	**13.70**	**18.10**
(D) = (A) > (C)													
(E) = (A / B) x 100		**<1 %**	**<1 %**	**<1 %**	**<1 %**	**<1 %**	**<1 %**	**<1 %**	**<1 %**	**<1 %**	**<1 %**	**<1 %**	**<1 %**

(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: A pumping rate of 0.05 cfs over 365 days is used to simulate the requested 36 AF/year pumped continuously from a single well. Although the proposed aquifer is found to be hydraulically connected to both the Rogue River and Constance Creek, the two streams are within the same WAB, and thus the above calculations are compared only once to the WAB expected natural flows.

*Monthly stream-depletion was not estimated because the maximum pumping rate (0.10 cfs) and estimated average pumping rate (0.05 cfs) are far less than 1% of the monthly 80% Natural Flows. Actual stream-depletion will be less than the pumping rate.

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:**

The applicant's proposed POA would produce from an aquifer that has been determined to be hydraulically connected to surface water. The reviewer has not found a preponderance of evidence for the Potential for Substantial Interference (PSI) per OAR 690-009.

References Used:

Hunt, B. 2003. *Unsteady Stream Depletion when Pumping from a Semiconfined Aquifer.* Journal of Hydrologic Engineering. Vol 8(1), pp 12-19

OWRD Groundwater Site Information System Database – Accessed 2/4/2019.

Theis, C. V., 1935, Relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using ground-water storage : Am. Geophys. Union Trans., pt. 2, p. 519-524 ; dupl. as U.S . Geol. Survey Ground Water Note 5, 1952

Wiley, T. J., and Hladky, F. R. , 1991, Geology and mineral resources of the Boswell Mountain quadrangle, Jackson County, Oregon: Oregon Department of Geology and Mineral Industries Geologic Map Series GMS-70, scale 1:24,000.

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.**

Figure 1. Water Availability Tables

Water Availability Analysis
Detailed Reports

ROGUE R > PACIFIC OCEAN - AB CURRY G AT GAGE 14359000
ROGUE BASIN

Water Availability as of 6/7/2018

Watershed ID #: 270 (Map) Exceedance Level: 80%
Date: 6/7/2018 Time: 2:26 PM

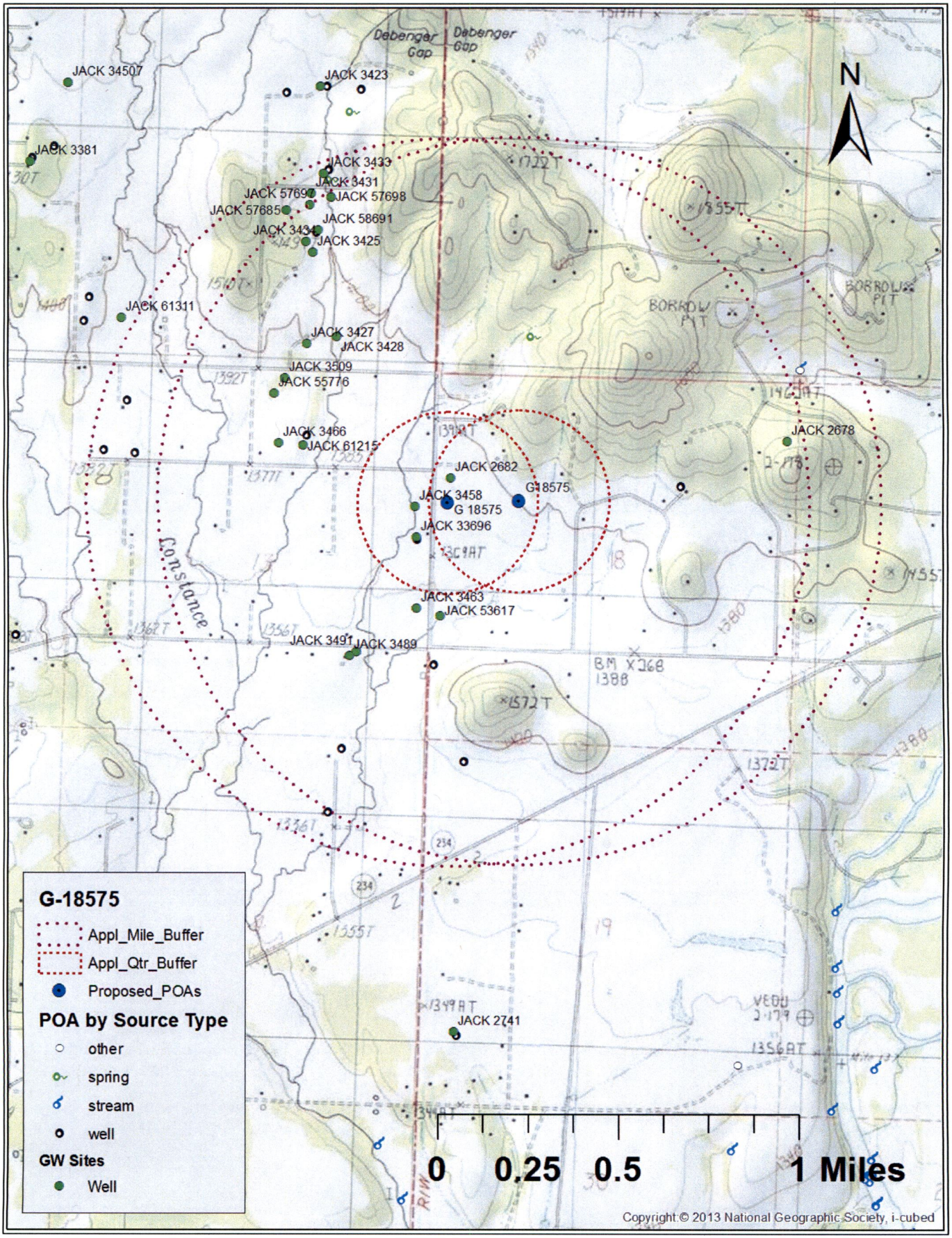
Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations | Water Rights | Watershed Characteristics

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	2,180.00	1,130.00	1,050.00	0.00	1,200.00	-148.00
FEB	2,710.00	2,050.00	665.00	0.00	1,200.00	-535.00
MAR	2,750.00	1,820.00	933.00	0.00	1,200.00	-267.00
APR	2,810.00	1,040.00	1,770.00	0.00	1,200.00	574.00
MAY	2,750.00	368.00	2,380.00	0.00	1,200.00	1,180.00
JUN	1,760.00	343.00	1,420.00	0.00	1,200.00	217.00
JUL	1,330.00	368.00	962.00	0.00	1,200.00	-238.00
AUG	1,160.00	330.00	830.00	0.00	1,200.00	-370.00
SEP	1,130.00	275.00	855.00	0.00	1,200.00	-345.00
OCT	1,160.00	227.00	933.00	0.00	1,200.00	-267.00
NOV	1,370.00	344.00	1,030.00	0.00	1,200.00	-174.00
DEC	1,810.00	562.00	1,250.00	0.00	1,200.00	48.40
ANN	1,900,000.00	529,000.00	1,370,000.00	0.00	869,000.00	532,000.00

Figure 2. Well Location Map



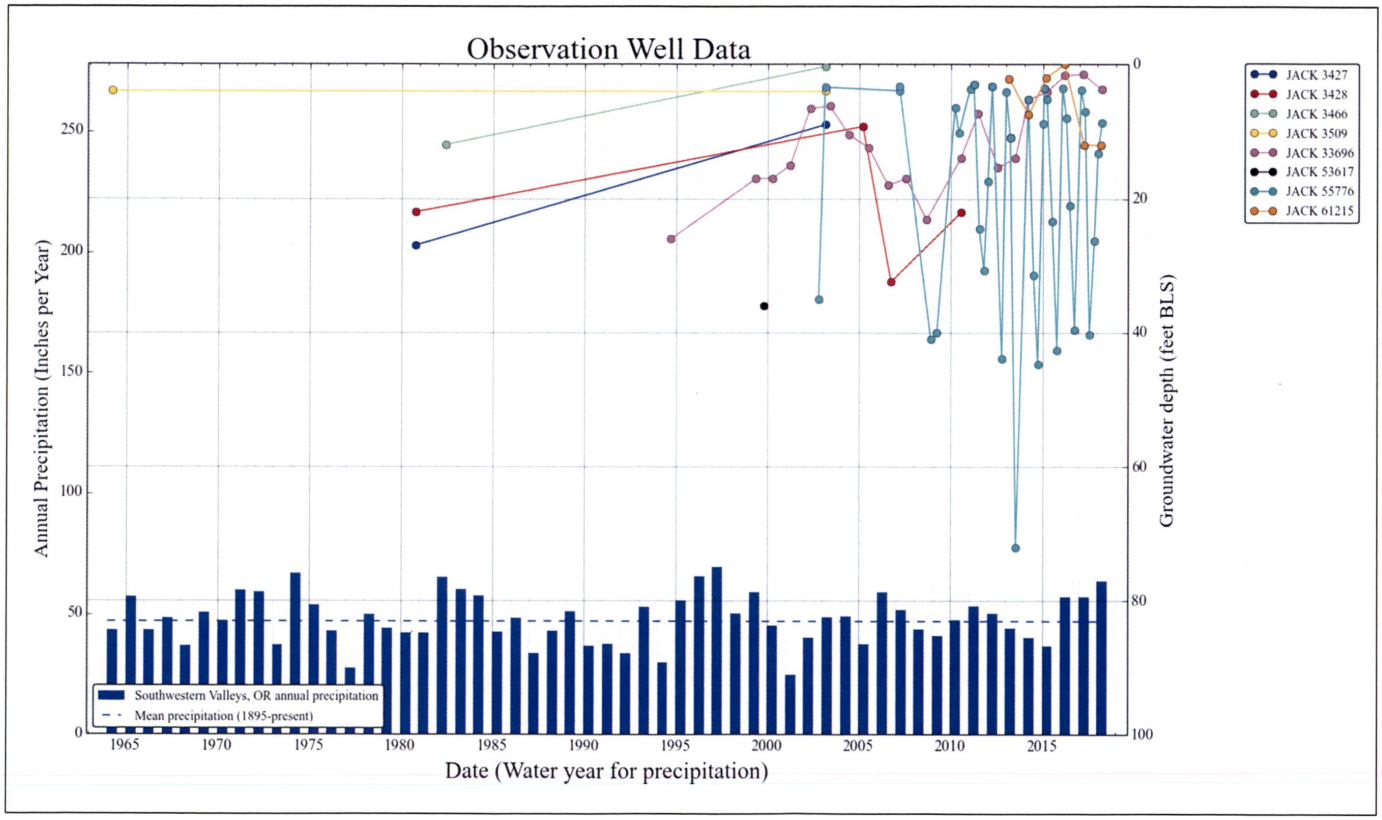


Figure 3. Water-Level Trends in Nearby Wells

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager

From: Joel Jeffery, Well Construction Program Coordinator

Subject: Review of Water Right Application G-18575

Date: February 11, 2019

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

Applicant's Well #1 (JACK 30914): Based on a review of the Well Report, Applicant's Well #1 does not appear to comply with current minimum well construction standards (See OAR 690 Division 210). In order to meet the minimum well construction standards, the well must be continuously cased and continuously sealed to a minimum depth of 49 feet below land surface.

My recommendation is that the Department **not issue** a permit for Applicant's Well #1 (JACK 30914) 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.

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

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

#14

JACKSON 9914

35S/1W/18 bd

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

Gribble Well Drilling (START CARD) # 28353

(1) OWNER:
Well Number: 1
Name Mary Gifford
Address 9601 S. 216th St.
City Kent State Wash Zip 98031

(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 300 ft.
Explosives used Yes ☐ No ☒ Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
10"	0	18	Bent	0	18.	350 lbs
XX						
6"	18	300				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☒ Other Poured Dry
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	59	250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

inal location of shoe(s) 59'

7) PERFORATIONS/SCREENS:
☐ Perforations Method NA
☐ Screens Type ____ Material ____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

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

Yield gal/min	Drawdown	Drill stem at	Time
20		300	1 hr.

Temperature of water 55 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 Jackson Latitude ____ Longitude ____
Township 35S N or S. Range 1W E or W, WM.
Section 18 SE ¼ NW ¼
Tax Lot 304 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) 3350 Beagle Rd. White City, Ore. 97503

(10) STATIC WATER LEVEL:
24 ft. below land surface. Date 7/9/91
Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:
Depth at which water was first found 112'

From	To	Estimated Flow Rate	SWL
112	115	10	24
245	250	10	24

(12) WELL LOG:
Ground elevation ____

Material	From	To	SWL
Clay Brown	0	26	
Clay Gray	26	32	
Clay Brown	32	44	
Claystone Gray	44	112	
Conglomerate Gray	112	300	24

Date started 7/8/91 Completed 7/9/91

(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 1486
Signed ____ Date 7-10-91

(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 705
Signed Gary Milbourn Date 7-10-91

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