

Groundwater Application Review Summary Form

Application # G- 18635

GW Reviewer Joe Kemper Date Review Completed: 2/28/2019

Summary of GW Availability and Injury Review:

Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.

Summary of Potential for Substantial Interference Review:

There is the potential for substantial interference per Section C of the attached review form.

Summary of Well Construction Assessment:

The well does not appear to meet current well construction standards per Section D of the attached review form. ~~Route through Well Construction and Compliance Section.~~

✓
3/8/19

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).

OK
K. Byrd

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Joel Jeffery, Well Construction Program Coordinator,
Subject: Review of Water Right Application G-18635
Date: March 22, 2019

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

Applicant's Well # 1 (JACK 61873): Based on a review of the Well Report, Applicant's Well # 1 appears to protect the groundwater resource.

The construction of Applicants Well # 1 may not satisfy hydraulic connection issues.

JACK 61873

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

WELL LABEL # L 113564
 START CARD # 210216

Instructions for completing this report are on the last page of this form.

(1) LAND OWNER Owner Well I.D. _____
 First Name CRAIG Last Name ARMSTRONG
 Company _____
 Address 2080 ANTELOPE RD RMB #393
 City WHITE CITY State OR Zip 97503

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

(3) DRILL METHOD
 Rotary Air Rotary Mud Cable Auger Cable Mud
 Reverse Rotary Other _____

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

(5) BORE HOLE CONSTRUCTION Special Standard: Yes (attach copy)
 Depth of Completed Well 172' ft.

BORE HOLE			SEAL				
Dia	From	To	Material	From	To	Amount	Scks/lbs
10"	0	18'	BENTONITE	0	18'		12sch
6"	18'	172'					

How was seal placed: Method A B C D E
 Other BENTONITE (PULVED DRY)
 Backfill placed from _____ ft. to _____ ft. Material _____
 Filter pack from _____ ft. to _____ ft. Material _____ Size _____
 Explosives used: Yes Type _____ Amount _____

(6) CASING/LINER

Csng	Liner	Dia	+	From	To	Gauge	Steel	Plastic	Welded	Thrd
<input checked="" type="checkbox"/>		6"	+	21'	250'		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>		4"	0	172'	160'			<input checked="" type="checkbox"/>		

Shoe Inside Outside Other Location of shoe(s) 21'
 Temporary casing Yes Diameter _____ From _____ To _____

(7) PERFORATIONS/SCREENS

Perforations Method SAW
 Screens Type _____ Material _____

Perf	Scrn	Csng	Liner	Screen Dia	From	To	Screen/slot width	Slot length	# of slots	Tele/pipe size
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			50'	172'	1/8"	8"	16	4"

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

Pump Bailor Air Flowing Artesian
 Yield gal/min 34 gpm Drawdown 110' Drill stem/Pump depth _____ Duration (hr) 1hr

Temperature 53 °F Lab analysis Yes By _____
 Water quality concerns? Yes (describe below)

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)

County JACKSON Twp 35 N or S Range 2W E or W W.M.
 Sec 13 NW 1/4 of the SE 1/4 Tax Lot 1200
 Tax Map Number _____ Lot _____
 Lat _____ " or _____ DMS or DD
 Long _____ " or _____ DMS or DD
 Street Address of Well (or nearest address) 3960 Dodge Rd
WHITE CITY OR 97503

(10) STATIC WATER LEVEL

	Date	SWL (psi)	+	SWL (ft)
Existing Well/Predeepening				
Completed Well	<u>Aug 10, 2014</u>			<u>20'</u>

Flowing Artesian? Yes Dry Hole? Yes
 WATER BEARING ZONES Depth water was first found 40'

SWL Date	From	To	Est Flow	SWL (psi)	+	SWL (ft)
<u>Aug 10, 2014</u>	<u>40'</u>	<u>42'</u>	<u>3 gpm</u>			<u>20'</u>
<u>Aug 10, 2014</u>	<u>155'</u>	<u>160'</u>	<u>31 gpm</u>			<u>20'</u>

(11) WELL LOG

Material	From	To
<u>SOIL (BROWN)</u>	<u>0</u>	<u>4'</u>
<u>CLAYSTONE (GREEN)</u>	<u>4'</u>	<u>9'</u>
<u>CLAYSTONE (BLUE)</u>	<u>9'</u>	<u>172'</u>

RECEIVED BY OWRD
AUG 25 2014
SALEM, OR

Date Started Aug 4, 2014 Completed Aug 10, 2014

(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 1705 Date Aug 10, 2014

Signed Scott Coff
 Contact Info. (optional) _____

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 2/28/2019
 FROM: Groundwater Section Joe Kemper
 Reviewer's Name
 SUBJECT: Application G- 18635 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: Craig & Helen Armstrong County: Jackson

A1. Applicant(s) seek(s) 0.0758 cfs from 1 well(s) in the Rogue Basin,
Upper Rogue 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 61873	1	Bedrock	0.0758	35S/2W-13 NWSE	1882' N, 1713' W fr SE cor S 13

* 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	1,363	40	20	8/10/2014	172	0-18	-1-21	0-172	50-172	34	110	B

Use data from application for proposed wells.

A4. **Comments:** _____

A5. **Provisions of the** Rogue (OAR 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 contains 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 (Scenic); 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 well 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 measurements in nearby wells show reasonably stable water levels. The applicant’s well is located approximately 850 feet from permitted wells JACK 3491 and JACK 3489, and the area has a relatively high density of exempt and permitted water supply wells. As such, standard interference conditions and water-level reporting conditions in B1(d) should be applied.

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	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: In fractured-bedrock aquifer systems, the primary movement of water is through discrete but connected fracture sets. These fractures generally extend to near the surface, and so water within these fractures is likely under atmospheric pressure (unconfined) despite an overall low storage coefficient for the aquifer system as a whole and static water levels often reported above water-bearing zones on driller's logs.

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	Constance Creek	1343	1330	5900*	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Rogue River	1343	1263	8750	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: Water level elevations 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).

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?
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

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: There are no hydraulically-connected surface water sources 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
1	1	%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS		0.0758	0.0758	0.0758	0.0758	0.0758	0.0758	0.0758	0.0758	0.0758	0.0758	0.0758	0.0758
Interference CFS													
(A) = Total Interf.													
(B) = 80 % Nat. Q		2180	2710	2750	2810	2750	1760	1330	1160	1130	1160	1370	1810
(C) = 1 % Nat. Q		21.8	27.1	27.5	28.1	27.5	17.6	13.3	11.6	11.3	11.6	13.7	18.1
(D) = (A) > (C)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(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:

The proposed aquifer is found to be hydraulically connected to both the Rogue River and Constance Creek, which are in the same WAB. The table above demonstrates that 1% of expected natural streamflow is greater than the maximum requested rate so that 100% stream depletion would not trigger the assumption of PSI as per OAR 690-009. Stream depletion is not estimated here for this reason.

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;

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

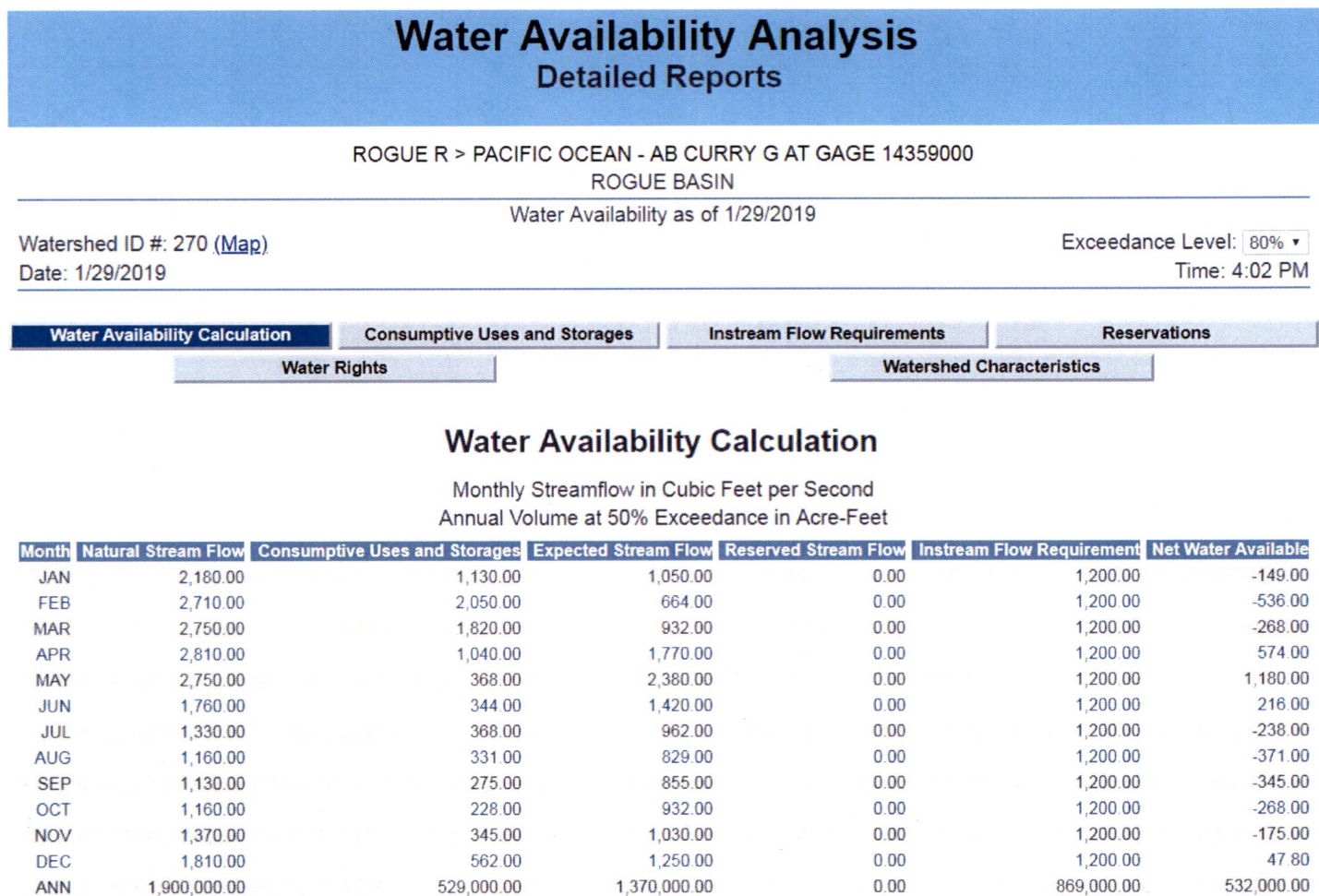


Figure 2. Well Location Map

POA Location Map for Application G-18610

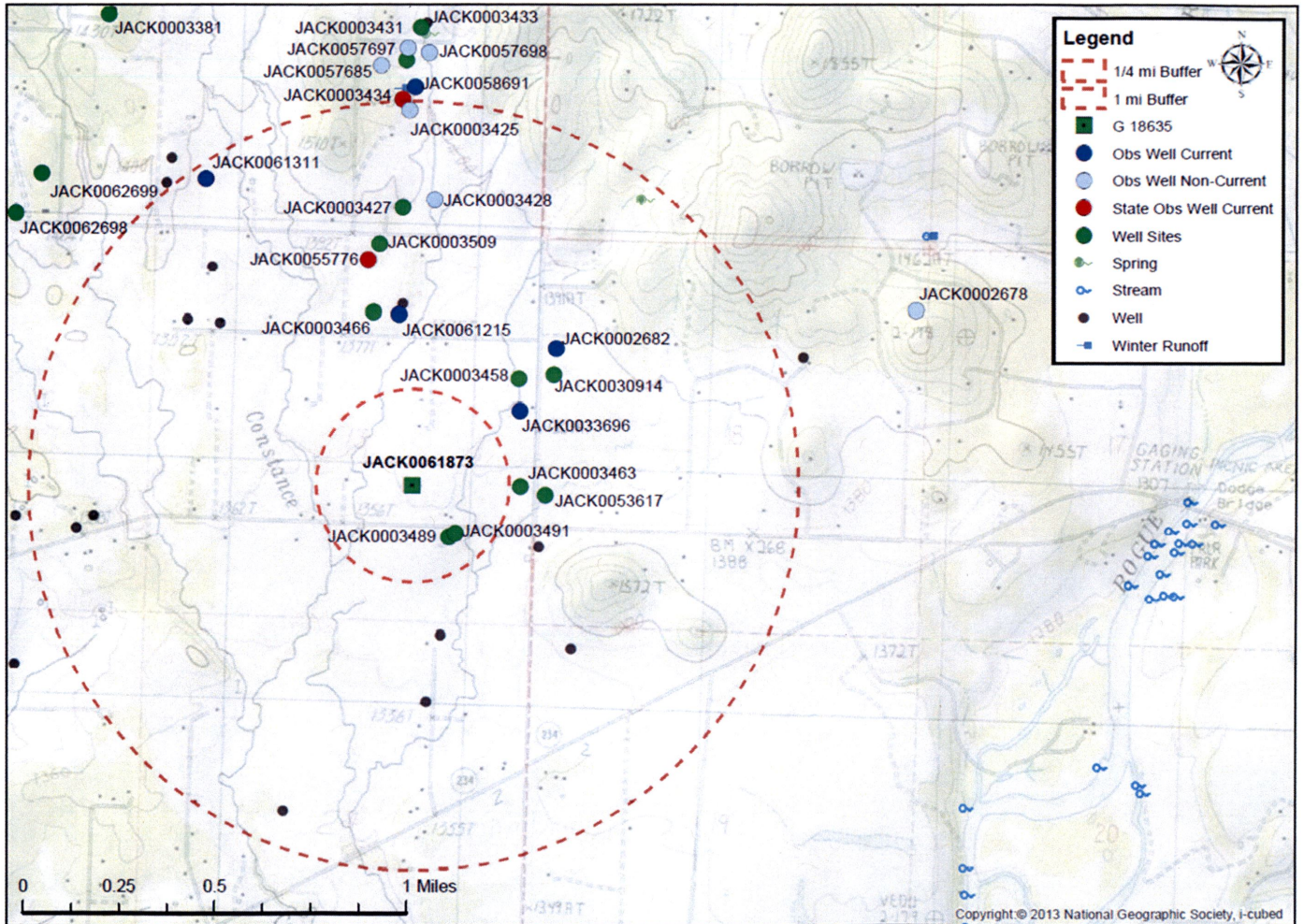


Figure 3. Water-Level Trends in Nearby Wells

