

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE June 30, 1994	APPLICATION NUMBER G3-29699	PERMIT NUMBER	CERTIFICATE NUMBER
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NAME
ROBERT G. and CLAIRCY C. BOGGESS

ADDRESS (STREET) (CITY) (STATE) (ZIP CODE)
444 Washington Walla Walla Washington 99362

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
A well (TO BE CASED AND SEALED INTO COMPETENT BASALT ROCK)

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE 70	MAXIMUM ACRE-FEET PER YEAR 45.3
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QUANTITY, TYPE OF USE, PERIOD OF USE
43.3 acre feet per year, from February 1 to November 30, each year, for the seasonal irrigation and heat control/frost protection of 10 acres; 1 acre foot per year, continuously, for single domestic supply; 1 acre foot per year, continuously, for stockwater.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL
200 feet South and 350 feet West of the E $\frac{1}{4}$ corner of Sec. 13

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) NE $\frac{1}{4}$ SE $\frac{1}{4}$	SECTION 13	TOWNSHIP N. 7	RANGE, (E. OR W.) W.M. 36 E.	W.R.I.A. 32	COUNTY Walla Walla
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RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION) Short Plat #94-13
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LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

TRACT A

Beginning at the E $\frac{1}{4}$ corner of Sec. 13, T. 7 N., R. 36 E.W.M. and run thence S 0°01'23" E, along the East li of the SE $\frac{1}{4}$ of said Sec. 13, 601.53 feet; thence S 89°58'37" W, 330.00' to the point of beginning; thence continu S 89 58'37" W, 345.56 feet; thence N 0°01'23" W, along said West line 1218.61 feet; thence N 78°54'38" E, alo said centerline 356.55 feet; thence S 0°10'16" W, 1287.06 feet; to the point of beginning.

DESCRIPTION OF PROPOSED WORKS

Well, pump, pipeline, sprinklers.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Started	April 1, 1998	April 1, 2000

REPORT

BACKGROUND

An application to appropriate public ground water was submitted by Robert G. and Claircy C. Boggess to the Department of Ecology on June 30, 1994. The application was accepted and assigned Ground Water Application No. G3-29699. The applicant proposes to withdraw water from a well in the amount of 70 gallons per minute for continuous single domestic supply and stockwater, and for seasonal irrigation, heat and frost control for 10 acres. The proposed point of withdrawal is to be located within the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Sec. 13, T. 7 N., R. 36 E.W.M.

A notice of application was duly published in accordance with RCW 90.03.280; no protests or objections were received.

This application is categorically exempt from the provisions of the State Environmental Policy Act (SEPA) of 1971, Chapter 43.21 RCW. A permit issued under this application would be classified as a Family Farm Permit under the Family Farm Water Act of 1977, Chapter 90.66 RCW.

INVESTIGATION

A site investigation was conducted by Bill Neve on March 1, 1996. Additional information regarding this application was obtained through research of Department records, and conversations with the applicant (Robert Boggess) and Department staff. The project site is located approximately 3 miles East of Walla Walla, Washington.

Mr. and Mrs. Boggess, in conjunction with their neighbors to the east (Kraig and Charlotte Klicker), intend to develop these 10 acres for pasture and possibly fruit and/or Christmas tree production.

There is one existing water right appurtenant to the subject property. Walla Walla River Adjudicated Certificate No. 13 authorizes the diversion of water from Titus Creek (0.067 cubic feet per second from April 1 to July 1; 0.050 cubic feet per second from July 1 to October 1; and 0.100 cubic feet per second from October 1 to April 1, when allowed) for the irrigation of 5 acres. This right is currently being shared (split) between the applicants and the Klickers. While the authorized place of use of Certificate No. 13 encompasses an area significantly larger than the 5 acres allowed for irrigation, Boggess and Klicker are the only two landowners within the place of use that have access to Titus Creek.

Any portion of water approved for appropriation for irrigation through this application that overlaps any existing primary right (Adjudicated Certificate No. 13) will be supplemental.

The subject well was completed in April of 1995. The water well report indicates that the well was drilled through 39 feet of gravel and topsoil, after which basalt was encountered to a final depth of 150 feet. The 6-inch well was cased to 46 feet and had a static water level of 120 feet below the top of the well as measured on April 10, 1995.

The Walla Walla River Basin is a structural trough, within the Columbia River Basalt Group, that has been filled by sediments. The lower most sediment is the "blue clay", which rests directly on basalt bedrock. Directly over the blue clay and interfingered with it is the gravel unit. The gravels serve as the aquifer material for the shallow, or uppermost, aquifer.

The subject well is drilled into, and withdraws water from, the Yakima Basalt Subgroup of the Columbia River Basalt Group. The Yakima Subgroup is comprised of three hydrogeologic units; in ascending order, the Grande Ronde, Wanapum and Saddle Mountains. These formations are commonly separated by sedimentary interbeds. The Saddle Mountain Unit in this area is relatively minor to non-existent, and the Grande Ronde Unit is accessible only at significant depth. U.S. Geological Survey maps show the top of the Wanapum Unit in this area to be just below ground surface, and to have a total thickness of 600+ feet. The subject well is most likely completed into the Wanapum Unit, which is also the formation most utilized for production wells in the Walla Walla Basin.

The basalt aquifer system is a series of zones, some of which conduct water easily. These zones of high conductivity alternate with zones of dense basalt which impede the flow of water and are considered to have low hydraulic conductivity. The highly permeable basalt zones range in thickness from a few feet to 25 feet. It is the composite to the permeable water conducting zones which provides the well with the capability of yielding the desired amount of water. Thus, generally, the deeper the well, the more water will be available since by going deeper, more permeable zones will be penetrated.

Whether the applicant will be able to obtain the desired amount of water at this particular location will be dependant, among other factors, on the completed depth of the well, the capacity of the aquifer in this area, and the well construction techniques employed by the driller.

The Wanapum and Grande Ronde formations are separate, distinct hydrogeologic units. In accordance with the Minimum Well Construction Standards (Chapter 18.104 RCW and Chapter 173-160 WAC) the Department is prohibited from authorizing interaquifer transfer. Upon permit approval, the subject well will be required to be constructed to effectively and permanently separate the Wanapum Unit from the overlying gravel. The basalt aquifers are under artesian conditions and, therefore, casing and sealing shall meet the requirements as set forth in Section 173-160-285 WAC.

Under authority of, and in response to, the Water Resources Act of 1971, Chapter 90.54 RCW, the Department of Ecology was required to formulate a management and use program for the waters of the State of Washington. The Walla Walla River Basin Management Program was developed during 1977 to determine water availability and to insure that the issuance of permits for water withdrawal would be in the public interest. The management program is administered through Chapter 173-532 WAC, adopted December 14, 1977. The proposed appropriation is subject to this management program.

Included in this regulation are requirements that new appropriators of ground water locate their wells outside of the zone of direct hydraulic continuity between surface waters and ground water aquifers (Section 173-532-050 WAC), and that each new application be evaluated to minimize interference with existing wells and surface water streams with new permits issuing only in those cases where senior water rights would not be adversely affected (Section 173-532-080 WAC).

There are several existing wells withdrawing water from the basalt aquifers within 1 mile of the subject well. Department records show most of these wells being drilled to similar depths, and being used for domestic and small scale irrigation purposes. The closest well is that recently constructed by the aforementioned Kraig Klicker, and is located about 200 feet Southwest of the Boggess well.

Declining water level trends in the basalts have been identified in localized areas, primarily within the pumping centers of Walla Walla and College Place, Washington, and Milton-Freewater, Oregon. The declines seem to be centered here due to the concentration of large municipal wells pumping from the basalts and from possible compartmentalization of the aquifer caused by geologic faulting. These declines appear to represent a re-establishment of water levels coincident with increased pumping from the basalts.

Existing ground water right holders are protected through administrative regulation to a depth of aquifer penetration that will allow the withdrawal of water from a reasonable or feasible pumping lift (Chapter 173-150 WAC). Through consideration of this regulation and the management program, Ecology has determined that there is still water available for appropriation from the basalt aquifers.

The Amended Instream Resources Protection Programs for the main stem Columbia River (Section 173-563-015 WAC) and main stem Snake River (Section 173-564-040 WAC) were adopted on January 3, 1995. The primary purpose of these amended programs is to temporarily withdraw from further appropriation waters from these rivers due to fishery concerns. These amended programs also subject groundwater determined to be in direct hydraulic continuity with these rivers to the withdrawals. After review of pertinent records and consultation with Department hydrogeologists, it is the determination of this writer that the proposed appropriation will not be in direct hydraulic continuity with the Snake or Columbia Rivers.

CONCLUSIONS

It is the conclusion of the examiner that: Domestic supply, stockwater, irrigation, and heat/frost control are beneficial uses of water. Subject to the provisions of Chapter 173-532 WAC and regulation in favor of senior rights, public ground water is available for these proposed beneficial uses.

The proposed withdrawal should not impair the aquifers ability to satisfy existing rights. Existing water right holders may have to insure their wells meet well construction standards and fully penetrate the aquifer in

accordance with Section 173-150-080(3) WAC. This may include deepening wells and lowering pump settings to allow them to take full advantage of the aquifer thickness.

The appropriation of such water will not be detrimental to the public welfare provided existing rights are protected.

Washington State University Agriculture Department Extension Bulletin No. 1513 is used as a guide for determining seasonal amounts of irrigation water by geographic location. These amounts are calculated on a 85% system efficiency from the 10 year frequency table and for maximum irrigation water requirement for cherries with cover crop. Based upon data in this circular a maximum water duty for this area is 50.58 inches per acre, for an annual allotment of 42 acre feet for the seasonal irrigation of 10 acres.

Annual quantities for frost protection and heat control are calculated on the basis of 70 gallons per minute pumped for 5 hours per day for 10 days maximum, each. The resulting allocation is 0.65 acre feet for each use. Finally, an additional 1 acre foot each for continuous single domestic supply and stockwater will be sufficient.

These annual quantity allocations may be reduced significantly at proof depending upon the crop(s) actually developed.

This application for a permit to appropriate public ground water should be approved in the amount of 70 gallons per minute, 45.3 acre feet per year, for seasonal irrigation, frost protection and heat control for 10 acres, and continuous stockwater and single domestic supply.

To ensure proper well construction and to provide Ecology with additional information on the structure of the basalts in this area, **a video scan of the completed well will be required.** A copy of the scan shall be delivered to and reviewed by Ecology prior to the production pump being installed in the subject well.

In addition to an access port, **an airline will be required to be installed in the completed well.**

The following provisions apply:

"The casing shall be set or placed at least five (5) feet into the first solid, unfractured, nonporous, nonvesicular basalt flow occurring within the formation the well is finished into."

"After completion of construction, the well shall be video scanned (providing a visually clear and recognizable picture that is continuous from land surface to the terminus of the well) and the video tape reviewed by the Eastern Regional Office of the Washington State Department of Ecology prior to installation of the production pump."

"The annual quantities granted herein for the purpose of irrigation are issued less those amounts appropriated and used upon these lands under Walla Walla River Adjudication Certificate No. 13. Assuming that 2.5 acres of Adjudicated Certificate No. 13 are appurtenant to the subject lands, the total amount of water appropriated and used for irrigation of these 10 acres shall not exceed 44.11 acre feet per year."

"No changes of purpose of use or place of use shall be made to this right unless comparable changes are made to Walla Walla River Adjudicated Certificate No. 13."

"Owing to the proximity of neighboring wells, the applicant is reminded of their responsibility toward same and advised that they may be required to regulate their withdrawal and pumping rate if existing rights are impaired."

"Use of water under this authorization shall be contingent upon the water right holder's utilization of up to date water conservation practices and maintenance of efficient water delivery systems consistent with established regulation requirements and facility capabilities."

"At such time that the Department of Ecology determines that management of the subject waters is necessary and in the public interest, an approved measuring device shall be installed and maintained in accordance with RCW 90.03.360 or WAC 508-64-020 through WAC 508-64-040."

"The amount of water granted is a maximum limit that shall not be exceeded and the water user shall be entitled only to that amount of water within the specified limit that is beneficially used and required for the actual crop grown on the number of acres and the place of use specified."

Report Continued

"This authorization to make use of public waters of the state is subject to existing rights, including any existing rights held by the United States for the benefit of Indians under treaty or otherwise."

"A certificate of water right will not be issued until a final examination is made."

"All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells)."

"The installation of an access port, described in Ground Water Bulletin #1, shall be required prior to issuance of a final certificate of water right. In addition, an airline and pressure gage shall be installed and maintained in operating condition. The pressure gage shall be equipped with a standard tire valve and placed in an accessible location. The airline shall extend from land surface to the top of the pump bowls and the total airline length shall be reported to the Department of Ecology upon completion of the pump system."

"A well log of the completed well shall be submitted by the driller to the Department of Ecology within thirty (30) days of completion of this well. This well log shall be complete and all information concerning the static water level in the completed well in addition to any pump test data shall be submitted as it is obtained."

"That portion of this authorization relating to irrigation is classified as a Family Farm Permit in accordance with Chapter 90.66 RCW (Initiative Measure No. 59). This means the land being irrigated under this authorization shall comply with the following definition: Family Farm - a geographic area including not more than 2,000 acres of irrigated agricultural lands, whether contiguous or noncontiguous, the controlling interest in which is held by a person having a controlling interest in no more than 2,000 acres of irrigated agricultural lands in the State of Washington which are irrigated under water rights acquired after December 8, 1977. Furthermore, the land being irrigated under this authorization must continue to conform to the definition of a family farm."

Signed at Spokane, Washington
this 24th day of April, 1996

for Cindy A. Christian
WILLIAM L. NEVE
Shorelands and Water Resources Program
Department of Ecology



COPY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

4601 N. Monroe, Suite 202 • Spokane, Washington 99205-1295 • (509) 456-2926

April 24, 1996

Robert G. and Claircy C. Boggess
444 Washington
Walla Walla, WA 99362

Dear Mr. & Mrs. Boggess:

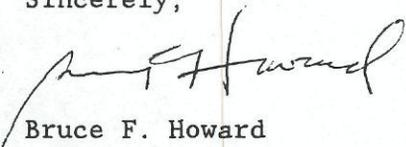
RE: Ground Water Application No. G3-29699

Enclosed please find a copy of the Department of Ecology's Report of Examination. This report constitutes our determination and order regarding the above referenced application.

Your application has been approved and a permit will be issued in accordance with the enclosed Report of Examination upon payment of the statutory fee of \$29.00. Please remit your payment by check to the Department of Ecology within thirty (30) days from receipt of this letter.

Issuance of this Report of Examination is an appealable decision under Chapter 43.21B RCW. If you would like to appeal this order and determination, you must file your appeal with the Pollution Control Hearings Board, P. O. Box 40903, Olympia, WA 98504-0903 within thirty (30) days of your receipt of this letter and the attached Report of Examination. A copy of your appeal must also be sent to the Department of Ecology, Shorelands and Water Resources Program, c/o Linda Pilkey-Jarvis, P.O. Box 47600, Olympia, WA 98504-7600 within thirty (30) days of receipt of this letter and the attached Report of Examination.

Sincerely,


Bruce F. Howard
Section Manager
Shorelands and Water Resources Program

BFH:mjw
Enclosure