



State of Washington  
**DRAFT**  
 REPORT OF EXAMINATION  
 FOR WATER RIGHT CHANGE

File NR CG2-26967  
 WR Doc ID 45045

Added or Changed Point of Withdrawal/Diversion

<b>PRIORITY DATE</b> August 6, 1986	<b>WATER RIGHT NUMBER</b> G2-26967
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<b>MAILING ADDRESS</b> VETERAN'S ADMINISTRATION 1061 E FOURTH PLAIN BLVD VANCOUVER WA 98661	<b>SITE ADDRESS (IF DIFFERENT)</b>
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<b>Total Quantity Authorized for Withdrawal or Diversion</b>		
WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
180	GPM	19.4

Total withdrawals or diversions from all sources must not exceed the total quantity authorized for withdrawal or diversion listed above.

<b>Purpose</b>						
PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Irrigation	180		GPM	19.4		04/15 - 10/15

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS
10			

<b>Source Location</b>			
COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Clark	Troutdale Gravel Aquifer		28-Salmon-Washougal

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well 1	38279906	BBP-610	02N	01E	23	SESW	45°38'11.82"	122°39'4.07"
Well 2	38279906	BAA-301	02N	01E	23	SWSW	45°38'17.04"	122°39'35.83"

Datum: NAD83/WGS84

**Place of Use (See Attached Map)**

**PARCELS (NOT LISTED FOR SERVICE AREAS)**  
38279906

**LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE**

10 acres in a tract of land situated in section 23 T. 2. N., R. 1 E.W.M., Clark County, being a portion of Vancouver Barracks Military Reservation. More particularly described in original ROE dated May 1, 1987.\*

**Proposed Works**

Well 1: 16 inches in diameter by 325 feet deep  
 Well 2: 8 inches in diameter by 302 feet deep  
 4-inch main lines feeding to an underground sprinkler system.

**Development Schedule**

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
October 1, 2011	October 1, 2016	In Full Use

**Measurement of Water Use**

How often must water use be measured?	Monthly
How often must water use data be reported to Ecology?	Upon Request by Ecology
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm or cfs)

**Provisions**

Combined withdrawals from Wells 1 and 2 must not exceed 180 gpm and 19.11 ac-ft per year.

**Wells, Well Logs and Well Construction Standards**

All wells constructed in Washington must meet the WAC 173-160 (Minimum Standards for the Construction and Maintenance of Wells) and RCW 18.104 (Water Well Construction). Any well that is unusable, abandoned, or whose use has been permanently discontinued must be decommissioned. Wells in such disrepair that continued use is impractical or an environmental, safety or public health hazard must also be decommissioned.

All wells must be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag must remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

Installation and maintenance of an access port as described in WAC 173-160- 291(3) is required.

**Measurements, Monitoring, Metering and Reporting**

An approved measuring device must be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173, which describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.

**Water Use Efficiency**

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

### Proof of Appropriation

The water right holder must file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the superseding permit. Elements of a proof inspection may include, as appropriate, the sources, system instantaneous capacity, beneficial use, annual quantity, place of use, and satisfaction of provisions.

### Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, will have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

### Findings of Facts

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. [Enter Application Number], subject to existing rights and the provisions specified above.

## YOUR RIGHT TO APPEAL

You have a right to appeal this decision to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Report of Examination. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of this Report of Examination:

- File your appeal and a copy of this Report of Examination with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Report of Examination on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

## ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
<b>Department of Ecology</b> Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	<b>Department of Ecology</b> Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608

<b>Pollution Control Hearings Board</b> 1111 Israel RD SW STE 301 Tumwater, WA 98501	<b>Pollution Control Hearings Board</b> PO Box 40903 Olympia, WA 98504-0903
<b>And Send a Copy of Your Appeal to:</b> Thomas Loranger Department of Ecology Southwest Regional Office PO Box 47775 Olympia, WA 98504-7775	

*For additional information visit the Environmental Hearings Office Website: <http://www.eho.wa.gov> .  
To find laws and agency rules visit the Washington State Legislature Website:  
<http://www1.leq.wa.gov/CodeReviser>.*

## INVESTIGATOR'S REPORT

Tammy Hall, Department of Ecology

Water Right Control Number CG2-26967

**BACKGROUND**

On May 7, 2008, John E. Dodier representing the Veteran's Administration (VA) filed an *Application for Change* to add a new well, Well 2, to Water Right Certificate (GWC) G2-26967. Well 2 is in the SW ¼, SW ¼, Section 23, T. 2N, R. 1 E.W.M., about 1,640 feet west of Well 1. The project is in the Salmon/Washougal Water Resources Inventory Area (WRIA) 28.

See Attachment #1

**Attributes of the Existing Water Right and Proposed Change**

Table 1. Attributes of GWC G2-26967 and proposed change.

<b>Attributes</b>	<b>Existing</b>	<b>Proposed</b>
<b>Name</b>	Veterans Administration Medical Center	Veteran's Administration
<b>Priority Date</b>	08/06/1986	
<b>Change Application Date</b>		05/07/2008
<b>Instantaneous Quantity</b>	250 gallons per minute (gpm)	180 gpm
<b>Annual Quantity</b>	80 acre-feet/year (ac-ft/yr)	78 ac-ft/yr
<b>Source</b>	A well	two wells
<b>Purpose of Use</b>	Irrigation of 40 acres	Irrigation of 10 acres
<b>Period of Use</b>	April 15 to October 15, each year	Same
<b>Place of Use</b>	10 acres in a tract of land situated in section 23 T. 2. N., R. 1 E.W.M., Clark County, being a portion of Vancouver Barracks Military Reservation. More particularly described in original ROE dated May 1, 1987.*	Same

\* For more detailed Place of Use description, please see ROE cover page.

Table 2. Proposed Sources of Withdrawal or Diversion.

<b>Source Name</b>	<b>Parcel</b>	<b>WellTag</b>	<b>Tw</b>	<b>Rng</b>	<b>Sec</b>	<b>QQ Q</b>	<b>Latitude</b>	<b>Longitude</b>
Well 1	38279906	BBP-610	02N	01 E	23	SE SW	45°38'11.82"	122°39'4.07"
Well 2	38279906	BAA-301	02N	01E	23	SW SW	45°38'17.04"	122°39'35.83"

Table 3. Existing Sources of Withdrawal or Diversion.

Source Name	Parcel	WellTag	Twn	Rng	Sec	QQ Q	Latitude	Longitude
Well 1	38279906	BBP-610	02N	01 E	23	SE SW	45°38'11.82"	122°39'4.07"

### Legal Requirements for Proposed Change

The following requirements must be met prior to authorizing the proposed change in G2-26967.

### Public Notice

A public notice of the proposed change was published in "The Columbian", a daily newspaper in southwest Washington, two times from December 18, 2008 to December 25, 2008. No protests were received.

### State Environmental Policy Act (SEPA)

A SEPA determination evaluates if a proposed withdrawal will cause significant adverse environmental impacts. A SEPA threshold determination is required for:

- Surface water applications for more than 1 cubic feet per second (cfs). For agricultural irrigation, the threshold increases to 50 cfs, if the project isn't receiving public subsidies.
- Groundwater applications requesting more than 2,250 gpm.
- Projects with several water right applications where the combined withdrawals meet the conditions listed above.
- Projects subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA).
- Applications that are part of several exempt actions that collectively trigger SEPA under WAC 197-11-305.

This application does not meet any of these conditions and is categorically exempt from SEPA. Therefore, a threshold determination is not required.

### Water Resources Statutes and Case Law

RCW 90.03.380(1) states a water right put to beneficial use may be changed. The point of diversion, place of use, and purpose of use may be changed as long as other water rights are not impaired.

The Washington Supreme Court requires Ecology to make a tentative determination of extent and validity of a claim or right when processing an application for change. A tentative determination will establish if the claim or right is eligible for change. (*R.D. Merrill v. PCHB* and *Okanogan Wilderness League v. Town of Twisp*.)

RCW 90.44.100 allows Ecology to amend a groundwater permit to allow the user to construct replacement or additional wells at a new location outside of the location of the original well, or to change the manner or place of use of the water, if:

- (a) For replacement wells, the user must discontinue use of the original well and properly decommission the original well.
- (b) For additional wells, use from the original well can continue, but the combined total withdrawal from all wells must not enlarge the right.
- (c) Other existing rights must not be impaired.
- (d) The wells must draw from the *same body of public groundwater*. Sources in the same *body of public groundwater* are:
  - Hydraulically connected.
  - Have a common recharge (catchment) area.
  - Share a common flow regime.

## **INVESTIGATION**

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The following information was used to evaluate this application:

- State Ground and Surface Water Codes, administrative rules, and policies.
- Water right certificates, permits, claims, and applications on record with the Department of Ecology.
- Water well reports recorded in the Department of Ecology's Well Log Image System.
- Topographic and local area maps.
- Watershed Assessment, WRIA 28, Salmon-Washougal, Open-File Technical Report 98-02.
- "Water Well Installation and Testing, Veterans Affairs Medical Center, 1061 Fourth Plain Boulevard, Vancouver, Washington 98661", PBS Engineering and Environmental, March 2009.
- Technical Memorandum dated March 14, 2011 by Tammy Hall, Licensed Hydrogeologist, with Ecology's Water Resources Program at the Southwest Regional Office.
- Notes from a site visit on March 10, 2011 conducted by Tammy Hall (Ecology).

### **Project Location and Site Description**

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The VA property is a 52-acre parcel at 1061 Fourth Plain Boulevard, in Vancouver. The VA property is about 1.3 miles north of the Columbia River and 1.1 miles south of Burnt Bridge Creek.

The VA Hospital and other associated buildings occupy the property. The property consists mostly of impervious surfaces; roads, parking lots, and roofs. About 12 acres consists of lawn areas surrounding the buildings and strips of grass that line the streets and parking lots.

About ten acres of the VA Hospital grounds are irrigated using an on-site well situated on the east side of the campus. However, by the time water reaches the west half of the campus, pressure loss in the distribution lines makes irrigation difficult. The VA would like to add Well 2 to G2-26967 to maintain water pressure and continue to use Well 1.

## History of Water Use

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GWC G2-26967 was issued in September 1988 for irrigation of 40 acres from Well 1. The Place of Use described in the water right is the VA gardens adjacent to the VA Hospital. The property has been continuously irrigated, although the acreage has gradually decreased over time as the property has been developed with buildings and parking lots. Under this certificate, the VA currently irrigates about ten acres of lawn using sprinklers. Thirty acres of irrigation has been relinquished back to the state due to non-use.

Water supplied by the City of Vancouver is used to irrigate about two acres of the VA property. Domestic water supply for the VA Hospital is also provided by the City of Vancouver.

### Tentative Determination of Extent and Validity of WRC G2-26967

The Washington Supreme Court has held that when processing an application for change to a water right, Ecology is required to make a tentative determination of the extent and validity of the water right. This tentative determination first establishes if the water right is valid. Second, it evaluates how much of the water right it is eligible for change. (*R.D. Merrill v. PCHB and Okanogan Wilderness League v. Town of Twisp.*)

Well 1 is equipped to pump 180 gpm.

Well 1 is not metered, however, water use can be estimated by combining crop needs, conveyance losses, and evaporative losses. Pasture/turf in the Vancouver area requires around 16.3 inches of water each irrigation season (Natural Resources Conservation Services, 2005). Sprinkler irrigation, has an efficiency of 70%. Typically, around 15% of the water applied evaporates. Using these assumptions, ten acres of irrigation requires 19.4 ac-ft per year. This is the extent of the validity of the right and the amount eligible to be changed. Table 4 summarizes this information.

Table 4. Total irrigation requirements for ten acres of lawn (pasture/turf).

Number of irrigated acres	Crop Type	Crop requirement (inches) (WIG)*	Total Crop Requirement (ac-ft)	App. Efficiency (%)	% Total Evaporated	Total Irrigation Requirement
10	pasture/turf	16.3	13.6	70	15	19.4

## Proposed Use

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This application proposes to add Well 2 to GWC G2-26967. Well 2 is about 1,640 feet away from Well 1.

Well 2 is considered an additional point of withdrawal. The VA will continue to irrigate the same property after the change. The instantaneous rate (gpm) will also not increase. The VA will need to manage withdrawals so that the combined pumping rate from both wells is no more than 180 gpm.

## Hydrologic/Hydrogeologic Evaluation

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The VA property is situated in the Portland Basin, a structural basin formed in Eocene to Miocene age volcanic and marine sedimentary rocks (Beeson & Tolan, 1993). In the area of the site, three hydrologic units overlie the volcanic bedrock. These units are the Unconsolidated Sedimentary Aquifer, the Troutdale Gravel Aquifer, and undifferentiated fine-grained sediments.

The Unconsolidated Sedimentary Aquifer (USA) is an unconfined water table aquifer composed primarily of Pleistocene alluvial deposits. This unit consists primarily of Pleistocene-age catastrophic flood deposits and Holocene-age alluvium deposited by the Columbia River. The USA aquifer is generally 50 to 100 feet thick and consists mostly of silty-sand and gravel. The water table in the USA aquifer mimics the land surface. Water levels in the USA occur at depths of about 50 feet bgs.

The Troutdale Gravel Aquifer is a semi-confined to confined aquifer consisting of poorly to moderately cemented sandy conglomerate. It is thickest (200-400 feet) in southern Clark County but is less than 200 feet thick near Salmon Creek, about 1 ½ miles north of the site. The top of the unit is progressively deeper to the southwest toward the Columbia River. Water levels in the Troutdale Gravel Aquifer occur at about 150 feet bgs.

The undifferentiated fine-grained sediments underlying the Troutdale Gravel Aquifer (TGA) are estimated to be about 1,350 feet thick. Skamania Volcanic and Columbia River Basalt form the underlying older bedrock.

Groundwater gradient and flow direction for both the USA and TGA is to the southwest, toward the Columbia River. In the site vicinity, the measured potentiometric surface of the USA is higher than the TGA, indicating that groundwater is moving vertically downward to the regional groundwater flow system. (McFarland, 1996)

### Site conditions

Wells 1 and 2 are about 1,640 feet apart. Well 1 was drilled in 1985. Well 2 was drilled in December 2008 in accordance with a Preliminary Permit issued on August 22, 2008. Construction details of both wells are summarized below in Table 5.

Both wells are about the same depth and draw water from the same aquifer, the TGA. PBS Environmental Engineering conducted testing on Well 2 in December 2008. Pump test data indicated an aquifer transmissivity between 42,000 and 62,000 gallons per day per foot of aquifer and a storage coefficient of 0.0008, typical of a confined aquifer (PBS Engineering, 2009).

**Table 5.** Construction details for Wells 1 and 2.

	Well 1	Well 2
Well Tag	BBP-610	BAA-301
Date Drilled	10/25/1985	12/03/2008
Well head elevation (ft above mean sea level, msl)	180	180
Well diameter (inches, in)	16	8
Completed depth (ft below ground surface, bgs)	325	302
Screened intervals (ft bgs)	280-325	262-295
Ft above msl	84-139	83-116
Hydrologic unit	TGA	TGA
Static water level (ft bgs), ft above msl	175 5	174.5 4.5
Date measured	12/06/2008	12/06/2008
Pumping capacity (gpm)	180	187

## Impairment Considerations

### Impacts to existing water users

Water right changes have greatest potential to affect wells completed in the same aquifer near the new point of withdrawal.

WAC 173-150-060 specifies that only impacts to “qualifying withdrawal facilities” fit the legal definition of impairment. This definition means wells can be affected but impacts are not considered impairment. Qualifying withdrawal facilities are wells completed in the same aquifer as the new point of withdrawal. The well must span the aquifer’s entire saturated thickness and the pump elevation must allow variation in seasonal water levels.

Ecology’s databases listed 16 water right certificates in a one-mile radius of Well 2. The nearest certificate issued is a little more than one-quarter mile away. The wells associated with the certificates are completed in the TGA. Table 5 lists the details of each of these certificates.

**Table 6.** Water Right Certificates and Permits in a one-mile radius of Well 2 (5,280 ft).

<i>Certificate/ Permit (P) #</i>	<i>Name</i>	<i>Purpose of use</i>	<i>gpm</i>	<i>ac-ft/yr additive(a) non-additive(na)</i>	<i>Distance from Well 2 (ft)</i>
G2-26228CWRI	Catholic Cemetery Association	Irrigation, Frost Protection	110	21	1,400
G2-26542ALCWRI	Washington Clark College	Heat Exchange	1,000 (4 wells)	Non-consumptive	2,800
G2-26131NWRIS	Vancouver School District 37	Irrigation	400	60	3,000
G2-23395CWRI	City of Vancouver	Municipal supply	2,000	1,600 (a)	3,500
G2-26309	City of Vancouver	Municipal supply	12,000 (6 wells)	258.5 (a) 9,419.5 (na)	3,500

<i>Certificate/ Permit (P) #</i>	<i>Name</i>	<i>Purpose of use</i>	<i>gpm</i>	<i>ac-ft/yr additive(a) non-additive(na)</i>	<i>Distance from Well 2 (ft)</i>
G2- *03990CWRIS	Clark Co. PUD	Heat exchange	500	Non-consumptive	3,500
G2- *03991CWRIS	Clark Co. PUD	Heat exchange	300	Non-consumptive	3,500
G2-*06045ALC WRIS	City of Vancouver	Heat exchange	300	Non-consumptive	3,500
G2- *0074SWRIS	City of Vancouver	Municipal supply	2,000	2,030 (a)	4,000
G2- *0075SWRIS	City of Vancouver	Municipal supply	2,000	2,100 (a)	4,000
G2- *0076SWRIS	City of Vancouver	Municipal supply	2,000	2,442(a)	4,000
G2- 23945CWRIS	Kenneth Summers	Commercial	30	17.5 (a)	4,200
G2- *06180CWRIS	City of Vancouver	Municipal supply	2,200 (2 wells)	3,520 (na)	4,200
G2- *0077SWRIS	City of Vancouver	Municipal supply	1,200	923 (a)	4,500
G2- *07478CWRIS	Vancouver Memorial Hospital	Heat exchange	750	315 Non-consumptive	4,500

It is not likely pumping Well 2 will affect area users. Well 2 is an additional point of withdrawal under G2-6927 and the total amount pumped will not increase. Because Wells 1 and 2 are relatively close to one another, negative impacts are not expected to occur. Water right holders should easily be able to continue to pump the quantities allowed under their certificates.

The following water right claims and well reports were found in about one mile from Well 2:

- One ground water permit for commercial use.
- Two surface water certificates diverting water from Burnt Bridge Creek.
- One superseding surface water Certificate for instream flow from the Columbia River.
- Five groundwater claims.
- Three water supply wells.

## Impairment Considerations

### Impacts to surface water

Wells 1 and 2 are roughly one mile from Burnt Bridge Creek to the north and the Columbia River to the south.

The Water Resources Management Program for the Salmon-Washougal Basin, WRIA 28 was adopted in 2008 (Chapter 173-528 WAC). This WAC establishes instream flows for many streams and closes others to consumptive uses. Salmon Creek, Burnt Bridge Creek, Lacamas Creek, Washougal River, and Columbia River Tributaries are closed to new withdrawals of groundwater. For withdrawals that don't affect closed reaches, the rule allows Ecology to evaluate applications on a case-by-case basis.

Approving this change will not impair surface water. Wells 1 and 2 draw water from the TGA, an aquifer hydraulically connected to the Columbia River. Both original and proposed additional point of

withdrawal capture water in the same body of public groundwater and the wells are relatively close to one another. The amount of water pumped as a result of this change will not increase.

### Public Interest Considerations

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Adding Well 2 to G2-26967 is not detrimental to the public interest and consistent with WAC 173-528 and RCW 90.54.

The change will not cause new impacts to regulated surface water or groundwater.

### Consideration of Protests and Comments

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No protests were filed against this application during the public notice period.

### Conclusions

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Based on the above investigation and conclusions, I recommend the request to change GWC G2-26967 be approved in the amounts and within the limitations listed below, subject to provisions beginning on Page 2.

### Purpose of Use and Authorized Quantities

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The amount of water recommended is a maximum limit and the water user may only use that amount of water within the specified limit that is reasonable and beneficial:

- 180 gpm from Wells 1 and 2.
- 19.4 ac-ft per year
- Irrigation of 10 acres.

Point of [Diversion Withdrawal]

Well 1: SE  $\frac{1}{4}$  SW  $\frac{1}{4}$

Well 2: SW  $\frac{1}{4}$  SW  $\frac{1}{4}$

Section 23, Township 2 North, Range 1 E.W.M.

Place of Use

As described on Page 1 of this Report of Examination.

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*Report Writer*

*Date*

*If you need this publication in an alternate format, please call Water Resources Program at (360) 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.*

**References:**

Beeson, M.H., Tolan, T.L., 1993, Overview of the Stratigraphy and Structure of the Portland Area, AEG Field Trip Guide: July 7, 1993.

McFarland, W.D., Morgan D.S., 1996, Description of Ground-Water Flow System in the Portland Basin, Oregon and Washington: U.S. Geological Survey Water-Supply Paper 2470-A.

Natural Resources Conservation Services, 2005, *Washington State Irrigation Guide*.

PBS Engineering and Environmental, 2009, Water Well Installation and Testing, Veterans Affairs Medical Center, 1061 Fourth Plain Boulevard, Vancouver, Washington, 98661: March 2009.

ATTACHMENT 1

