DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
REPORT OF EXAMINATION
FOR WATER RIGHT CHANGE

Changed Place of Use
Added Points of Withdrawal

PRIORITY DATE
March 27, 1959

WATER RIGHT NUMBER
4108-A

MAILING ADDRESS
ASOTIN COUNTY PUD 1
PO BOX 6051
CLARKSTON WA 99403-0605

SITE ADDRESS (IF DIFFERENT)
ASOTIN COUNTY PUD 1
1500 SCENIC WAY
CLARKSTON WA 99403-0605

Total Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
1800	GPM	2880

Water Right Certificate Nos. 10893, 8364, 3037-A, 3038-A, 3154-A, 4108-A, 4119-A, 4166-A, 4167-A, 4168-A, 4169-A, and G3-24918C shall have a total maximum withdrawal of 30250 gallons per minute, 10202 acre-feet per year for municipal supply.

Purpose

	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		
PURPOSE	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Municipal Supply	1800				2880	01/01 - 12/31

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS
		93343	8,610

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Asotin			35-Middle Snake

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well 1	10800000100010000		11N	46E	29	NE¼NE¼	46.4107	117.0631
Well 2	10490004100030000		10N	46E	05	SW¼SE¼	46.3702	117.0654
Well 3	11320011300000000		11N	46E	29	SE¼SW¼	46.3971	117.0699
Well 4	10040300100040000		11N	46E	33	NW¼NW¼	46.3946	117.0532
Well 5	10411700500020000		11N	46E	30	SW¼SE¼	46.3965	117.0856
Well 6	10490004100020000		10N	46E	06	SE¼NE¼	46.3750	117.0845
Well 7	10412600800040000		11N	46E	32	SW¼NW¼	46.3914	117.0759
Well 8			10N	45E	01	NE¼NE¼	46.3816	117.1022
Well 9	20114603032000000		11N	46E	30	SW¼NW¼	46.3995	117.1006
Well 10 (Asotin 1)	10440001800000000		10N	46E	21	NW¼NW¼	46.3371	117.0557
Well 11 (Asotin 2)			10N	46E	16	SW¼SE¼	46.3409	117.0469
Well 12 (Atlas)	20114502520000000		11N	45E	25	NE¼SW¼	46.4025	117.1125

Datum: NAD83/WGS84

Well 1 1250 feet west and 50 feet south of the NE corner of Section 29
Well 2 1000 feet north and 950 feet east of the S¼ corner of Section 5
Well 3 300 feet west and 325 feet north of the S¼ corner of Section 29
Well 4 575 feet south and 1225 east of the NW corner of Section 33
Well 5 1150 feet east and 100 feet north of the S¼ corner of Section 30
Well 6 1250 feet west and 200 feet forth of the E¼ corner of Section 6
Well 7 925 feet east and 900 feet north of the W¼ corner of Section 32
Well 8 300 feet west and 75 feet south of the NE corner of Section 1
Well 9 1200 feet north and 50 feet east of the SW corner of Section 30
Well 10 466 feet south and 1715 feet west of the N¼ corner of Section 21
Well 11 900 feet north and 450 feet east of the S¼ corner of Section 16
Well 12 325 feet south and 200 feet west of the center of Section 25

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

The place of use (POU) of this water right is the service area described in the most recent Water System Plan/Small Water System Management Program approved by the Washington State Department of Health, so long as the water system is and remains in compliance with the criteria in RCW 90.03.386(2). RCW 90.03.386 may have the effect of revising the place of use of this water right.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Started	September 1, 2027	September 1, 2031

Measurement of Water Use

How often must water use be measured?	Weekly
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm or cfs)

Provisions

Wells, Well Logs and Well Construction Standards
All wells constructed in the state must meet the construction requirements of WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction". Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard must 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.

In accordance with WAC 173-160, wells shall not be located within certain minimum distances of potential sources of contamination. These minimum distances shall comply with local health regulations, as appropriate. In general, wells shall be located at least 100 feet from sources of contamination. Wells shall not be located within 1,000 feet of the boundary of a solid waste landfill.

A completed well report of the well(s) shall be submitted by the driller to the Department of Ecology within 30 days of completing the well(s) authorized herein. All pump test data for the well(s) shall be submitted to the Department of Ecology as it is obtained.

Well Nos. 8, 9 and 12 shall be constructed deep enough to withdraw water from the same body as the other existing wells, namely the body hydraulically connected to the Snake River, demonstrating head changes that respond to pool elevation changes upstream of Lower Granite Dam. This shall be accomplished by appropriate casing and sealing which will be determined at the time of construction by the ERO Well Drilling Coordinator. A well video may be required at any time during and after construction to determine proper well construction.

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.

Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Eastern Regional Office. If you do not have Internet access, you can still submit hard copies by contacting the Eastern Regional Office for forms to submit your water use data.

Water use data shall be recorded weekly. The maximum rate of diversion/withdrawal and the annual total volume shall be submitted to the Department of Ecology by January 31st of each calendar year.

Department of Health
Prior to any new construction or alterations of a public water supply system, the State Board of Health rules require public water supply owners to obtain written approval from the Office of Drinking Water of the Washington State Department of Health. Please contact the Office of Drinking Water prior to beginning (or modifying) your project at DOH/Division of Environmental Health, 16201 E. Indiana Avenue, Suite 1500, Spokane Valley, WA 99216, (509) 329-2100.

If the criteria in RCW 90.03.386(2) are not met and a Water System Plan/Small Water System Management Program was approved after September 9, 2003, the place of use of this water right reverts to the service area described in that document. If the criteria in RCW 90.03.386(2) are not met and no Water System Plan/Small Water System Management Program has been approved after September 9, 2003, the place of use reverts to the last place of use described by The Department of Ecology in a water right authorization.

Easement and Right-of-Way
The water source and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a water right change authorization by this department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

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 source(s), system instantaneous capacity, beneficial use(s), 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.

General Provisions
Water Right Certificate Nos. 10893, 8364, 3037-A, 3038-A, 3154-A, 4108-A, 4119-A, 4166-A, 4167-A, 4168-A, 4169-A, and G3-24918C shall have a total maximum withdrawal of 30250 gallons per minute, 10202 acre-feet per year for municipal supply.

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.

Use of water under this authorization shall 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.

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 find the change of water right as recommended will not be detrimental to existing rights or the public welfare.

Therefore, I ORDER the requested change to points of withdrawal and place of use under Change Application No. 4108-A, subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. 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 the Order.

File your appeal and a copy of this Order 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 Order 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.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 1111 Israel RD SW Ste 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Signed at Spokane, Washington, this 4th day of October, 2011.

Keith L. Stoffel, Section Manager

INVESTIGATOR'S REPORT
Dan Tolleson, Department of Ecology
Water Right Control Number CG3-*05208C
4108-A

BACKGROUND

Description and Purpose of Proposed Change

An application for change/transfer was submitted by Public Utility District No. 1 of Asotin County (Asotin County PUD) of Clarkston, Washington, to Ecology on August 14, 2007. Asotin County PUD proposes to integrate their water rights by adding 11 wells, and changing the place of use as granted under Ground Water Certificate No. 4108-A (GWC 4108-A).

Attributes of the Existing Water Right and Proposed Change

Attributes	Existing	Proposed
Name	Washington Water Power Co	Asotin County PUD
Priority Date	03/27/1959	-
Change Application Date	-	08/14/2007
Instantaneous Quantity	1800 gpm	No change
Annual Quantity	2880 af/yr	No change
Purpose of Use	Municipal Supply	No change
Period of Use	Continuously	No change
Place of Use	City of Clarkston and Vicinity, Asotin County, Washington	Area Served by Asotin County PUD

Proposed Sources of Withdrawal or Diversion

Source Name	Parcel	Well Tag	Twn	Rng	Sec	QQ Q	Latitude	Longitude
Well 1	10800000100010000		11N	46E	29	NE¼NE¼	46.4107	117.0631
Well 2	10490004100030000		10N	46E	05	SW¼SE¼	46.3702	117.0654
Well 3	11320011300000000		11N	46E	29	SE¼SW¼	46.3971	117.0699
Well 4	10040300100040000		11N	46E	33	NW¼NW¼	46.3946	117.0532
Well 5	10411700500020000		11N	46E	30	SW¼SE¼	46.3965	117.0856
Well 6	10490004100020000		10N	46E	06	SE¼NE¼	46.3750	117.0845
Well 7	10412600800040000		11N	46E	32	SW¼NW¼	46.3914	117.0759
Well 8			10N	45E	01	NE¼NE¼	46.3816	117.1022
Well 9	20114603032000000		11N	46E	30	SW¼NW¼	46.3995	117.1006
Well 10 (Asotin 1)	10440001800000000		10N	46E	21	NW¼NW¼	46.3371	117.0557
Well 11 (Asotin 2)			10N	46E	16	SW¼SE¼	46.3409	117.0469
Well 12 (Atlas)	20114502520000000		11N	45E	25	NE¼SW¼	46.4025	117.1125

Existing Sources of Withdrawal or Diversion

Source Name	Parcel	Well Tag	Twn	Rng	Sec	QQ Q	Latitude	Longitude
Well No. 4	10040300100040000		11N	46E	33	NW¼NW¼	46.3946	117.0532

Legal Requirements for Proposed Change

The following is a list of requirements that must be met prior to authorizing the proposed change application.

Public Notice

A notice of application was duly published in accordance with RCW 90.03.280 in the Lewiston Tribune on November 10 and November 17, 2007 and no protests were received.

State Environmental Policy Act (SEPA)

A water right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met.

- It is a surface water right application for more than 1 cubic foot per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies;
- It is a groundwater right application for more than 2,250 gallons per minute;
- It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;
- It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
- It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

Because this application, in combination with other applications, would entail the withdrawal of more than 2,250 gallons per minute, it is subject to SEPA.

After review of a completed environmental checklist and other information on file with Ecology, this proposal was determined to not have a significant adverse impact on the environment. A final Determination of Non-Significance was issued by Ecology on August 11, 2011, stating that no environmental impact statement is required.

Water Resources Statutes and Case Law

RCW 90.03.380(1) states that a water right that has been put to beneficial use may be changed. The point of diversion, place of use, and purpose of use may be changed if it would not result in harm or injury to other water rights.

The Washington Supreme Court has held that Ecology, when processing an application for change to a water right, is required to make a tentative determination of extent and validity of the claim or right. This is necessary to establish whether the claim or right is eligible for change. *R.D. Merrill v. PCHB* and *Okanogan Wilderness League v. Town of Twisp.*

RCW 90.03.570(1) and (2) state, that if specific conditions are fulfilled, a municipal water supplier is eligible for a change of water right as provided by RCW 90.03.380. This is true even if the right was not put to full beneficial use.

RCW 90.03.386(2) states that a municipal water supplier may change its service area through the water system plan approval process. As long as the municipal water supplier is in compliance with the approved plan, the place of use for the water right is the service area of the plan.

RCW 90.03.386(3) requires a municipal water supplier to apply cost-effective water conservation measures as part of its water system planning. The water supplier must also evaluate the effects of delaying the use of inchoate water rights before it may increase use of those inchoate rights. RCW 90.03.320 requires Ecology to consider the public water supplier's use of conserved water when establishing a surface or ground water right construction schedule.

When changing or adding points of withdrawal to groundwater rights (RCW 90.44.100), or when consolidating exempt wells with an existing permit or certificate (RCW 90.44.105), the wells must draw from the *same body of public groundwater*. Indicators that wells tap the *same body of public groundwater* include:

(a) Hydraulic connectivity.
(b) Common recharge (catchment) area.
(c) Common flow regime.
(d) Geologic materials that allow for storage and flow, with recognizable boundaries or effective barriers to flow.

INVESTIGATION

Asotin County PUD No. 1 has filed changes concurrently under the following rights: Ground Water Certificate Nos. 3037-A, 3038-A, 3154-A, 4108-A, 4119-A, 4168-A, 4169-A, 4166-A, 4167-A, G3-24918C and Surface Water Certificate Nos. 10893 and 8364. Each application will have decisions based on its own respective findings.

History of Water Use

This water system originated in 1896 and served water to the Town of Asotin, Clarkston and the surrounding area. The historical point of diversion was from Asotin Creek, which first used an open ditch, and then in 1907 converted to a wood stave pipeline. The Asotin Creek system was not always a reliable source and two pumping stations were constructed during the 1920s and 30s on the Snake River to provide water for the system (these eventually became Water Right Certificate Nos. 10893 and 8364). The Snake River pumping stations were originally moveable diversions that existed at various sites, but were eventually converted to the permanent pump stations that now exist. In the late 1950's two large production wells were developed to provide additional clean water for the system. It was also during this time a filtration plant was built and plans to develop ground water were made largely because of poor water quality typical of surface water. Historical water use in the late 1950s approached 16,000 acre-feet a year and was primarily supplied from Asotin Creek for an estimated population of 7000 people. The Asotin Creek pipeline remained in use until it had a catastrophic failure in 1959, which led to its eventual abandonment.

After the pipeline failure, the two Snake River pumping stations become the primary water sources of the system until the ground water system (wells system) was developed. The ground water system was quickly developed and by 1961 six wells were in use under Ground Water Certificate Nos. 3037-A, 3038-A, 3154-A, 4108-A, 4119-A, GWC 4166-A and 4167-A, 4168-A and 4169-A, in addition to the two Snake River diversions authorized under Surface Water Certificates 10893 and 8364. Water from this newer system did not serve the Town of Asotin, only Clarkson and its surrounding area. The maximum use of water after the Asotin Creek pipeline failure was in 1962 when approximately 9,819 acre-feet of water was pumped. At that time, water from all sources was pumped into a reservoir, treated and then redistributed. Pump Station No. 2 was converted to a back up source in the 1960s and Pump station No. 1 was converted to a back up source in 1977. The well under Ground Water Certificate G3-24918C was added to the system in 1977. In 1987, Asotin County PUD No. 1 was formed and began management of the water system. Currently, this system serves on average 4,700 acre-feet per year from its well system, in conjunction with several storage tanks for approximately 19,800 people.

Water use on a per capita basis under this system has significantly declined over the years. Prior to the failure of the Asotin Creek Diversion water was very cheap and plentiful. Immediately after the diversion failure the system could not meet the demands of the water users. This prompted a massive upgrade and expansion to the system along with significant rate increases. With the significant increase in water cost, it appears that water use declined significantly and conservation methods were improved. In recent years, the PUD has implemented various water conservation plans that have led to even less water use on a per capita basis.

Extent of Beneficial Use

Ground Water Certificate No. 4108-A issued for 1800 gallons per minute, 2880-acre-feet per year for municipal supply. The authorized place of use is the Town of Clarkston and vicinity, Asotin County, Washington. The authorized point of withdrawal is Well No. 4, which was constructed in 1960. This certificate is issued as a supplemental supply to existing rights. The existing rights documented in the original Report of Examination are Ground Water Certificate Nos. 3038-A, 3154-A and the Asotin Creek diversion. Ground Water Certificate No. 3038-A is less water withdrawn under Surface Water Certificate Nos. 10983 and 8394 making this right subject to the same restrictions. This means that the instantaneous quantities are additive and the annual quantities are non-additive, under certificate 4108-A, to the project as a whole. According to pumping records the maximum annual use, which is approximately 698-acre-feet for municipal supply, occurred in the year 1973. The historical instantaneous quantities withdrawn under this right are similar to what was authorized. Currently, authorized Well No. 4 is offline and has not been in use as source since 2002 because of a pump failure. No water has been used from the authorized source for this water right in the last five years, making the entire right inchoate. The PUD may decommission this well providing this proposed change is approved.

The PUD qualifies as a "municipal water supplier" as defined under RCW 90.03.015(3) and has used water for municipal supply purposes under this certificate within the authorized place of use. Based on the water use data, the PUD has not perfected its full allocation of water, leaving inchoate (or unused) water rights available for future use. The inchoate water availability is consistent with the municipal legislation (SHB 1338) passed in 2003. This law became effective September 9, 2003 and allowed municipal water suppliers to grow into the remaining quantities of these "pumps and pipes" certificates. The remaining unused portion of this right allows for certainty for future growth by municipal water suppliers. RCW 90.03.330(3) indicates that such water rights remain in good standing.

Water right holders must still meet other requirements in the Water Code such as due diligence in project development to keep these rights in good standing. The Department recognizes that cities often grow at uneven rates, and need to be able to serve their growing populations. The actual use of water over time fluctuates due to many factors, which include but are not limited to year-to-year weather patterns, conservation measures, water price and general changes in water use practices. Over time the population within the area of the PUD has grown at a fairly steady rate. Over the last ten years, significant work has been conducted to upgrade the infrastructure of their system and promote conservation with their water users. This has resulted in a total water use that has remained fairly stable despite population and connection growth. This continuing upgrade to their system is due diligence of the project.

Summary of Water Rights

The interrelationship between Asotin County PUD's portfolio of twelve water rights is outlined in the following paragraph and table below. Water Right Nos. 10893, 8364, 3037-A and 3154-A were issued as primary additive rights, which provide adequate annual quantities for the actual system. Water Right Nos. 3038-A, 4108-A, 4119-A, 4168-A, 4169-A, 4166-A, and 4167-A were issued around the same time as alternate rights with additive instantaneous quantities and non-additive annual quantities. These alternate source rights were issued to provide more instantaneous flow, which was needed for such things as peak demand periods, fire flow and providing better pressure within the system. Approximately 15 years after the initial development of the ground water system, Water Certificate No. G3-24918C was applied for and issued. The annual quantities under this right are partially additive and the instantaneous quantities are entirely additive. The system of Ground Water rights remains in use,

with the surface water systems being designated as offline and backup supply only. According to the PUD, the backup status of the surface water rights is primarily due to the cost of treating surface water.

Water Rights

Certificate No.	Priority Date	Historical Source	Primary Qi	Primary Qa	Non-additive Qa
10893	6/26/1931	Snake River No. 2	16.71 cfs (7,500 gpm)	3,806 af/y	n/a
8364	12/29/1950	Snake River No. 1	6.24 cfs (2,800 gpm)	1,421 af/y	n/a
3037-A	1/16/1957	Well No. 2	1,200 gpm	1,920 af/y	n/a
3038-A	1/16/1957	Well No. 1	1,800 gpm	n/a	1,460 af/y
3154-A	4/21/1958	Well No. 1	900 gpm	730 af/y	n/a
4108-A	3/27/1959	Well No. 4	1,800 gpm	n/a	2,880 af/y
4119-A	3/27/1959	Well No. 3	3,000 gpm	n/a	3,556 af/y
4166-A	11/14/1960	Well No. 5	2,650 gpm	n/a	3,556 af/y
4167-A	11/14/1960	Well No. 6	3,000 gpm	n/a	3,556 af/y
4168-A	8/9/1961	Well No. 3	1,500 gpm	n/a	2,400 af/y
4169-A	8/9/1961	Well No. 1	600 gpm	n/a	960 af/y
G3-24918C	5/20/1976	Well No. 7	3,500 gpm	2,325 af/y	3,275 af/y
TOTAL	-	-	**30,250 gpm**	**10,202 af/y**	-

Note: the extent and validly of the above listed rights is determined in its respective Report of Examination.

Qa = Annual quantities
Qi = Instantaneous quantities

Proposed Use

Asotin County PUD No. 1 proposes to integrate their water system by adding wells. Currently, the PUD operates an interconnected system of seven wells (Wells 1-7) and two surface water diversions (offline). They propose to move the surface water sources to wells and remove the diversions. Along with this they also intend to add three existing wells, which are not currently interconnected to the PUD system. Two wells are owned by the Town of Asotin (Wells 10-11) and one well is owned by Atlas Sand and Rock (Well 12). The three existing proposed wells have water rights attached to them. The Town of Asotin and Atlas Sand and Rocks' water rights are estimated to be inadequate for future demands. Also, two additional wells (Wells 8-9) are proposed to be constructed for future growth over the next 20 years. This is a total proposed system of twelve wells. Ground Water Certificate No. 4108-A authorizes Well No. 4 and they propose to add Well Nos. 1-3 and 5-12.

Summary of Existing and Proposed Wells

Source	Well Status	Meter Status	Production in gallons per minute, per PUD	Notes
Well No. 1	Online	Operational	3100	
Well No. 2	Online	Operational	1300	
Well No. 3	Online	Operational	4400	
Well No. 4	Offline	n/a	n/a	Possible decommission in future
Well No. 5	Online	Operational	2560	
Well No. 6	Online	Operational	2900	
Well No. 7	Online	Operational	3200	
Well No. 8	Not constructed	Required	n/a	
Well No. 9	Not constructed	Required	n/a	
Well No. 10	Online	Operational	800*	(Town of Asotin Well No. 1)
Well No. 11	Online	Operational	475*	(Town of Asotin Well No. 2)
Well No. 12	Online	Operational	200**	(Atlas Sand and Rock Well No. 1)
			21,100 gpm	

*per Town of Asotin water system plan dated July 17, 2000
**per Atlas Sand and Rock Report of Examination dated February 16, 2006

According to the PUD, water use under their rights, from Well Nos. 10-12 shall not commence until a written agreement is approved between the PUD and the owner of each well.

The PUD also proposes to change the place of use to the Area Served by the PUD as described in their current water system plan. The Service Area of this water system plan may be modified to include the Town of Asotin and the place of use of Atlas Sand and Rock. Modifications to the Service Area of a water system plan are changed through the Department of Health, Office of Drinking Water.

Measuring and Reporting Water Use

RCW 90.03.360 requires that the owner of any water diversion maintain substantial controlling works and a measuring device. It must be constructed and maintained to permit accurate measurement and practical regulation of the flow of water diverted. Technical requirements for the measuring and reporting of water use are described in WAC 173-173. This decision contains provisions requiring the measuring and reporting of the quantities of water withdrawn or diverted.

Well Tags

WAC 173-160 contains requirements for well drillers, system operators and/or owners to tag new and existing wells with identification tags supplied by Ecology. The well identification program creates a standard system to identify all newly constructed or existing wells, so that property owners and various agencies can readily share well data. In addition, Ecology field staff use the well tag to identify the well. Accordingly, this decision contains provisions requiring each well to be tagged with a unique identification number.

Other Rights Appurtenant to the Place of Use

A review of Ecology records was conducted for existing water rights, permits, and claims in the surrounding area of the Asotin County PUD No. 1 Project. The search focused primarily on Sections 1, 12 and 13, of T. 10N., R. 45 E.W.M.; Sections 24, 25 and 36 of T. 11 N., R. 45 E.W.M.; Sections 4, 5, 6, 7, 8, 17, and 18 of T. 10 N., R. 46 E.W.M.; and Sections 19, 20, 21, 28, 29, 30, 31, 32 and 33 of T. 11 N., R. 46 E.W.M. The review of Ecology records shows 49 Certificates, Permits and Claims within the Service Area of Asotin County PUD No. 1. Most of these are small withdrawals and diversions of less than 30 acre-feet per year. There are five irrigation certificates and permits that withdraw between 30-100 acre-feet per year, each and four certificates and permits that authorize a withdrawal/diversion between 300-422 acre-feet per year, each. These rights are separate systems that are not connected to the Asotin County PUD No. 1 system. The extent and validity of these rights is not determined in this report, although it appears that many have been relinquished from non use. Currently, the only intertie that the PUD has with another system is that with the Port of Wilma, lying north of the Snake River, in Whitman County.

Hydrologic/Hydrogeologic Evaluation

Applications for change of water right permits and certificates are governed by RCW 90.44.100, which states in part: the holder of a valid right to withdraw public ground waters may, without losing his priority of right, construct wells at a new location in substitution for, or in addition to, those at the original location, or he may change the manner or the place of use of the water. Such amendment shall be issued by the Department only on the conditions that: (1) the additional or substitute well or wells shall tap the same body of public ground water as the original well or wells, (2) use of the original well or wells shall be discontinued upon construction of the substitute well or wells, (3) the construction of an additional well or wells shall not enlarge the right conveyed by the original permit or certificate, and (4) other existing rights shall not be impaired. The Department may specify an approved manner of construction and shall require a showing of compliance with the terms of the amendment.

Tracy Band and John Covert, hydrogeologists in Ecology's Water Resources Program, provided the following hydraulic continuity analysis between surface water and groundwater in the Clarkston Area:

Geology

The Lewiston Basin is a triangular-shaped bowl, located in southeastern Washington and western north central Idaho, approximately 400 square miles in area. The Snake and Clearwater Rivers and their tributaries are the main drainages of the basin. The basin is dominated by Columbia River Basalt, underlain by granite and metamorphic rocks. The Grande Ronde Member is the oldest formation of the Yakima Subgroup of the Columbia River Basalts. Tectonic deformation of the Columbia River Group, is of Post-Miocene age, and created the majority of folds and faults that form the hydrogeologic boundaries in the Basin, including an asymmetrical, east-west plunging syncline, through the center of the basin (Cohen and Ralston, 1980). The basalt aquifers of the Grande Ronde are the primary source of the groundwater withdrawn in the basin. The Asotin PUD wells are located just south of Clarkston, and all are within two miles of the Snake River.

Well and Surface Water Diversion Information

Well #1 was constructed in 1957, has been used for municipal supply, and was drilled to a depth of 970 feet. Yields at the time of pumping were 1520 gpm with 20 feet of drawdown after an unspecified amount of time. The well was drilled through top soil and gravels and into basalt, and has been cased to a depth of 615 feet. The casing has 10 inch perforations from 526-615 feet. The static water level in the well at the time of drilling was 138 feet below land surface, or 707 feet above sea level (ASL). The altitude of the Grande Ronde Basalt Member for Well #1 (NE¼NE¼ of Section 29, T. 11 N., R. 46 E.W.M.) is 443 feet ASL. With a land surface elevation of 845 feet ASL, this puts the top of the Grande Ronde at 402 feet below land surface (U.S. Geological Survey Water-Resources Investigation Report 88-182).

Well #2 was originally constructed in 1916. It was originally drilled as a test oil well to a depth of 1628 feet, and later abandoned. Around 1955, the well was either filled in or bridged in to a depth of 920 feet, and then used for municipal supply. A pump test in 1955, gave yields of 1001 gpm with 18 feet of drawdown after 11 hours. The well was drilled through a series of sandstone, sand and shale, and has been cased to a depth near 119 feet. The static water level in the well before pumping was 60.25 feet below land surface, or 727.75 feet above sea level (ASL). The altitude of the Grande Ronde Basalt Member for Well #2 (Govt Lot 5 of Section 5, T. 10 N., R. 46 E.W.M.) is unknown in this well. The land surface elevation is 788 feet ASL.

Well #3 was constructed in 1960, has been used for municipal supply, and was drilled to a depth of 1103 feet. Yields at the time of pumping were 3900 gpm with 52 feet of drawdown after 26 hours. The well was drilled through a series of basalt layers with green to black shale interbeds in the upper portion of the well, and has been cased to a depth of 559 feet. The static water level in the well at the time of drilling was 285 feet below land surface, or 712 feet above sea level (ASL). The altitude of the Grande Ronde Basalt Member for Well #3 (SE¼SW¼ of Section 29, T. 11 N., R. 46 E.W.M.) is 602 feet ASL. With a land surface elevation of 997 feet ASL, this puts the top of the Grande Ronde at 395 feet below land surface (U.S. Geological Survey Water-Resources Investigation Report 88-182).

Well #4 was constructed in 1960, has been used for municipal supply, and was drilled to a depth of 1012 feet. Yields at the time of pumping were 1600 gpm with 200 feet of drawdown after 20 days. The well was drilled through a series of basalt layers with a green clay interbed at 389 feet below land surface, and has been cased to a depth of 451 feet. The static water level in the well at the time of drilling was 155 feet below land surface, or 725 feet above sea level (ASL). The altitude of the Grande Ronde Basalt Member for Well #4 (SE¼NE¼ of Section 33, T. 11 N., R. 46 E.W.M.) is 451 feet ASL. With a land surface elevation of 880 feet ASL, this puts the top of the Grande Ronde at 429 feet below land surface (U.S. Geological Survey Water-Resources Investigation Report 88-182).

Well #5 was constructed in 1961, has been used for municipal supply, and was drilled to a depth of 1330 feet. Yields at the time of pumping were 2200 gpm with 145 feet of drawdown after an unspecified amount of time. The well was drilled through a series of clay, sand and gravels, and into basalt layers, and has been cased to a depth of 1087 feet. The casing has perforations from 860 to 890 feet, and 930 to 1070 feet. The static water level in the well at the time of drilling was 447 feet below land surface, or 694 feet above sea level (ASL). The altitude of the Grande Ronde Basalt Member for Well #5 (SW¼SE¼ of Section 30, T. 11 N., R. 46 E.W.M.) is 582 feet ASL. With a land surface elevation of 1141 feet ASL, this

puts the top of the Grande Ronde at 559 feet below land surface (U.S. Geological Survey Water-Resources Investigation Report 88-182).

Well #6 was constructed in 1961, has been used for municipal supply, and was drilled to a depth of 1069 feet. Yields at the time of pumping were 2000 gpm with 91 feet of drawdown after an unspecified amount of time. The well was drilled through sand, gravel and clay, and into a series of basalt layers, and has been cased to a depth of 902 feet. The casing has perforations from 748 to 468 feet, and 785 to 815 feet. The static water level in the well at the time of drilling was 269 below land surface, or 722 feet above sea level (ASL). The altitude of the Grande Ronde Basalt Member for Well #6 (NE¼SE¼ of Section 6, T. 10 N., R. 46 E.W.M.) is 771 feet ASL. With a land surface elevation of 991 feet ASL, this puts the top of the Grande Ronde at 220 feet below land surface (U.S. Geological Survey Water-Resources Investigation Report 88-182).

Well #7 was constructed in 1977, has been used for municipal supply, and was drilled to a depth of 1340 feet. There is no pump test information for this well. The well was drilled through top soil and into a series of basalt layers, and has been cased to a depth of 653 feet, with no perforations. The static water level in the well at the time of drilling was 387 feet below land surface, or 791 feet above sea level (ASL). The altitude of the Grande Ronde Basalt Member for Well #7 (SW¼NW¼ of Section 32, T. 11 N., R. 46 E.W.M.) is 668 feet ASL. With a land surface elevation of 1178 feet ASL, this puts the top of the Grande Ronde at 520 feet below land surface (U.S. Geological Survey Water-Resources Investigation Report 88-182).

Well #8 has not been constructed. Its proposed location is in the NE¼NE¼ of Sec. 1, T. 10 N., R. 45 E.W.M. For a well at this proposed location to be integrated into change applications, it will have to be drilled deep enough to withdraw water from the same body as the other existing wells, namely the body hydraulically connected to the Snake River, demonstrating head changes that respond to pool elevation changes upstream of Lower Granite Dam.

Well #9 has not been constructed. Its proposed location is in the SW¼NW¼ of Sec. 30, T. 11 N., R. 46 E.W.M. For a well at this proposed location to be integrated into change applications, it will have to be drilled deep enough to withdraw water from the same body as the other existing wells, namely the body hydraulically connected to the Snake River, demonstrating head changes that respond to pool elevation changes upstream of Lower Granite Dam.

Well #10 was constructed in 1961, has been used for municipal supply, and was drilled to a depth of 539 feet. Yields at the time of pumping were 800 gpm with 12 feet of drawdown after an unspecified amount of time. The well was drilled through a series of sand and gravel, and cemented gravel and into basalt layers, and has been cased to a depth of 417 feet. The static water level in the well at the time of drilling was 64 feet below land surface or 736' above sea level (ASL). The top of the basalt is listed as 24 feet below land surface. This is mapped to be the Grande Ronde Basalt Member. With a land surface elevation of 800 feet ASL, this puts the top of the Grande Ronde at 776 feet ASL.

Well #11 was constructed in 1961, has been used for municipal supply, and was drilled to a depth of 522 feet. Yields at the time of pumping were 599 gpm with 35 feet of drawdown after an unspecified amount of time. The well was drilled through a series of sand and gravel, and cemented gravel and into basalt layers, and has been cased to a depth of 401 feet. The static water level in the well at the time of

drilling was 33 feet below land surface or 727' above sea level (ASL). The top of the basalt is listed as 33 feet below land surface. This is mapped to be the Grande Ronde Basalt Member. With a land surface elevation of 760 feet ASL, this puts the top of the Grande Ronde at 727 feet ASL.

Well #12 was constructed in 1993, has been used for mining purposes, and was drilled to a depth of 375 feet. There is no pump test information for this well. The well was drilled through sand and gravels and into basalt layers, and has been cased to a depth of 375 feet. The static water level in the well at the time of drilling was 190 feet below land surface or 775' above sea level (ASL). It is not known if Well 12 penetrates the top of the Grande Ronde formation. Water levels measured in July of 1993 at three of the municipal wells (in the Clarkston area) associated with these changes average 703' ASL. The water table in Well #12 appears to be appreciably higher in elevation than the water table associated with the rest of the wells involved in this change application. The seven municipal supply wells in the Clarkston are drilled to an average total depth of 1106 feet. Well 12 was drilled to a depth of only 375 feet. Given its shallow depth and relatively high head, it is likely that, as constructed, Well 12 did not penetrate into the same body of groundwater as the other wells associated with this change application (the body hydraulically connected to the Snake River upstream of Lower Granite Dam – see discussion below). For a well located in the vicinity of the existing Well 12 to be integrated into this change application, it will have to be drilled deep enough to withdraw water from the same body as the other existing wells, namely the body hydraulically connected to the Snake River, demonstrating head changes that respond to pool elevation changes up stream of Lower Granite Dam.

There are a number of other domestic wells in the vicinity of these wells and the Snake River. The dates they were drilled range from about 1985 to 2005. Their depths vary as well, mostly from 115 to 500 feet. The general geology for these wells is the same as Asotin's municipal wells, drilled through top soil and gravels, and into basalt. Some have clay and shale interbeds. The majority of the static water levels are similar to the municipal wells, as well, from about 690 to 805 feet above sea level.

Asotin PUD's two surface water diversions are located in Govt. Lot 5 of Section 5, T. 10 N., R. 46 E.W.M., and Govt .Lot 4, of Section 28, T. 11 N., R. 46 E.W.M. The stage at the river at these diversion sites are 757 feet ASL (pump station 1), and 743 feet ASL (pump station 2), respectively. The Snake River near these wells and pump stations, from approximately Mile 143 to 139, has an elevation ranging from about 720 to 760 feet ASL. The PUD wells' static water levels range from 702 to 791 feet ASL. The Grande Ronde aquifer's potentiometric surface is within the range of water surface elevations for the Snake River, suggesting an aquifer to river interconnection.

1975 Pool Filling Response

In February of 1975, the reservoir behind Lower Granite Dam was filled during a three-day period (2/15 thru 18/1975). Water level measurements collected in the Asotin PUD wells during the winter and spring of 1974/5 are depicted in the Figure 1. Wells 2 and 4 show a significant rise (nine and fifteen feet, respectively) in the potentiometric surface within a matter of weeks of the reservoir filling.

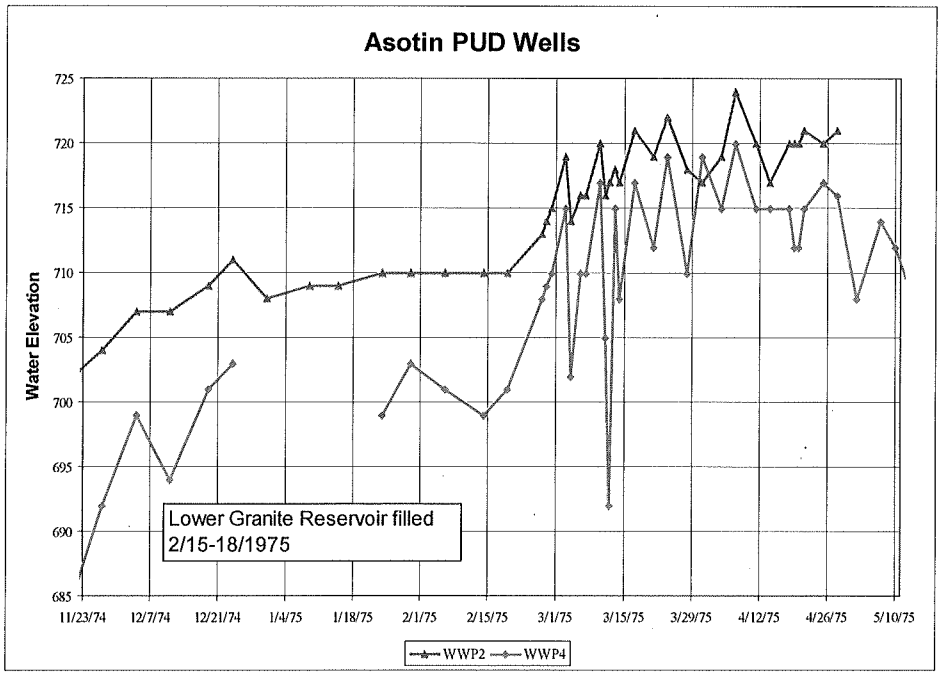

Figure 1

Water level data collected during the 1970s (Figure 2) demonstrate the long-term shift in water levels in Wells 2 and 4 in response to the reservoir filling. The Grande Ronde aquifer responded to the change in the flow regime as this section of the Snake River went from free-flowing to a reservoir. River stage in the Clarkston area rose by as much as 35 feet with the filling of the pool behind the Dam (Cohen and Ralston, 1980).

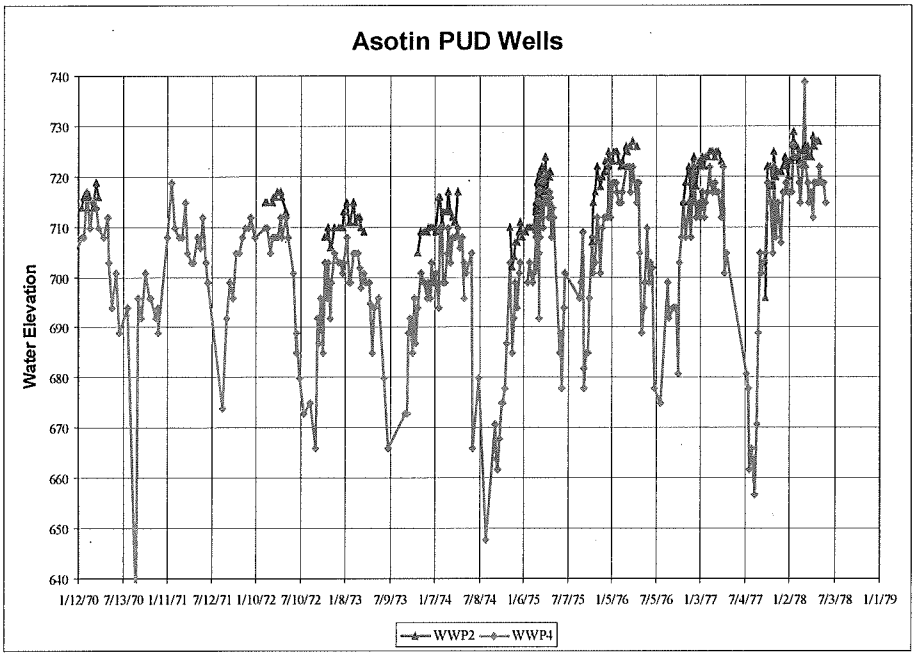

Figure 2

Pump Test

In October 1957, a 32 day pump test was performed on Well #2 (Figure 3). The well was pumped continuously at a rate of 1275 gpm. After 5,500 minutes of pumping (3.8 days), the water level in the pumping well stabilized and remained at the same level for the remainder of the test (28 days). This drawdown response is characteristic of an aquifer that has encountered a positive recharge boundary. The most likely boundary for this well would be the nearby Snake River.

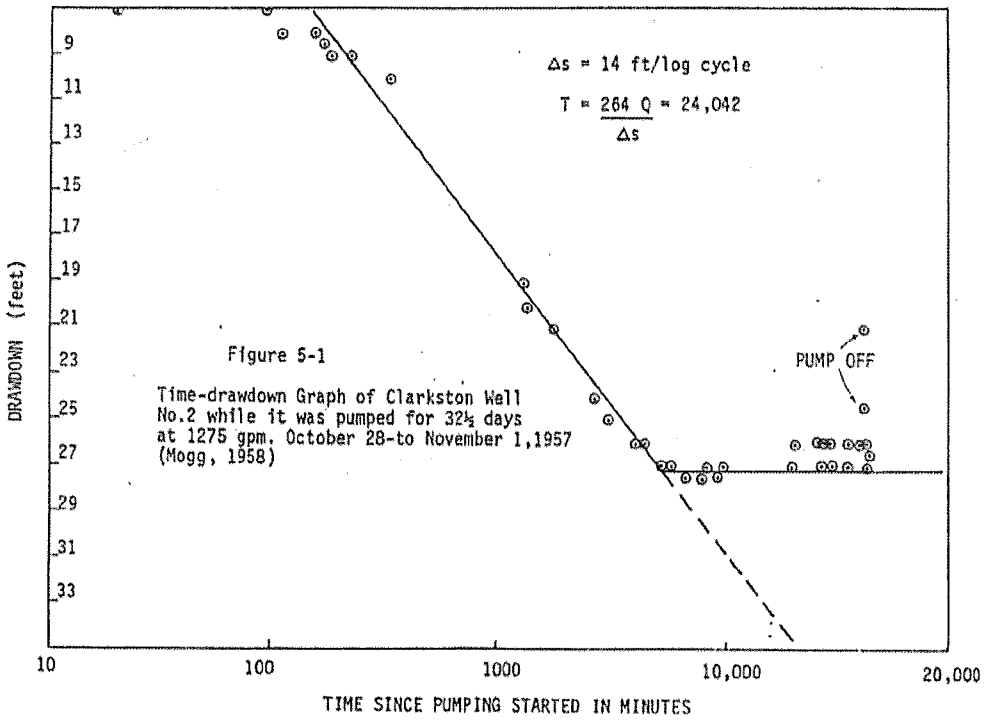

Figure 3

Tritium Analysis

In 2005, the Idaho Department of Environmental Quality conducted a cooperative study with numerous entities, to study the age of water in selected drinking water wells in the Lewiston Basin Aquifer (Mann et al., 2005). Of these wells, Asotin PUD Wells #2, 3, and 7 were included in the study. Nearby wells, including City of Lewiston Wells #2, 5, and 6 were also studied. These wells are located just east of the Asotin wells, on the east side of the Snake River, and all wells in the analysis were determined to only be withdrawing water from the Grande Ronde Basalts. The research was based on monitoring and analyzing hydrologic isotopes in samples taken from 10 existing municipal wells, to determine the length of time the ground water has resided in these wells, and the lower basalt aquifer system. The samples were then compared to two samples taken from the Snake River.

Tritium (^3H) is a radioisotope of hydrogen, measured as absolute concentrations using tritium units (TU). It has a half-life of 12.43 years, and enters the hydrologic cycle through precipitation. If tritium is detected in groundwater at levels above natural concentrations, it indicates there is some modern recharge to that hydrologic system, and can help estimate the age of the water.

Tritium Concentrations	Qualitative "Age"
<0.8 TU	Submodern-recharged prior to 1952
0.8 to about 4 TU	Mixture between submodern and recent recharge
5 to 15 TU	Modern (<5 to 10 years)
15 to 30 TU	Some "bomb" ^3H present*
>30 TU	Considerable component of recharge from 1960's-70's
>50 TU	Dominantly 1960's recharge

Table taken from Ground Water Quality Technical Report No. 24
*prior to thermonuclear bomb testing in 1952, natural tritium concentration in precipitation was 5-20 TU

The following table shows the results of the tritium levels in the Asotin PUD and City of Lewiston Wells, and the Snake River near Asotin:

Sample	TU
City of Lewiston #2	5.4
City of Lewiston #5	6.3
City of Lewiston #6	0.8
Asotin PUD #2	11.84
Asotin PUD #3	7.4
Asotin PUD #7	8.32
Snake River-Asotin	6.38*

Table taken from a portion of Table 2 in Ground Water Quality Technical Report No. 24
*Average of two samples taken for this study

Of these six wells, five of them detected tritium levels above the detection limit of 0.8. The amount of tritium in these samples suggests that the ground water is mixed with modern surface water, and that the aquifer is not a closed system, but has some connectivity with the Snake River.

References

Cohen, P.L. and D. Ralston, 1980, Reconnaissance study of the "Russell" Basalt aquifer in the Lewiston basin of Idaho and Washington, Idaho Water Resources Research Institute Research Technical Completion Report, submitted to Idaho Department of Water Resources and Idaho Department of Health and Welfare, Division of Environment, 165p.

Mann, H., Baldwin, J., and K. Brackney, 2005, Isotopic Age Dating of Municipal Water Wells in the Lewiston Basin, Idaho, Ground Water Quality Technical Report No. 24, Idaho Department of Environmental Quality, 31p.

Mogg, J.L., 1958, Aquifer Test No. 4, Clarkston, Washington, January – February, 1958: Consulting Report for Washington Water Power.

Impairment Considerations

"Impair" or "impairment" means to 1) adversely impact the physical availability of water for a beneficial use that is entitled to protection, not including earlier filed applications (HB 1832); and/or 2) to prevent the beneficial use of the water to which one is entitled; and/or 3) to adversely affect the flow of a surface water course at a time when the flows are at or below instream flow levels established by rule (POL-1200); and/or 4) degrade the quality of the source to the point that water is unsuitable for use by existing water right holders (WAC 173-150). Demonstration of impairment would require evidence of a substantial and lasting or frequent impact reflecting such conditions.

Ground Water Certificate No. 4108-A has been exercised and beneficially used in the past without any documented adverse impacts to water availability. The authorized and proposed wells withdraw water from the same source according to the Hydrogeologic Evaluation. No significant increases in pumping rates are proposed and no additional water will be withdrawn under this change beyond what is authorized under pre-existing rights. In addition, there has been no documented history of pumping interference between existing wells in this area. Therefore, it is not anticipated that this change would cause any impairment to existing water rights.

Public Interest Considerations

There has been no public expression of protest or concern regarding the subject proposal, and no findings through this investigation indicate that there would be any detrimental impact to the public welfare through issuance of the proposed change.

Consideration of Protests and Comments

No protests were filed against this application.

Conclusions

In accordance with Chapters 90.03 and 90.44, approval of this application to integrate their water rights by adding 11 wells, and changing the place of use will not enlarge the quantity of water historically authorized, nor will it impair existing rights or be detrimental to the public welfare provided the terms and conditions above are followed.

The amount of water recommended is a maximum limit that shall not be exceeded, and the water user may only use that amount of water within the specified limit that is reasonable and beneficial. This authorization does not increase in any way the original amounts authorized by the certificate.

Water withdrawn under this certificate has historically served fifteen or more residential service connections. The water use under this water right meets the definition under RCW 90.03.015(4) for "municipal water supply purposes". In addition, this certificate has been actively pursued and remains in good standing in accordance with RCW 90.03.330(3).

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that the request for change to the place of use and the integration of their water rights by adding 11 wells be approved in the amounts and within the limitations listed below and subject to the provisions beginning on Page 2, and following.

Purpose of Use and Authorized Quantities

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:

- 1,800 gpm
- 2,880 acre-feet per year (alternate non-additive)
- Municipal Supply

Points of Withdrawal

- 12 wells, as described on Pages 1-2 of this Report of Examination.

Place of Use

- As described on Page 1 of this Report of Examination.

Dan Tolleson 9-27-2011

Report Writer Dan Tolleson *Date*

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