STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION
Change to Add a Point of Withdrawal
WRTS File No. CG4-GWC1832-A

PRIORITY DATE	CLAIM NO.	PERMIT NO.	CERTIFICATE NO.
July 23, 1953			1832-A

NAME
Town of Waterville

ADDRESS/STREET	CITY/STATE	ZIP CODE
PO Box 580	Waterville, WA	98858-0580

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
Groundwater (Wells 3, 7, and 9)

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND (cfs)	MAXIMUM GALLONS PER MINUTE (gpm)	MAXIMUM ACRE FEET PER YEAR (ac-ft/yr)
	400	270

QUANTITY, TYPE OF USE, PERIOD OF USE
Municipal Water Supply, Continuous

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL

Well 3 – 50 feet west and 1,800 feet south from the northeast corner of Section 21, T. 25 N. R. 22 E.W.M.
Well 7 – 1,200 feet east and 600 feet south from the north quarter corner of Section 22, T. 25 N., R. 22 E.W.M.
Well 9 – 1,330 feet west and 350 feet south from the northeast corner of Section 21. T. 25 N., R. 22 E.W.M.

SOURCE	PARCEL	LATITUDE	LONGITUDE	QTR/QTR	SECTION	TOWNSHIP	RANGE
Well 3	12701700100			SE¼NE¼	21	25	22 EWM
Well 7	25222210001			NW¼NE¼	22	25	22 EWM
Well 9	25222110002			NW¼NE¼	21	25	22 EWM

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED
[Attachment 1 shows location of the authorized place of use and point(s) of diversion or withdrawal]

The place of use 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 Town of Waterville 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.

If the criteria in RCW 90.03.386(2) are not met, the place of use of this water right reverts to the last place of use described by Ecology in a water right authorization.

DESCRIPTION OF PROPOSED WORKS

The current water supply system consists of eight wells (Wells 2 through 9) plus the Town's distribution system consisting of pipelines, pumps, storage tanks, and associated infrastructure. Two historic wells (1 and 4a) have been decommissioned. Seven of the wells (Well 2 through 8) are connected to the system; Well 9 has not yet been connected.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE	COMPLETE PROJECT BY THIS DATE	WATER PUT TO FULL USE BY THIS DATE
Started	September 1, 2010	September 1, 2026

DRAFT

PROVISIONS

Wells, Well Logs and Well Construction Standards

1. All wells constructed in the state shall meet the construction requirements of Chapter 173-160 WAC titled "Minimum Standards for the Construction and Maintenance of Wells" and Chapter 18.104 RCW 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 shall be decommissioned.

2. All wells shall 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 shall remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

3. Installation and maintenance of an access port as described in WAC 173-160-291 is required on any wells authorized under this water right.

4. In addition to the required access port, the applicant shall install and maintain, in operating condition, an airline and pressure gage. The pressure gage shall be equipped with a standard tire valve and placed in a location accessible to Department of Ecology personnel. 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.

Measurements, Monitoring, Metering and Reporting

5. In order to protect the ground water resource, static water level in the well shall be measured quarterly each year. Ecology shall be notified if water levels drop below normal seasonal declines or if there are long-term water level declines based on the Town's operational experience. The water level data shall be maintained and made available to Ecology upon request.

6. An approved measuring device shall be installed and maintained for each diversion/withdrawal of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use," Chapter 173-173 WAC.
   http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html

7. Water use data shall be recorded weekly and maintained by the property owner for a minimum of five years. 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.

8. Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements".

Municipal Supply and Public Water Systems

9. 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.

10. 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 Eastern Drinking Water Operations, 1500 West Fourth Avenue, Suite 305, Spokane, WA 99204, (509) 456-3115.

Schedule and Inspections

11. Department of Ecology personnel, upon presentation of proper credentials, shall 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.

12. The water right holder shall file the notice of <u>project completion</u> when the permanent distribution system has been constructed <u>and</u> the quantity of water required by the project has been put to full beneficial use.

DRAFT

The *Superseding Certificate* will reflect the extent of beneficial use within the limitations of the change authorization. Elements of the project completion inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and compliance with provisions.

General Conditions

13. Issuance of this water right is subject to the implementation of the minimum requirements established in the Conservation Planning Requirements, Guideline and Requirements for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology, and Conservation Programs, July 1994, and as revised.

14. Under RCW 90.03.005 and 90.54.020(6), conservation and improved water use efficiency must be emphasized in the management of the state's water resources, and must be considered as a potential new source of water. Accordingly, as part of the terms of this water right, the applicant shall prepare and implement a water conservation plan approved by Department of Health. The standards for such a plan may be obtained from either the Department of Health or the Department of Ecology.

15. The combined annual quantity of Certificate Nos. 5462-A, 205-A, and 7657-A shall not exceed 448 ac-ft/yr , of which 178 ac-ft/yr is primary and 270 ac-ft is alternate, non-additive.

FINDINGS OF FACT AND ORDER

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 approval of the recommended change to add one point of withdrawal under Change Application No. CG4-GWC1832-A, subject to existing rights and the provisions listed 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 decision. 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 decision:

- File your appeal and a copy of this decision 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 decision 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
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey WA 98503	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia WA 98504-7608
Pollution Control Hearings Board 1111 Israel Road SW, Ste 301 Tumwater WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia WA 98504-0903

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://www.leg.wa.gov/CodeReviser

Signed at Yakima, Washington, this _____ day of _____ 2011.

_____

Mark C. Schuppe, Section Manager
Water Resources Program/CRO

DRAFT

BACKGROUND

Description and Purpose of Proposed Change

On April 4, 2007, Ground Water Change Application No. CG4-GWC1832-A was accepted by the Department of Ecology (Ecology) from the Town of Waterville (the Town). The applicant requests that a new well be added as an additional point of withdrawal to an existing certificate, thereby requesting water from the new and existing wells in the amount of 400 gpm and 270 acre-feet per year (ac-ft/yr) for municipal supply.

Attributes of the Certificate and Proposed Change

Table 1
Summary of Proposed Changes to Water Right No. 1832-A

Attributes	*Existing*	*Proposed*
Name	Town of Waterville	Town of Waterville
Priority Date | Date of Application for Change	July 23, 1953	April 4, 2007
Instantaneous Quantity	400	400
Annual Quantity	270	270
Source	Groundwater	Groundwater
Point of Diversion/Withdrawal	Wells 3 and 7	Wells 3, 7, and 9
Purpose of Use	Municipal Water Supply	Municipal Water Supply
Period of Use	Continuous	Continuous
Place of Use	Town of Waterville, Water System Service Area	Town of Waterville, Water System Service Area

The Towns application for change listed additional points of withdrawal in the following sections:

Source	No.	¼	¼	Section	Township	Range	Parcel No.
Well	A	SW	NW	21	25N	22	25222120001
Well	A	NW	SW	21	25N	22	25222120002
Well	A	SE	NE	20	25N	22	25222010000
Well	A	NE	SE	20	25N	22	25222040001
Well	B	SW	SW	21	25N	22	25222130002
Well	B	SE	SE	20	25N	22	25222040001
Well	B	NW	NW	28	25N	22	25222820002
Well	B	SW	NW	28	25N	22	25222820002
Well	B	NW	SW	28	25N	22	25222830001
Well	B	NE	NE	29	25N	22	25222900000
Well	B	SE	NW	29	25N	22	25222900000
Well	B	NE	SE	29	25N	22	25222900000

The Town also sent an amendment to the Change Application on July 19, 2007 requesting an additional withdrawal location in the SW¼SE¼ of Section 21, T. 25 N., R. 22 E.W.M., Parcel No. 25222130002. However, an old dug well located on Parcel No. 25222130002 contained sediment with lead concentrations above MTCA standards, and also contained groundwater with lead concentrations above the action level for lead. The source of lead is not known. Ecology prepared a letter dated September 5, 2007, informing the Town that a well would not be allowed in this parcel because of the lead contamination issues.

The Town drilled a new well (Well 9) in August and September 2008. The new well is located in the NW¼NE¼ of Section 21, T. 25 N., R. 22 E.W.M. Only the final well location was included in the Public Notice for this water right application (published in the Douglas County Empire Press on April 2 and 9, 2009).

DRAFT

Two other applications for change requesting additional points of withdrawal to existing certificates were submitted concurrently. These applications are addressed in separate Reports of Examination (ROEs) but are considered in this report.

The Town currently serves a population of 1,180 and is approved for 515 connections. The Department of Health has approved the Town of Waterville as a Group A water system under I.D. #93600.

Legal Requirements for Proposed Change
The following is a list of requirements that must be met prior to authorizing the proposed change in 1832-A:

- **Public Notice**
  Public Notice for this water right application was published in the Douglas County Empire Press on April 2 and 9, 2009. The Public Notice was limited to adding a single point of groundwater withdrawal located in the NW¼ NE¼ of Section 21, T. 25 N., R. 22 E.W.M.

- **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 feet 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 does not meet any of these conditions, it is categorically exempt from SEPA and a threshold determination is not required.

- **Water Resources Statutes and Case**
  RCW 90.44.100 allows Ecology to amend a ground water permit to (1) allow the user to construct a replacement or additional well at a new location outside of the location of the original well, or to (2) change the manner or place of use of the water, if:

  (a) The additional or replacement well taps the same body of public ground water as the original well. RCW 90.44.100(2)(a),
  (b) Where a replacement well is approved, the user must discontinue use of the original well and properly decommission the original well. RCW 90.44.100(2)(b),
  (c) Where an additional well is constructed, the user may continue to use the original well, but the combined total withdrawal from all wells shall not enlarge the right conveyed by the original permit or certificate. RCW 90.44.100(2)(c),
  (d) Other existing rights shall not be impaired. RCW 90.44.100(2)(d).

  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.

INVESTIGATION

Based on the provisions of RCW 43.21A.690 and RCW 90.03.265, Golder Associates Inc., of Redmond, Washington, has assisted with the investigation and prepared this ROE under contract with Ecology. This ROE was prepared by Michael Klisch, L.Hg. and Carl Einberger, L.Hg.

DRAFT

In considering this application, the investigation included, but was not limited to, research and/or review of:

- The State Water Code
- Records of existing water rights held by the Town of Waterville
- Correspondence on file at Ecology concerning the Town's water rights
- Records of water rights in the vicinity
- Topographic and local area maps
- Washington State Department of Ecology Well Log Database (http://apps.ecy.wa.gov/welllog/index.asp)
- Washington State Department of Health Water System Database (http://www4.doh.wa.gov/SentryInternet/FindWaterSystem.aspx)
- Bauer, H. H.and J.J. Vaccaro, *Estimates of ground-water recharge to the Columbia Plateau regional aquifer system, Washington, Oregon, and Idaho, for predevelopment and current land-use conditions*, U.S. Geological Survey Water-Resources Investigations Report 88-4108
- GeoEngineers, 2007, *Analytical Summary, Water and Sediment Samples, Existing Dug Well, Waterville, Washington*.
- GeoEngineers, 2008, *Well 9 Installation and Testing, Town of Waterville, Washington*.
- Golder Associates Inc., 1991, *Waterville Groundwater Evaluation*.
- Golder Associates, 1992, *Hydrogeologic Data Collection and Analysis for Groundwater Supply Evaluation: Town of Waterville*.
- Golder Associates Inc., 1993a, *Installation and Pump Test of Well 4B, Waterville, Washington.*
- Golder Associates Inc., 1993b, *Installation and Pumping Test of Well 7 (Well A): Town of Waterville, Washington*.
- Golder Associates Inc, 1994, *Installation and Pumping Test of Well 8, Town of Waterville, Washington*.
- Tabor, R.W., V.A. Frizzell Jr., J.T. Whetten, R.B. Waitt, D.A. Swanson, G.R. Byerly, D.B. Booth, M.J. Hetherington, and R.E. Zartman, 1987, *Geologic Map of the Chelan 30-minute by 60-minute Quadrangle, Washington, U.S. Geological Survey Miscellaneous Investigations Series*, Map I-1661.
- Correspondence with Jeff Moran, Varela and Associates.

History of Water Use

The Town of Waterville claimed beneficial use of springs and wells dating to May, 1912. The Town initially relied on water from springs at the base of Badger Mountain, about 3 to 5.3 miles southwest of the Town. As the Town grew and droughts affected the springs, the Town began to add wells to their water system. The first recorded beneficial use from wells was in October 3, 1927, with use of water from the Fairgrounds well, a hand-dug well (likely also Town Well 1). This well was subsequently decommissioned as the Town developed water from the basalt aquifer. The historic water use from the springs and wells are summarized in the following table:

Table 1
Town of Waterville Historic Water Development

SOURCE	YEAR OF FIRST USE	GPM	AC-FT	NAME	TRS
WELL	Oct. 1927	90	83.17	TOWN OF WATERVILLE (Fairgrounds Well)	T25N/R22E-22
SPRINGS	May 1912	15	0.4	TOWN OF WATERVILLE (Settling Basin)	T24N/R22E-06
	August 1916	50	1,3	TOWN OF WATERVILLE (Joe Lynn)	T24N/R21E-02
	May 1912	50	1.3	TOWN OF WATERVILLE (West McGinnis)	T24N/R22E-06
	Sept. 1920	15	0.4	TOWN OF WATERVILLE (Joe Mohr)	T24N/R21E-02
	June 1919	12	0.3	TOWN OF WATERVILLE (Hollingshead)	T24N/R21E-01
	May 1912	40	1.06	TOWN OF WATERVILLE (East McGinnis)	T24N/R22E-06
	March 1918	14	0.4	TOWN OF WATERVILLE (Carpenter)	T24N/R21E-01

There were two wells known as Hotel Wells 1 and 2. These wells appear to have been shallow wells that were subsequently deepened into the basalt aquifer. It is unknown if these two wells were associated with the Town of Waterville canceled ground water Permits No'. 6 and 4031. These two wells were decommissioned in the early 1990's.

DRAFT

Town of Waterville Wells

Starting in 1947, the Town has developed wells completed in the basalt aquifer to supply water for the Town. Information on the Town's wells is summarized in the following table:

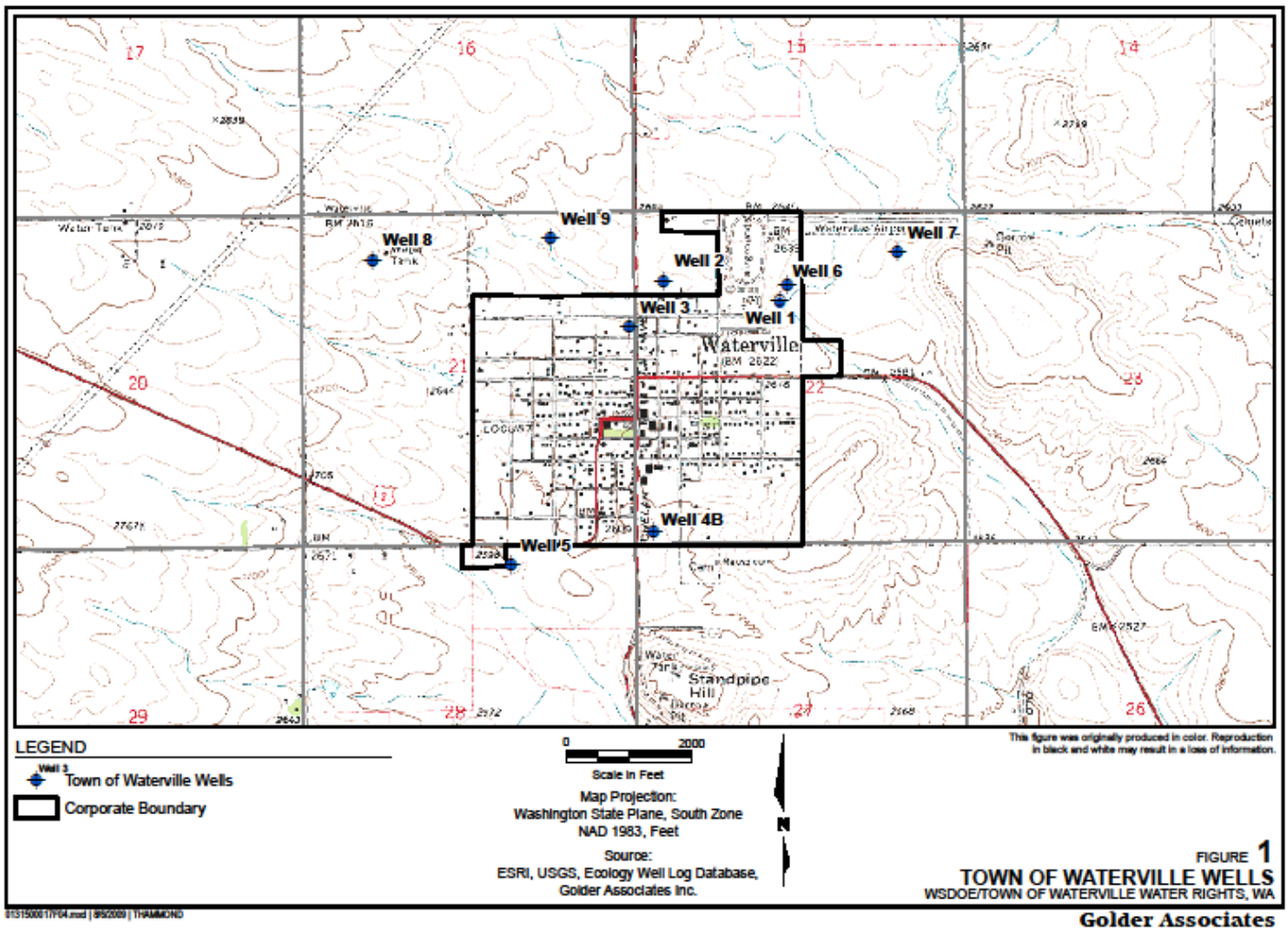
Table 2
Town of Waterville Wells

Well No.	Date Drilled	Total Depth (feet bgs)	Diameter (inches)	Open or Perforated Interval (feet bgs)	Depth to Water (feet bgs)	Date	Current Capacity (gpm)	Notes
1	1920s	22	40' x 60' and 12' x 12'	na	na	na	0	Dug Well; active but used only to fill water trucks.
2	1947	675	8 and 6	94-675	63	1991	200	Deepened from 94 to 675 feet in 1974, High NO_3, Carbon Tetrachloride detections in 1990's, no detections in sampling rounds since that time. To be used for summer irrigation only, and will be blended with water produced from Well 2 and new Well 9 to lower NO_3
3	1953	616	8	600-616	74	1991	150	Deepened from 600 to 616 feet in 1974, cased to 600 feet; active
4a	1966	578	16	105-578	Flowing	1966	0	Decommissioned and replaced
4b	1993	750	12	285-750	75	1993	30	Replaced Well 4a; active May to October
5	1969	615	8 and 6	16-615	Flowing	1991	200	Deepened from 375 to 615 feet in 1973; main producer year round along with Well 8
6	1974	346	8	18-346	6.5	1991	100	Low yield; not used for production but kept as emergency source
7	1992	1,255	10	410-463, 935-1,112	98	1992	70	Completed depth 1,112 feet; significant reduction in capacity; to be used summer only in conjunction with Well 2 and new Well 9
8	1994	331	10 and 9	152-331	85	1994	300	Main producer year round along with Well 5. Some water used for blending with Well 2 and new Well 9 during summer irrigation season.
9	**2008**	**524**	**12**	**252-524**	**129**	**2008**	**na**	**New well (subject of this ROE).**

Sources of information:
GeoEngineers, 2008
Golder, 1991
Golder, 1992
Golder, 1994
Ecology Well Log Database

The well locations are shown on Figure 1.

DRAFT



In the early 1990's, the Town was experiencing decreasing yields from the wells, deterioration of the wells, and ground water quality problems in two of the wells in the form of elevated nitrate concentrations in Wells 2 and 6. Carbon tetrachloride was also detected in Well 2 at concentrations just below the MCL. The Town made a significant investment in their water system in the early to mid 1990's, including:

- Replacement of Well 4A which was experiencing sand pumping, with Well 4B;
- Rehabilitation of Well 3 in an attempt to increase the yield;
- Video logging and pumping tests in wells 3, 4A, and 5;
- Drilling new wells 7 and 8 and adding them as additional points of withdrawal to the Town's existing water rights; and
- Decommissioning of old Hotel Wells 1 and 2 which had a floating layer of either diesel fuel or No. 2 fuel oil above the water column in the well.

Yields from the Town's wells have continued to decline, and the Town has investigated drilling additional wells to increase the capacity and reliability of their water supply, and has submitted Water Right Change Applications to add new wells to the Town's system.

The Town investigated drilling well(s) on a parcel located to the west of Waterville. However, investigations on that parcel revealed an old dug well with lead in sediments in the well at concentrations higher than the MTCA cleanup levels, and lead in groundwater above the action level. Following the investigations, the Town decided to drill in other areas.

In 2008, the Town drilled a new well (Well 9) northwest of Waterville. Well 9 was drilled to a depth of 524 feet below ground level. The completion details of Well 9 are:

- 0 to 252 feet below ground level: 16-inch borehole with 12-inch casing and cement grout surface seal
- 252 to 524 feet below ground level: 12-inch open borehole
- Depth to water of 129 feet below ground level following completion.

A seven-hour step rate and 24-hour constant pumping test was conducted in Well 9 following well completion. The step test consisted of seven, one-hour pumping steps, ranging from 50 gpm to 375 gpm. During the constant-rate test, Well 9 was pumped at a rate of 350 gpm. After three hours of pumping, the pumping rate declined to 310 gpm. About seven hours after pumping started, the pumping rate declined to 280 gpm and remained stable for the duration of the 24 hour test. A water quality sample was collected at the end of the test and analyzed for regulated drinking water constituents. All primary drinking water criteria were met. Nitrate was not detected. Iron and manganese exceeded the secondary drinking water criteria. GeoEngineers estimated the long-term capacity of the well to be 200 to 250 gpm.

Well 9 has not been placed into service, as of February 2011.

Water use in 1989 was reported to be 358.5 ac-ft/yr based on information included in the report of examination for changes to two of the Town's water rights in 1992 (5462-A and 7657-A). Water use from the Town's wells for 2004, 2005, and 2006 is summarized in the following table:

Table 3
Town of Waterville Water Use 2004 through 2006

	Well Production (Gallons)							
Year	Well 2	Well 3	Well 4B	Well 5	Well 6	Well 7	Well 8	Total
2006	964,300	22,641,316	2,746,231	27,116,925	0	5,974,200	38,327,112	97,770,084
2005	28,200	19,279,236	6,014,436	27,734,558	0	9,664,666	40,574,102	103,295,198
2004	28,000	23,487,798	0	30,600,763	0	13,112,481	46,882,716	114,111,758
Total	1,020,500	65,408,350	8,760,667	85,452,246	0	28,751,347	125,783,930	315,177,040
Average	340,167	21,802,783	2,920,222	28,484,082	0	9,583,782	41,927,977	105,059,013
Average Pumping Rate (gpm)	0.65	41	6	54	0	18	80	200

	Well Production (AF)							
Year	Well 2	Well 3	Well 4B	Well 5	Well 6	Well 7	Well 8	Total
2006	3.0	69.5	8.4	83.2	0.0	18.3	118	300
2005	0.1	59.2	18.5	85.1	0.0	29.7	125	317
2004	0.1	72.1	0.0	93.9	0.0	40.2	144	350
Total	3.2	201	26.9	262	0.0	88.2	386	967
Average	1.0	66.9	9.0	87.4	0.0	29.4	129	322

Proposed Use
Groundwater is requested for municipal supply used continuously throughout the year. The Town currently serves a population of 1,180 and is approved for 515 connections at full build-out. The Department of Health has approved the Town as a Group A water system under I.D. #93600. Population projections described in the June 27, 2007, Town of Waterville Water Supply Project Preliminary Engineering Report predict a population of 1,295 and 1,584 in 2012 and 2026, respectively. The projected system demand for 2012 is 387.6 acre-feet for 2012 and 473.8 acre-feet in 2026.

DRAFT

Water Rights Appurtenant to the Place of Use
The Town of Waterville holds six groundwater certificates for municipal supply. The Town's water rights, summarized from Small Water System Management Plan, are provided in the following table:

Table 4
Town of Waterville Water Right Certificates

Certificate No.	Document Type	Priority Date	Maximum Instantaneous Flow Qi (gpm)	Qi Status	Maximum Annual Quantity Qa (ac-ft)	Qa Status	Wells
1832-A	**Certificate**	**23-Jul-53**	**400**	**Primary**	**270**	**Primary**	**3, 7**
204-A	Certificate	NA	NA	NA	NA	NA	Abandoned
205-A	Certificate	01-May-48	100	Primary	178 270	Primary alternate, non-additive	2, 7
5462-A	Certificate	18-Aug-65	350	Primary			4B, 8
7657-A	Certificate	14-Jan-69	400	Primary			5, 8
G3-20064C	Certificate	23-Mar-72	100	Primary	80	Alternate, non-additive	6, 7
			1,350	Primary	448	Primary	
					350	Alternate, non-additive	

The January 25, 1954 Report of Examination for certificate No. 1832-A states:

> It is understood that at least one well covered under a previous filing will be abandoned; in which case a portion of the rights previously granted may be incorporated herein as a part of the total withdrawal recommended. Certificate No's. 204 and 205-A grant 100 gpm and 53 acre-feet respectively. The total allowable withdrawal will now be more than doubled.

Use of water under Certificate No. 204-A was abandoned and the quantities associated with that certificate were made up by the quantities authorized in into Certificate No. 1832-A. Although Ecology records indicate abandonment of Certificate No. 204-A, the certificate was never formally vacated or cancelled. A voluntary relinquishment form will be attached to this report for the Town to complete and return to Ecology.

In 1992, an application for change was submitted for Certificate No. 1832-A to add an additional point of withdrawal. Well 7 was added as an additional point of withdrawal to Certificate No. 1832-A in 1994 and a Superseding Certificate was issued on October 20, 1994.

The Town of Waterville Small Water System Management Plan and the water rights self assessment completed by Varela Associates in 2008, indicates that Well 2, authorized as a point of withdrawal under Certificate No. 205-A, was added as an additional point of withdrawal to Certificate No. 1832-A, however, there is no documentation in the file that such a change was ever authorized by Ecology.

The annual quantity associated with Certificate No. G3-20064C is recognized as alternate, non-additive in accordance with Water Resources Program Policy POL-1040 (Use of Terms that Clarify Relationships Between Water Rights) and a previous Water Right Change Authorization issued by Ecology. The August 1994 ROE associated with previous Change Applications for 5462-A and 7657-A indicates that the annual quantity associated with Certificate No. G3-20064 is supplemental. A letter from Ecology to the Town dated June 26, 2008, offers the opinion that the annual quantity should be additive. This is in error and contradicts Ecology's 1994 in depth analysis of the water rights held by the Town of Waterville. The letter also erroneously identified the Town's supplemental water right as "standby/reserve." The appropriate term in this case is "alternate, non-additive".

Table 4 above shows that the Town of Waterville holds water rights with a total annual quantity of 798 ac-ft/yr, of which 448 ac-ft/yr is primary and 350 ac-ft/yr is alternate, non-additive. A search of Ecology's records of the Town of Waterville's water use data shows a highest use of 358.5 ac-ft in 1989. More recent water use data listed in Table 3 above shows an average water use of 322.3 ac-ft/yr. There is no indication that the 448 ac-ft/yr of primary annual quantity was ever put to full beneficial use. Ecology's past practice of issuing water right certificates based on system capacity, so-called "pumps and pipes certificates", was the central issue in *Department of Ecology v. Theodoratus*. In that case, the Washington State Supreme Court ruled that water must actually be put to a beneficial use before a right to it vests. Although there appears to be an inchoate, or unperfected, portion of the annual quantity of the Town's rights, the certificates are in good standing according to RCW 90.03.330(3). Ecology, however, must consider the extent to which water was put to beneficial use

DRAFT

under a water right, even a municipal water right, in the course of processing an application for change (RCW 90.03.330(2) and 90.03.380). As such, Ecology will rescind one or more of the Town's Water Right Certificates and issue Superseding Permits to provide the Town the opportunity to perfect the annual quantity authorized in its water right permits.

The Town also has eight Water Right Claims for one well and seven springs. The claims are summarized on the following table:

Table 5
Town of Waterville Claims

CLAIM NO.	YEAR OF 1st USE	DOCUMENT TYPE	PURPOSE LIST	GPM	AC-FT	NAME	TRS
034302	Oct. 1927	Claim Long Form	DG	90	83.17	TOWN OF WATERVILLE (Fairgrounds Well)	T25N/R22E-22
034295	May 1912	Claim Long Form	DG	15	0.4	TOWN OF WATERVILLE (Settling Basin)	T24N/R22E-06
034296	August 1916	Claim Long Form	DG	50	1.3	TOWN OF WATERVILLE (Joe Lynn)	T24N/R21E-02
034297	May 1912	Claim Long Form	DG	50	1.3	TOWN OF WATERVILLE (West McGinnis)	T24N/R22E-06
034298	Sept. 1920	Claim Long Form	DG	15	0.4	TOWN OF WATERVILLE (Joe Mohr)	T24N/R21E-02
034299	June 1919	Claim Long Form	DG	12	0.3	TOWN OF WATERVILLE (Hollingshead)	T24N/R21E-01
034300	May 1912	Claim Long Form	DG	40	1.06	TOWN OF WATERVILLE (East McGinnis)	T24N/R22E-06
034301	March 1918	Claim Long Form	DG	14	0.4	TOWN OF WATERVILLE (Carpenter)	T24N/R21E-01

The claims were filed on April 2, 1973. The total diversion from the springs in 1989 was 25 gpm and 45.6 ac-ft. In 1989, the withdrawal from the well was pumped at 40 gpm totaling 4.6 ac-ft. The well is completed in the shallow aquifer. The present status of the springs is not known.

Hydrologic/Hydrogeologic Evaluation

Geologic Conditions

The Town of Waterville is located on the Waterville Plateau, a sub-region of the Columbia Plateau. The Waterville Plateau is bordered by the Columbia River to the west and north. The Waterville Plateau is overlain by a thin veneer of eolian deposits that are up to 80 feet thick. Basalt flows of the Columbia Rover Basalt Group (CRBG) underlie the eolian deposits. The basalts are underlain by pre-Tertiary metamorphic and igneous rocks.

In the Waterville area, the CRBG is composed of the Wanapum Formation and the older Grande Ronde Formation. The two basalt formations are separated by Ellensburg Formation, comprising fine feldspathic sand. The Wanapum Basalt and Ellensburg Formation have been eroded over much of the Waterville Plateau area and are present only in a few locations including Sand Pipe Hill about three miles south of Waterville.

The Grande Ronde basalt consists of a series of individual basalt flows that have a total thickness of about 600 and to over 1,200 feet, depending on the pre-basalt topography. The basalt flows in the Waterville Plateau area display features such as pillow basalts, hyaloclastiite, lava deltas, and invasive flows, suggesting the basalts in this area had higher degree of interaction with water and saturated sediments than other areas of the Columbia Plateau.

Hydrogeology

Groundwater occurs in the basalt and in the overlying eolian materials. The eolian materials form a local, shallow unconfined aquifer capable of yielding small quantities of water for domestic use.

The Grande Ronde basalt forms a regional productive aquifer. Groundwater in the basalt occurs under confined conditions. Groundwater occurs in the contacts between basalt flows (interflow zones), which are \typically broken or bubbly, or may contain interbedded sedimentary materials, or in fractured zones and pillow basalts where the basalt flowed into water or saturated sediments. Four distinct sedimentary interbeds were intersected in Waterville Well 7. The two shallowest interbeds have been intersected in all of the Town's wells, except Wells 6 and 8, which are relatively shallow and only intersected the uppermost interbed.

DRAFT

Based on well reports and geophysical logs from the Town's wells, there is no conclusive evidence that the sedimentary interbeds divide the Grande Ronde Basalt aquifer. Temperature logging of some of the Town's wells indicated the wells intercepted groundwater from several temperature zones, however spinner logging did not show significant flow in the wells. Well 9 is competed between 252 feet and 524 feet below ground, similar to the other Town wells, and intersected the two uppermost sedimentary interbeds intersected by the other Town wells. Well 9 is thus completed in the same body of groundwater as the other Town wells.

The depth to water in the Town's wells under non-pumping conditions ranges from flowing artesian to about 130 feet below ground. Golder reported that the depth to water in some of the Town's wells may have declined about 30 feet since the wells were installed. Groundwater flow in the Waterville Plateau area is to the southeast.

Groundwater recharge to the basalts in the Waterville area was estimated by the USGS to be about 0.5 to 1 inch per year.

The transmissivity and storativity of the basalt in the Waterville area has been estimated from pumping tests completed in the Town's wells, and from specific capacity data presented on well logs. The information is presented on the following table:

Table 6
Summary of Grande Ronde Basalt Aquifer Hydraulic Properties

Well Number	Pumping Rate (gpm)	Drawdown (feet)	Duration (hours)	Specific Capacity (gpm/ft)	Transmissivity (ft^2/d)	Storativity (-)	Note
2	235	18	24	13	3,490		Golder 1991
3	400	229	na	1.7	470		Well Log Data
4A	520	280	5	1.9	500		Well Log Data
	350	243	10	1.4	390		Well Log Data
4B	100	177	72	0.6	150		Well Log Data
	100	177	72	0.6	62		Jacob Analysis
	100	177	72	0.6	64		Recovery Analysis
5	400	No Information					Hole depth 375 feet
	225	355	24	0.6	170		Well Log, After Deepening - Hole depth 616 feet,
6	130	No Information					Well Log
7	325	277	72	1.2	310		Well Log Data
	325	277	72	1.2	200	1.1×10^{-4}	Jacob Analysis, Golder 1993
8	586	150	72	3.9	1,040		Well Log Data
	586	150	72	3.9	1,300		Jacob Analysis , Golder 1994
9	280	137	24	2.0	400		Jacob Analysis, GeoEngineers, 2008

A pumping test was conducted in Well 9 following well completion. Well 9 was pumped at a rate of 350 gpm. After three hours of pumping, the pumping rate declined to 310 gpm. About seven hours after pumping started, the pumping rate declined to 280 gpm and remained stable for the duration of the 24-hour test. GeoEngineers calculated a transmissivity of about 400 to 530 ft^2/d from the test data. This is consistent with the transmissivity obtained from specific capacity data and pumping tests completed in the other Waterville wells, which ranges from about 60 ft^2/d to 1,300 ft^2/d. GeoEngineers also calculated the storativity to be 0.02 to 5×10^{-4} based on the data from the pumping well, however, the reported storativity is suspect because there are no observation well data. Golder calculated a storativity of 1.1×10^{-4} from observation well data during testing of Well 7.

Impairment Considerations
There are three concepts that are important when considering whether a withdrawal of water from a well would impair another existing water right.

Impairment occurs when there is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection, i.e. water rights that are both senior and junior in priority to the right the applicant seeks to change.

DRAFT

Qualifying ground water withdrawal facilities are defined as those wells which in the opinion of the Department are adequately constructed. An adequately constructed well is one that (a) is constructed in compliance with well construction requirements; (b) fully penetrates the saturated thickness of an aquifer or withdraws water from a reasonable and feasible pumping lift (WAC 173-150); (c) has withdrawal facilities capable of accommodating a reasonable variation in seasonal pumping water levels; and (d) the withdrawal facilities and pumping facilities are properly sized to match the ability of the aquifer to produce water.

Well interference is the overlap of the cones of depression for two or more wells. Well interference reduces the water available to the individual wells and may occur when several wells penetrate and withdraw ground water from the same aquifer. Each pumping well creates a drawdown cone. When several wells pump from the same aquifer, well density, aquifer characteristics, and pumping demand may result in individual drawdown cones that intersect and form a composite drawdown cone.

Groundwater wells that are at greatest risk of potential impairment are those which are completed in the same aquifer zone as the subject well, located in close proximity to the subject well, and also located hydrogeologically down-gradient from the subject well. As water in the aquifer travels toward wells that are located down-gradient from the subject well, the subject well may potentially capture this water and impair the production of down-gradient wells. Any surface water diversions located within a close proximity of the subject well are not likely to be affected by the proposed groundwater withdrawal, because of the lack of continuity between surface water and the water bearing zones in the basalt aquifer.

The Department of Ecology Water Rights Application Tracking System (WRATS) database was queried to determine the number of existing groundwater rights within T25N/R22E. Within this area, there were three other certificates and one permit identified:

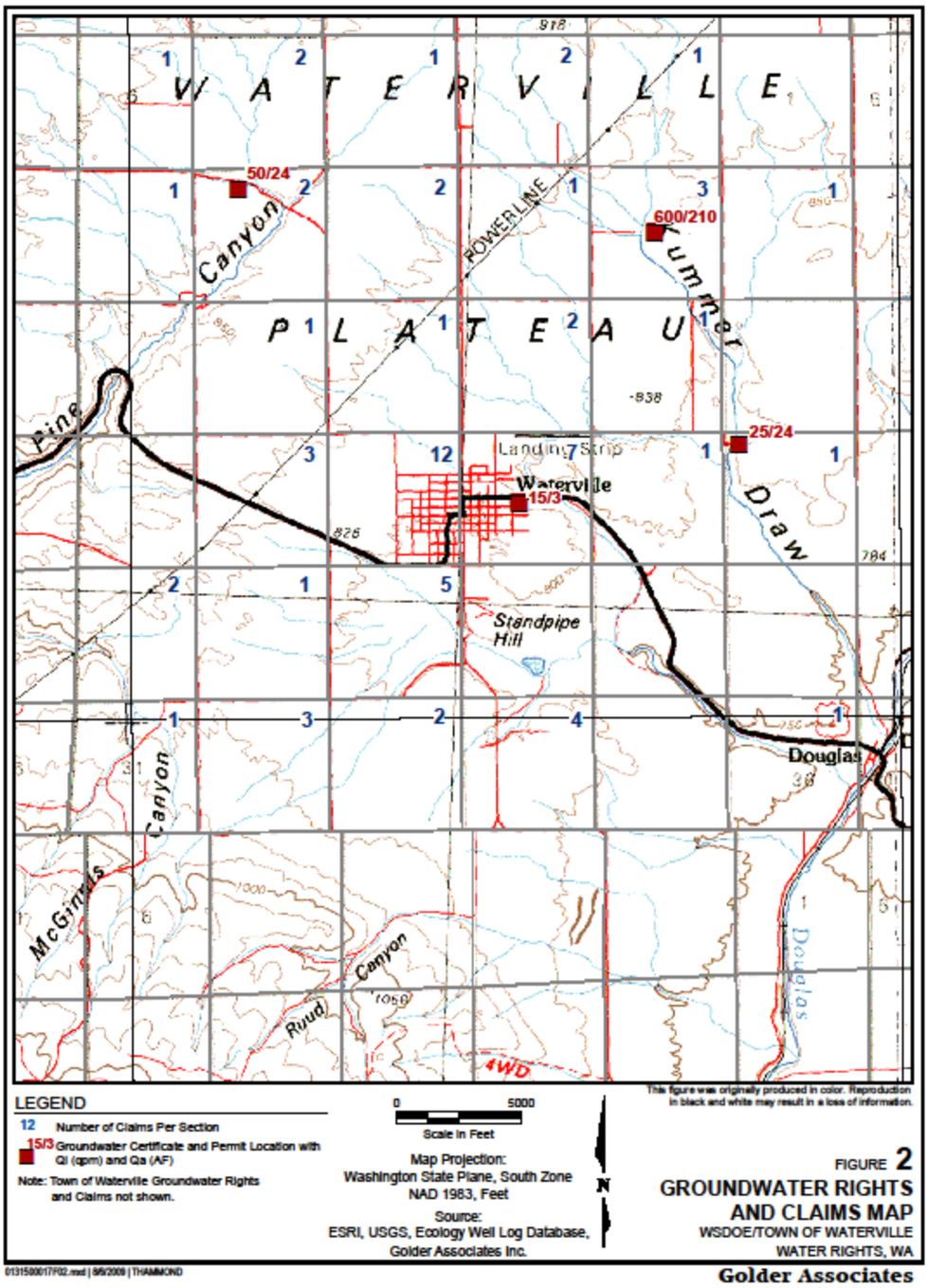
Table 7
Summary of Nearby Groundwater Rights

DOCUMENT NO.	DOCUMENT TYPE	PURPOSE LIST	NAME	PRIORITY DATE	GPM	AC-FT	OLD CERTIFICATE NO.	TRS LOCATION
Certificate No. 1452	Certificate	IR	WAINSCOTT P E ETUX	23-Jan-53	50	24	01452	T25N/R22E-08
G4-28243	Permit	IR	Wayne Rock	20-Jun-83	600	210		T25N/R22E-11
G3-00799C	Certificate	IR	HENSEL R A	20-Nov-69	15	3		T25N/R22E-22
Certificate No. 2261	Certificate	DS IR	KUMMER L A	08-Dec-52	25	24	02261	T25N/R22E-24

Purpose of use codes: IR – Irrigation, DS – Single Domestic

The locations of other water rights are shown on Figure 2.

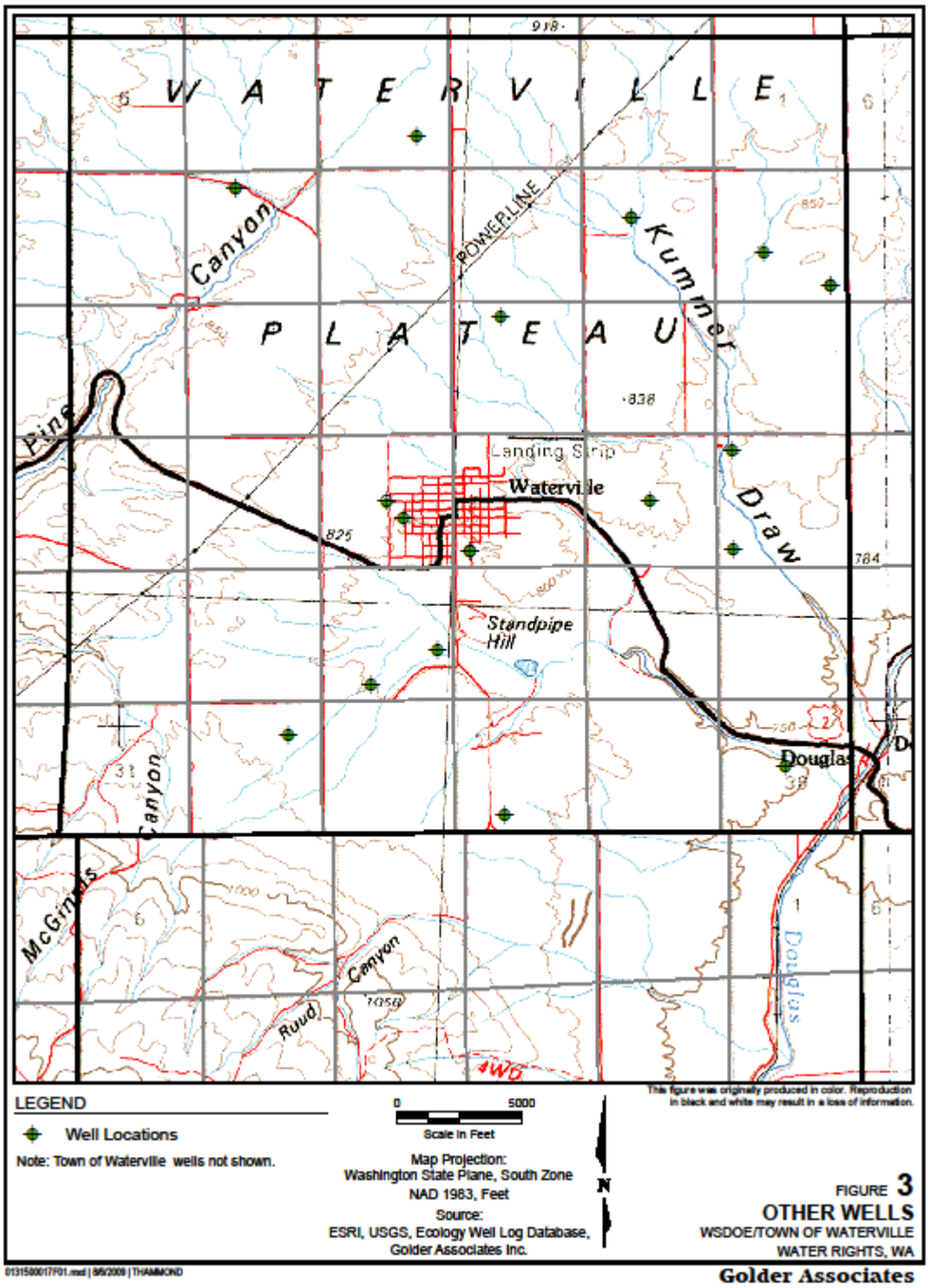
DRAFT



The nearest Ground Water Right Certificate is held by R.A. Hensel for 15 gpm and three acre-feet. The Hensel well is located about 6,000 feet from Well 9. The Hensel well is reported to be 130 feet deep, cased to a depth of 45 feet, and completed in basalt. The pump setting and depth to water are unknown. Well 9 is cased and sealed to a depth of 252 feet. It is, therefore, likely that the cased and sealed interval in Well 9 includes the interflow zone(s) where the Hensel well is open. Thus pumping of Well 9 should not affect the Hensel well because Well 9 is abstracting water from deeper interflow zones, and is sealed from the shallower zones.

In addition to the certificated water rights and the water right permit, there are 66 groundwater claims in T. 25 N., R.22 E.W.M. A Water Right Claim is an assertion that a beneficial use of water occurred prior to the adoption of the water right codes and is not authorized by a state-issued permit or certificate. Ecology cannot verify the validity of these claims, as Water Right Claims can only be confirmed in an adjudication by the Washington State Superior Court. Only one of the claims has an annual quantity associated with it. The instantaneous quantity and priority dates of the claims are not known. Of these 66 claims, there are approximately 24 claims in the same sections as the Town's wells (Sections 21, 22, and 28). The claims are summarized in the Attachment A and the number of claims per section is shown on Figure 2.

The Washington State Department of Ecology online well database was queried to identify wells in T. 25 N., R. 22 E.W.M. The wells in the search area are summarized in Attachment B and shown on Figure 3:



There may be other wells in the area of the Town's wells that are not on file with Ecology because they were drilled before filing of logs was required. Wells located in the same sections as the Town's wells (Sections 21, 22, and 28) are shaded. There are four wells on file in the same section as the Town's wells. One of the wells (Hotel Well #2) has been decommissioned. The Hensel well is 130 feet deep and should not be impaired by Well 9 because the casing and seal in Well 9 extends to a depth of 252 feet below ground, while the Hensel well withdraws water from the shallower part of the aquifer. Similarly, the Kestner well is 220 feet below ground, shallower than the casing and seal depth in Well 9. The Brown well is a dug well and likely completed in the unconsolidated materials overlying the basalt, and should not be impaired.

Using the aquifer hydraulic properties presented above and Jacob's Equation, the interference drawdown assuming Well 9 is pumped at 200 gpm continuously for 90 days was estimated. The estimated interference drawdown is shown on Figure 4.

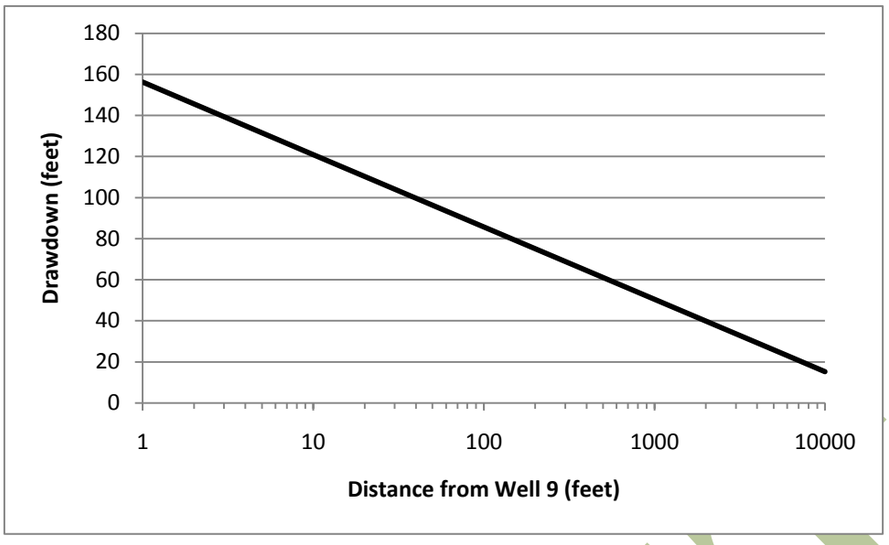


Figure 4. Estimated Drawdown after Pumping Well 9 at 200 gpm for 90 Days

In reality, the interference drawdown will likely be less because Well 9 will likely not be operated continuously. There have been no reports of interference from pumping of the Town's wells. In addition, most of the other wells are completed in the shallow part of the aquifer that Well 9 is cased through, and thus should not be affected by pumping of Well 9. Thus, the addition of Well 9 should not result in impairment of other water rights.

Washington water law does not consider drawdown to be an impairment of existing water rights, unless the affected wells fully penetrate the aquifer and can no longer produce their allocations.

Public Interest Considerations
No detriment to the public interest could be identified during the investigation of the subject application. Existing wells and in the area are not expected to be impaired by the anticipated operation of the subject well.

Consideration of Protests and Comments
No protests were received or comments were received regarding this application.

CONCLUSIONS

In accordance with chapters 90.03 and 90.44 RCW, I conclude that GWC-1832-A is a valid right and eligible for change. I have determined that the addition of a point of withdrawal will not enlarge the right and the water use will be beneficial. Approval of this change request will not impair existing rights or be detrimental to the public interest.

Potential for Enlargement
The additional of new points of withdrawal will give the Town flexibility in operation of their water system but does not increase the instantaneous or annual quantity. The new and existing points of withdrawal will be operated such that the combined instantaneous pumping does not exceed 400 gpm, and the annual withdrawal does not exceed 270 ac-ft.

Impairment of Other Rights
Adding an additional point of withdrawal will not impair existing rights. New wells will be cased and sealed through the shallow part of the basalt aquifer to prevent interference with shallow wells in the vicinity of the Town's wells.

Public Interest
No detriment to the public's interest was identified during the investigation of this application for change.

Beneficial Use
According to RCW 43.27A.020, RCW 90.14.031, and RCW 90.54.020, municipal water supply is considered a beneficial use.

DRAFT

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that the request for change to 1832-A to add an additional point of withdrawal be approved in the amounts and within the limitations listed below and subject to the provisions beginning on Page 2, et seq.

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:

- 400 gallons per minute
- 270 acre-feet per year (primary)
- Municipal Water Supply

Point of Withdrawal
Well 3 SE¼, SE¼, Section 31, Township 25 North, Range 22 E.W.M.
Well 7 NE¼, NE¼, Section 22, Township 25 North, Range 22 E.W.M.
Well 9 NW¼, NE¼, Section 21, Township 25 North, Range 22 E.W.M.

Place of Use
As described on Page 1 of this Report of Examination.

Report by: _____ _____
Date

Water Resources Program

DRAFT

If you need this publication in an alternate format, please call Water Resources Program at 509 575 2490. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

ATTACHMENT A

GROUNDWATER CLAIMS NEAR WATERVILLE

DOCUMENT NO.	DOCUMENT TYPE	PURPOSE LIST	NAME	AC-FT	TRS LOCATION
G4-001341CL	Claim Long Form	IR	ARNOLD A. HANSON		T25N/R22E-02
G4-028840CL	Claim Long Form	DG ST	JOHN D. MCKAY		T25N/R22E-03
G4-028850CL	Claim Long Form	DG ST	JOHN D. MCKAY		T25N/R22E-03
G4-086727CL	Claim Short Form	DG	BARBARA B STAHL		T25N/R22E-04
G4-019409CL	Claim Long Form	DG IR	DON E. OGLE		T25N/R22E-05
G4-131669CL	Claim Long Form	DG ST	NATL BK OF COMMERCE OF		T25N/R22E-05
G4-093116CL	Claim Short Form	DG IR ST	JOHN C ZONES		T25N/R22E-06
G4-047549CL	Claim Short Form	No	KATHERINE HENDRICKS		T25N/R22E-07
G4-015872CL	Claim Long Form	DG	P. E. WAINSCOTT		T25N/R22E-08
G4-015873CL	Claim Long Form	IR	P. E. WAINSCOTT		T25N/R22E-08
G4-002659CL	Claim Long Form	DG	ALLEN FENEY		T25N/R22E-09
G4-019401CL	Claim Long Form	DG	RAY E. OGLE		T25N/R22E-09
G4-049502CL	Claim Long Form	DG ST	PHILIP A. ROCK		T25N/R22E-10
G4-031274CL	Claim Long Form	DG	EUGENE HUMMEL		T25N/R22E-11
G4-031276CL	Claim Long Form	DG	EUGENE HUMMEL		T25N/R22E-11
G4-049503CL	Claim Long Form	DG	PHILIP A. ROCK		T25N/R22E-11
G4-051345CL	Claim Short Form	DG ST	ILO L. MIRES		T25N/R22E-12
G4-000454CL	Claim Long Form	DG	EDWARD STODDARD		T25N/R22E-14
G4-136224CL	Claim Short Form	DG IR ST	HARRY R JONES		T25N/R22E-15
G4-300949CL	Claim	DG IR ST UN	PAUL JONES	11	T25N/R22E-15
G4-019402CL	Claim Long Form	DG	RAY E. OGLE		T25N/R22E-16
G4-117897CL	Claim Long Form	No	LE ROY A BROWN		T25N/R22E-17
G4-007269CL	Claim Long Form	DG ST	JOHN O. ESTATE BUSE		T25N/R22E-20
G4-016354CL	Claim Long Form	DG	MAUDE P. NELSON		T25N/R22E-20
G4-145249CL	Claim Short Form	IR	LAWRENCE L BUSE		T25N/R22E-20
G4-005496CL	Claim Long Form	ST	GEORGE H. WILCOX		T25N/R22E-21
G4-007618CL	Claim Long Form	DG	LAWRENCE L. BUSE		T25N/R22E-21
G4-021220CL	Claim Long Form	DG	ROBERT BROWN		T25N/R22E-21
G4-059171CL	Claim Long Form	IR	BEN J. CASE		T25N/R22E-21
G4-076980CL	Claim Short Form	DG	FRED MELVIN		T25N/R22E-21
G4-076981CL	Claim Short Form	DG	FRED MELVIN		T25N/R22E-21
G4-077799CL	Claim Short Form	DG	NORMAN D. LONG		T25N/R22E-21
G4-117446CL	Claim Long Form	IR	MARLIN D HERSHEY		T25N/R22E-21
G4-137839CL	Claim Long Form	DG IR ST	STELLA M KUHLMAN		T25N/R22E-21
G4-137842CL	Claim Long Form	DG IR ST	ALBERT I HANSEN		T25N/R22E-21
G4-143166CL	Claim Short Form	IR	LAWRENCE L BUSE		T25N/R22E-21
G4-154287CL	Claim Long Form	DG IR	BUELL W RASH		T25N/R22E-21
G4-050814CL	Claim Short Form	ST	CLIFFORD CORDERMAN		T25N/R22E-22
G4-067875CL	Claim Short Form	DG ST	ROBERT D. CLEMENTS		T25N/R22E-22
G4-070211CL	Claim Short Form	DG ST	RICHARD E. GORMLEY		T25N/R22E-22
G4-081731CL	Claim Short Form	DG	EDWARD J. REJNIAK		T25N/R22E-22
G4-126859CL	Claim Short Form	IR	RON D DUNAGAN		T25N/R22E-22
G4-161783CL	Claim Long Form	IR ST	REINHARDT W DAHLKE		T25N/R22E-22
G4-061635CL	Claim Short Form	No	STEPHENS & NELSON		T25N/R22E-23
G4-025954CL	Claim Long Form	DG ST	CARL H. KUMMER		T25N/R22E-24
G4-029800CL	Claim Long Form	DG	A. M. ESTATE OF KUMMER		T25N/R22E-24
G4-079598CL	Claim Short Form	DG ST	CHRIS HINDERER		T25N/R22E-28
G4-079599CL	Claim Short Form	DG ST	CHRIS HINDERER		T25N/R22E-28
G4-096375CL	Claim Short Form	DG IR ST	PAUL N HINDERER		T25N/R22E-28
G4-125308CL	Claim Short Form	No	DENNIS G VIEBROCK		T25N/R22E-28
G4-140437CL	Claim Short Form	DG IR	EARL F JORDAN		T25N/R22E-28
G4-023368CL	Claim Long Form	DG ST	KENNETH C. OGLE		T25N/R22E-29
G4-053128CL	Claim Long Form	DG	JOHN F. VIEBROCK		T25N/R22E-30
G4-108893CL	Claim Short Form	ST	KENNETH C OGLE		T25N/R22E-30

DRAFT

DOCUMENT NO.	DOCUMENT TYPE	PURPOSE LIST	NAME	AC-FT	TRS LOCATION
G4-094149CL	Claim Long Form	ST	JOHN F VIEBROCK		T25N/R22E-31
G4-024012CL	Claim Long Form	DG ST	OGLE & JORDAN		T25N/R22E-32
G4-024013CL	Claim Long Form	DG ST	OGLE & JORDAN		T25N/R22E-32
G4-053125CL	Claim Long Form	DG	JOHN F. VIEBROCK		T25N/R22E-32
G4-053124CL	Claim Long Form	No	JOHN F. VIEBROCK		T25N/R22E-33
G4-140436CL	Claim Short Form	DG ST	EARL F JORDAN		T25N/R22E-33
G4-128734CL	Claim Long Form	DG	DALING FARMS INC		T25N/R22E-34
G4-150476CL	Claim Short Form	DG IR ST	NEIL R DIEKSON		T25N/R22E-34
G4-150477CL	Claim Short Form	DG IR ST	T R HEDGES		T25N/R22E-34
G4-150478CL	Claim Short Form	DG IR ST	T R HEDGES		T25N/R22E-34
G4-129297CL	Claim Short Form	DG IR ST	ANTHONY O VIEBROCK		T25N/R22E-36

Note:

Claims in shaded cells are in same section as Town of Waterville wells

Purpose of Use codes: DG – Domestic General, IR- Irrigation, ST - Stock Watering, UN - Other, No – No Purpose Listed

DRAFT

ATTACHMENT B

WELLS NEAR WATERVILLE

Well Owner	TRS Location	Well Tag No.	Well Depth (feet bgs)	Well Diameter (inches)	Well Completion Date	Completion Material	Note
TOM STAHL	T25N/R22E-4SE	ABI862	82	6	11/11/1993	Basalt	
BRANDT FARMS INC.	T25N/R22E-8NENW	ACE366	226	6	4/5/1996	Basalt	
P. E. & ROSE WAINSCOTT	T25N/R22E-8NENW		22	72	8/2/1952	Basalt	Dug Well (?)
PHIL ROCK	T25N/R22E-10NE		316	6	11/10/1976	Basalt	
WAYNE ROCK	T25N/R22E-11SENW		460	12		Basalt	
WARREN SCHMIT	T25N/R22E-12SESE		265	6	5/7/1979	Basalt	
ILO MIRES	T25N/R22E-12SESE		250	6		Basalt	
JAMES DIXON	T25N/R22E-12NESW	ABG909	300	6		Basalt	
ROBERT BROWN	T25N/R22E-21		Unknown				Dug Well, Reconditioned
MIKE KESTNER	T25N/R22E-21NWSE	ACP546	220	6	8/27/2007	Basalt	
TOWN OF WATERVILLE HOTEL WELL #2	T25N/R22E-22NW		750(?)	10	11/6/1992	Basalt	Decommissioned
ROBERT HENSEL	T25N/R22E-22SWSW		130	6		Basalt	
JIM STANFIELD	T25N/R22E-23		220	6	8/18/1976	Basalt	
LOUISE A. KUMMER	T25N/R22E-24NWNW		16	36	8/20/1953	Sediments(?)	Dug Well
MYRNA NELSON	T25N/R22E-24SWSW	AEH215	50	6	6/14/2001	Basalt	
DENNIS G VIEBROCK	T25N/R22E-28NESE	ABX664	159	6	10/14/1995	Basalt	
Ann Jordan	T25N/R22E-28SESW	ABX660	279	6	10/16/1995	Basalt	
ROLAINE RANCH / R. PETERSON	T25N/R22E-32NE	ACE367	190	6	4/4/1996	Basalt	
Damin Daling	T25N/R22E-34SESW	ABX600	200	8	6/28/1995	Basalt	
W. M. VIEBRACK	T25N/R22E-36		100	6	7/8/1974	Basalt	

DRAFT