

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION

Application has been made to change the points of withdrawal for the integration of city wells, and to transfer the place of use under Ground Water Certificate 946-D together with the Report of Examination dated June 29, 2004.

PRIORITY DATE 1915	APPLICATION NUMBER 718-D	PERMIT NUMBER	CERTIFICATE NUMBER 946-D
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NAME City of Quincy			
ADDRESS (STREET) 104 "B" Street SW	(CITY) Quincy	(STATE) WA	(ZIP CODE) 98848

PUBLIC WATERS TO BE APPROPRIATED

SOURCE Three Wells
TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE 1120	MAXIMUM ACRE FEET PER YEAR 308
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QUANTITY, TYPE OF USE, PERIOD OF USE

1120 gallons per minute, 308 acre feet per year, each year, continuously for municipal supply*

(*A summary of the water rights held by the City of Quincy is given in the first provision below.)

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL

Well #3) 900 feet north and 2850 feet west from the SE corner of Section 7, T. 20 N., R. 24 E.W.M., within the SE $\frac{1}{4}$ SW $\frac{1}{4}$
Well #4) 220 feet north and 780 feet east from the S $\frac{1}{4}$ corner of Section 7, T. 20 N., R. 24 E.W.M., within the SW $\frac{1}{4}$ SE $\frac{1}{4}$
Well #5) 800 feet north and 50 feet west from the SE corner of Section 8, T. 20 N., R. 24 E.W.M., within the SE $\frac{1}{4}$ SE $\frac{1}{4}$

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION 7 and 8	TOWNSHIP 20 N.	RANGE, (E. OR W.) W.M. 24 E.	W.R.I.A. 41	COUNTY Grant
PARCEL NUMBER	LATITUDE		LONGITUDE	DATUM	

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
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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.]

Area Served by the City of Quincy per approved Water System Plan

DESCRIPTION OF PROPOSED WORKS

Municipal water system for the City of Quincy

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE: Completed	COMPLETE PROJECT BY THIS DATE: Completed	WATER PUT TO FULL USE BY THIS DATE: May 1, 2012
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PROVISIONS

1. The table below summarizes the City's water rights and describes the limits of each of the individual water rights and the total water rights for the shallow management unit and the deep management unit. These limits cannot be exceeded.

Water Right Number	Document Type	Purpose	Priority Date (m-d-y)	Qi (gpm)	Qa (acre-feet)	Source
335-D (1-3-196)	Certificate	Muni	9/1/37	100	59	2 wells
236-A (1-3-196)	Certificate	Muni	2/6/47	1000	445	2 wells
"Shallow management unit" totals				1100	504	
G3-01273C	Certificate	Muni	5/2/68	1500	1613	3 wells
G3-26025C	Certificate	Muni	7/27/78	2200	2343	3 wells
G3-27361C	Certificate	Muni	9/22/82	1500	1452	3 wells
"Deep management unit" totals				5200	5408	
Combined totals				6300	5912	
GWC 946-D (To be added to deep management unit)	Certificate	Muni	1915	1120	308	3 wells
Grand Totals				7420	6220	

Wells, Well logs and Well Construction Standards

2. All wells constructed in the State shall meet the construction requirements of chapter 173-160 WAC entitled "Minimum Standards for the Construction and Maintenance of Wells" and chapter 18.104 RCW titled "Water Well Construction".
3. Installation and maintenance of an access port as described in chapter 173-160 WAC is required. An air line and gauge may be installed in addition to the access port.
4. If well #3 is deepened or reconstructed, the casing requirement for a well at this site would be 256 feet of casing to properly construct a well into the deep management unit. Sealing shall be placed from the bottom of the well to the top until undiluted seal material returns to the surface through the annular space. After casing is sealed in place, the well may be completed by drilling out the casing until sufficient water is obtained.
5. The shallow management unit in the Quincy area is defined as being no more than 200' into the basalt, and the deep management unit is more than 200 feet into the basalt. Wells 1 and 2 are shallow management unit wells, and Wells 3, 4, and 5 are deep management unit wells. Any future work on the city's wells or replacement wells must be consistent with these limitations.
6. The two original wells should be decommissioned in accordance with WAC 173-130.

Measurements, Monitoring, Metering and Reporting

7. An approved measuring device shall 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", chapter 173-173 WAC.
8. Water Use Data should be formatted to show not only the data for each well, BUT the data as it applies to the shallow management unit (Wells 1 and 2) and the deep management unit (Wells 3, 4, and 5).
9. 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".
<http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html>

Municipal Supply and Public Water Systems

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, 16201 East Indiana Avenue, Suite #1500, Spokane Valley, Washington 99216, (509) 329-2106.

Schedule and Inspections

11. Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above provisions, and to inspect at reasonable times any measuring device used to meet the above provisions.

12. 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 wells or diversions and associated distribution systems for compliance with water law.

13. The water right holder shall file the notice of Proof of Appropriation of water (under which the superseding 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 superseding certificate will reflect the extent of the project perfected within the limitations of the change authorization. Elements of the proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

General Conditions

14. 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.

15. 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.

16. The amount of water granted is a maximum limit that shall not be exceeded and the water user shall be entitled only to that amount of water within the specified limit that is beneficially used.

17. The water quantities and uses recommended may be reduced at the time of issuance of a final water right commensurate with the capacity of the installed system and the uses and/or the number of acres actually irrigated.

18. This Report of Exam supersedes the Report of Examination for this water right dated June 29, 2004.

FINDINGS OF FACT AND DECISION

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 be made **to change the points of withdrawal and to integrate this water right with the city's three deep management unit wells and to transfer the place of use under Ground Water Certificate No. 946-D together with the Report of Examination dated June 29, 2004**, subject to existing rights and the provisions specified above.

You have a right to appeal this Order. To appeal this you must:

- File your appeal with the Pollution Control Hearings Board within 30 days of the "date of receipt" of this document. Filing means actual receipt by the Board during regular office hours.
- Serve your appeal on the Department of Ecology within 30 days of the "date of receipt" of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). "Date of receipt" is defined at RCW 43.21B.001(2).

Be sure to do the following:

- Include a copy of this document that you are appealing with your Notice of Appeal.
- Serve and file your appeal in paper form; electronic copies are not accepted.

1. To file your appeal with the Pollution Control Hearings Board

Mail appeal to:

Deliver your appeal in person to:

The Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903

OR

The Pollution Control Hearings Board
4224 – 6th Ave SE Rowe Six, Bldg 2
Lacey, WA 98503

2. To serve your appeal on the Department of Ecology

Mail appeal to:

Deliver your appeal in person to:

The Department of Ecology
Appeals & Application for Relief
Coordinator
PO Box 47608
Olympia, WA 98504-7608

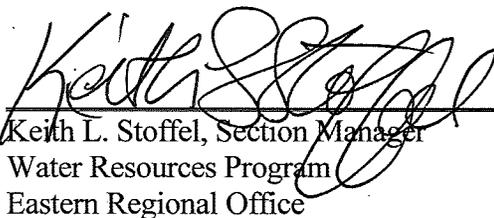
OR

The Department of Ecology
Appeals & Application for Relief
Coordinator
300 Desmond Dr SE
Lacey, WA 98503

3. And send a copy of your appeal to:

Keith L. Stoffel
Department of Ecology
Eastern Regional Office
4601 North Monroe Street
Spokane, WA 99205

Signed at Spokane, Washington, this 4th day of May, 2010.



Keith L. Stoffel, Section Manager
Water Resources Program
Eastern Regional Office

INVESTIGATOR'S REPORT

Legal Requirements for Proposed Change

- 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. Ecology cannot adjudicate a claim to a water right. (Only the court has this authority.) However, when processing an application for change to a water right, the Washington Supreme Court has held that Ecology 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*
- Environmental review under SEPA is required for many projects; however, some minor projects are categorically exempt from SEPA. Appropriations of one cfs or less of surface water, or of 2,250 gpm or less of ground water, for any purpose, and appropriations of 50 cfs or less for surface water used for irrigation are categorically exempt from SEPA. See WAC 197-11-305.
- 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.

- The Washington State Supreme Court, in *Okanogan Wilderness v. Town of Twisp and Department of Ecology*, 133 Wn.2d 769, 947 P.2d 732 (1997), found that applications for change may be granted only to the extent the water has been historically put to beneficial use, as beneficial use determines the measure of a water right. They also found that the existence and quantification of a water right must be determined, including whether or not the water right has been lost for non-use before the Department can approve a change or transfer of the water right.

BACKGROUND

An application for change/transfer was submitted by the City of Quincy to Ecology on October 21, 2004. The City proposes to change the points of withdrawal for the integration of city wells, and to transfer the place of use under Ground Water Certificate 946-D together with the Report of Examination dated June 29th, 2004.

A notice of application was duly published in accordance with RCW 90.03.280 in *The Quincy Valley Post Register* on January 13 and January 20, 2005 and no protests were received.

This application is categorically exempt from the provisions of the State Environmental Policy Act (SEPA) of 1971, Chapter 43.21C RCW.

Table 1 Summary of Proposed Changes to Certificate 946-D together with the Report of Examination dated June 29th, 2004.

<i>Attributes</i>	<i>Existing</i>	<i>Proposed</i>
Name	City of Quincy	City of Quincy
Priority Date / Date of Application for Change	1915 priority date	October 21, 2004
Instantaneous Quantity	1120 gpm	No change
Annual Quantity	308 acre-feet	No change
Source	2 wells	5 wells
Points of Withdrawal	2 wells in the NW¼ of Section 9, T. 20 N., R. 24 E.W.M.	5 wells in Sections 7 and 8, T. 20 N., R. 24 E.W.M.
Purpose of Use	Municipal Supply	No change
Period of Use	Year round	No change
Place of Use	Area Served by the Port of Quincy Intermodal Industrial Park as defined in the Port District's most current comprehensive plan.	Area Served by the City of Quincy per approved Water System Plan

INVESTIGATION

Overview

In considering the proposed changes, this investigation included, but was not limited to, research and review of: (1) appropriate rules and statutes; (2) Ground Water Certificate 946-D together with the Report of Examination dated June 29th, 2004, and other water rights/claims/permits in the vicinity; (3) wells; (4) USGS topographic maps, aerial photographs, and; (5) discussions with Department of Ecology regional program staff.

Initial discussions were held with Ecology's Lynn Maser and the following representatives of the city: Lorin Lowry, Public Works Director; Tim Snead, City Administrator; and Dick Zimbelman, former mayor. The application review process was then on hold for some time as the city had work to do on water meters, well usage, and calculating water usage. Multiple follow-up visits and discussions were conducted.

The proposal involved transferring this water right from land that was owned by the Port of Quincy into the city, and changing from the two old Port wells to the five existing city wells.

Water Use

This water right was most recently owned by the Port of Quincy. In the Report of Examination written in 2004, approval was given to the Port to change the purpose of the water right from seasonal agricultural irrigation to continuous municipal supply.

The Port's intention was to use a phased approach so that irrigated acreage could gradually be taken out of production and converted over to a portion of the new port facility. However, in October of 2004, the Port assigned this water right to the city, and the city concurrently submitted this application to integrate this water right with the city's other rights.

Wells Involved

Ground Water Certificate No. 946-D currently authorizes two wells. The 2004 Report of Exam contains the following information about those wells.

Table 2 Port of Quincy's Well Specifications

Well No.	Status 9/17/03	Size (in)	Depth (feet)	Meter Status 9/17/03	Pump Type	Pump HP	Location
2	Offline	18	407	Required	Turbine	50	NW¼NW¼NW¼
3	Online	18	420	Required	Turbine	25	NW¼NE¼NW¼

(All within Sec. 9, T. 20 N., R. 24 E.W.M.)

Well #2 apparently needed to be reworked so that it could be put online. Well #3 had been the only functioning well for some time. The 2004 Report of Examination gives this further information about the two wells:

"The well logs for Well Nos. 2 and 3 are not very complete and do not describe the underlying geology. Well logs from wells in the surrounding area were used to estimate the underlying geology for Well Nos. 2 and 3. It appears that most of the wells in this area are drilled into a sedimentary layer that is roughly 45-55 feet in depth. Below the sedimentary layer is the Columbia River Basalt Group which is thousands of feet thick. It is unknown if these wells are completed into the overburden, the basalt or both."

The application to change Certificate No. 946-D proposed to eliminate the two Port of Quincy wells, and to add the five City of Quincy wells described in Table 3.

Table 3 City of Quincy Well Information

Well #	Location	Near	Date Constructed	Depth	Size	Well Tag #	Pump HP	Static Water Level
1	Section 7, T. 20 N., R. 24 E.W.M., within the SE¼SE¼	C Street SW and 1 st Ave. SW	Oct 1939	431'	12"	ABS129	125	1939: 275' At or near top in recent years. 2002: 50'
2	Section 7, T. 20 N., R. 24 E.W.M., within the NE¼SE¼	A Street NW and Central Ave N.					175	2002: 24'
3	Section 7, T. 20 N., R. 24 E.W.M., within the SE¼SW¼	7 th SW and Division	1/15/70	406'	12"	ABR078	100	1970: 24' 2002: 24'
4	Section 7, T. 20 N., R. 24 E.W.M., within the SW¼SE¼	Near Hwy 28 and Reiman-Simmons House	9-15-94	392'	20"	ABR447	250	1981: 17' 2002: 20'
5	Section 8, T. 20 N., R. 24 E.W.M., within the SE¼SE¼	190 Columbia Way	10/21/83	380'	20"	ABR448	200	1983: Artesian 2002: Artesian

Water Demand

The city is in the midst of growth surge, with many businesses and housing developments being built or in the planning stages. The water usage data from 2006 indicates that the city is within the acre-feet limits of their existing rights for the deep management unit wells. However, the water use data submitted by the city raises questions about the instantaneous limits for the water rights for both the deep and shallow management units and for the annual

quantity limit for the shallow management unit. **Table 4** below summarizes the city's data, and can be compared with **Table 5** which summarizes the city's water rights and their allowable limits.

Table 4 2006 City of Quincy water use data

Wells	2006 maximum Qi(gpm)	2006 total use (gpy)	= 2006 total Qa (acre- feet per year	12 mo. acre-feet estimate, based on approximations for months without data
# 1	2018	18,177,451	55.8	
# 2	1540	186,888,047	573.5	
# 3	1055	13,925,000	42.7	
# 4	2927	441,751,123	1355.7	
# 5	2688	94,254,090	289.3	
Totals	10,228		2317	3090

The city has said that the data submitted was misleading and that they will resubmit more detailed data showing that there is not an instantaneous issue.

History of Quincy Subarea Rule Development

Since the early 1950's, irrigation waters have been delivered to the Columbia Basin Project area through an engineered system of canals and ditches. Leakage from the canals and ditches and infiltration of waters applied to fields has resulted in artificial recharge of aquifers in the project area that previously contained only naturally-occurring groundwater. As a result, water levels in aquifers located throughout much of the project area, including the Quincy Basin, have risen dramatically in the past half century. In the Quincy Basin, most of the imported irrigation waters have been "artificially stored" in unconsolidated sediments and sedimentary rocks that overlie a thick sequence of Columbia River Basalt Group basalt flows and intercalated sediments.

In 1973, Chapter 173-124 WAC was promulgated, which established the Quincy ground water management subarea within the Columbia Basin Project area, and defined boundaries of the Quincy subarea. Chapter 173-134 WAC was subsequently promulgated, which set forth rules for administration of both naturally-occurring and artificially-stored ground waters in the Quincy subarea. Two ground water management units, the "*shallow management unit*" and "*deep management unit*", were established for the Quincy subarea. The *shallow management unit* was defined as ground water hydraulically continuous between land surface and a depth of 200 feet into basalt flows of the Columbia River Basalt Group. The *deep management unit* was defined as all ground water underlying the shallow management unit.

In WAC 173-134, Ecology also made the determination that by the end of the 1973 irrigation season, there were approximately 3,493,142 acre-feet of imported irrigation water stored underground in the Quincy subarea, and that most of the imported water was located in the *shallow management unit* where it commingled with naturally-occurring groundwater.

In 1975, the U.S. Bureau of Reclamation (USBR) filed a declaration pursuant to RCW 90.44.130 to claim all artificially-stored groundwater in the Quincy subarea. The exterior boundaries of the area claimed by the USBR in the declaration were different from the exterior boundaries of the Quincy subarea originally defined in WAC 173-124. The USBR claimed area was surrounded on the north, west, and south by a one- to three-mile-wide strip of land that was outside of the area claimed by the USBR but inside the Quincy subarea. In subsequent years, the area claimed by the USBR came to be known informally as the "*yellow area*", and the surrounding strip of land outside the USBR-claimed area came to be known informally as the "*gray area*".

Applicants for new groundwater withdrawals from the "*gray area*" were caught in a catch-22 situation. They could not receive a federal license from the USBR for withdrawal of artificially-stored water in the Quincy subarea, but state water was not available for appropriation either. Therefore, in 1983, WAC 173-134 was repealed and Chapter 173-134A WAC was adopted to replace it. In the new rule, the department confirmed the determination that all naturally-occurring groundwater in the "*yellow area*" of the Quincy subarea had been appropriated under state law by the issuance of water right permits and certificates. The new rule also determined that some naturally-occurring public groundwater in the "*gray area*" was still available for appropriation, and recognized Ecology's authority to make decisions on applications for new withdrawals of public groundwater from the "*gray area*".

In 1986, WAC 173-134A was amended to confirm that groundwater withdrawal limitations established in WAC 173-134A-060 and 173-134A-080 only apply to the geographical area within the Quincy subarea claimed by the USBR (i.e., only apply to the "*yellow area*"). This amendment had the effect of allowing Ecology to issue additional state permits for the withdrawal of naturally-occurring groundwater in the "*gray area*", subject to the requirements of both the state groundwater code and the Quincy subarea rule.

In summary, Ecology may still issue permits for the withdrawal of naturally-occurring, public groundwater from the "gray area" of the Quincy subarea. However, all naturally-occurring, public groundwater in the "yellow area" has been appropriated. As a result of the 1975 USBR claim to all artificially-stored groundwater in the Quincy subarea, Ecology has no authority to appropriate artificially-stored groundwater in the "yellow area".

Other Water Rights

A review of Ecology records was conducted for existing water rights, permits, and claims in the area. The city's urban growth area extends into 13 sections. The city's wells are in Sections 7 and 8, of T. 20 N., R. 24.E.W.M. Adjoining sections which are close to the city's wells include Sections 9, 17, and 18. Numerous water rights authorize water use in these sections. Not counting the city's water rights (which are listed below), the totals for certificates, permits, and claims are: Section 7 = 1 certificate, 3 QB permits, and 4 claims; Section 8 = 1 certificate, 5 claims, and 2 QB permits; Section 9 = 4 certificates; Section 17 = 3 claims; Section 18 = 5 certificates and 2 claims. All authorized groundwater use. Domestic exempt wells are not included in the totals.

The application for change to Certificate No. 946-D is intended to integrate this right (GWC 946-D) with the city's five existing water rights. The following table lists all six water rights.

Table 5 City of Quincy Water Rights

Water Right Number	Document Type	Purpose	Priority Date (m-d-y)	Qi (gpm)	Qa (acre-feet per year)	Source
335D (1-3-196)	Certificate	Muni	9/1/37	100	59	2 wells
236A (1-3-196)	Certificate	Muni	2/6/47	1000	445	2 wells
"Shallow management unit" totals				1100	504	
G3-01273C	Certificate	Muni	5/2/68	1500	1613	3 wells
G3-26025C	Certificate	Muni	7/27/78	2200	2343	3 wells
G3-27361C	Certificate	Muni	9/22/82	1500	1452	3 wells
"Deep management unit" totals				5200	5408	
Combined totals				6300	5912	
GWC 946-D (To be added to deep management unit)	Certificate	Muni	1915	1120	308	3 wells
Grand Totals				7420	6220	

The city also has a pending application (1991 priority date) for a new state water permit. However, all state water in the Quincy subarea has been fully appropriated, so that application will probably be denied.

Evaluation of the Water Right and Beneficial Use Analysis:

The Washington State Supreme Court, in *Okanogan Wilderness v. Town of Twisp and Department of Ecology*, 133 Wn.2d 769, 947 P.2d 732 (1997), found that applications for change may be granted only to the extent the water has been historically put to beneficial use, as beneficial use determines the measure of a water right. They also found that the existence and quantification of a water right must be determined, including whether or not the water right has been lost for non-use before the Department can approve a change or transfer of the water right.

POL 1120 states: a simplified tentative determination may be conducted when a tentative determination or other actions confirming beneficial use of the water right has recently occurred. Under these circumstances, an investigation of the complete history of the water right is not required. Instances where simplified tentative determinations can be conducted include:

- a. The existing water right has had recent departmental action, such as the issuance of a change approval within the last 5 years;
- b. The existing water right was confirmed as part of an adjudication or other court action that determined the extent and validity of the right within the last 5 years;
- c. The existing water right is for a municipal water supply in accordance with RCW 90.03.330(3).

This water right was most recently owned by the Port of Quincy. A Report of Examination written in 2004, approved a change from irrigation to municipal supply. A tentative determination concluded 1120 gallons per minute, 308 acre-feet per year was available for municipal use. This is recognized as the extent of this right. Based on the simplified tentative determination (POL 1120), the right is available for change as described above.

Hydrologic/Hydrogeologic Evaluation

Background

The proposed project lies within the boundaries of the Quincy Ground Water Management Subarea as defined in Chapter 173-124 WAC. This Subarea covers the northern portion of the Columbia Basin Project (by the US Department of Interior, Bureau of Reclamation), and lies mostly within Grant County.

Much of the Quincy Subarea is underlain by unconsolidated sediments and/or sedimentary rocks. Most of the unconsolidated sediments were deposited by a series of glacial outburst floods that occurred during the most recent ice age between approximately 15,000 and 12,000 years ago. The sedimentary rocks were deposited in a series of ancestral rivers and lakes that occupied much of the Columbia Basin between about 8.5 and 3.5 million years ago. The sediments and sedimentary rocks comprise the "*Quincy unconsolidated zone*" as defined in WAC 173-124-050. The thickness of the *Quincy unconsolidated zone* generally varies from a few feet to several hundred feet, but it is absent in places.

The sediments and sedimentary rocks of the *Quincy unconsolidated zone* overlie a thick sequence of basalt flows assigned to the Columbia River Basalt Group (CRBG), which erupted between 17 and 6 million years ago. The CRBG is subdivided into three formations, from youngest to oldest, the Saddle Mountains Basalt, the Wanapum Basalt, and the Grande Ronde Basalt. All CRBG basalt flows in the Quincy Subarea are assigned to the "*Quincy basalt zone*", as defined in WAC 173-124-050. The *Quincy basalt zone* varies from a few hundred feet to several thousand feet thick.

Two groundwater management units, the "*shallow management unit*" and the "*deep management unit*", were established for the Quincy Subarea in WAC 173-134 (which was subsequently repealed and then amended and adopted as WAC 173-134A). The *shallow management unit* is defined as groundwater hydraulically continuous between land surface and a depth of 200 feet into basalt of the Columbia River Basalt Group (i.e., it includes all of the Quincy unconsolidated zone and the uppermost 200 feet of the Quincy basalt zone). The deep management unit is defined as all groundwater underlying the shallow management unit (i.e., it includes the entire Quincy basalt zone with the exception of the uppermost 200 feet of that zone).

The *shallow water management unit* is subject to artificial recharge of the ground water in the upper aquifer. This situation is caused by the Bureau of Reclamation's Columbia Basin Project which is a series of canals used for irrigation. Most of the canal system is unlined and there is a significant return flow from this canal system and its wasteways. There is also a significant return flow from the irrigated crop. Therefore, much of the water in the shallow aquifer is artificially stored and is under the jurisdiction of the Bureau of Reclamation.

City of Quincy Wells

The City of Quincy's wells draw groundwater from two different management units defined in the Quincy Ground Water Management Subarea rule (Chapter 173-134A WAC). Wells 1 and 2 have been identified as shallow management unit wells but are constructed into the deep management unit. Wells 3, 4, and 5 are identified as deep management unit wells.

The two wells located at the Port of Quincy property are deep management unit wells. Therefore, Ground Water Certificate No. 946-D is considered a deep management unit water right. Consequently, the amounts of water authorized by Ground Water Certificate No. 946-D can only be pumped from the city's deep management unit wells (3, 4, and 5). The application proposed to integrate all five wells, but it is not appropriate to include the two shallow management unit wells in the integration.

In addition to the city's well logs, Ecology's well log records include the following wells in the vicinity of the city wells: Section 7= three shallow wells; Section 8 = 36 resource protection wells and seven water wells; Section 9 = six water wells; Section 17 = 29 resource protection wells and seven water wells; and Section 18= eight water wells. (List attached.)

Impairment Considerations

"Impair" or "impairment" means to: 1) adversely impact the physical availability of water for a beneficial use that is entitled to protection, 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.

CONCLUSIONS

No Impairment to Existing Rights:

No water will be diverted above what has been historically used, and it is not anticipated that the proposed change/transfer would cause impairment to existing water rights.

No Detriment to the Public Interest:

There will be no detrimental effects to the public or the environment. Rather, this authorization will protect the public interest by supplying safe municipal water to a growing city population.

Beneficial Use:

The water will be used for the beneficial use of municipal supply, as is currently authorized.

Availability of Water:

The three wells proposed to be added to Ground Water Certificate No. 946-D are all within approximately three miles of the two existing wells. Water will be pumped from the deep management unit, which is the same body of water, and which yields sufficient water at the existing site.

It is the conclusion of this examiner that, in accordance with Chapters 90.03 and 90.44 this application for change to change the points of withdrawal for the integration of city wells, and to transfer the place of use under Ground Water Certificate 946-D together with the Report of Examination dated June 29th, 2004, will not enlarge the quantity of water historically used, nor will it impair existing rights provided the recommendations below are followed.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that the request to change the points of withdrawal for the integration of city wells, and to transfer the place of use under Ground Water Certificate No. 946-D together with the Report of Examination dated June 29, 2004, be authorized and approved, in the amounts and within the limitations listed below and subject to the provisions beginning on Page 2.

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. No withdrawal of water over and above what has been historically authorized would be approved through this change.

1120 gpm, 308 acre-feet per year for municipal supply

Points of Withdrawal

Three existing deep management unit city wells (see listing above for wells 3, 4, and 5).

Place of Use

Area Served by the City of Quincy according to the approved Water System Plan.

Report by: Keith Stoppel for Lynn Maser
Watermaster, Water Resources Program

5/4/10
Date

Attachment A City of Quincy's additional wells

Sec 7 (3)

Shallows -

Quincy Cemetery	95'
Perez Trucking	120'
L D Roberts	54'

Sec 8 (7)

Deeps -

Plank	289'
Great Northern	401'
Great Northern	370'
Gerken	486'

Shallows -

Anderson	98'
Lobe	102'
Roduner	76'

Sec 9 (8)

Deeps -

Caldwell	365'	(cert 201A)
Cedargreen (Port)	374'	(Cert 946D)
Cedargreen (Port)	407'	(945D)
Cedargreen	424'	(944D)
Cedargreen	442'	(947D)
Columbia Colstor	297'	

Shallows -

Carazos	80'
Simplot Soil Builders	135'

Sec 17 (7) -

Deeps -

Baruff	325'
Carter	295'?

Shallows

Low	83'
Low	65'
Gato	55'
Ness	110'
Ray	108'

Sec 18 (8) -

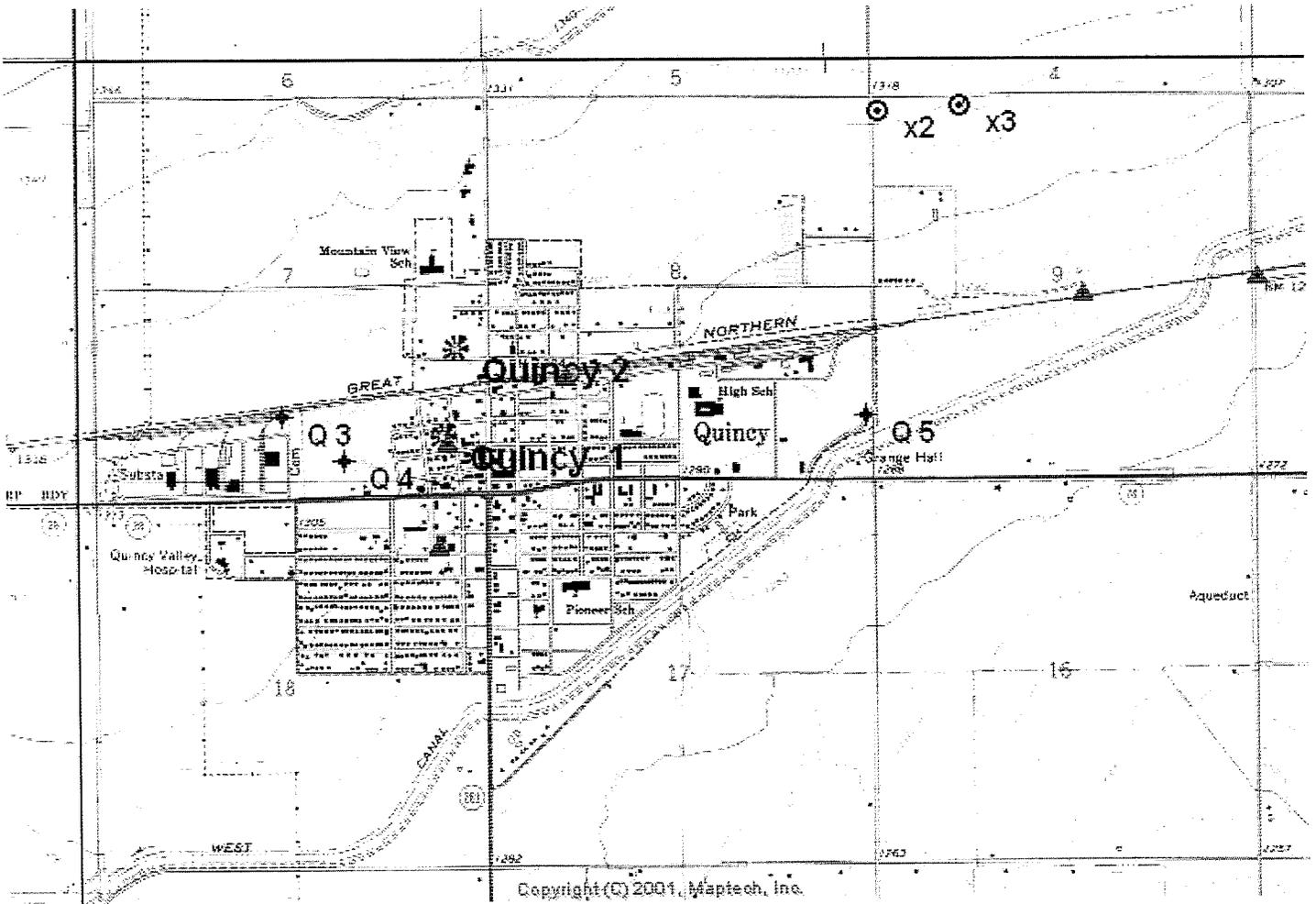
Deeps -

Martin/Weiler	448'	(319D)
Weiler Martin Water	450'	
Neilsen	325	(1078D)

Shallows -

Mullen	175'
Adams	55'
Ronish	110'
Nielsen	102'
Neilsen	91'

City of Quincy



Existing City Shallow aquifer wells = Quincy 1 and Quincy 2
Existing City Deep aquifer wells = Q 3, Q 4, and Q 5
Existing wells for 946-D = x2 and x3