

**BEFORE THE WATER RESOURCES DEPARTMENT
OF THE STATE OF OREGON**

In the Matter of Renewal of Aquifer Storage)
and Recovery (ASR) Limited License #002,)
Washington County

FINAL ORDER
APPROVING RENEWED ASR TESTING

AUTHORITY

Oregon Revised Statute (ORS) 537.534 and Oregon Administrative Rule (OAR) 690-350-0020 establish the process by which an application for ASR testing under an ASR limited license may be submitted and approved. Oregon Administrative Rule (OAR) 690-350-0010 describes general provisions for ASR under Oregon law.

BACKGROUND

On July 22, 1998, the Department issued ASR Limited License #002 to Tualatin Valley Water District and the City of Beaverton. That ASR limited license authorized ASR testing for five years at six wells in a basalt aquifer. On May 12, 1999, the Department modified certain recovery provisions of the ASR limited license pursuant to a request from the co-licensees. On November 4, 2003, the Department renewed the ASR limited license for another five years as requested by the co-licensees. That renewed ASR limited license was set to expire on July 22, 2008. On October 25, 2006, the Department modified the renewed ASR limited license pursuant to a request specific to the City of Beaverton. Condition 1 of ASR Limited License #002 provides for renewal pursuant to OAR 690-350-0020(5)(c). Condition 1 of ASR Limited License #002 sets out the following terms for renewal: The ASR limited license may be renewed if the licensee demonstrates to the Director's satisfaction that further testing is necessary and that the licensee complied with the terms of the ASR limited license.

FINDINGS OF FACT

1. On JUNE 30, 2008, the TUALATIN VALLEY WATER DISTRICT and the CITY OF BEAVERTON, submitted requests for a five-year time extension for ASR Limited License #002.
2. The Department published notice of the extension request in the Department's weekly public notice.
3. The Department received no adverse comments related to the possible renewal of the ASR limited license.
4. The Department sought and received comments and recommendations from Oregon Department of Environmental Quality, Oregon Department of Human Services and Oregon Water Resources Department staff related to the possible renewal of the ASR limited license.

NOTICE OF RIGHT TO PETITION FOR RECONSIDERATION OR JUDICIAL REVIEW

This is an order in other than a contested case. This order is subject to judicial review under ORS 183.484. Any petition for judicial review must be filed within the 60-day time period specified by ORS 183.484(2). Pursuant to ORS 536.075 and OAR 137-004-0080, you may either petition for judicial review or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.

5. Department staff commented that additional data should be submitted that would afford the Department access to all data collected in conjunction with ASR testing. Proper formatting of that data was also requested. The Department may further condition an ASR limited license as a condition of renewal (OAR 690-350-0020(5)(a)).

DISCUSSION

The Department has evaluated the renewal request and associated comments and recommendations and finds that the proposed renewal satisfies the requirement of Condition 1 and OAR 690-350-0020(5)(c). The licensee has demonstrated to the Director's satisfaction that further testing is necessary and that the licensee complied with the terms of the limited license. The renewal request letters from Tualatin Valley Water District and the City of Beaverton presented the reasons for the extension (renewal) and provided specific details that addressed compliance with the ASR limited license.


CONCLUSIONS OF LAW

The request to renew ASR Limited License #002 for five years is consistent with the requirements of OAR 690-350-0020(5)(c) and Condition 1 of ASR Limited License #002. The Department may further condition the renewed ASR limited license consistent with the requirements of OAR 690-350-0020.

ORDER

Now, THEREFORE, IT is ordered, ASR Limited License #002 is renewed pursuant to ORS 537.534, OAR 690-350-0020(5)(c), and Condition 1 of the ASR limited license.

Dated at Salem, Oregon on January 9TH 2009.


for Phillip C. Ward, Director
Water Resources Department

This order was produced by Donn Miller. If you have any questions about any of the statements contained in this document, I am probably the best person to answer your question. You may reach me at 503-986-0845 or Donn.W.Miller@wrdd.state.or.us

If you have other questions about the Department or any of its programs please contact our Customer Service Group at 503-986-0801. Address all other correspondence to: Ground Water Section, Oregon Water Resources Department, 725 Summer St NE, Suite A, Salem OR 97301-1266, Fax: 503-986-0902.

AQUIFER STORAGE and RECOVERY (ASR) LIMITED LICENSE #002
(This instrument is the second renewal of a prior authorization)

The Oregon Water Resources Commission issues this limited license for ASR TESTING to:

Tualatin Valley Water District Telephone: (503) 642-1511
c/o Michael Britch
P.O. Box 745
Beaverton, OR 97075

and

City of Beaverton Telephone: (503) 526-2646
c/o David Winship
P.O. Box 4755
Beaverton, OR 97096

The licensee may divert up to 10 MGD from a combination of Bull Run River, a tributary of the Sandy River (up to 2MGD) and the Tualatin River, a tributary of the Willamette River. Respectively, these diversions use authorization of ORS 538.420 and water right Permit S-45455.

The point of diversion on the Bull Run River is located at T1S/R5E, Section 26 SE1/4 SE1/4 and the point of diversion on the Tualatin River is located at T1S/R3W, Section 8 SW1/4 SW1/4.

The licensee may store up to 1.2 billion gallons in a basalt aquifer using 10 injection wells. The licensee may recover for MUNICIPAL USE a combined withdrawal of up to 10 MGD of stored water through the same 10 wells. The maximum storage duration is the five years duration of this limited license.

TEN ASR wells are authorized for injection at a rate up to 1.5 MGD at each well. Consisting of the named wells and any seven of the 10 numbered wells, the same TEN ASR wells are authorized for recovery as follows:

| <u>Well No.</u> | <u>Capacity (MGD)</u> | <u>Well Location within T1S/R1W W.M.</u> |
|-----------------|-----------------------|--|
| ASR #1 | 1.5 | Section 17, SE1/4 SW1/4 |
| Schuepbach | 1.5 | Section 17, SE1/4 SW1/4 |
| ASR #4 | <u>3.0</u> | Section 21, SW1/4 SE1/4 |
| Hanson Road | <u>3.0</u> | Section 21, SE1/4 SW1/4 |
| ASR #2 | <u>3.0</u> | Section 21, SE1/4 SW1/4 |
| ASR #10 | <u>3.0</u> | Section 29, SE1/4 SW1/4 |
| ASR #9 | <u>3.0</u> | Section 30, NW1/4 SW1/4 |

This is a final order in other than contested case. Pursuant to ORS 536.075 and OAR 137-004-080 and OAR 690-01-005 you may either petition the Director for reconsideration of this order or petition for judicial review of this order. As provided in ORS 536.075, this order is subject to judicial review under ORS 183.484. Any petition for judicial review of the order must be filed within the 60 day time period specified by ORS 183.484(2).

Page 2 - ASR Limited License #002 (second renewal)

| <u>Well No.</u> | <u>Capacity (MGD)</u> | <u>Well Location within T2S/R1W W.M.</u> |
|-----------------|-----------------------|--|
| ASR #3 | <u>3.0</u> | Section 5, SW1/4 NW1/4 |

| <u>Well No.</u> | <u>Capacity (MGD)</u> | <u>Well Location within T1S/R2W W.M.</u> |
|-----------------|-----------------------|--|
| ASR #7 | 1.5 | Section 23, NW1/4 SE1/4 |
| Grabhorn | 1.5 | Section 23, SE1/4 SE1/4 |
| ASR #5 | 1.5 | Section 24, NW1/4 SW1/4 |
| ASR #6 | 1.5 | Section 24, SW1/4 NE1/4 |
| ASR #8 | <u>3.0</u> | Section 25, NE1/4 SE1/4 |

This limited license was originally issued on July 22, 1998 for five years. It was subsequently renewed until July 22, 2008. It is again renewed pursuant to Condition 1 and now expires on July 22, 2013. The duration of this renewed limited license is five years from the time of previous expiration on July 22, 2008.

Although now mostly outdated, except as it conflicts with provisions of this limited license, the licensee is authorized to pursue the project schedule, monitoring, and other features noted in the conceptual ASR test plan. The project schedule in the ASR test plan may be reasonably adjusted by the licensee to reflect the license issuance date or other delays. Features of that conceptual ASR testing plan are provided in the application documents entitled:

Aquifer Storage and Recovery
Pilot Test Work Plan and Wellhead Facility Design
Prepared for Tualatin Valley Water District
Prepared by CH2M HILL
June 1997
and
TVWD/Beaverton ASR Limited License Application
Response to OWRD Letter Dated August 15, 1997
March 13, 1998

This limited license is issued with the following conditions:

- 1) License Renewal. The limited license may be renewed if the licensee demonstrates to the Director's satisfaction that further testing is necessary and that the licensee complied with the terms of the limited license.
- 2) Notice Prior to Injection and Recovery. The licensee shall give notice, in writing, to the watermaster not less than 15 days in advance of either initiating any injection under the limited license or recovering stored water. The licensee shall give verbal notice to the watermaster within 2 days of initiating recovery of stored water for emergency demand. The injection notice shall include the limited license number, the location of the injection source water diversion, the quantity of water to be diverted from that source, the time of injection, and the place of injection. The recovery notice shall include the limited license number, the location of the recovery well(s), the time of recovery, and the quantity of water to be recovered.

Page 3 - ASR Limited License #002 (second renewal)

3) Record of Use. The licensee shall maintain a record of injection and recovery, including the total number of hours of injection and recovery and the total metered quantity injected and recovered. The record of use may be reviewed by Department staff upon request.

4) Modification/Revocation. The Department shall notify the licensee in writing and allow the licensee to respond when considering the following actions:

(A) The Director may modify the ASR limited license for any of the following reasons:

- (i) to reflect changes in Oregon Health Division (HD) and Oregon Department of Environmental Quality (DEQ) water quality or treatment standards;
- (ii) to address needed technological changes as requested by DEQ or HD to minimize constituents regulated under OAR 333-61-030 (ORS 448.131 and .273) or OAR 340-40 (ORS 468B.165);
- (iii) upon written request from the licensee for minor adjustments to the authorization in the limited license. (For purposes of this license, a well location change to an adjacent 1/4 1/4 section is a minor adjustment.)

(B) The Director may revoke or modify the ASR limited license for any of the following reasons:

- (i) to prevent or mitigate injury to other water rights, minimum perennial streamflows or aquifer water quality; or
- (ii) to address any other unintended, injurious effects of the ASR activity.

(C) The Department may offer an additional public comment opportunity consistent with the notice and comment provisions of OAR 690-350-020 prior to modifying the limited license.

5) Priority/Protection. This limited license does not receive a priority date and is not protected under ORS 540.045. The diversion of water for this ASR testing under the authority of Certificate 12033 retains the priority date and protection of that water right.

6) Compliance with Other Laws. The injection of acceptable water into the aquifer as well as its storage and recovery under this limited license shall comply with all applicable local, state or federal laws. This shall include but not be limited to compliance with the Oregon Department of Environmental Quality's (DEQ's) Underground Injection Control registration program as authorized under the Safe Drinking Water Act (40 CFR 144.26). Likewise, for those ASR wells within the area covered by the DEQ National Pollution Discharge Elimination System (NPDES) MS4 Permit Number 101309, pilot test recovery discharges to the storm sewer system must be approved by the permittee, the Clean Water Services Agency of Washington County, et al. For those wells outside the area covered by this NPDES Permit, the licensee may need to obtain a discharge permit directly from the DEQ.

Page 4 - ASR Limited License #002 (second renewal)

7) Detailed Testing Plans. The licensee shall submit a detailed plan of testing for each injection well as the project develops. The licensee shall obtain Department approval of a detailed plan before injection testing at a well may begin. The Department may approve, condition, or reject a detailed plan.

8) Water Quality Conditions and Limits:

(A) The licensee shall minimize, to the extent technically feasible, practical and cost-effective, the concentration of constituents in the injection source water that are not naturally present in the aquifer;

(B) Except as otherwise provided in (C) of this condition, if the injection source water contains constituents regulated under OAR 333-61-030 (ORS 448.131 and .273) or OAR 340-40 (ORS 468B.165) that are detected at greater than 50 percent of the established levels (MCLs or MMLs in the cited rules), the licensee shall employ technically feasible, practical and cost-effective methods to minimize concentrations of such constituents in the injection source water;

(C) Constituents that have a secondary contaminant level or constituents that are associated with disinfection of the injection source water may be injected into the aquifer up to the standards established under OAR 333-61-030 (ORS 448.131 and .273);

(D) The Department may, based upon valid scientific data, further limit certain constituents in the injection source water if the Department finds that those constituents will interfere with or pose a threat to the maintenance of the water resources of the state for present or future beneficial uses;

(E) If during the course of ASR testing, a constituent which is regulated under OAR 333-61-030 (ORS 448.131 and .273) or OAR 340-40 (ORS 468B.165) is detected above the 50% level prescribed in condition (7)(B) or the 100% level prescribed in condition (7)(C), the licensee shall immediately stop injection activities upon receipt of lab data and notify the Department within five days;

9) Water Quality Sampling.

(A) Injection Water. Prior to initiating injection, the licensee shall sample and analyze injection water for the constituents regulated under OAR 333-61-030 (ORS 448.131 and .273) or OAR 340-40 (ORS 468B.165) as well as others constituents as described in the pilot test work plan dated June 1997.

Page 5 - ASR Limited License #002 (second renewal)

(B) Wells. As each new ASR well is brought on-line, the licensee shall sample receiving aquifer water at the well prior to any storage at the well. The licensee shall sample for the constituents regulated under OAR 333-61-030 (ORS 448.131 and .273) or OAR 340-40 (ORS 468B.165) as well as others constituents as described for wells in the pilot test work plan dated June 1997. The licensee shall sample receiving aquifer water at ASR observation wells as described in the same pilot test plan. Sampling of the receiving water at ASR #4 is not required unless specifically directed by the Department.

(C) Withdrawal of Stored Water. The licensee shall analyze water withdrawn from storage for the constituents regulated under OAR 333-61-030 (ORS 448.131 and .273) or OAR 340-40 (ORS 468B.165) as well as others constituents as described in the pilot test work plan dated June 1997 and OAR 690-350-020(3)(b)(F)(iv).

(D) Well-field Sampling. Water quality sampling at ASR #1, #2, and #4 will be based on a well-field approach, unless otherwise specified by the Department. ASR compliance water samples may come from any of these wells and need not come from all of them.

10) Monitoring.

(A) Water Level Monitoring. The licensee shall monitor water levels in wells in the conceptual manner described in the pilot test work plan dated June 1997. The licensee shall submit a detailed water level monitoring plan for testing at each injection well. The detailed plan shall include both a method for establishing a baseline pre-injection water level as well as a method of tracking the static water level during the recovery of stored water for purposes of compliance with condition (12)(C).

(B) Streamflow Monitoring. The licensee shall monitor streamflow in Johnson Creek in the conceptual manner described in the pilot test work plan dated June 1997. The licensee shall submit a detailed water level monitoring plan for testing at each injection well. The licensee shall consider the water quality monitoring of stream/surface water in the detailed plan.

(C) Impacts on Tyco Property. The licensee shall describe in the detailed plan for the Hanson Road well how testing will monitor the impacts to the contamination at the nearby Tyco property at Hall Blvd and Hwy 217.

11) Injection. Due to the shallow and aged seals at the Schuepbach and Hanson Road wells, the licensee shall apply no hydraulic pressure to the seals at these wells during injection.

Page 6 - ASR Limited License #002 (second renewal)

12) Recovery. The availability of stored water for recovery is based on the following factors:

(A) Available stored water is determined on a well-by-well basis. The licensee may recover up to 95% of the quantity injected under this limited license during the year that the water was injected, except as provided in (E). After that year, the availability of stored water shall be further diminished each year such that the licensee may only recover up to 95% of any year-to-year storage carryover. (Data collected by the licensee may be useful in consideration of modifications to this recovery provision under the limited license.)

(B) Any water withdrawn from an ASR well identified in this limited license shall first be debited against the quantity available in the aquifer by virtue of ASR storage. When the ASR storage is depleted at an ASR well, any water withdrawn from an ASR well shall be considered a draft of natural ground water.

(C) The licensee may not recover any stored water from an ASR well when the static water level at the ASR well is lower than the baseline pre-injection water level elevation. (The current baseline pre-injection water level elevation at the three named wells is approximately 170 feet msl). The Department shall acknowledge a baseline level at an injection well with the approval of a detailed test plan for that injection well. The Department may approve a different value for the baseline pre-injection water level elevation if the licensee provides data and analysis during the license period that supports a different value.

(D) The availability of stored water is a running account that is subject to determination at any time.

(E) The licensee may recover up to 100% of the quantity injected under this limited license during the year that the water was injected under the following circumstances: it is necessary to assess the mixing of injection and native ground water and it is part of an approved detailed plan pursuant to condition 7. Cycle 2 of the pilot testing program is eligible for the 100% recovery.

13) Reporting. Except as otherwise noted, the licensee shall provide the Department a written report of the results of ASR testing for each year by February 15th of the following year. The first report shall be due in 1999 and include results from 1998. The report shall detail the several kinds of data collected during the year (including the water quality results in condition 9), analyze those data to show the ASR project impacts on the aquifer, indicate the testing/development progress made under the terms of the limited license, and account for the injection of stored water, withdrawals of stored and natural water, and the new-year carryover storage at each well.

14) Protection for Existing Users. In the event of conflicts with existing appropriators, the licensee shall conduct all testing so as to mitigate the injurious effects. In addition, the licensee shall cooperate with the efforts of the Department to protect existing water rights and the water quality of existing users that rely upon the receiving aquifer and the injection source water.

Page 7 - ASR Limited License #002 (second renewal)

15) Use of Recovered Water. The licensee shall use any recovered water for municipal purposes as described in ORS 538.420 and water right permit S-45455. This use includes storm water discharges authorized in the ASR testing program.

16) Periodic Meetings. The licensee shall alert the Ground Water/Hydrology Section of the Department of the meetings of the licensee's technical review group of the ASR project in order that Department staff may attend and track the periodic progress of the testing project.

17) Additional Conditions on an Informal Basis. The Department may suggest additional conditions to the licensee. Provided that those conditions are agreed to and undertaken by the licensee, the Department may forego formal changes to this license. This informal process does not extend to condition reductions. These additional conditions may be part of any license renewal or permit.

18) Publicity. The licensee shall maintain a public information program about the ASR project, which may include press releases, neighborhood meetings, brochures, or other activities. This program shall include information on potential project impacts and how to report possible impacts to the licensee. The licensee shall share such reports with the watermaster within five days of receipt.

19) Other Measures. The licensee shall take any additional measures appropriate to address the ASR-related issues of landslide activation, seepage, streamflow increases, aquifer boundary determination, aquifer storage efficiency, and water quality protection so that these issues can be addressed during review of the ASR permit application.

20) Carryover Storage. At the end of testing under this limited license, the licensee shall provide an accounting to the Department of the residual stored water based on the methods of determination given in this license. The Department shall consider this residual for carryover to a permanent ASR permit based on information, which discloses the aquifer's ability to retain stored water.

21) Special Reporting Condition. The co-licensees shall provide the following information to the Department, pursuant to the second renewal in 2009:

(A) Submission of any and all hydrogeologic data collected and reports developed for the project, including but not limited to cuttings analysis, video logs, geophysical logs, aquifer tests and step tests.

(B) Submission of digital water level data for all ASR wells and any other wells measured in conjunction with the project (in a Department specified format) with a provision for annual updates.

Page 8 - ASR Limited License #002 (second renewal)

(C) Submission of annual updates, in GIS form, of locations and elevations for all project wells (actual locations of built wells and proposed locations for proposed locations) and locations and elevations for all non-project wells that have been used for collecting water levels or other data pertinent to the project (in a Department specified format).

(D) Notification in the annual report of any changes in well construction to the ASR limited license file.

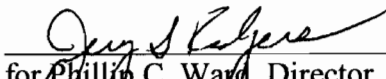
(E) Associating all project well data with the Department Well Identification Number (Well ID Number), the Department Well Log ID, if available, and the project Well Name.

22) Well Tag Condition for Licensee Wells. Prior to Water Year 2010, the licensees shall ensure that their wells have been assigned a Department Well Identification Number (Well ID Number). A tag showing the Well ID Number shall be permanently attached to the well. If a well does not have a Well ID Number, the licensees shall apply for one from the Department and attach it to the well. The Well ID Number shall be used as a reference in any correspondence regarding the well, including any reports of water use, water level, or pump test data.

This license is renewed upon finding that:

- i) the licensee(s) demonstrated to the Director's satisfaction that further testing is necessary, and
- ii) the licensee(s) complied with the terms of the ASR limited license.

This license shall be in effect beginning July 22, 2008, and shall expire July 22, 2013.
WITNESS my hand this 9TH day of January 2009.



for Phillip C. Ward, Director
Water Resources Department

CERTIFICATE OF SERVICE

I certify that on January 13, 2009, I mailed the attached final order approving renewed ASR testing and ASR Limited License #002 by certified mail and first class postage prepaid to:

Tualatin Valley Water District
c/o Michael Britch
PO Box 745
Beaverton, OR 97075

City of Beaverton
c/o David Winship
PO Box 4755
Beaverton, OR 97096

Jannine Skaug
for Donn Miller *Dm*
Oregon Water Resources Department