Rev. 10-1-87

# CERTIFICATE AND ORDER FOR FILING

# PERMANENT

## ADMINISTRATIVE RULES WITH THE SECRETARY OF STATE

I HEREBY CERTIFY that the attached copy is a true, full and correct copy of PERMANENT rule(s) adopted on February 10, 1995 (Date)

by the Water Resources Department (Department) Field & Techhical Services (Division)

to become effective July 1, 1995 (Date)

The within matter having come before the Water Resources Commission (Department) (Division) after all procedures having been in the required form and conducted in accordance with applicable statutes and rules and being fully advised in the premises:

Notice of Intended Action published in Secretary of State's Bulletin: NO ☐ YES ☒ Date Published: October 1, 1994

NOW THEREFORE, IT IS HEREBY ORDERED THAT the following action be taken: (List Rule Number(s) or Rule Title(s) on Appropriate Lines Below)

Adopted: (New Total Rules) Monitoring Well Construction Standards 690-240-007, 012, 013, 035 and 137.

Amended: (Existing Rules) Water Well Construction Standards 690-200-050 and Appendix I
Monitoring Well Construction Standards 690-240-005, 010, 015, 020, 025, 030, 090, 100, 118, 140, 150 and Table II.

~~Repealed~~ / (Total Rules Only)

as Administrative Rules of the Water Resources Department (Department) (Division)

DATED this 17th day of May 19 95

By: (Authorized Signer)

Title: Director

Statutory Authority: ORS 537.780 or

Chapter(s) Oregon Laws 19 or

House Bill(s) 19 Legislature; or Senate Bill(s) 19 Legislature

Subject Matter: The Department had identified a need to revise the above administrative rules to further refine the regulation of various types of wells and other holes in order to be consistent with the statutes and to adequately protect the groundwater resource.

For Further Information Contact: Beth Patrino (Rule Coordinator) Phone: 378-8455 x 299

July 1, 1995

# OREGON ADMINISTRATIVE RULES
# WATER RESOURCES DEPARTMENT
# CHAPTER 690
# DIVISION 240
# CONSTRUCTION AND MAINTENANCE OF MONITORING WELLS, GEOTECHNICAL HOLES, AND OTHER HOLES IN OREGON

**Introduction**

**690-240-005** (1) Monitoring wells and geotechnical holes drilled to allow groundwater and geologic determinations are constructed in a variety of environments and under a variety of conditions. Improper construction, maintenance, operation, and abandonment can allow deterioration of groundwater quality and supply. Although enforcement actions may be exercised against other parties, the landowner of the property where the monitoring well or geotechnical hole is constructed is ultimately responsible for the condition and use of the monitoring well, or geotechnical hole.

(2) Holes other than monitoring wells, water supply wells, or geotechnical holes which are drilled, excavated, or otherwise constructed in the earth's surface can also provide an avenue for deterioration of groundwater quality. Improper construction, maintenance, use, and abandonment of other holes can pose a significant risk to groundwater.

(3) Groundwater problems are difficult, expensive, and time consuming to correct. The Water Resources Commission (Commission) has been authorized to develop standards for wells drilled for the purpose of monitoring groundwater in order to protect the state's groundwaters. The Water Resources Commission has also been authorized to develop standards for other holds through which groundwater may become contaminated. The rules set forth herein are adopted to provide that protection. Their purpose is to prevent and eliminate groundwater contamination, waste, and loss of artesian pressure.

(4) The Commission may develop additional rules as needed prescribing standards for the construction, operation, maintenance, and abandonment of other specific types of wells and holes to protect groundwater.

(5) Monitoring wells are wells as defined in ORS 537.515(9). A license and fee, bond, examination, well report, and start card are required for construction, conversion, or abandonment. In addition, a start card fee is required for new construction and conversion.

(6) To protect the groundwater resource, the Commission has the authority to regulate geotechnical holes under ORS 537.780(3)(a). Construction of geotechnical holes requires either a water supply or monitoring well constructor's license or

*Note: These rules were filed with the Office of the Secretary of State and took effect on July 1, 1995. The rules are subject to non-substantive modifications such as renumbering and correction of typographical errors pursuant to ORS 183.360 (2)(a) when published by the Secretary of State.*

Oregon registration as a geologist or civil engineer. If the criteria in OAR 690-240-035 (2) are met, a geotechnical hole report must also be submitted.

(7) To protect the groundwater resource, the Commission has the authority to regulate any hole through which groundwater may be contaminated under ORS 537.780(3)(a). Construction of holes other than water supply wells and monitoring wells does not require a license and fee, bond examination, well report, and start card and fee.

(8) Holes constructed under ORS Chapter 517, 520, and 522, and rules promulgated from those statutes, are the responsibility of the Oregon Department of Geology and Mineral Industries and are not subject to these rules. These include, but are not limited to, holes constructed for the purposes of exploring for, or producing, petroleum, minerals, or geothermal resources.

(9) If a piezometer (type of monitoring well) is constructed in an area of known or reasonably suspected contamination or if the purpose of the investigation is to assess water quality conditions, it shall be constructed to meet current monitoring well rules. The constructor shall contact the Water Resources Department or the Department of Environmental Quality for a list of information sources to use in determining if contaminants are present.

(10) The rules and regulations set forth herein shall become effective July 1, 1995.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94; WRD -1995, f. & cert. ef. 7-1-95

**Special Area Standards**

**690-240-007** If at any time, the Commission finds that different or supplemental standards are required for the safe development of groundwater from any aquifer or area, special area standards for the construction and maintenance of monitoring wells, geotechnical holes or other holes within such areas may be adopted as rules by the Commission. In the absence of such special area standards, these rules constitute the sole administrative standards of the Water Resources Department governing construction, alteration, and abandonment of monitoring wells, geotechnical holes or other holes.

Stat. Auth.: ORS 537.780
Hist.: WRD -1995, f. & cert. ef. 7-1-95

**Definitions**

**690-240-010** The following definitions apply to terms as used in monitoring well, geotechnical hole and other hole rules, OAR 690-240-005 to 690-240-180. Other terms used in these rules are defined on OAR 690-200-050.

(1) "Abandonment" means to remove all or any portion of a monitoring well from service by filling it in such a manner that vertical movement of water within the well bore and within the annular space surrounding the well casing is effectively and permanently prevented. This term is synonymous with "decommission".

(2) "Artesian Monitoring Well" means a monitoring well in which groundwater is under sufficient pressure to rise above the level at which it was first encountered, whether or not the water flows at land surface. If the water level stands above land surface the well is a flowing artesian monitoring well.

(3) "Contamination" means any chemical, ion, radionuclide, synthetic organic compound, micro-organism, waste or other substance that does not occur naturally in groundwater or that occurs naturally but at a lower concentration.

(4) "Excavation" means a free-standing cavity with greater width than depth constructed in the earth's surface, with other than well drilling machines, which has a primary purpose other than water quality monitoring.

(5) "Geotechnical hole" means a hole greater than 10 feet in depth constructed to collect or evaluate subsurface data or information, or to stabilize or dewater landslide features. Geotechnical holes are not monitoring wells as defined in (8) below. Various classes and examples of geotechnical holes are listed in 690-240-035 (5-8).

(6) "Horizontal Well" means a well that intentionally deviates more than 20 degrees from true vertical.

(7) "Known or reasonably suspected contamination" means a site that is currently under investigation by the Oregon Department of Environmental Quality, US Environmental Protection Agency, or other state or federal agency for the presence of contaminants or a site where a prudent person would suspect contamination after conducting an appropriate inquiry consistent with good commercial or customary practice as to the nature of the property.

(8) "Monitoring Well" means any cased excavation or cased opening in the ground for determining the physical (including water level), chemical, biological, or radiological properties of ground water.

(9) "Monitoring Well Drilling Machine" means any driving, jetting, percussion, rotary, boring, auguring, or other equipment used in the construction, alteration, or abandonment of monitoring wells.

(10) "Other Hole" means a hole other than a water supply well, monitoring well, or geotechnical hole, however constructed, in naturally occurring or artificially emplaced earth materials through which groundwater can become contaminated. Holes constructed under ORS Chapters 517, 520, and 522 are not subject to these rules. Examples of other holes are listed in 690-240-030.

(11) "Piezometer" means a type of monitoring well designed to obtain groundwater levels in areas other than those of known or reasonably suspected contamination. This term is synonymous with observation well.

(12) "Professional" means any person licensed or registered by the State of Oregon to construct monitoring wells, water supply wells, or practice geology or civil engineering.

(13) "Responsible Party" means the person or agency that is in charge of construction or the landowner of record and is either in violation as specified in a notice of violation or who may benefit from that violation.

(14) "Remediation Well" means a well used for extracting contaminants. This term is synonymous with "extraction well".

(15) "Wasteful Use" means any artificial discharge or withdrawal of groundwater from an aquifer, including leakage from one aquifer to another aquifer within a well bore, that is not put to a beneficial use.

(16) "Water Supply Well" means a well as defined in OAR 690-200-050(94) with the exception of monitoring wells as regulated in OAR 690-240.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94; WRD -1995, f. & cert. ef. 7-1-95

**Public Safety**

**690-240-012** No monitoring well or geotechnical hole shall be constructed, maintained, or abandoned in such a manner as to constitute a health threat, or health hazard or a menace to public safety.

Stat. Auth.: ORS 537.780
WRD -1995, f. & cert. ef. 7-1-95

**Wells Cannot be Used for Disposal of Contaminants**

**690-240-013** No monitoring well or geotechnical hole shall be used as a disposal pit for sewage, industrial waste, or other materials that could contaminate the groundwater supply.

Stat. Auth.: ORS 537.780
WRD -1995, f. & cert. ef. 7-1-95

**Delegation of Responsibility for Monitoring Wells, Geotechnical Holes and Other Holes**

**690-240-015** (1) The Director may, by memorandum of understanding, delegate to another state agency direct control and management of monitoring wells and other holes when the other state agency implements these standards, as a minimum, for the construction, operation, maintenance, and abandonment of those monitoring wells, geotechnical holes and other holes.

(2) Such delegation shall be revoked at such time as the agency intentionally or repeatedly fails to enforce the standards.

(3) The Water Resources Department shall provide notice to all Oregon licensed monitoring and water supply well constructors and professional geologists and civil engineers registered in Oregon whenever authority is delegated to or revoked from another state agency.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94; WRD -1995, f. & cert. ef. 7-1-95

**Delegation Conditions**

**690-240-020** In order for the Director to delegate responsibility for monitoring wells, geotechnical holes or other holes to another agency, construction, operation or use, maintenance, and abandonment standards developed by that agency pursuant to OAR 690-240-015 shall include, but not be limited to, provisions to address the following factors:

(1) Reporting well or hole location.

(2) Reporting intended use of the well or hole.

(3) Reporting well or hole design or construction.

(4) Assigning responsibility for compliance.

(5) Protecting groundwater through minimum standards for the construction, operation or use, maintenance, and abandonment of the monitoring well, geotechnical hole or other hole that provide groundwater protection equivalent to that provided by OAR 690-240-005 to 690-240-180.

Stat. Auth.: ORS 536.090 & 537.505 - 537.7952
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94; WRD -1995, f. & cert. ef. 7-1-95

**Other Holes: General Performance and Responsibility Requirements**

**690-240-030** (1)(a) Other holes are constructed for a variety of purposes which may or may not encounter groundwater. Other holes are constructed using a wide variety of equipment and are not typically designed to access water in order to collect subsurface information. Other holes include but are not limited to: wetland delineation holes, gravel pits, pits for removal of underground storage tanks (UST), pilings, tunnels, post holes, excavation and construction holes, elevator shafts, and trenches.

(b) Although enforcement actions may be exercised against other parties, the landowner of the property where the other hole is constructed is ultimately responsible for the condition and use of the other hole.

(c) Excavations greater than 10 feet in depth that are dug to evaluate subsurface data are temporary or permanent geotechnical holes under ORS 690-240-035.

(2)(a) In order to protect groundwater, all other holes shall be constructed, operated or used, maintained, and abandoned in such a manner as to prevent contamination of groundwater;

(b) In order to protect groundwater, all other holes, when abandoned, shall be abandoned in such a manner that water cannot move vertically in them with any greater facility than in the undisturbed condition prior to construction of the other hole.

(c) Conversion of other holes to water supply or monitoring wells, or geotechnical holes shall be considered by the Water Resources Department on a case-by-case basis;

(d) If the other hole is an excavation for removal of an underground storage tank, water samples may be taken without adhering to the licensing, start card/fee, monitoring well report and monitor well conversion requirements.

Stat. Auth.: ORS 536.090 & 537.505 - 537.7952
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94; WRD -1995, f. & cert. ef. 7-1-95

**Geotechnical Holes: General Performance and Responsibility Requirements**
**690-240-035** (1) Geotechnical holes may be either cased or uncased and are constructed to evaluate subsurface data or information (geologic, hydrogeologic, chemical, or other physical characteristics). Geotechnical holes are not "wells" because their construction and/or duration of use are different than wells and therefore are not subject to the same requirements as wells. Geotechnical holes are broken into the following classifications:

(a) temporary geotechnical holes;

(b) cased permanent geotechnical holes;

(c) uncased permanent geotechnical holes; or

(d) slope stability geotechnical holes.

(2) If a geotechnical hole in (a) through (d) above is:

(a) greater than 18 feet deep; or

(b) within 50 feet of a water supply or monitoring well; or

(c) used to make a determination of water quality; or

(d) constructed in an area of known or reasonably suspected contamination, then:

(A) a geotechnical hole report must be filed with the Department and

(B) the professional responsible for the hole must sign the geotechnical hole report.

(3)(a) Although enforcement actions may be exercised against other parties, the landowner of the property where the geotechnical hole is constructed is ultimately responsible for the condition and use and abandonment of the geotechnical hole.

(b) Conversion of a geotechnical hole to a water supply or monitoring well shall be considered by the Water Resources Department on a case by case basis.

(c) Any person (professional) who is responsible for the construction, alteration or abandonment of a geotechnical hole shall have a current Monitoring Well Constructor License, a current Water Supply Well Constructor License, or be registered by the State of Oregon as a Geologist or Civil Engineer. The professional shall show proof of license or registration to department employees upon request.

(d) In order to protect the groundwater resource, all geotechnical holes shall be constructed, operated, used, maintained, and abandoned in such a manner as to prevent contamination or waste of groundwater.

(e) If the geotechnical hole is completed above ground, it shall have a minimum casing height of one foot above finished grade and a lockable cap shall be attached to the top of the casing.

(4)(a) The geotechnical hole report shall be prepared for each geotechnical hole constructed, altered, converted, or abandoned including unsuccessful holes if it meets the requirements of OAR 690-240-035 (2) above.

(b) The geotechnical hole report shall be filed with the Department within 30 days of the completion of the geotechnical hole.

(c) The report shall be prepared in quadruplicate on forms furnished or previously approved in writing by the Water Resources Department. The original and first copy shall be furnished to the Director, the second copy shall be retained by the professional, and the third copy shall be given to the customer who contracted for the construction of the geotechnical hole.

(d) In the event any equipment is left in a geotechnical hole the professional shall enter this fact on the Geotechnical Hole Report.

(e) A copy of any special authorizations or special standards issued by the Director shall be attached to the Geotechnical Hole Report. See OAR 690-240-140 for information concerning special standards.

(f) The report of geotechnical hole construction shall include, as a minimum, the following:

(A) Owner/Project name (as appropriate);

(B) Started/Completed Date;

(C) Location of hole by county, township, range, section and 1/4, 1/4 section and either tax lot number, or nearest street address. If a global positioning system (GPS) is used, the information must be converted to township, range, section and 1/4, 1/4 section and the latitude and longitude measurements included;

(D) Use of geotechnical hole;

(E) Type of geotechnical hole;

(F) Map showing location of geotechnical hole on site must be attached and shall include an approximate scale and a north arrow;

(G) General hydrologic and geologic information as indicated on the Geotechnical Hole Report;

(H) Such additional information as required by the Department.

(5) Temporary geotechnical holes

(a) Temporary geotechnical holes include but are not limited to: drive points, soil and rock borings, temporary sample holes, permeability test holes and soil vapor holes.

(b) Temporary geotechnical holes shall be abandoned within 72 hours of initial construction.

(c) Any temporary casing that has been installed shall be removed as part of the abandonment.

(6) Cased permanent geotechnical holes

(a) Cased permanent geotechnical holes include but are not limited to: gas migration holes, cathodic protection holes, and vapor extraction holes.

(b) If permanent casing is installed in a geotechnical hole, it shall meet the casing requirements in OAR 690-240-115, OAR 690-240-126, or OAR 690-210-190 and the sealing requirements in OAR 690-240-130.

(7) Uncased permanent geotechnical holes

(a) Uncased permanent geotechnical holes include but are not limited to: pneumatic and electrical piezometers.

(b) Temporary casing can be used during the construction of the uncased permanent geotechnical hole but must be removed prior to completion. Surface casing (5 feet maximum) may be installed for placement of logging or recording equipment.

(8) Slope stability holes

(a) All holes constructed for studying or dewatering landslides or other mass-wasting features shall be considered slope stability holes. Such holes shall be constructed, operated, used, maintained, and abandoned in such a manner as to prevent contamination or waste of groundwater. Slope stability holes in areas of known or reasonably suspected contamination shall be constructed to meet monitoring well standards.

(9) Geotechnical Holes abandonment

(a) Geotechnical holes shall be abandoned so that they do not:

(I) connect water bearing zones or aquifers;

(II) allow water to move vertically with any greater facility than in the undisturbed condition prior to construction of the geotechnical hole; or

(III) allow surface water to enter the hole.

(b) Temporary geotechnical holes constructed to collect a water quality sample shall be abandoned in accordance with OAR 690-240-135.

(10) See OAR 690-240-150 for information on enforcement.

Stat. Auth.: ORS 537.780
Hist.: WRD -1995, f. & cert. ef. 7-1-95

**License Required to Construct Monitoring Wells**

690-240-055 (1) Any person who constructs, alters or abandons monitoring wells shall have a Monitoring Well Constructor License.

(2) If a person advertises services and/or enters into contracts for the construction, alteration or abandonment of monitoring wells for another person, that person shall furnish a $4,000 Well Constructor Bond or Irrevocable Letter of Credit to the Water Resources Commission. This bond or letter of credit shall be separate from the bond or letter of credit required for construction of water supply wells.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Monitoring Well Constructor License Examination**

**690-240-060** The Water Resources Department administers the written examination required under ORS 537.747. The Department schedules the examination on the second Monday during the months of January, April, July and October. Special accommodations may be given to those individuals who cannot attend the regularly scheduled examination dates. Requests shall be considered on a case-by-case basis. The examination tests the applicant's knowledge of:

(1) Oregon laws and administrative rules on the use of groundwater, monitoring well constructor licensing requirements, the construction of monitoring wells, and preparing and filing Monitoring Well Reports.

(2) Hydrogeology, the occurrence and movement of groundwater and contaminants, and the design, construction and development of monitoring wells.

(3) Types, uses and maintenance of drilling tools and equipment, drilling problems and corrective procedures, repair of faulty monitoring wells, sealing of monitoring wells, and safety rules and practices.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Monitoring Well Constructor License, Experience Requirements and Trainee Card**

**690-240-065** (1) License. To qualify for a Monitoring Well Constructor License, a person shall:

(a) Be at least 18 years old;

(b) Pass a written examination;

(c) Have a minimum of one year of experience on a minimum of fifteen monitoring wells during the previous 36 month period. The experience shall be in monitoring well construction, alteration, or abandonment. The following are acceptable as evidence of experience:

(A) Monitoring well reports or rough well logs with applicant's name entered for each of the 15 wells. The name, address and telephone number of the person responsible for the construction of each monitoring well shall be included on each report or log;

(B) Income tax returns showing source of drilling income for a period of time, or worker's compensation account information or the equivalent may be established to satisfy the one year of active construction requirement;

(C) Any other evidence the Director may deem suitable;

(D) A license held in another state shall not substitute for required evidence of experience.

(d) Pay a license fee.

(2) Trainee. If an applicant passes the written monitoring well constructor examination, but cannot meet the experience requirement the Commission will issue a trainee card. To qualify for a monitoring well constructor trainee card, a person must:

(a) Be at least 18 years old;

(b) Pass a written examination; and

(c) Be supervised by a person who holds a Monitoring Well Constructor License.

(3) Special conditions apply to any person who holds a Monitoring Well Constructor Trainee Card:

(a) A trainee may operate a cable tool monitoring well drilling machine without a licensed monitoring well constructor physically present at the well site only if:

(A) The licensed constructor can reach the well site within two hours if so requested by an authorized representative of the Department; and

(B) The licensed constructor has signed the rough drilling log within eight working hours prior to the representative's visit.

(b) A licensed constructor must physically be on the site at all times when a cable tool drilling machine is:

(A) Drilling within a flowing artesian well;

(B) Setting or advancing casing;

(C) Setting liner;
(D) Perforating casing;
(E) Setting well screens;
(F) Placing packers;
(G) Drilling into, through, or below groundwater suspected or known to be contaminated; and
(H) Placing casing seals.
(c) A trainee may operate a non-cable tool monitoring well drilling machine without a licensed monitoring well constructor physically present at the well site only during removal of the drill stem from the monitoring well;
(d) Activities under subsection (3)(c) of this rule shall proceed only if:
(A) The licensed constructor can reach the site within one hour if so requested by an authorized representative of the Department; and
(B) The licensed constructor has signed the rough drilling log within eight working hours prior to the representative's visit.
(e) The watermaster in whose jurisdiction the monitoring well is being constructed has the authority to:
(A) Grant an extension to the time limits stated above when a request, showing good cause, is received from the bonded constructor in advance for each particular well; and
(B) Place additional restrictions on the trainee, including requiring the constructor to be on the site at all times while the drilling machine is operating, when the watermaster determines that either the drilling environment or the knowledge and/or experience of the trainee warrant closer supervision.
(f) For a trainee to operate a monitoring well drilling machine without a licensed monitoring well constructor present, the trainee's card must be endorsed with the name of the bonded monitoring well constructor responsible for the construction of the monitoring well.
(4) Persons who satisfy all requirements of ORS 537.747(3) shall be issued a monitoring well constructor's license in the form of a constructor's card. The responsibilities for securing and issuing a Monitoring Well Constructor license or trainee card are listed in subsections (a) and (b) of this section:
(a) The monitoring well constructor license applicant is responsible for:
(A) Completing an application for new or renewed licenses or trainee card;
(B) Submitting the application to the Water Resources Department along with the required fees; and
(C) Carrying the license or trainee card whenever constructing, altering, or abandoning any monitoring well.
(b) The Water Resources Department is responsible for:
(A) Designing and providing Monitoring Well Constructor license and trainee cards;
(B) Designing and providing application forms for new and renewed licenses and trainee cards;
(C) Processing, approving and endorsing applications for licenses and trainee cards; and

(D) Returning approved and endorsed application forms to applicants with partially completed license or trainee cards.

(5) Bonded monitoring well constructor. For a person to possess a bonded monitoring well constructor's card, the person shall provide to the Department a properly executed monitoring well constructor's bond. The Water Resources Department shall indicate on the constructor's card a bonded classification.

(6) Representatives of the Water Resources Department may ask anyone constructing, altering, or abandoning a monitoring well to present their license or trainee card as proof of eligibility to construct, alter, or abandon monitoring wells in the State of Oregon. Cardholders shall display their cards when requested by Water Resources Department or other agency personnel to whom monitoring well regulation has been delegated.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Terms of Monitoring Well Constructor License and License Fees**

**690-240-070** (1) The Department issues all monitoring well constructor licenses. License fees are established by ORS 537.747. The amount of the fee depends on the term of the license. A penalty applies to late renewals.

(2) The monitoring well constructor must choose whether to license for one or five years. Fees for new licenses and renewal licenses are the same. The fee for a one-year license is $50. The fee for a five-year license is $200. All licenses expire on June 30 of the first or fifth years, respectively.

(3) A $50 penalty applies when a licensee renews a license after the expiration date. There is no charge for a Trainee Card.

(4) Monitoring well constructors who have not made arrangements with the Water Resources Department to pay civil penalties which are assessed against them shall not be issued a license renewal until after arrangements for payment have been agreed to by the Department.

Stat. Auth.: ORS Ch. 537 & 742
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90

**Contracting for Services**

**690-240-075** Only Oregon licensed and bonded monitoring well constructors may advertise services or enter into a contract, either written or oral, to construct, alter, or abandon a monitoring well. Any written bid for a project which includes the construction, alteration or abandonment of a monitoring well must provide:

(1) A bid or estimate for the work associated with monitoring well construction signed by a monitoring well constructor, who is licensed and bonded in the state of Oregon.

(2) A statement by the contractor that the work will be completed in accordance with Oregon Groundwater Law (ORS Chapter 537) and the Rules for the Construction and Maintenance of Monitoring Wells and Other Holes in Oregon (OAR Chapter 690, Division 240).

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Monitoring Well Constructor Bonds or Letters of Credit**

**690-240-080** (1) The Water Resources Department shall accept bonds only from corporations licensed by the Oregon Department of Insurance and Finance to issue fidelity and surety insurance. The Water Resources Department shall accept irrevocable letters of credit only from a commercial bank as described in ORS 706.005.

(2) If the issuing corporation cancels a bond, the corporation shall provide notice of cancellation to the Water Resources Department by registered or certified mail. If the issuing commercial bank cancels a letter of credit, the commercial bank shall provide notice of cancellation to the Water Resources Department by registered or certified mail. The cancellation shall not take effect earlier than the 30th day after the date of mailing in accordance with ORS 742.366.

(3) When issuing a final enforcement order that may place a bond or letter or credit in jeopardy, the Director shall mail a copy of the order to the address of record of the surety company issuing the bond, or the commercial bank issuing the letter of credit.

(4) All monitoring wells shall be constructed under a bond or irrevocable letter of credit. The bond or letter of credit shall cover construction, alteration or abandonment for each well under that bond or letter of credit for a period of three years after the date the well report is filed with the commission, whether or not the bond or letter of credit has been subsequently cancelled.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Monitoring Well Drilling Machines**

**690-240-085** (1) All monitoring well drilling machines being operated shall be plainly marked with the bonded monitoring well constructor's license number or shall have permanently affixed on each side of the vehicle either the name of the bonded constructor or the name of the monitoring well drilling business. Good quality paint or commercial decal numbers shall be used in placing each identification number on the drilling machine. In no case shall the constructor's license number be inscribed with crayon, chalk, marking keel, pencil, or other temporary markings.

(2) In all cases, the license number of the bonded monitoring well constructor shall be removed from the drilling machine immediately upon change of ownership or change of control of the drilling machine.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Monitoring Well Construction Notice Required (Start Card)**

**690-240-090** (1) Each bonded monitoring well constructor licensed to operate in the state of Oregon shall provide notice as required in ORS 537.762 before commencing the construction, alteration, conversion or abandonment of any monitoring well. The notice card shall contain the name and mailing address of the customer for which work is to be performed, the street address and the approximate location of the monitoring well and, in the case of new construction, conversion or alteration, the proposed depth, diameter, and the purpose or use.

(2) All notices of new or converted monitoring wells constructed by a licensed and bonded monitoring well constructor shall be submitted with a $75 notice fee.

(3) Forms for making these reports and submitting fees shall be furnished by the Water Resources Department.

(4) Each notice of a newly constructed or converted monitoring well requiring a fee shall be mailed or delivered to the Water Resources Department in Salem no later than the day construction or conversion is commenced.

(5) In addition to the notice required under section (4) of this rule, the constructor shall provide the "Watermaster" copy of the start card to the office of the district watermaster within which the water supply well is being constructed, altered, converted or abandoned no later than the day work begins, using one of the following options:

(a) By regular mail no later than three calendar days (72 hours) prior to commencement of work; or

(b) By hand delivery, during regular office hours, no later than the day work is commenced; or

(c) By facsimile transmission (FAX) no later than the day work is commenced. If this method is used, the original "Watermaster" copy of the start card shall also be mailed or delivered to the office of the district watermaster no later than the day work is commenced.

NOTE: District Watermaster office fax numbers are listed in **Table VI**. Watermaster district boundaries are shown in **Figure 22**.

The Director or watermaster may provide an alternate means of notification. If an alternative means of notification is used, the notice card shall be mailed or delivered to the watermaster within one week of beginning work on the monitoring well. A monitoring well constructor whose license has been restricted by order shall provide notice as stipulated in the order.

(6) Once received by the Department, the notice card shall be confidential for a period of one year after it is received or until the monitoring well report required by OAR 690-240-095 is received whichever is shorter.

(7) The notice card may be used in an administrative enforcement action at any time, including the period of confidentiality. Once the card is used for enforcement reasons, it is no longer confidential.

[ED. NOTE: The Table and Figure referenced in this rule are not printed in the OAR Compilation. Copies are available from the Water Resources Department.]

Stat. Auth.: ORS 536.090 & 537.505 - 537.795

Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94; WRD -1995, f. & cert, ef, 7-1-95

**Monitoring Well Report Required (Monitoring Well Log)**

**690-240-095** (1) A monitoring well report (monitoring well log) shall be prepared for each monitoring well constructed, altered, converted, or abandoned including unsuccessful monitoring wells. The log shall be certified as correct by signature of the monitoring well constructor constructing the monitoring well. The completed log shall also be certified by the bonded monitoring well constructor responsible for construction of the monitoring well. A monitoring well report must be submitted by each constructor (if more than one) of each bonded constructor (if drilling responsibility is shifted to a different bonded constructor), showing the work performed by each constructor or bonded constructor.

(2) The log shall be prepared in quadruplicate on forms furnished or previously approved in writing by the Water Resources Department. The original and first copy shall be furnished to the Director, the second copy shall be retained by the monitoring well constructor, and the third copy shall be given to the customer who contracted for the construction of the monitoring well.

(3) The bonded monitoring well constructor shall file the monitoring well log with the Director within 30 day after the completion of the construction, abandonment, conversion, or alteration of the monitoring well.

(4) The trainee or monitoring well constructor operating the monitoring well drilling machine shall maintain a rough log of all geologic strata encountered and all materials used in the construction of the monitoring well. This log shall be available for inspection by the Watermaster or an authorized agent of the Water Resources Department or other delegated agency representative at any time before the Monitoring Well Report is received by the Department. The rough drilling log shall be in handwritten or electronic form, or a voice recording.

(5) In the event a constructor leaves any equipment in a monitoring well the constructor shall enter this fact on the Monitoring Well Report.

(6) A copy of any special authorizations or special standards issued by the Director shall be attached to the Monitoring Well Report.

(7) The report of monitoring well construction required in section (1) of this rule shall be recorded on a form provided or previously approved in writing by the Department. The form shall include, as a minimum, the following:

(a) Owner/Project name (as appropriate);

(b) Started/Completed date;

(c) Location of well by county, township, range, section and 1/4, 1/4 section, and either tax lot number, or street address. If a global positioning system (GPS) is used, the information must be converted to township, range, section and 1/4, 1/4 section and the latitude and longitude measurements included;

(d) Start card number (Well identification number);

(e) Use of well;

(f) Type of work;

(g) Type and amount of sealant used and measured weight of the grout slurry as required in OAR 690-240-130(1)(g);

(h) Map showing location of monitoring well on site, must be attached and shall include an approximate scale and a north arrow;

(i) Such additional information as required by the Department.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795

Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Monitoring Well Construction: General**

**690-240-100** (1) Monitoring well components, including well screens, casings and annular sealant should be selected based on known site characteristics to ensure the well will last for the duration of the monitoring program.

(2) No monitoring well shall be used for domestic, industrial, commercial, or agricultural purposes unless it meets the minimum construction standards for water supply wells, OAR 690-200 to 690-230.

(3) No completed monitoring well shall interconnect aquifers, including low yielding aquifers.

(4) The start card number shall be used as the well identification number and shall be permanently attached, stamped or engraved on the outer well casing or permanent protective well cover, not on a removable cap.

(5) No monitoring well shall be constructed as a multiple completion well without prior special standard approval as specified in OAR 690-240-140.

(6) Remediation and horizontal wells shall be constructed with special standard approval only as specified in OAR 690-240-140.

(7) The borehole diameter shall be at least four inches larger than the nominal casing diameter except as noted in 690-240-137 concerning piezometers. If the monitoring well is constructed using a hollow stem auger drilling machine, the inside diameter of the auger must be at least four inches larger than the nominal diameter of the casing to be installed except as noted in 690-240-137 concerning piezometers.

(8) Piezometers constructed in areas of known or reasonably suspected contamination or constructed for the purpose of investigating water quality conditions, shall be constructed to meet current monitoring well rules. See OAR 690-240-137 for special construction standards.

(9) Materials which foster or promote undesirable organic growth or have the potential to degrade water quality shall not be employed in the construction of the monitoring well.

(10) After completion, the landowner is responsible for maintaining the well in an approved condition. If the well is damaged, the well protection system and casing shall be restored as prescribed by these rules. If the well is damaged beyond repair, the well shall be properly abandoned in accordance with OAR 690-240-135.

(11) Any deviation from these rules requires special standard approval as specified under OAR 690-240-140.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795

Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94; WRD -1995, f. & cert. ef. 7-1-95

**Well Protection**

**690-240-110** (1) Every monitoring well shall be capped and protected using one of the following methods:

(a) If the well is cased with metal and completed above the ground surface, a lockable cap shall be attached to the top of the casing;

(b) If the well is not cased with metal and completed above the ground surface, a metal protective casing shall be installed around the well. The protective casing shall extend at least six inches above the top of the well casing and at least two feet into the ground. A lockable cap shall be attached to the top of the protective casing; and

(c) If the well is completed below ground surface, a lockable cap shall be attached to the top of the casing. A protective cover, level with the ground surface, shall be installed with a waterproof seal to prevent the inflow of surface water. The cover must be designed to withstand the maximum expected loadings.

(2) All wells completed above ground shall have a minimum casing height of one foot above finished grade and shall be protected from damage by three metal posts at least three inches in diameter, set in and filled with concrete, shall be installed in a triangular array around the casing and at least two feet from it. Each post shall extend at least three feet above and below the ground surface.

(3) If the well is to be protected by other surface protection methods, the bonded constructor shall obtain special standards from the Department as described in OAR 690-240-140.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795

Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Casing**

**690-240-115** (1) The constructor shall consider the following factors when selecting monitoring well casing:

(a) The casing installed shall not be readily reactive with the subsurface environment according to best available knowledge;

(b) The casing installed shall not adversely affect or interfere with the chemical, physical, radiological, or biological constituents of interest according to best available knowledge;

(c) The collapse strength of all casing used in monitoring well construction must be great enough to withstand the pressure exerted by the annular seal during seal placement, including heat of hydration.

(2) All monitoring well casing shall conform to at least 304 or 316 stainless steel, polytetrafluoroethylene PTFE, Schedule 40 PVC casing, or other casing materials rated and approved by ASTM for monitoring well construction.

(3) All casing installed shall be in new or like new condition, being free of pits or breaks, and shall be cleaned of foreign materials and contaminants prior to installation.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Additional Standards for Artesian Monitoring Wells**

**690-240-118** (1) Monitoring wells penetrating into an artesian aquifer shall have an upper drillhole at least four inches greater in diameter than the nominal diameter of the permanent well casing except as noted in 690-240-137 concerning piezometers. Watertight unperforated casing shall extend and be sealed, according to OAR 690-240-130, at least five feet into the confining formation immediately overlying the artesian water-bearing zone.

(2) If an artesian monitoring well flows at land surface, the well shall be equipped with a control valve and a watertight mechanical cap, so that all flow of water from the well can be completely stopped.

(3) All flowing artesian monitoring wells shall be equipped with a pressure gauge placed on a dead-end line. A petcock valve shall be placed between the gauge and well casing.

(4) All flowing artesian monitoring wells shall be tested for artesian shut-in pressure in pounds per square inch and rate of flow in cubic feet per second, or gallons per minute, under free discharge conditions. This data shall be reported on the well report.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94;
WRD -1995, f. & cert. ef. 7-1-95

**Cleaning**

**690-240-120** (1) All drill cuttings and fluids from drilling, cleaning and development shall be properly managed during construction, alteration or abandonment to protect groundwater from contamination.

(2) The landowner of the landowner's agent is responsible for management of drill cuttings and fluids left on site after well construction, alteration or abandonment is completed.

(3) To prevent cross-contamination between wells, the drill rig and all drilling equipment shall be cleaned before and after well construction by one of the following methods:

(a) Detergent washing and rinsing with potable water;
(b) High pressure hot water cleaning;
(c) Steam cleaning; or
(d) Other appropriate methods as approved by the Water Resources Department.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Well Screen, Filter Pack, and Development**

**690-240-125** [WRD 14-1990, f. & cert. ef. 8-9-90;

Repcaled by WRD 8-1993,
f. 12-14-93, cert. ef. 1-1-94]

**Monitoring Well Screen and Filter Pack**

**690-240-126** (1) The screen and filter pack, when properly designed and installed, allows a water quality sample to be collected that is representative of water in the formation.

(2) The well screen shall:

(a) Be commercially fabricated and constructed of material that is not knowingly readily reactive with the subsurface environment;

(b) Have a collapse strength great enough to withstand the pressures exerted during construction and development of the monitoring well;

(c) Be in new or like new condition, being free of pits or breaks;

(d) Be cleaned using methods outlined in OAR 690-240-120(3); and

(e) Be centered in the borehole.

(3) The use of lead packers with the screen sections is prohibited.

(4) A bottom cap or end plug shall be attached to each well casing.

(5) The filter pack shall:

(a) Consist of clean, chemically inert, well rounded material;

(b) Not extend more than three feet above the top or one foot below the bottom of the well screen; and

(c) Be placed in such a manner as to ensure placement opposite the well screen without bridging or size segregation.

(6) The filter pack seal shall consist of:

(a) A two foot thick layer of fine grained sand above the filter pack if a grout or grout slurry is used; and/or .

(b) A minimum of a three foot thick layer of dry bentonite. If a grout slurry is to be used as the annular seal, the bentonite shall be adequately hydrated prior to placement of the annular seal to prevent grout infiltration into the filter pack.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Well Seals**

**690-240-130** Proper seal placement is essential to minimize the potential for movement of water and contaminants from the surface, or other waterbearing zones, into the monitoring well. Appropriate sealing materials may vary depending on the site characteristics and the substances being monitored. Well seals shall consist of a physically and chemically stable hydrated grout slurry composed of either neat cement, sodium bentonite, or a cement-bentonite mixture containing no more than five percent bentonite by dry weight; or of sodium bentonite granules, pellets or chips placed in an unhydrated state, and subsequently hydrated downhole:

(1) Grout slurries shall be mixed in the proper proportions and placed in the bore hole in such a manner as to prevent excessive shrinkage, water loss, chemical breakdown, bridging or invasion into the filter pack. The following procedures shall be utilized if a grout slurry is to be the sealing material:

(a) Neat cement used for grouting shall be American Petroleum Institute Class A or B, or ASTM C-150 Type I or II neat cement with no additives, mixed in the proportion of 5.2 gallons of water per standard 94 pound sack and having a mud weight of approximately 15.6 pounds per gallon;

(b) Bentonite used as a slurry for grouting shall be a high solids granular sodium bentonite mixed according to the manufacturer's directions, having a minimum mud weight of at least 9.5 pounds per gallon, and containing at least 20 percent solids. Mixing methods should be used which prevent the slurry from being excessively lumpy;

(c) When a mixture of cement and bentonite is used as a slurry for grouting, the cement shall be American Petroleum Institute Class A or B, or ASTM C-150 Type I or II neat cement. The slurry shall be no more than five percent, by dry weight of cement, sodium bentonite gel powder (3.75 pounds of bentonite per sack of cement). For each pound of bentonite added, up to an additional 0.7 gallons of water shall be added to the original neat cement mix. The water and bentonite shall be mixed first, and the cement added to the bentonite slurry. The cement-bentonite mixture shall have a mud weight of approximately 14.1 pounds per gallon;

(d) Prior to placing grout in the annular space, the grout slurry weight shall be measured by ASTM Test Method D-4380-84. Grout slurry shall not be placed in the annular space until the grout slurry weight is within ten percent of the weight specified in subsection (1)(a), (b) or (c) of this rule;

(e) Grout slurries shall be placed from the bottom of the annular space upward in such a manner as to completely fill the sealing interval. Grout slurries shall begin at the top of the filter pack seal overlying the filter pack and extend to the bottom of the surface seal. If the grout slurry is intended to serve as the surface seal, it shall extend to land surface;

(f) Grout slurries shall be placed through a side discharge tremie pipe by gravity flow or by pumping to ensure positive placement without bridging or wash-out of previously placed annular materials. The discharge end of the tremie pipe shall remain submerged in the grout throughout the sealing operation;

(g) Prior to discontinuing placement of grout in the annular space, grout slurry returns from the annular space shall be measured by ASTM Test Method D-4380-84. Placement of grout slurry in the annular space shall continue until the returns are within ten percent of the weight specified in subsection (1)(a), (b) or (c) of this rule.

(2) Bentonite used in an unhydrated form shall be sodium bentonite granules, pellets or chips. The following procedures shall be followed if dry bentonite will be used for sealing:

(a) Dry, poured bentonite seals shall only be used if the depth to the bottom of the seal is less than fifty feet and the standing water column in the bore hole or annular space is less than twenty-five feet deep at the time of seal placement. Only sodium bentonite chips or pellets shall be used below the water level in the sealing interval;

(b) Pour rate shall be three minutes or slower per 50 pound sack in the water-filled portion of the annulus;

(c) A sounding or tamping tool shall be run in the bore hole or annular space during pouring to measure fill-up rate and to break up possible bridges or cake formation;

(d) In a dry sealing interval, bentonite shall be installed in individual lifts with a maximum thickness of two feet. Hydrate the dry bentonite in each lift with potable water to ensure activation.

(3) The estimated and actual volume of sealing material used shall be calculated and reported to the Department.

[**Publications:** The publication(s) referred to or incorporated by reference in this rule are available from the Water Resources Department.]

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Monitoring Well Development**

**690-240-131** (1) The monitoring well development shall not affect the integrity of the casing or seal. Monitoring well development shall not occur prior to 24 hours after annular seal placement if cement grout or a bentonite grout slurry is used, or 12 hours after annular seal placement if dry bentonite is used.

(2) The monitoring well development should:

(a) Remove any water or drilling fluid introduced into the well during drilling;

(b) Stabilize the filter pack and formation materials opposite the well screen;

(c) Minimize the amount of fine-grained sediment entering the well; and

(d) Maximize well efficiency.

(3) As long as the well is not altered, the monitoring well development may be performed by other than a licensed and bonded monitoring well contractor.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD8-1993, f. 12-14-93, cert. ef. 1-1-94

**Completion of Monitoring Wells**

**690-240-132** (1) A monitoring well constructor shall not remove the drilling machine from a monitoring well site, unless it is immediately replaced by another monitoring well drilling machine in operating condition, prior to completion or abandonment of the well in compliance with administrative rules OAR 690-240-005 through 690-240-140 and installation of a watertight seal, or threaded or welded cap on the well.

(2) Installation of the protective metal posts does not require a monitoring well constructor's license, providing the surface seal is not disturbed.

(3) Installation of the protective posts described in OAR 690-240-110 shall be completed within one week of placement of the seal.

(4) If installation of the protective measures as described in OAR 690-240-110 are not completed within 24 hours of seal placement, the monitoring well shall be marked using one of the following methods:

(a) Placement of three stakes around the well connected with fluorescent survey tape;

(b) Placement of construction barricades around the well; or

(C) Use of other protective measures as approved by the Water Resources Department.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Abandonment of Monitoring Wells**

**690-240-135** Proper abandonment of monitoring wells will prevent both vertical movement of water within the well bore and infiltration of surface water into the well:

(1) In areas where groundwater contamination has been identified, abandonment shall require the borehole to be completely redrilled to a minimum of the original diameter. All casing, screen, annular sealing material, drill cuttings, debris, and filter pack material shall be removed prior to sealing.

(2) In areas where groundwater contamination has not been identified, if it can be verified that the monitoring well was constructed in accordance with these rules, it shall be abandoned by filling the well from the bottom up with an approved sealant as described in OAR 690-240-130. The casing shall then be removed below grade, as compatible with local land use. The following are acceptable methods of original well construction verification:

(a) A well report in accordance with OAR 690-240-095;

(b) Well construction information submitted to the Oregon Department of Environmental Quality;

(c) Information obtained through down-hole geophysical logging; or

(d) Other information as approved by the Water Resources Department.

(3) In areas where groundwater contamination is not present, if the monitoring well construction cannot be verified by means listed in section (2) of this rule, the well shall be abandoned according to section (1) of this rule.

(4) Grout slurries shall be placed from the bottom up by a tremie tube to avoid segregation or dilution of the sealant. The discharge end of the tremie tube shall be submerged in the grout to avoid breaking the seal while filling the annular space. Grout slurries used to abandon monitoring wells shall conform to the requirements of OAR 690-240-130.

(5) The abandonment procedure shall be recorded on a form provided by or previously approved in writing by the Department. The form shall include, as a minimum, the following:

(a) Owner/Project name (as appropriate);

(b) Started/Completed date;

(c) Location of well by county, township, range, section and 1/4, 1/4 section and either tax lot or street address. If a global positioning system is used, the information must be converted to township, range, section and 1/4, 1/4 section and the latitude and longitude measurements included;

(d) Start card number (Well identification number);

(e) Type of work;

(f) Method of abandonment;

(g) Type and amount of sealant used and measured weight of the grout slurry as required in OAR 690-240-130(1)(g);

(h) A map showing location of the monitoring well on site must be attached and shall include an approximate scale and north arrow;

(i) Such additional information as required by the department.

(6) The well abandonment shall be recorded and reported to the Department within thirty days of abandonment.

(7) When abandoning artesian monitoring wells, in addition to sections (1) - (6) of this rule, the flow shall be confined or restricted by cement grout applied under pressure, or by the use of a suitable well packer, or a plug placed at the bottom of the confining formation immediately above the artesian waterbearing zone. An approved sealant shall be used to fill the well to land surface as specified in OAR 690-240-130.

(8) Monitoring wells that were constructed under special standards will require the abandonment method to be approved by the Department.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Piezometers**

**690-240-137** (1) If a piezometer is constructed in an area of known or reasonably suspected contamination or if the purpose of the investigation is to assess water quality conditions, it shall be constructed to meet current monitoring well rules.
NOTE: The Water Resources Department and the Department of Environmental Quality have information sources to use in determining if contaminants are present. Customary drilling practice as conducted by licensed professional must be included as part of the appropriate inquiry to determine if contaminants are present or reasonably suspected.

(2) Piezometers shall be constructed to meet current monitoring well rules except for the following:

(a) Borehole size with depth requirements.

(I) For piezometers with a sealing depth less than 50 feet deep, the borehole diameter shall be at least two and one half inches (2.5") larger than the nominal casing diameter. If the piezometer is constructed using a hollow stem auger drilling machine, the inside diameter of the auger must be at least 2.5 inches larger than the nominal diameter of the casing to be installed.

(II) For piezometers with a sealing depth greater than 50 feet deep, the borehole diameter shall be at least three inches larger than the nominal casing diameter. If the piezometer is constructed using a hollow stem auger drilling machine, the inside diameter of the auger must be at least 3 inches larger than the nominal diameter of the casing to be installed.

(b) Surface Completion.

(I) If the piezometer is completed above ground, it shall have a minimum casing height of one foot above finished grade and a lockable cap shall be attached to the top of the casing. If vulnerable to damage, the piezometer shall be protected as described in OAR 690-240-110.

(II) If the piezometer is completed below ground surface, a cap shall be attached to the top of the casing. A protective cover, level with the ground surface, shall be installed with a waterproof seal to prevent the inflow of surface water. The cover must be designed to withstand the maximum expected loadings.

(c) If an artesian piezometer flows at land surface, it shall be equipped with a control valve or a watertight mechanical cap, so that all flow of water from the well can be completely stopped. Flowing artesian piezometers are not required to be equipped with a pressure gauge placed on a dead–end line or a petcock valve.

(d) The special cleaning and drill cutting storage requirements in OAR 690-240-120 shall not apply to piezometers because they are not constructed in areas of known or reasonably suspected contamination. However, all equipment and materials used in the construction of a piezometer shall be free of foreign materials and contaminants prior to entry into the well.

(e) Use of commercially fabricated screens are not required for piezometers. The screens installed shall be in new or like new condition, being free of pits or breaks, and shall be free of foreign materials and contaminants prior to installation.

(f) The filter pack and filter pack seal requirements of OAR 690-240-126(5) & (6) shall not apply to piezometers because they are not constructed in areas of known or reasonably suspected contamination.

Stat. Auth.: ORS 537.780
Hist.: WRD -1995, f. & cert. ef. 7-1-95

**Abandonment of Temporary Monitoring Wells**

**690-240-138** [WRD 14-1990, f. & cert. ef. 8-9-90;
Repealed by WRD 8-1993,
f. 12-14-93, cert. ef. 1-1-94]

**Special Standards**

**690-240-140** (1) Specific site conditions may require design, construction, and abandonment procedures to adapt to the existing local geologic and groundwater conditions to fully utilize every natural protection to the state's groundwater. Specific site conditions may require different design, construction, or abandonment standards than required by the Monitoring Well or Geotechnical Hole construction rules. Alternate technologies not addressed in these rules may also exist which could be utilized in the construction or abandonment of a monitoring well or geotechnical hole. The constructor must request in writing, and receive, written approval from the Director to use methods or materials that do not meet monitoring well construction standards prior to completion or abandonment of the well or hole. The proposed methods or materials shall prevent or eliminate contamination or waste or groundwater or loss of artesian pressure.

(2) The written request shall include:

(a) The purpose of well or hole construction or abandonment;

(b) Location of well or hole by township, range and section;

(c) Name and address of the project site;

(d) The distance to the nearest well or hole and septic drain field;

(e) The reasons that conformance to the rules and regulations for monitoring wells or geotechnical holes cannot be met;

(f) A diagram showing the proposed monitoring well or geotechnical holes design, construction, or abandonment; and

(g) The start/card well identification number for monitoring wells.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94; WRD -1995, f. & cert. ef. 7-1-95

**Evidence of Failure**

**690-240-145** Evidence of failure to comply with the requirements of OAR 690-240, special standards as described in OAR 690-240-140, or those standards of a state agency to which the Director has delegated direct responsibility under OAR 690-240-015 shall include, but not be limited to, the following:

(1) A specific standard to which the Director has agreed is violated.

(2) Evidence that contamination is occurring as a result of a monitoring well or other hole construction.

(3) Evidence that wasteful use of groundwater is occurring.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Investigation of Alleged Violations**

**690-240-150** The Water Resources Director, upon the Director's own initiative, or upon complaint alleging violation of statutes, standards or rules governing licensing, construction, alteration, or abandonment of monitoring wells, geotechnical wells or other holes may cause an investigation to determine whether a violation has occurred. If the investigation indicates that a violation has occurred, the Director shall notify the persons believed responsible for the violation including but not limited to:

(1) Any monitoring well constructor involved.

(2) The landowner, if the violation involves construction, alteration, operation or abandonment of a well.

(3) The agency that has been delegated authority over a particular class of wells; and/or

(4) Any registered geologist or civil engineer in construction, alteration, or abandonment of a geotechnical hole.

Stat. Auth.: ORS 536.090 & 537.505 - 537.7952
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94; WRD -1995, f. & cert. ef. 7-1-95

**Enforcement Actions**

**690-240-155** (1) If, after notice and opportunity for hearing under ORS 183.310 to 183.550 the Director determines that one or more violations have occurred, the Director may impose one or more of the following:

(a) Provide a specified time for remedy;

(b) Assess a civil penalty in accordance with the schedule of civil penalties in OAR 690-240-180;

(c) Suspend, revoke, or refuse to renew the licenses when one or more persons responsible for the violation hold a monitoring well constructor's license;

(d) Require that a person whose license has been refused renewal pass the monitoring well constructor test before a new license is issued;

(e) Impose any reasonable conditions on the monitoring well constructor's license to insure correction of the violation and future compliance with the law. These conditions may include but are not limited to:

(A)Fulfilling any outstanding obligations which are the result of administrative action before the constructor can offer any services or construct, alter, convert, or abandon any monitoring well;

(B) Requiring additional advance notice to be given to the watermaster of construction, alteration or abandonment of any monitoring well;

(C) Requiring a seal placement notice be given to the watermaster 24 hours in advance of placing the seal; or

(D) Any other conditions the Director feels are appropriate.

(f) Order the landowner to repair or meet other conditions on use of the well, order discontinuance of the use or order proper abandonment pursuant to ORS 537.775;

(g) Make demand on the monitoring well constructor's bond. This may occur only if the Director has given the notice required in OAR 690-240-150 to the persons responsible for the violation within three years after the date the monitoring well report is filed with the Department. If no monitoring well report has been filed, the three year limitation shall not apply until such time as a well report is filed; or

(h) Take any other action authorized by law.

(2) An order may specify a schedule of escalating or cumulative sanctions to be assessed on specified dates until the violation has been satisfactorily corrected.

(3) Any monitoring well constructor whose license is suspended or revoked shall not contract for monitoring well construction services or operate monitoring well drilling machines in the State of Oregon during the suspension or revocation period.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795

Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

**Multiple Violations and Consolidation of Proceedings**

**690-240-160** In cases of multiple or continuing violations, each occurrence of substantially the same activity and each day's continuance of a violation after the responsible party has been notified is a separate and distinct violation.

Administrative enforcement proceedings for multiple violations may be consolidated into a single proceeding.

Stat. Auth.: ORS Ch. 537 & 742
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90

**Factors Affecting Selection of Type and Degree of Enforcement**

**690-240-165** In selecting the appropriate type and degree of enforcement, the Director may consider the following factors:

(1) Whether the constructor's file demonstrates a pattern of prior similar violations.

(2) Whether the respondent has cooperated in attempting correction of any violation in a timely fashion.

(3) The gravity and magnitude of the violation including whether there is an immediate or long-term threat to human health or the groundwater resource.

(4) Whether the damage to the groundwater resource is reversible.

(5) Whether the violation in the instances cited was repeated or continuous.

(6) Whether a cause of the violation was an unavoidable accident.

(7) The opportunity and degree of difficulty to correct the violation.

(8) The cost to the Department except for travel costs, after the initial field investigation, attempting to gain voluntary compliance of the cited violation. The costs may be considered until the Department receives respondent's answer to the written notice and opportunity for hearing.

(9) Any other relevant factor.

Stat. Auth.: ORS Ch. 537 & 742
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90

**Change in Enforcement Status**

**690-240-170** (1) In the interest of achieving compliance, the Director at any time may reevaluate the status of the violations and take appropriate action, including reduction of the enforcement level or remission of all or part of any civil penalties assessed.

(2) The Director may terminate proceedings against a monitoring well constructor if the constructor provides acceptable evidence that:

(a) The landowner does not permit the constructor to be present at any inspection made by the Director; or

(b) That the constructor is capable of complying with recommendations made by the Director, but the landowner does not permit the constructor to comply. In such cases, the landowner is responsible for bringing the well into compliance pursuant to ORS 537.535, and if the landowner was not a party to the original enforcement proceeding the Director may initiate a proceeding to ensure that the landowner does so.

Stat. Auth.: ORS Ch. 537 & 742
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90

**Assessment of Civil Penalties**

**690-240-175** Under OAR 690-240-155(1) the Director may at any time select the most appropriate enforcement tool, including assessment of civil penalties, to gain compliance. However, the Director shall not impose a civil penalty if compliance has been achieved in another manner prior to final decision in the proceeding.

Stat. Auth.: ORS Ch. 537 & 742
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90

**Schedule of Civil Penalties**

**690-240-180** (1) The amount of civil penalty shall be determined consistent with the following schedule:

(a)Not less than $25 nor more than $250 for each occurrence defined in the rules as a minor violation;

(b) Not less than $50 nor more than $1,000 for each occurrence defined in the rules as a major violation;

(c) First occurrence, in a calendar year, of a missing or late start card fee shall be $150;

(d) Second occurrence, in a calendar year, of a missing or late start card fee shall be $250; and

(e) Third occurrence, and all subsequent occurrences, in a calendar year, of a missing or late start card fee shall be $250 and may include suspension of the monitoring well constructors license, and any other action authorized by law.

(2) For purposes of assessing a civil penalty, the start card fee referred to in subsections (1)(c), (d), and (e) of this rule shall not be considered late if it is received in the Salem office of the Water Resources Department within five days of the receipt of the start card, provided the start card is submitted in a timely manner as defined in OAR 690-240-090.

(3) **Table 1** located at the end of this Division, lists minor violations of well construction standards. All other violations are declared to be major.

Stat. Auth.: ORS 536.090 & 537.505 - 537.795
Hist.: WRD 14-1990, f. & cert. ef. 8-9-90; WRD 8-1993, f. 12-14-93, cert. ef. 1-1-94

TABLE I
(OAR 690-225 and 240

| Oregon Statute Reference | Value Assignment | Title |
|---|---|---|
| ORS 537.762 | Minor | REPORT OF COMMENCEMENT OF CONSTRUCTION |
| ORS 537.765 | Minor | WELL REPORT |

| Administrative Rule Reference | Value Assignment | Title |
|---|---|---|
| 690-205-060 | Minor | WATER SUPPLY WELL DRILLING MACHINES |
| 690-205-080 | Minor | WELL REPORT REQUIRED |
| 690-210-270 | Minor | PITLESS WELL ADAPTERS AND UNITS WELL REPORT |
| 690-210-280 | Minor | ACCESS PORTS AND AIRLINES |
| 690-210-290 | Minor | LINER PIPE |
| 690-210-370 | Minor | WELL TEST |
| 690-230-050 | Minor | DESCRIPTION OF PROPOSED WELL USE |
| 690-230-060 | Minor | IDENTIFICATION OF INTENDED WELL USE |
| 690-230-080 | Minor | PUMP TESTING OF LOW-GEOTHERMAL INJECTION WELLS |
| 690-230-090 | Minor | WATER TEMPERATURE MEASUREMENT |
| 690-240-085 | Minor | MONITORING WELL DRILLING MACHINES |
| 690-240-095 | Minor | MONITORING WELL REPORT REQUIRED |
| 690-240-100 (4) | Minor | MONITORING WELL CONSTRUCTION |

## TABLE VI
## (OAR 690-200, 205 and 240)

### Watermaster Office Fax Numbers

| District | Watermaster | Fax Number |
|---|---|---|
| 01 | St. Helens | 397–7257 |
| 02 | Eugene | 687–3804 |
| 03 | The Dalles | 296–3574 |
| 04 | Canyon City | 575–2248 |
| 05 | Pendleton | 278–0287 |
| 06 | La Grande | 963–9637 |
| 08 | Baker City | 523–8201 |
| 09 | Vale | 473–5130 |
| 10 | Burns | 573–8311 |
| 11 | Bend | 388-5101 |
| 12 | Lakeview | 947–6015 |
| 14 | Grants Pass | 474–5389 |
| 15 | Roseburg | 440–6264 |
| 16 | Salem | 378–6203 |
| 17 | Klamath Falls | 885–3324 |
| 18 | Hillsboro | 693–4887 |
| 19 | Coquille | 396–6233 |

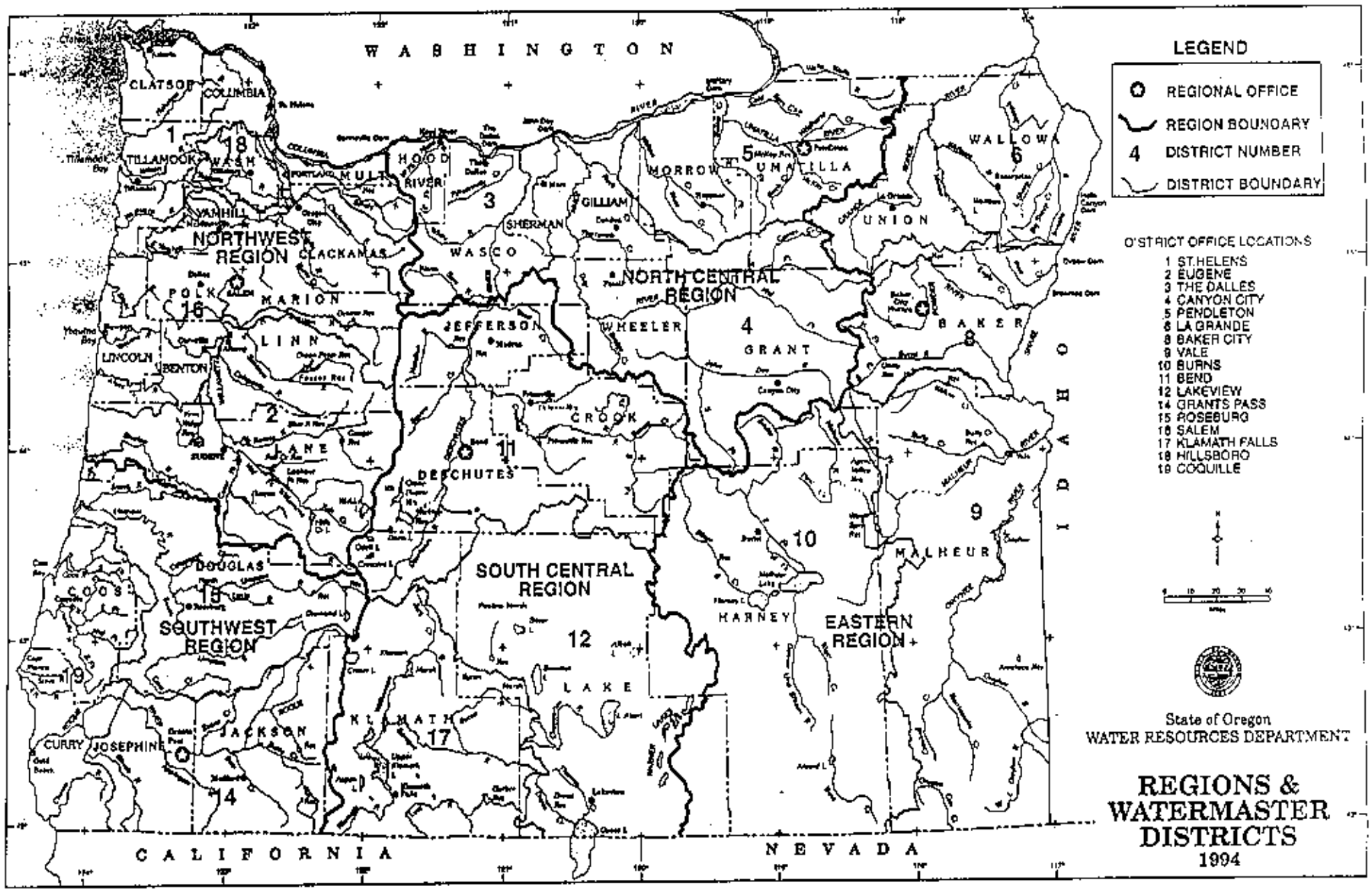
Notes:

1. Watermaster fax numbers are subject to change.

2. A current version of this table is available at the Water Resources Department's Salem office.

3. See Figure 22 for a map of Watermaster Districts.

Figure 22


WASHINGTON
CALIFORNIA
NEVADA
IDAHO
NORTHWEST REGION
NORTH CENTRAL REGION
SOUTH CENTRAL REGION
SOUTHWEST REGION
EASTERN REGION
CLATSOP
COLUMBIA
TILLAMOOK
WASH
MULT
HOOD RIVER
SHERMAN
GILLIAM
MORROW
UMATILLA
WALLOWA
UNION
WASCO
YAMHILL
CLACKAMAS
POLK
MARION
LINN
LINCOLN
BENTON
JEFFERSON
WHEELER
GRANT
BAKER
CROOK
JANE
DESCHUTES
DOUGLAS
COOS
CURRY
JOSEPHINE
JACKSON
KLAMATH
LAKE
HARNEY
MALHEUR
LEGEND
REGIONAL OFFICE
REGION BOUNDARY
4 DISTRICT NUMBER
DISTRICT BOUNDARY
DISTRICT OFFICE LOCATIONS
1 ST.HELENS
2 EUGENE
3 THE DALLES
4 CANYON CITY
5 PENDLETON
6 LA GRANDE
8 BAKER CITY
9 VALE
10 BURNS
11 BEND
12 LAKEVIEW
14 GRANTS PASS
15 ROSEBURG
16 SALEM
17 KLAMATH FALLS
18 HILLSBORO
19 COQUILLE
State of Oregon
WATER RESOURCES DEPARTMENT
REGIONS & WATERMASTER DISTRICTS
1994