4-0900-6816-1

STATE OF MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS

FOR THE MINNESOTA DEPARTMENT OF HEALTH

In the Matter of Proposed Rules of the Minnesota Department of Health Relating to Wells and Borings, Minnesota Rules, parts 4625.3901, 4630.0600, 4630.1801, 4717.7000 and Chapter 4725.

REPORT OF THE ADMINISTRATIVE LAW JUDGE

The above-entitled matter came on for hearing before Administrative Law Judge Peter C. Erickson at 9:00 a.m. on Thursday, October 1, 1992, at the Minnesota Department of Health, 717 Southeast Delaware Street, Chesley Room, Minneapolis, Minnesota 55440. This report is part of a rule hearing proceeding held pursuant to Minn. Stat. §§ 14.131 - 14.20 to determine whether the Agency has fulfilled all relevant substantive and procedural requirements of law, whether the proposed rules, as modified, are substantially different from those originally proposed.

Maria Christu, Special Assistant Attorney General, 525 Park Street, St. Paul, Minnesota 55103, appeared on behalf of the Minnesota Department of Health (DOH). Appearing and testifying in support of the proposed rules on behalf of the Department of Health were: Dan Wilson, well management unit supervisor; Ron Thompson, well management unit hydrologist; and Jane Nelson, Rules Coordinator.

This Report must be available for review to all affected individuals upon request for at least five working days before the agency takes any further action on the rule(s). The agency may then adopt a final rule or modify or withdraw its proposed rule. If the Commissioner makes changes in the rule other than those recommended in this report, she must submit the rule with the complete hearing record to the Chief Administrative Law Judge for a review of the changes prior to final adoption. Upon adoption of a final rule, the agency must submit it to the Revisor of Statutes for a review of the form of the rule. The agency must also give notice to all persons who requested to be informed when the rule is adopted and filed with the Secretary of State.

Based upon all the testimony, exhibits, and written comments, the Administrative Law Judge makes the following:

FINDINGS OF FACT

Procedural Requirements

1. On July 29, 1992, the Department filed the following documents with the Chief Administrative Law Judge:

(a) A copy of the proposed rules certified by the Revisor of Statutes.

(b) The Order for Hearing.

(c) The Notice of Hearing proposed to be issued.

(d) A Statement of the number of persons expected to attend the hearing and estimated length of the Agency's presentation.

(e) The Statement of Need and Reasonableness.

The hearing on this matter was scheduled to be held on October 1 and 2, 1992.

- 2. On August 13, 1992, the Department mailed the Notice of Hearing to all persons and associations who had registered their names with the Department for the purpose of receiving such notice.
- 3. On August 17, 1992, a Notice of Hearing and a copy of the proposed rules were published at 17 State Register, pages 310 through 350.
- 4. On September 11, 1992, the Department filed the following documents with the Administrative Law Judge:

(a) The Notice of Hearing as mailed.

(b) The Department's certification that its mailing list was accurate and complete.

(c) The Affidavit of Mailing the Notice to all persons on the Department's list.

- (d) All materials received following a Notice of Intent to Solicit Outside Opinion published at 16 State Register, page 2746 (June 15, 1992) and a copy of the Notice.
- (e) The names of persons who will represent the Department at the hearing.

(f) A copy of the State Register containing the proposed rules.

(g) All materials received following a Notice of Intent to Solicit — X-Outside Opinion published at 16 State Register page 2746, June 15, 1992, and a copy of the Notice.

The documents were available for inspection at the Office of Administrative Hearings from the date of filing to the date of hearing.

5. The period for submission of written comment and statements remained open through October 21, 1992, the period having been extended by Order of the Administrative Law Judge to 20 calendar days following the hearing. The record closed on October 28, 1992.

Statutory Authority

6. Statutory authority to adopt the proposed rules is contained in Minn. Stat. § 103I.101, subds. 2 and 5; § 103I.221, subd. 2; § 103I.301, subd. 4; § 103I.621, subd. 4; § 144.05, clause 1, (b) and (c); § 144.12, subd. 1, clause 13; § 144.383; § 157.04; § 157.08; § 157.09; and § 157.13.

Fiscal Impact, Impact on Small Business, and Impact on Agricultural Lands

7. The Department estimates no net fiscal impact on state and local public bodies in the two years following adoption of the proposed rules.

- 8. DOH has considered the impact the proposed rules will have on small businesses. The Department anticipates that the small businesses primarily affected by the proposed rules will be well drilling firms, some environmental, engineering or testing firms, and any small business that has or wants to have a well or boring such as an elevator shaft constructed. The Department has addressed all of the factors set forth in Minn. Stat. § 14.115, subd. 2, as shown in the Statement of Need and Reasonableness.
- 9. The Department has determined that the proposed rules will not have a direct and substantial adverse impact on agricultural land.

Nature of the Proposed Rules

- 10. These proposed rules govern wells, borings and underground uses that relate to the protection of groundwater and result from a three-year study with the affected industry. The proposed new rules and amendments to Chapter 4725 revise standards for the construction, repair, and maintenance of wells and borings; revise isolation distances for water supply wells; propose new provisions on grouting, maintenance and sealing; streamline requirements for notices, permits and records; address standards for vertical heat exchangers and groundwater thermal exchange devices; and clarify and reorganize provisions relating to licensure and registration. Amendments to part 4625 update the cross references for water supply requirements for food and beverage establishments. Amendments to part 4630.0600 revise outdated language applicable to manufactured home parks and recreational camping areas for consistency with well and public water supply laws and rules.
- 11. Some of the proposed rule provisions received no negative public comment and were adequately supported by the Statement of Need and Reasonableness. The Administrative Law Judge will not specifically address those provisions in the discussion below and specifically finds that the need for and reasonableness of those proposed rules has been demonstrated. Some of the public comments raised issues beyond the scope of the proposed rules, were legislative—type suggestions designed to improve the rules, or requested information concerning rule applicability. As set forth below, many of the concerns raised by the public have been addressed by rule modifications made by the Department at the time of and subsequent to the hearing. The discussion which follows the modifications will only address remaining substantive issues of need, reasonableness or statutory authority which the modifications do not resolve.

In order for an agency to meet the burden of reasonableness, it must demonstrate by a presentation of facts that the rule is rationally related to the end sought to be achieved. <u>Blocher Outdoor Advertising Co. v. Minnesota Dep't of Transp.</u>, 347 N.W.2d 88, 91 (Minn. Ct. App. 1984). Those facts may either be adjudicative facts or legislative facts. <u>Manufactured Housing Institute v. Pettersen</u>, 347 N.W.2d 238, 244 (Minn. 1984). The agency must show that a reasoned determination has been made. <u>Manufactured Housing</u> Institute at 246.

Modifications to the Proposed Rules Made by the Department

- 12. At the time of, and subsequent to the hearing after a review of all the written submissions, the Department has modified the proposed rules additionally as follows:
 - A. Modifications made at the Hearing:

Part 4725.001, subpart 21c. Definitions; Bentonite grout.

"Bentonite grout" means:

- A. water and a minimum of ten percent by weight of bentonite, with no additives to promote temporary viscosity; and
- B. an-equal-volume-of 10 percent by weight of either washed sand, cuttings taken from the bore hole, or granular bentonite.

Part 4725.0100, subpart 24a. Definitions; Confining layer.

"Confining layer" means a stratum of geologic material at least ten feet thick that has a <u>vertical</u> hydraulic conductivity of less than 10^{-6} centimeters per second, including clay as defined by the United States Department of Agriculture in Handbook 18, and shale.

Part 4725.0100, subpart 41b. Definitions; Remedial well.

"Remedial well" means a well used to lower a groundwater level to control or remove contamination in groundwater <u>and excludes</u> horizontal trenches.

Part 4725.0650, subpart 2, item D. Experience Requirements; Monitoring Well Contractor.

The applicant must have three years of experience in construction, repair, and sealing of monitoring wells of and environmental bore holes. A year of experience is a year in which the representative applicant, personally and under the supervision of a registered monitoring well contractor or licensed well contractor, constructed a minimum of 20 monitoring wells or environmental bore holes, of which at least 5 must be monitoring wells, and constructed, sealed, and repaired monitoring wells or environmental bore holes for 1,000 hours.

Part 4725.1830, item C. Monitoring Well Construction Permit.

- C. A permit application must be completed for each monitoring well.
- (1) However, For monitoring wells used as leak detection All proposed monitoring wells on a site must be listed on the permit.
- (2) A permit is not required for a monitoring well if the monitoring well is sealed within 48 hours of the time construction on the well beings.

Part 4725.0851, subpart 4, item C(6). Well and Boring Records; Geological materials; Basalt rock formations.

(6) basalt, which is a black volcanic igneous rock;

Part 4725.2050, item B. Use of Wells or Borings For Disposal Prohibited; slug tests.

(b) A well may be used for the injection of water to conduct a slug test if the injected water was originally taken from that well or is potable water.

Part 4725.2150. Required Distance From Gas Pipes, Liquid Propane Tanks, and Electric Transmission Lines.

Subpart 1. General Distance. A well or boring must be at least 10 five feet horizontally from a pipe with flammable or volatile gas, an overhead or underground electric transmission line, or a liquid propane tank. If an electric transmission line is in excess of 50 kilovolts or of unknown voltage, a well must be at least 25 feet horizontally from the electric transmission line. This subpart does not apply to the electrical service line for the well or boring. A well or boring between five and 10 feet from a pipe with flammable or volatile gas or an electric transmission line or liquid propane tank must be marked by the licensee or registrant with a permanent sign warning of the location of the electric transmission line and gas pipe.

- Subpart 2. Exception Safety precaution. During construction, repair, or sealing any work within 10 feet of a pipe with flammable or volatile gas, an overhead or underground electric transmission line, or a liquid propane tank must not be performed unless a-well or-bering-may-be-closer:
 - A. to-an the electric transmission line than-the-distance specified-in-subpart-l-if-the-line has been deenergized and visibly ground, or insulating barriers not a part of or an attachment to the equipment or machinery have been erected to prevent physical contact with the line during well or boring construction, repair, or sealing; and
 - B. to-a the gas pipé or propane tank than-the-distances specified-in-subpart-l-if-the-pipe-or-tank does not contain flammable or volatile gas.

The-well-or-boring-must-be-marked-by-the-licensee-or-registrant with-a-permanent-sign-warnings-of-the-location-of-the-electric transmission-line-and-gas-pipe-if-it-is-closer-than-the-distance specified-in-subpart-l-

Part 4725.2175, subpart 1. Location of Well or Boring Within Building; Location in a building.

A well or boring must not be located within a building unless the building is constructed according to this part over the well or boring exclusively to protect the well, boring, pump, and water treatment equipment. Environmental bore holes and monitoring wells are exempt from this subpart if sealed within 48 hours of the time construction begins on the well or bore hole.

Part 4725.2185. Distance From a Building.

A well or boring must be at least three feet horizontally from the farthest exterior projection of a building, including the walls, roofs, decks, and overhangs unless located in a building constructed according to part 4725.2175. Environmental bore holes and monitoring wells are exempt from this subpart if sealed within 48 hours of the time construction begins on the well or bore hole.

Part 4725.2250, subpart 10. General Casing Requirements; Casing inside diameter.

The inside diameter of a casing must not be less than two inches except-that <u>for</u> a well or boring <u>greater</u> less than <u>50</u> 100 feet in depth may-have-a-casing-with-a-minimum-1-25-inches-inside-diameter.

Part 4725.2650, subpart 4. Plastic Casing Installation; Primer.

A primer must be used when the-easing-and-coupling-surfaces-must-be softened-and-dissolved-to-form-a-continuous-bond-between-the-mating surfaces-or-when-the type of solvent cement used requires one.

Part 4725.2650, subpart 6, item D. Plastic Casing Installation; Assembling.

D. insert the casing to the full depth of the coupling socket, and assemble casing by-using-easing-joiners;

Part 4725.3050, subpart 5. Grouting; Driving casing.

When driving casing, a cone-shaped depression or temporary outer casing filled with bentonite grout, bentonite powder, granular bentonite, or high solids bentonite grout must be maintained around the outside of the casing. The bottom of driven casing must be equipped with a drive shoe.

Part 4725.3050, subpart 7, item B. Grouting; Grouting in rock.

B. . . . except that a well or boring may be completed in a sandstone formation by driving steel or stainless steel casing in the sandstone if the sandstone;

41) is the first rock unit;-and
42)-has-no-shale;-limestone;-or-dolomite-layers-greater-than
one-foot-in-thickness.

Part 4725.3250, item A. Pumps and Pumping Equipment.

A. A hand pump, hand pumphead, stand, or similar device must have a closed spout, directed downward. The pump must have a concrete slab at least four inches thick extending horizontally at least one foot in every direction from the well casing and sloped to divert water away from the casing. A watertight seal which-may-be-asphalt er-a-similar-resilient-material must be provided between the casing and the slab.

Part 4725.3450, subpart 3, item D. Flowing Well or Boring; Special construction standards.

D. drilling through the confining layer into the aquifer a-minimum ef-ten-feet;

Part 4725.4450, subpart 1, item B. Distances From Contamination Source; Isolation distances.

B. containment contaminant

Part 4725.4450, subpart 1, item C. Distances From Contamination Source; Isolation distances.

C. 100 feet from:

(2) an agricultural chemical storage or preparation area protected with containment <u>safeguards</u> as defined in parts 1505.3010 to 1505.3150 <u>for bulk pesticides and parts 1510.0370 to 1510.0380 for bulk fertilizers</u>, and covered with a permanent watertight roof;

Part 4725.4450, subpart 1, item E. Distances From Contamination Source; Isolation distances.

E. 50 feet from:

- (1) an agricultural chemical storage or preparation area protected with containment <u>safeguards</u> as defined in parts 1505.3010 to 1505.3150 <u>for bulk pesticides and parts 1510.0370 to 1510.0380 for bulk fertilizers</u>, and covered with a permanent watertight roof;
- (5) a <u>an</u> flammable-waste interceptor <u>as defined in part 4715.0100</u>, <u>subpart 66</u>;
- (6) a grave;
- (7) a sediment-interceptor subsurface disposal field or privy except as provided in subpart 2;

(8) a septic tank, subsurface-disposal-field, sewage lift station, or nonwatertight sewage sump,-or-holding-tank,-or privy-except-as-provided-in-subpart-2;

Part 4725.4650, item C. Other Water Supply Well Construction Requirements.

C. A <u>potable</u> water supply well may not produce more than five milligrams per liter (mg/l) of sand for-potable-water-of-l5-mg/l-for irrigation-purposes at the design capacity of the well, provided that geological conditions permit.

Part 4725.7250, subpart 3. Elevator Shaft Hydraulic Cylinders; Exception.

Subpart 3. Exceptions. The bore hole is exempt from the requirements in part parts 4725.2150, 4725.2175 and 4725.2185.

Part 4725.7250, subpart 4. Elevator Shaft Hydraulic Cylinders; Hydraulic fluid leakage protection.

- A. attaching a watertight cap or plate to the bottom of the casing and <u>surrounding</u> setting the casing halfway-into <u>with</u> at-least-six inches-of neat cement or concrete grout. The grout must extend at least three inches above and three inches below the bottom of the casing:
- B. filling grouting the inside of the casing with at least two feet of concrete grout or neat cement grout; or

A supplemental Statement of Need and Reasonableness was provided for each of the above modifications. These modifications were made in response to public comment received in response to the Notice of Solicitation and after the publication of the proposed rules. Except as may be specifically modified below, the Administrative Law Judge finds that the need for and reasonableness of the modifications set forth above has been demonstrated and that none constitute a substantial change to the rules as proposed.

B. Modifications Made Subsequent to the Hearing:

Part 4725.0475, subpart 2. Activities Requiring Licensure or Registration; Exceptions to licensure or registration.

Nothing in this part shall prohibit:

A. a person from installing placing a water sampling device including a well pump or pumping equipment in a monitoring well or remedial well to obtain a water sample if the device is immediately removed after the sample is collected.

Part 4725.0475, subpart 5. Activities Requiring Licensure or Registration; Elevator shaft contractor license.

A person must have an elevator shaft contractor's license <u>or a well</u> <u>contractor's license</u> to construct, repair, or seal excavations or borings for an elevator shaft hydraulic cylinder.

Part 4725.0475, subpart 6. Activities Requiring Licensure or Registration; Monitoring well contractor registration.

A person must be either licensed as a well contractor or registered as a monitoring well contractor to:

- A. construct, repair, modify, or seal monitoring wells or environmental bore holes; or
- B. install pumps in monitoring wells. A person with a limited license to install a well pump or pumping equipment may install pumps in monitoring wells.

Part 4725.1837. Exception To Notice Permit Requirements.

. . . or having casing installed or removed through below the frost line.

Part 4725.0851, subpart 1. Well and Boring Records; General.

A licensee or registrant must submit a written record of well <u>or</u> <u>boring</u> construction and sealing of a well or boring on forms containing the information in subparts 2 to 4 within 30 days after completion of the work. A written construction record is not required for any well or <u>boring</u> sealed within 30 days of the time construction began and for which a sealing report is submitted.

Part 4725.1851, subpart 3, items G and H. Well Boring Records; Sealing records.

- G. a description of the geological materials penetrated by the well or boring or a description of material penetrated by the nearest well or boring for which records are available, using terms in subpart 4 or ASTM Standard D2487-85;
- H. the original <u>well or boring depth, if known</u>, and current well or boring depth;

Part 4725.2020, subpart 3. Interconnection of Aquifers Prohibited; Aquifers in rock.

Aquifers in rock separated by the Decorah, Glenwood, basal-St-Peter, Saint Lawrence and Eau Claire confining layers must not be interconnected. . . .

Part 4725.2250, subpart 8. General Casing Requirements; Inner and Outer casing.

The inside diameter of an outer casing must have—an-inside diameter be at least 3.25 inches larger than the outside diameter of the inner casing, couplings or bell—end whichever is larger, for inner casings with 12 inches inside diameter and smaller. The inside diameter of an outer casing must be at least 3.5 inches larger than the outside diameter of the inner casing, couplings or bell end, whichever is larger, for inner casings larger than 12

inches inside diameter. The annular space between an inner casing and an outer casing must be grouted for it's entire length by pumping cement grout through a tremie pipe or through the casing as specified in part 4725.3050. The inner casing must extend above the established ground surface at least 12 inches.

- Part 4725.3450, subpart 3, item E. Flowing Well or Boring;
 - E. installing an inner casing into the aquifer in accordance with part 4725.2250, subpart 8 which—is—a—minimum—of—3-25—inches—smaller in—diameter—than—the—outer—casing—or—open—hole; and
- Part 4725.3050, subpart 2. Grouting; Grouting methods.

Grouting must start immediately on completion of drilling and must be completed before placing a well or boring in service. Grout must be pumped into the annular space from the bottom up through the casing or through a tremie pipe. The sand, granular bentonite and cuttings specified in the definition of bentonite grout, part 4725.0100, subpart 21c, item B, may be mixed prior to placement or shoveled while pumping the mixture specified in part 4725.0100, subpart 21c, item A.,-except-that-a-well-er-boring-may-be-grouted with-bentonite-grout-by-shoveling-the-equal-volume-of-washed-sand, cuttings-taken-from-the-bore-hole,-or-granular-bentonite-while pumping-the-mixture-in-part-4725-0100,-subpart-21c,-item-A-

- Part 4725.3050, subpart 3, item B. Grouting; Grouting depth requirement.
 - B. If the depth of the casing is more than 30 feet, the annular space below 30 feet must be filled with grout except that the portion of the well or bore hole in unconsolidated formations below 30 feet in depth may be filled with cuttings taken from the bore hole. The annular space above 30 feet must be filled from:
 - Part 4725..3050, subpart 3, item C. Grouting; Grouting depth requirement.
 - G- The-annular-space-below-30-feet-in-depth-must-be-filled-with grout-except-that-the-portion-of-the-well-or-bore-hole-in unconsolidated-formations-below-30-feet-in-depth-may-be-filled-with cuttings-taken-from-the-bore-hole-
 - Part 4725.3050, subpart 7, item C. Grouting; Grouting in rock.
 - (1) If the pumping static water level of a water supply well completed in limestone or dolomite is less than ten feet above the top of the dolomite or limestone rock formation, the bore hole must be at least 3.25 inches larger in diameter than the outside diameter of the casing or couplings, whichever is larger. The casing must extend at least ten 20 feet below the pumping static water level. The annular space must be grouted with neat cement or concrete grout.
 - Part 4725.3050, subpart 7, item D. Grouting; Grouting in rock.
 - D. If a cavern more than twice the diameter of the bore hole exists, or the grout level fails to rise after the insertion of

either more than one cubic yard of grout or the quantity of grout necessary to fill 10 vertical feet of hole, then the following grouting materials and methods may also be used in the portions where the conditions exist:

(3) pumping of alternate, equal volume layers of concrete or neat cement grout and pouring gravel or stone aggregate not larger than one-half inch in diameter. Individual layers of aggregate must not exceed 20 ten feet in thickness. Aggregate may not be emplaced in a confining layer.

Part 4725.3250, item A. Pumps and Pumping Equipment.

A. A hand pump, hand pump head, stand, or similar device must have a closed <u>and screened</u> spout, directed downward . . .

Part 4725.3350, item D. Interconnections and Cross Connections.

D. between wells or borings that meet the construction standards of this chapter, and are used for the same purpose, and have equivalent water quality.

Part 4725.3850, subpart 2, item C. Sealing Well or Boring; Removal of obstruction; debris.

- C. perforated <u>or ripped</u>, for-its-entire-length-with-a-minimum-in each-foot-of-casing-of-at-least-two-one-half-square-inch perforations-on-opposite-sides-of-the-casing <u>must be either</u>:
- (1) perforated a minimum of one-half square inch of open area -in each foot of casing: or
 - (2) ripped a minimum of five feet for every 20 feet of casing.

Casing must be perforated or ripped through the entire length of a confining layer.

If casing is to be removed from a collapsing formation, grout must be inserted so the bottom of the casing remains submerged in grout.

Part 4725.4350, subpart 1. Distance From Water Bodies; Distance from water bodies.

A water supply well must be at least 50 feet horizontally from the ordinary high water level as defined in Minnesota Statutes, section 103G.005, subdivision 14, of a stream, river, pond, or lake, -er-wetland.

Part 4725.4650, item C. Other Water Supply Well Construction Requirements.

C. A water supply well may not produce more than five milligrams per liter (mg/l) of sand for potable water or-15-mg/l-for-irrigation purposes at the design capacity of the well provided-that-geological conditions-permit.

Part 4725.6650, subpart 2. Construction of Monitoring Wells; Grouting of annular space.

The annular space of a monitoring well must be grouted from ten feet or less above the screen or open bore hole to the established ground surface according to part 4725.3050, except that no cuttings from the bore hole must be added to the grout. The Nneat cement or concrete grout may

Part 4725.7250, subpart 3. Elevator Shaft Hydraulic Cylinders; Exceptions.

The bore hole is exempt from the requirements in parts 4725.2150, 4725.2175, 4725.2185, 4725.2250 subpart 8 concerning extension of the casing 12 inches above grade, and part 4725.2250, subpart 11.

The above-modifications were made in response to public testimony and written comment contained in the record in this matter. Except as may be specifically modified below, the Administrative Law Judge finds that the need for and reasonableness of the above-modifications have been demonstrated and that none constitute a substantial change from the rules as initially proposed.

Discussion of the Proposed Rules

13. Minn. Rule 4725.2020, subp. 3. — This proposed rule provision extends the prohibition of wells interconnecting aquifers beyond the general definition of confining unit to additional, listed geological formations. Confining units operate as a barrier between aquifers. The geological formations listed in this subpart, as modified, are the Decorah, Glenwood, Saint Lawrence, and Eau Claire. Individuals and associations contended, at the public hearing and by written comment, that this provision is overly burdensome. William Salverda of Salverda Well Co., argued that it is not always possible to distinguish Saint Lawrence from Franconia formations when drilling. Ross Dunsmoor of Winona County Community Health Services contended that the upper sand unit of the Eau Claire formation could be safely utilized without endangering the ability of the remainder of the formation to act as a confining unit.

The Department stated in response that the formations listed act as regional confining units and that it is necessary to prevent their breach to ensure that if one aquifer becomes contaminated, an underlying acquifer will be protected or shielded from that contamination. The Judge finds that this potential "danger" adequately supports the need for and reasonableness of the proposed rule.

14. Minn. Rule 4725.3050, subp. 3. — This proposed rule requires grouting to begin immediately after the drilling of a well or boring which creates annular space and before the well or boring is put into use. The subpart mandates that the top thirty feet be grouted. Some commenters contended that cuttings should be allowed to be used instead of grouting in some settings. Michael Convery of the Minnesota Pollution Control Agency suggested that grouting the entire length of the casing, regardless of the depth, would provide better protection of the groundwater.

The Department has determined that the zone of maximum contamination is the top thirty feet and that grouting in this region is needed to provide a positive seal. Moreover, the Department has determined that it is not necessary to grout the entire length of the casing in order to protect the groundwater from contamination; although grouting the entire length would provide more safety, it would be extremely costly. Using cuttings instead of grouting would not provide a positive seal which is needed to prevent contaminants found near the surface from migrating into the groundwater. The Administrative Law Judge finds that the need for and reasonableness of the above-referenced rule provision has been demonstrated.

15. DOH responded to many questions of rule applicability in its final submission dated October 28, 1992. The Judge recommends that interested individuals obtain a copy of this document from the Department as a resource concerning implementation of these rules.

CONCLUSIONS

- 1. That the Department gave proper notice of the hearing in this matter.
- 2. That the Department has fulfilled the procedural requirements of Minn. Stat. §§ 14.14, subds. 1, la and 14.14, subd. 2, and all other procedural requirements of law or rule.
- 3. That the Department has demonstrated its statutory authority to adopt the proposed rules and has fulfilled all other substantive requirements of law or rule within the meaning of Minn. Stat. §§ 14.05, subd. 1, 14.15, subd. 3, and 14.50 (i) and (ii).
- 4. That the Department has documented the need for and reasonableness of its proposed rules with an affirmative presentation of facts in the record within the meaning of Minn. Stat. §§ 14.14, subd. 2 and 14.50 (iii).
- 5. That the amendments and additions to the proposed rules which were suggested by the Department after publication of the proposed rules in the State Register do not result in rules which are substantially different from the proposed rules as published in the State Register within the meaning of Minn. Stat. § 14.15, subd. 3, and Minn. Rule 1400.1000, subp. 1 and 1400.1100.
- 6. That any Findings which might properly be termed Conclusions and any Conclusions which might properly be termed Findings are hereby adopted as such.
- 7. That a finding or conclusion of need and reasonableness in regard to any particular rule subsection does not preclude and should not discourage the Department from further modification of the proposed rules based upon an examination of the public comments, provided that no substantial change is made from the proposed rules as originally published, and provided that the rule finally adopted is based upon facts appearing in this rule hearing record.

Based upon the foregoing Conclusions, the Administrative Law Judge makes the following:

RECOMMENDATION

IT IS HEREBY RECOMMENDED that the proposed rules be adopted except where specifically otherwise noted above.

Dated this $\frac{35}{}$ day of November, 1992.

ETER C. ERICKSON

Administrative Law Judge