

**REPORT OF THE
BOARD OF COMMERCE ON**

**The Merits of Creating A
Specialty Classification
for Water Well Drillers**

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



HOUSE DOCUMENT NO. 5

**COMMONWEALTH OF VIRGINIA
RICHMOND
1991**



COMMONWEALTH of VIRGINIA

Department of Commerce

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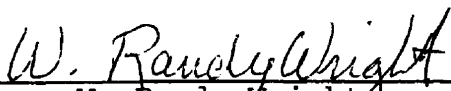
October 19, 1990

The Honorable Douglas L. Wilder
Governor of Virginia, and
The General Assembly of Virginia
3rd Floor, State Capitol
Richmond, VA 23219

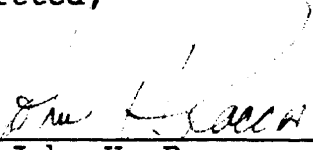
Dear Governor Wilder and General Assembly of Virginia:

The report transmitted herewith is pursuant to House Resolution 5 of the 1990 Session of the General Assembly of Virginia. This Resolution requested the Board of Commerce and the Board for Contractors to study the merits of creating a specialty classification for water well drillers through the Board for Contractors. The legislation directed the Boards to submit their findings and recommendations to the Governor and the 1991 Session of the General Assembly.

Respectfully submitted,



W. Randy Wright
Chairman, Board of Commerce



John H. Rocca
Chairman, Board for Contractors

/psr

Board of Commerce Report
on the Merits of Creating
a Specialty Classification for
Water Well Drillers
(House Resolution 5)

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Acknowledgements

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VIRGINIA BOARD OF COMMERCE
REPORT ON THE REGULATION OF
WATER WELL DRILLERS

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- I. EXECUTIVE SUMMARY
 - A. Study Overview
 - B. Key Findings
 - C. Conclusions
 - D. Recommendation

A. Study Overview

This study was initiated with the passage of House Resolution 5 requesting the Board of Commerce and the Board for Contractors to study the merits of creating a specialty classification for water well drillers through the Board for Contractors.

The Board of Commerce, through research, two public hearings, surveys to involved parties, and the receipt of written comments, reviewed the nature of this occupation and the effect, if any, on public health, safety, and welfare from the current practices.

The Board of Commerce, in cooperation with the Board for Contractors, based its recommendations on an extensive analysis and discussion of this information.

B. Key Findings

1. There is growing concern about the quality of Virginia's groundwater and the role of water well drillers in protecting the Commonwealth's water supply.
2. Current statute requires a Class B Contractors license for water well drillers which is a registration process with no assurance of competence.
3. Local health department sanitarians have the responsibility for inspecting water wells. Unfortunately, the constraints on the sanitarians' time and often their lack of expertise to evaluate the quality of well installation, result in many water well drillers who are virtually unsupervised.
4. An improperly drilled water well can result in contaminated water for entire aquifers, as well as for the person for whom the well is being drilled.
5. Some practicing water well drillers could be forced out of business by a licensing program which requires successful completion of an examination.

C. Conclusions

1. The practice of this occupation can potentially harm or endanger the health, safety and welfare of the public.

2. The public is entitled to the assurance that a minimum level of knowledge and proficiency have been demonstrated by practicing water well drillers.
3. The Board feels that the four-year grandfathering window for education will insure that the numbers and availability of competent water well drillers will not be adversely affected in rural areas.
4. The local health departments should be granted additional personnel properly trained to inspect water well installations.

D. Recommendations

1. The Board of Commerce concludes that the Board for Contractors, under existing legislation and regulations, has the authority to create a specialty licensing category for water well drillers. Accordingly, the Board of Commerce recommends that the Board for Contractors add water well drillers as a specialty category for licensing purposes beginning July 1, 1991, and that such category include proof of competency through completion of an examination. Such regulatory category should provide for grandfathering, without examination, all licensed water well driller contractors who complete within four years education requirements to be determined by the Board for Contractors. Any licensee who has been the subject of disciplinary action by the Board for Contractors within the previous five years, however, could be required to complete the examination.
2. The Board of Commerce recommends that the Board for Contractors consider a requirement that a bond in the minimum amount of \$5,000 be mandated for all licensed water well drillers, including grandfathered licensees, as an additional future protection to the public against wells found to have been improperly installed.
3. The Board of Commerce further recommends that the local health departments be augmented with additional sanitarians to assist in the inspection of water well installations.

II. INTRODUCTION

- A. Background and Purpose of this Report
- B. Profile of the Occupation

II. Introduction

A. Background and Purpose of this Report

House Resolution 5, which was passed by the 1990 Session of the General Assembly, requested the Board of Commerce and the Board for Contractors to study the merits of creating a specialty classification for water well drillers through the Board for Contractors. See Appendix A for a copy of the resolution.

Section 54.1-100 of the Code of Virginia (1950, as amended) states that "no regulation shall be imposed upon any profession or occupation except for the exclusive purpose of protecting the public interest when:

1. The unregulated practice of the profession or occupation can harm or endanger the health, safety, or welfare of the public, and the potential for harm is recognizable and not remote or dependent upon tenuous argument;
2. The practice of the profession or occupation has inherent qualities peculiar to it that distinguish it from ordinary work and labor;
3. The practice of the profession or occupation requires specialized skill or training and the public needs, and will benefit by assurances of initial and continuing professional and occupational ability; and
4. The public is not effectively protected by other means."

Using these requirements in Section 54.1-100 and Section 54.1-311, which outlines the degrees of regulation as well as the criteria for determining such degrees, the Board of Commerce began a six month study of this issue. This study included information gathering, a complaint search, surveys to involved and interested parties, two public hearings, and receipt of written comments. This report will serve to outline the findings of the study and the Board's conclusions and recommendations.

B. Profile of the Occupation

A water well driller locates and taps into aquifers to provide individuals, families, communities and commercial entities with water to be used in a variety of ways, including water for human and animal consumption, and water for irrigation.

Rural communities are especially dependent upon wells for their drinking water, and households throughout Virginia are using wells to water their lawns and operate heat pumps.

The public's general perception of well drilling is that drillers simply drill a hole into the ground until they hit water. Increased technology and environmental demands, as well as variations in geological formations, make the process far more complicated. There are several decisions a well driller must make, such as the depth to which the well should be drilled, location of the well, appropriate grouting materials and techniques, and the handling of hazardous materials.

There are even emerging specialties within the occupation including monitor well drilling, which is carried out at hazardous waste sites to monitor contamination levels; and environmental well drilling, which is to test the quality of ground water. Such specialties are in response to the concern regarding the protection of the valuable resource of groundwater.

Section 54.1-1100 of the Code of Virginia requires that an individual must have a Class B Contractors license before performing work which is for the purpose of constructing a water well to reach groundwater, as defined in Section 62.1-44.85(8). In order to be registered as a Class B Contractor, a person shall file an application with the Board for Contractors, but no examination or education requirements are specified. Section 54.1-1106.1 also states that the Board for Contractors shall consider violations of regulations of the State Board of Health relating to water wells as violations punishable by a fine of not more than \$1,000, or suspension or revocation of license.

One of the more distinctive characteristics of water well drillers is that they work quite independently and virtually unsupervised. Consumers may fail to identify substandard work, for they do not understand the complexities involved in the well drilling process; local Health Department sanitarians lack the time and sometimes the expertise to evaluate the quality of work performed (see Section III, A) and much of what the well driller does cannot be seen. Often the damage of an improperly drilled well (contaminated water, leaking systems, poorly installed pumping systems) can occur and not be discovered for months or years.

In order to enter the well drilling business, equipment is the only prerequisite. Testimony at the public hearing in Roanoke revealed that well drilling equipment can cost \$300,000 - \$400,000, but that \$150,000 is the average amount needed to enter the business. Hearing participants testified, however, that you can purchase equipment for \$20,000 - \$25,000, or lease used equipment and become a well driller with no substantial investment.

III. KEY ISSUES

- A. Department of Health Regulations and Inspections
- B. Professional Trade Associations
- C. Harm to the Public Health, Safety and Welfare

III. Key Issues

A. Department of Health Regulations and Inspections

The Board of Commerce heard testimony at the public hearings that local Health Department sanitarians were not capable of inspecting all water wells being drilled due to the constraints on their time and their lack of expertise to evaluate the quality of the well installation. This testimony was substantiated with data received through a survey sent to 57 local health departments. Forty-one completed surveys were returned and 58.2% said that only 0-50% of the water wells drilled in their jurisdiction had been inspected by a sanitarian. Respondents identified lack of expertise (48.8%), inadequate number of sanitarians on staff (67.4%), and growing numbers of wells (55.8%), as the primary problems their office encountered under the requirement to inspect wells.

The Board of Commerce is concerned that this problem of "inadequate number of sanitarians to inspect wells" is going to be exacerbated by new regulations effective September 1, 1990, which require that a permit be obtained from the Board of Health for construction of all new private wells. Previous regulations only required a permit for wells with septic tanks. The new regulations are part of an effort to protect groundwater resources as well as public health and welfare.

Private Well Regulations §2.13, "Procedures for obtaining a construction permit for a private well", requires as part of the application process:

1. The property owner's name, address and telephone number;
2. The applicant's name, address, and phone number (if different from subdivision #1 above);
3. A statement signed by the property owner, or his agent, granting the Health Department access to the site for the purpose of evaluating the suitability of the site for a well and allowing the department access to inspect the well after it is installed;
4. A site plan showing the proposed well site, property boundaries, accurate locations of actual or proposed sewage disposal systems, recorded easements and other sources of contamination within 200 feet of the proposed well site, and at the option of the applicant a proposed well design, and;

5. When deemed necessary, because of geological or other natural conditions, plans and specifications detailing how the well will be constructed.

The Department of Health Implementation Manual for these new regulations acknowledges the problems of monitoring every aspect of well construction. In reevaluating its role, the Department will primarily attempt to enforce the regulations related to construction and location criteria. Local sanitarians will attempt to make unannounced inspections at least once during the construction of a well which will serve to check whether the driller knows how to comply with the regulation.

The Board of Commerce's continued concern is that the Board of Health be augmented with adequate personnel to handle what could become an arduous responsibility.

B. Professional Trade Associations

The National Water Well Association (NWWA) is a non-profit organization representing the world's groundwater industry. Members include groundwater scientists and engineers, water well contractors, and manufacturers and suppliers of groundwater-related products. The NWWA provides educational programs to help members increase their knowledge of important groundwater issues. In addition, the National Water Well Association conducts certification examinations which some states (9 of the 36 states which responded to the study survey) use as part or all of the examination process for licensure. Two years of experience must precede the examination.

The Virginia Water Well Association (VWWA) was created in 1949 as a voluntary organization to foster and promote education, standards, research and techniques to improve methods of well construction. VWWA membership as of March 21, 1990 was 114.

The Virginia Water Well Association supports a specialty licensing classification which mandates demonstration of a minimum level of proficiency. The organization supports experience requirements as well as an examination as means of demonstrating such competence.

The Board of Commerce concern is that some competent well drillers may be unable to successfully complete an examination due to illiteracy.

Written comments received by the Board identified the concern that some small, family owned businesses may be unable to continue their trade if an examination requirement was established for licensure. The Board of Commerce will not support any regulatory program which would curtail competition or eliminate people from the occupation due to illiteracy.

C. Harm to the Public Health, Safety and Welfare

The nation's growing public concern regarding our resources, especially groundwater, has been evident in Virginia as well. Cities and counties, some of which were represented at the public hearings for this study, have begun to adopt their own regulations governing water wells. Such activity is an indicator of public concern.

The reason for such concern is the threat of contaminated drinking water. An improperly drilled well can contaminate the water supply of an individual for whom the well is being drilled or even contaminate an entire aquifer. In addition, a driller may fail to comply with chlorination requirements, may improperly grout a well which can result in undesirable water and contaminants gaining access to a well, or may drill too close to contaminates.

Testimony at the public hearing in Roanoke revealed problems with iron algae or iron bacteria contaminating the water. Such bacteria comes off the surface of the ground and is introduced into the system by drilling tools. The result is water with an odor and an orange-red coloring. The process to remove iron algae is very costly to the consumer.

Although the public hearings and written comments did not provide the Board with specific examples of harm to the public, conversations with the State Water Control Board revealed that improper well construction occurs as in the case at a state mental hospital in Salem. The hospital contacted the State Water Control Board for technical advice on their water supply problem. The Water Control Board found that, while the well driller had charged the hospital for a well with an 8" hole from 0-500 feet, the driller had drilled an 8" hole to 230 feet, and then a 4" hole from 230 feet-500 feet, which could have contributed to the supply problem.

Results from the 41 completed public health office surveys also showed that 67.4% of the respondents had received complaints from the public about work performed by water well drillers. The public's only recourse currently is to file a legal suit against the driller which can result in a financial burden for the consumer.

IV. INFORMATION GATHERING AND PUBLIC COMMENTS

- A. Methodology
- B. Questionnaires
- C. Public Hearings
- D. Written Comments
- E. Survey of Water Well Drillers
- F. Survey of Public Health Officers
- G. Survey of Conservation Organizations
- H. Survey of Planning Districts
- I. Survey of Other States

IV. Information Gathering and Public Comments

A. Methodology

Section 54.1-311 of the Code of Virginia requires that the Board of Commerce conduct an extensive review of the occupation to determine the proper degree of regulation, if any, that should be implemented. The following section outlines the means by which the Board of Commerce compiled information about the occupation and complaints and abuses which have or may occur.

B. Questionnaire

Board of Commerce staff, in researching an occupation, circulates a questionnaire to professional trade associations which may be interested in whether the occupation is regulated. The questionnaire is based on the criteria for regulation as outlined in Sections 54.1-100 and 54.1-311 of the Code of Virginia. The Virginia Water Well Association responded to the questionnaire with insight into the occupation and the Association's views on state regulation.

C. Public Hearings

Two public hearings were conducted by the Board of Commerce to gather information about well drillers and hear complaints relating to the occupation. A hearing was set in Roanoke on May 18, 1990, and in Williamsburg on May 24, 1990. Representatives from the Virginia Water Well Association were present at both hearings to present testimony in support of a specialty licensing classification for the occupation. Board members also heard testimony from a county sanitarian with the State Health Department who supported a statewide mechanism to ensure the proficiency of well drillers. The witness testified that some county Health Departments find themselves in the position of urging drillers to go ahead and drill the well without an inspection, etc., in order to decrease paperwork and limit the number of visits to the site.

A well drilling rig distributor testified to the problems he sees with customers who are unqualified to operate the equipment and to drill a well. He had witnessed a well driller drilling in an area with a sign stating "Diseased Area, No Visitors". See Appendix B for a listing of the public hearing participants.

D. Written Comments

Public hearing notices also requested that written comments be submitted in lieu of testimony. The Board of Commerce received written comments which are listed as Appendix C.

Two of the letters received by the Board opposed a specialty licensing classification, noting that passage of an examination would do little to upgrade the quality of well drillers and could force many drillers out of business and thus limit competition.

E. Survey of Water Well Drillers

The Department of Motor Vehicles was able to identify for Board of Commerce staff 262 individuals who hold licenses for water well drilling rigs. A survey was sent to the 262 individuals but only 64 completed surveys were returned. The Board of Commerce fears that the low response rate could be partially attributed to the literacy problem within this occupation. The Board notes that the low response rate makes the validity of the data highly questionable.

The responses did show drillers with experience; 49.3% of the respondents had over 20 years experience; 26.9% had 11-20 years experience; and 6.0% had less than 5 years. The respondents also believed that incompetent work does occur; 73.1% said they had come in contact with work performed by an incompetent well driller; 25.4% said they had not. Those answering "yes" described the frequency of such work as 14.9% rarely; 50.7% occasionally; 11.9% regularly; 0.0% continuously. See Appendix D for a copy of the survey and the results.

F. Survey of Public Health Officers

A survey was sent to 57 local health department officers and 41 completed surveys were returned. Of those responding, 72.1% said their office had encountered improper drilling of water wells (23.2% no). Those responding affirmatively also identified the nature of the improperly drilled wells: 69.8% improper grouting of wells; 51.2% drilling occurred too close to contaminates; 39.5% failure by driller to comply with chlorination requirements; 23.3% poorly installed pumping systems; 16.0% appearance of iron algae; 14.0% hazardous materials spillage; 9.3% leaking systems.

When asked whether they thought a specialty licensing classification should be created which would require a minimum level of proficiency, 90.7% responded yes; 4.7%

no; 4.7% response missing. See Appendix F for a copy of the survey and the results.

G. Survey of Conservation Organizations

Five conservation groups with an interest in groundwater protection were sent a survey. Only one completed survey was returned. The organization responded that it had not witnessed substandard work by water well drillers in terms of protecting groundwater quality. The organization described the problems they had seen as "improper grouting of wells", "hazardous materials spillage", "inadequate water pressure".

See Appendix F for a copy of the survey and the one response.

H. Survey of Planning Districts

Board of Commerce staff identified 23 Planning Districts which were surveyed, and seven completed surveys were returned. Of those responding, 42.8% said their district had experienced problems with wells which were improperly drilled; 57.1% had not experienced problems. Over half of the respondents (71.4%), however, believe that a specialty licensing classification for water well drillers should be created.

See Appendix G for a copy of the survey and the results.

I. Survey of Other States

Section 54.1-311 of the Code of Virginia requires that the Board of Commerce determine the number of states which have regulatory programs similar to that being considered. Thirty-six of the 49 states surveyed returned completed surveys and 88.9% regulate water well drillers.

The states with a regulatory program in place were queried about the types of regulation; 13.9% described it as registration, 5.6% certification and 69.4% licensure. When asked about requirements regarding bonding of licensees, 38.9% required licensees to be bonded, 38.9% did not.

See Appendix H for a copy of the survey and the results.

V. SUMMARY

A. Key Findings

B. Conclusions

C. Recommendation

V. Summary

A. Key Findings

The Board of Commerce, in coordination with the Board for Contractors, upon completing its research and reviewing the information obtained through the public hearing and written comments, summarized their findings as follows:

1. There is a growing concern about the quality of Virginia's groundwater and the role of water well drillers in protecting the Commonwealth's water supply.
2. Current statute requires a Class B Contractors license for water well drillers which is a registration process with no assurance of competence.
3. Local health department sanitarians have the responsibility for inspecting water wells. Unfortunately, the constraints on the sanitarians' time and often their lack of expertise to evaluate the quality of well installation, result in virtually unsupervised water well drillers.
4. An improperly drilled water well can result in contaminated water for entire aquifers, as well as for the person for whom the well is being drilled.
5. Many practicing water well drillers could be forced out of business by a licensing program which requires successful completion of an examination.

Such findings lead the Board of Commerce to determine whether regulation is required. Section 54.1-100 of the Code of Virginia states that **"no regulation shall be imposed upon any profession or occupation except for the exclusive purpose of protecting the public interest when:**

1. **The unregulated practice of the profession or occupation can harm or endanger the health, safety and welfare of the public, and the potential for harm is recognizable and not remote or dependent upon tenuous argument";**

Contaminated drinking water is most certainly a threat to public health. The Board of Commerce finds that well drillers can endanger public health and safety by improperly drilling a water well or installing a pump. Protection of Virginia's groundwater supply could also be threatened by improperly trained well drillers.

2. **"The practice of the profession or occupation has inherent qualities peculiar to it that distinguish it from ordinary work and labor;**

Environmental demands, increased technology, and regulations which govern the Commonwealth's groundwater make it difficult for an untrained individual to drill a well properly.

Although the Board of Commerce finds that experience is certainly a crucial component in becoming a well driller, for there are many decisions a driller must make which cannot be mastered in the classroom, the Board also suggests that education and training in environmental concerns, on procedures for meeting state and local regulations, and on the latest technological advancements, could be helpful to all water well drillers regardless of their experience.

3. **"The practice of the professions or occupation requires specialized skill or training and the public needs, and will benefit by, assurance of initial and continuing professional and occupational ability";**

The consumer requires assurance of competence, for a well driller can directly impact the quality of drinking water and the public needs a means of identifying a driller who has demonstrated expertise.

4. **"The public is not effectively protected by other means."**

New Department of Health regulations effective September 1990 will require a permit for all new private wells. This will facilitate more control by the Department of Health as well as set a goal of one on-site inspection during the construction of the well. The Board of Commerce acknowledges that the Commonwealth cannot afford the cost of increasing the number of sanitarians to a level that would allow them to supervise well installations throughout the process and adequately train them in the expertise; however, the Board finds that increased staff will be necessary to at least make periodic inspections.

The public currently may file a claim against a well driller (Class B Contractor) through the Virginia Board for Contractors Transaction Recovery Fund, which provides relief to consumers who have incurred losses through the actions of a licensed contractor.

The Board of Commerce finds, however, that in many cases the consumer may not know for many years that a well was improperly installed and contaminated drinking water resulted.

B. Conclusions

1. The practice of this occupation can potentially harm or endanger the health, safety and welfare of the public.
2. The public is entitled to the assurance that a minimum level of proficiency has been demonstrated by practicing water well drillers.
3. The Board feels that the four-year grandfathering window for education will insure that the numbers and availability of competent water well drillers will not be adversely affected in rural areas.
4. The local Health Departments should be granted additional personnel properly trained to inspect water well installation.

C. Recommendations

1. The Board of Commerce concludes that the Board for Contractors, under existing legislation and regulations, has the authority to create a specialty licensing category for water well drillers. Accordingly, the Board of Commerce recommends that the Board for Contractors add water well drillers as a specialty category for licensing purposes beginning July 1, 1991, and that such category include proof of competency through completion of an examination. Such regulatory category should provide for grandfathering, without examination, all licensed water well driller contractors who complete within four years education requirements to be determined by the Board for Contractors. Any licensee who has been the subject of disciplinary action by the Board for Contractors within the previous five years, however, could be required to complete the examination.
2. The Board of Commerce recommends that the Board for Contractors consider a requirement that a bond in the minimum amount of \$5,000 be mandated for all licensed water well drillers, including grandfathered licensees, as an additional future protection to the public against wells found to have been improperly installed.

3. The Board of Commerce further recommends that the local health departments be augmented with additional sanitarians to assist in the inspection of water well installations.

VI. APPENDICES

- A. House Resolution 5
- B. Public Hearing Participants
- C. Cumulative List of Written Comments
- D. Survey of Water Well Drillers with Results
- E. Survey of Public Health Officers with Results
- F. Survey of Conservation Organizations with Results
- G. Survey of Planning Districts with Results
- H. Survey of Other States with Results

GENERAL ASSEMBLY OF VIRGINIA--1990 SESSION**HOUSE RESOLUTION 5**

Requesting the Director of the Department of Commerce to coordinate the study of the merits of creating a specialty classification for water well drillers through the Board for Contractors.

Agreed to by the House of Delegates, March 9, 1990

WHEREAS, nearly one-third of Virginians rely on groundwater as their primary source of drinking water; and

WHEREAS, approximately eighty percent of Virginians use groundwater for at least part of their everyday needs; and

WHEREAS, the rapid growth of industry, businesses, and population have placed an increasing pressure on the limited water supply of the Commonwealth; and

WHEREAS, an estimated 400 million gallons of this resource are used each day statewide by industry, agriculture, businesses, and households; and

WHEREAS, the condition of many of the aquifers in Virginia is unknown; and

WHEREAS, groundwater is a very fragile resource that once contaminated is extremely difficult to restore; and

WHEREAS, increased incidents of contamination of groundwater have occurred in recent years; and

WHEREAS, effective measures are needed to ensure that this resource is adequately protected and managed; and

WHEREAS, there are public health concerns and dangers resulting from improperly drilled and grouted wells; now, therefore, be it

RESOLVED by the House of Delegates, That the Director of the Department of Commerce coordinate the study of the merits of establishing water well drillers as a specialty classification for contractors regulated by the Board for Contractors pursuant to § 54.1-1106 of the Code of Virginia. The study shall include a determination of the effect such specialty classification would have on the availability and number of well drillers in rural areas. The Board of Commerce and Board for Contractors shall conduct the study. The Director of the Department of Commerce shall request the comments and participation of the Virginia Water Well Drillers Association and other appropriate private organizations and state agencies and boards.

The study shall be completed in time to submit any findings and recommendations to the Governor and the 1991 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Public Hearing ParticipantsRoanoke, May 18, 1990

<u>Speaker</u>	<u>Affiliation</u>	<u>Position</u>
William F. Caldwell, III	President, Virginia Water Well Association, Inc.	Supports special licensing classification.
Calvin Norris	Sydnor Hydrodynamics	Supports licensing and bonding like other states.
Charles Fallwell	Fallwell Corporation	Supports licensing.
Frank Davis	Noland Company	Supports licensing.
Ted Brewer		Supports education and licensing so drillers are more qualified.
C. S. Dunford-Jackson	State Health Department	State mechanism needed to ensure proficiency of well drillers.

Williamsburg, May 24, 1990

<u>Speaker</u>	<u>Affiliation</u>	<u>Position</u>
Larry Foster/ Bruce Capp	Acting General Manager James City Service Authority	Supports proposal for licensure.
Thomas Gildersleeve	T.E. Gildersleeve Pump and Well, Inc.	Supports special licensing classification.
Bill Barnett	Ashland Well Contractors	Concern about drillers of bored wells.
Rick Lutz	Industrial Marine Services	Concern about drilling and monitoring wells for tracing groundwater contamination.

APPENDIX C

Summary of Written Comments
House Resolution 5

<u>Name</u>	<u>Affiliation</u>	<u>Position</u>
F.B. Killmon, Jr.	Boggs Water & Sewage, Inc.	Licensing would not upgrade the quality of drillers and could force many drillers who lack formal education out of business.
Flora Shuck	Jim's Well Drilling and Pump Service	Oppose licensing; see it as a ploy to undermine small water well businesses and limit competition.
Robert Schneider	Consulting Hydrogeologist	Licensing requirements which included experience and proficiency would serve the consumer well.
Larry M. Foster	James City Service Authority	Supports regulations which ensure the drillers have knowledge and skills needed to protect the public and the limited supply of groundwater.

APPENDIX D

Surveys sent: 262
 Completed surveys returned: 64

SURVEY OF WATER WELL DRILLERS

1. How many years of experience do you have as a water well driller?

Less than 5 years	5 - 10 years	11 - 20 years	Over 20 years	Missing
6.0%	11.9%	26.9%	49.3%	4.5%

2. Did you learn water well drilling:

<u>11.9%</u>	through an apprenticeship
<u>40.3%</u>	through family owned business
<u>56.7%</u>	through self study and on the job training

3. Are you a member of the Virginia Water Well Association?

Yes	No	Missing
38.8%	59.7%	1.5%

4. Do you have any credentials from a professional trade association? If yes, please list.

Yes	No	Missing
37.3%	56.7%	6.0%

5. Do the communities in which you work require that you be bonded?

Yes	No	Missing
17.9%	77.6%	4.5%

6. Approximately what percentage of the wells you drilled last year were inspected by city/county public health officials?

0 - 20%	21 - 40%	41 - 60%	61 - 100%	Missing
25.4%	14.9%	11.9%	43.3%	4.5%

7. Have you ever come in contact with work performed by an incompetent well driller?

Yes	No	Missing
73.1%	25.4%	1.5%

8. If yes, how would you describe the frequency?

Rarely	Occasionally	Regularly	Continuously	Missing
14.9%	50.7%	11.9%	-0-	22.4%

SURVEY OF WATER WELL DRILLERS (continued)

9. Identify the types of concerns you have seen.

<u>53.7%</u>	improper grouting of a well
<u>35.8%</u>	drilling too close to contaminates
<u>19.4%</u>	failure to chlorinate a well
<u>10.4%</u>	appearance of iron algae
<u>20.9%</u>	termite treated footers too close to the drilling site

10. Do you believe a specialty classification of licensure for water well drillers would protect the general public?

Yes	No	Missing
49.3%	50.7%	6.0%

11. If yes to question #10, please list benefits that a specialty classification of licensure would accomplish, or if no to question #10, list reasons not to create a specialty classification.

YES

NO

Suveys Sent: 57
 Completed surveys returned: 41

PUBLIC HEALTH OFFICERS SURVEY

1. How many sanitarians are employed by your office?

1 - 3	3 - 5	5 - 10	10 or more
46.5%	14.0%	9.3%	30.2%

2. What percentage of the water wells drilled in your jurisdiction are inspected by sanitarians?

0 - 10%	10 - 30%	30 - 50%	50 - 75%	75 - 100%
30.2%	23.3%	4.7%	9.3%	30.2%

2.3% missing

3. Identify the problems your office encounters when inspecting wells:

- 48.8% lack of expertise in evaluating the quality of the well installation
- 67.4% inadequate number of sanitarians on staff to conduct inspections
- 55.8% growing number of water wells being drilled in your locality
- 34.9% other

4. Has your office encountered improper drilling of water wells which were deemed a threat to public health, safety, and welfare?

yes	no	missing
72.1%	23.3%	4.7%

Public Health Officers Survey (continued)
Page Two

5. If yes, please explain the nature of such problems:

- 69.8% improper grouting of wells
- 14.0% hazardous materials spillage
- 39.5% failure by driller to comply with chlorination requirements
- 51.2% drilling occurred too close to contaminates
- 16.3% appearance of iron algae
- 9.3% leaking systems
- 23.3% poorly installed pumping systems
- 14.0% others

6. Do you believe that such problems are the result of improperly trained water well drillers?

yes	no
53.5%	27.9%

7. Has your office received complaints from the public about work performed by water well drillers?

yes	no	missing
67.4%	27.9%	4.7%

8. Do you believe that a specialty licensing classification should be created which would require a minimum level of proficiency?

yes	no	missing
90.7%	4.7%	4.7%

Surveys sent: 5
 Surveys returned: 1

**CONSERVATION ORGANIZATIONS
 (Well Drillers Study)**

1. Has your organization witnessed substandard work by water well drillers in terms of protecting groundwater quality?

yes no

2. How would you describe the frequency of such substandard work?

rarely occasionally regularly continuously

3. Check the nature of the problems your organization has seen: (check all that apply)

 X improper grouting of wells
 X hazardous materials spillage
 X inadequate water pressure
 failure to comply with chlorination requirements
 drilling too close to contaminates
 others (please explain)

4. Do you believe that such problems occur because water well drillers are not properly trained?

yes no

5. Do you believe current health regulations are adequate in monitoring the water well drilling done in the state?

yes no

If no, please explain:

Inadequate staff to monitor and enforce.

6. Would a specialty licensing classification for water well drillers help prevent problems from occurring?

yes no

7. Please offer any recommendations and concerns your organization may wish to share with the Board of Commerce:

Surveys sent: 23
 Surveys returned: 7

PLANNING DISTRICT SURVEY

1. Has your district experienced problems with wells which were improperly drilled?

yes	no
42.8%	57.1%

2. If yes, were such problems due to improperly trained water well drillers?

yes	no	missing
28.6%	14.3%	57.1%

3. Identify the types of problems you have experienced in your area:

42.8%	improperly grouted wells
0.0%	hazardous materials spillage
14.3%	inadequate water pressure
28.6%	failure to comply with chlorination requirements
28.6%	drilling too close to contaminates
14.3%	other

4. Do most counties in your district have a well drilling ordinance?

yes	no
	100.0%

5. Do most counties in your district require that well drillers be bonded?

yes	no
	100.0%

6. Do you believe that existing statutes protect the groundwater in your area?

yes	no
42.8%	42.8%

7. If no, what changes do you feel would be helpful?

Well head protection standards, homeowner training, require ordinances for groundwater protection. September 1, 1990 regulations will be helpful.

8. Do you believe a specialty licensing classification for water well drillers should be created which would require a minimum level of proficiency?

yes	no
71.4%	28.6%

Survey Sent: 49
 Surveys returned: 36

STATE SURVEY
 (Water Well Drillers)

1. Does your state regulate water well drillers?

yes	no
88.9%	11.1%

2. What category best describes the regulatory program for water well drillers in your state?

a) registration - any person may engage in an occupation, but that person submits certain information to the appropriate authorities: 13.9%

b) certification - any person may practice the occupation, but only those who have met certain educational and/or experience requirements may use the title "Certified Well Driller": 5.6%

c) licensure - a person is prohibited from engaging in the occupation without meeting certain educational and/or experience requirements and obtaining a license: 69.4%

missing: 11.1%

3. If a regulatory program is in place, what was the total number of complaints against water well drillers in your state last year?

1 - 25	26 - 50	51 - 100	over 100	missing
50.0%	19.4%	8.3%	8.3%	13.9%

4. What percentage of these complaints resulted in disciplinary action against the licensee?

0 - 25%	26 - 50%	51 - 75%	76 - 100%	missing
63.9%	11.1%	5.6%	5.6%	13.9%

5. Does your state's regulatory program require passage of an examination?

yes	no	other	missing
72.2%	13.9%	2.8%	11.1%

**STATE SURVEY
WATER WELL DRILLERS
(continued)**

6. Do you use the National Water Well Certification Program as part of the examination process?

yes	no	missing
25.0%	55.6%	19.4%

7. Does your state require that education requirements be met before qualifying for the examination?

yes	no	other	missing
11.1%	66.7%	2.8%	19.4%

8. Does your state require continuing education in order to maintain a license?

yes	no	missing
13.9%	69.4%	16.7%

9. Does your state require licensees to be bonded?

yes	no	missing
38.9%	38.9%	22.2%

10. Has licensing water well drillers been an effective means for protecting the public as well as the state's water supply?

yes	no	uncertain	missing
61.1%	2.8%	22.2%	13.9%